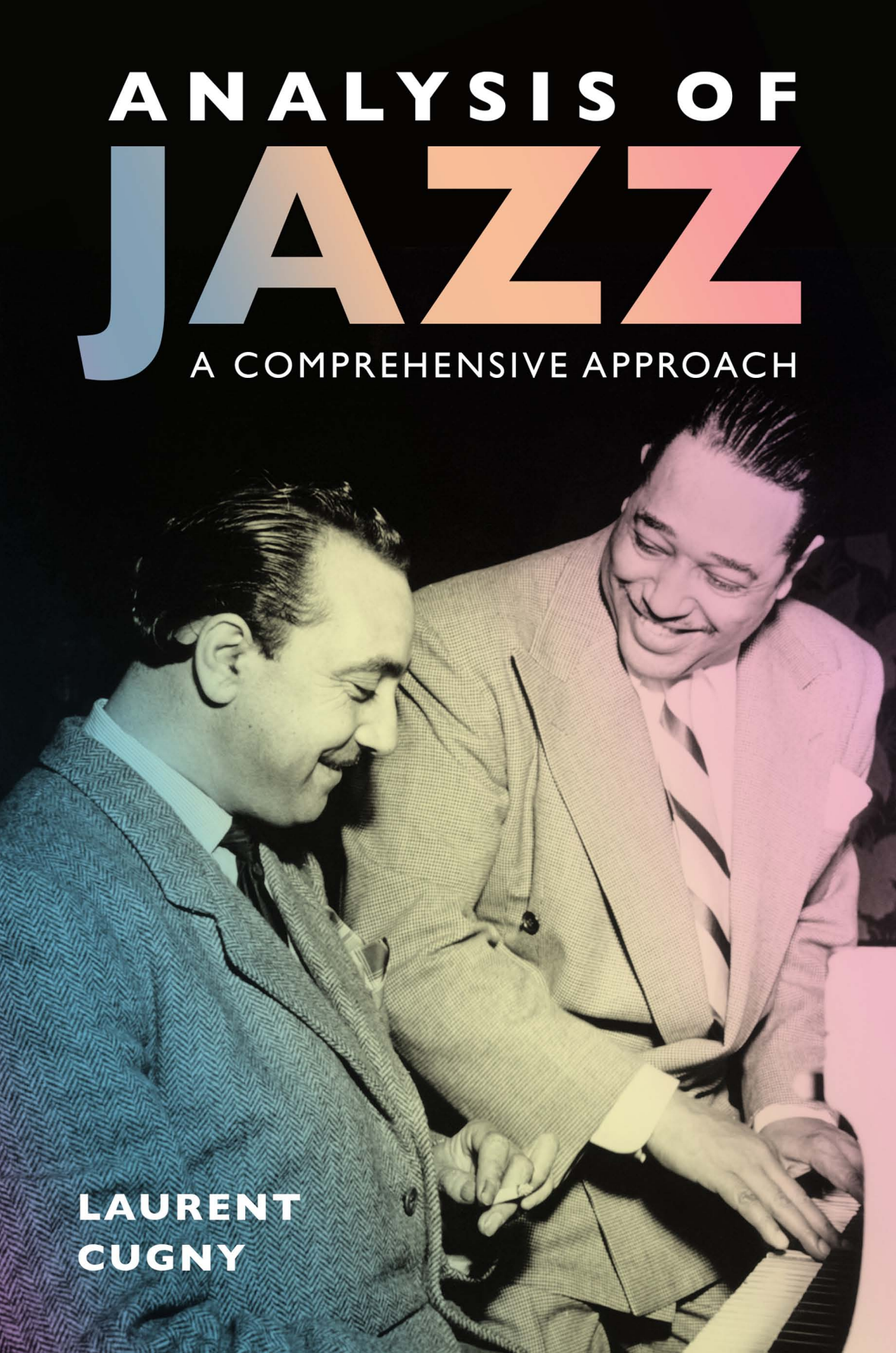
ANALYSIS OF JAZZ

A COMPREHENSIVE APPROACH



LAURENT CUGNY

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TRANSLATED BY BÉRENGÈRE MAUDUIT

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PREFACE

Why analyze jazz and why write a book called *Analysis of Jazz: A Comprehensive Approach*? The first answer is pragmatic: because one does analyze jazz. Musicians do, and others too. All types of music require some degree of reflective activity. Developing as a musician involves understanding music as it stands when one learns it but also as it was before, and understanding is an active process that one may at least momentarily associate with the process of analyzing.

It is not possible to perform music at all without a certain degree of analytical activity. However, it would be a mistake to limit analysis to such a basic mechanical function of learning sets of codes and techniques. Analysis is not merely a practical tool for producing music. It involves culture as well. It is a way to become better informed about the practices of music and thus to become a more sophisticated listener and/or performer. Analyzing the different sorts of music that exist allows us to get a sense of a certain spirit that may well run through them all, something that would be at play beyond procedural elements such as notes, codes, rules, and techniques.

Musicians are not the only ones involved in music analysis. Musicologists—whose purpose is to understand and discuss music without necessarily playing it themselves—practice it, too. It is also potentially of interest to all specialists whose area of expertise may at some point involve music: historians, art historians, sociologists, ethnologists, anthropologists, pedagogues, economists, etc.

Finally, unless one believes that it is possible to listen to music merely for pleasure and without engaging our memory at all, which is highly unlikely, one must admit that all listeners are analysts to some extent. Listening is always an active process; it may not involve questioning but it always involves remembering, comparing, and listening again.

Analyzing is thus an activity dependent on the nature of the object to be analyzed. While analysis will focus on a unique piece of music (live or recorded), it will simultaneously be mindful of the specific and general musical context within which the piece exists. So this musical context to be analyzed consists of several objects:[1] the piece being listened to, the people who are performing it, those who have been involved in its creation (most importantly the composer, in the case of composed music), the way of playing (the process of how the music is being played and not just the product being played), the genre, style or type of music

that the piece is associated with (jazz, for example) as well as music in general and possibly other objects further afield.

For at least a couple of decades the concept of essentialism has fueled a strong current of disapproval in musicology in general and in the musicology of jazz in particular. It sets out that each thing—physical object or concept—would have an alleged nature (or essence) that dictates where things stand in relation to each other without any scope for variation or change. When understood in this sense, the concept of essentialism becomes a dreadful weapon brandished as soon as the verb *to be* is used and in whatever context. Not only does this attitude elude the philosophical history of the concept (which is actually endowed with more meanings than this particular one) but it also often tends to confuse essentialism with naturalism. The latter is a different concept that has been used in history to justify many indefensible things. Once we ensure that the differences between the two currents are made clear, I see no reason why the nature(s) of jazz in our case should be a taboo. It is thus possible to envisage that, through the many-faceted process of analyzing jazz, we may touch on the question of its essence and feel free to contribute to the debate about it.

For it is certain that jazz exists. The considerable amount of performances, conferences, publications, and academic discussions that relate to it explicitly (by use of the word in their titles) gives enough evidence of it. Equally, the fact that many musical practices (especially among improvised music) do not want to be confused with jazz shows that something exists that has a history and customs, which is seen as jazz but which does not cover everything. That is to say that all music is not jazz. In other words, jazz is a field with boundaries; it begins and ends somewhere, though it is not always easy to determine exactly where these boundaries are. It is thus justified to ask ourselves questions about the existence of jazz and what it is. And if this leads to questioning its nature(s), whether relative or absolute, so be it. I would go as far as saying that all this work would be a bit pointless if we did not allow ourselves to go there on principle.

Not that we expect analysis to answer all these questions. But equally there is no reason to decide beforehand that an analysis should only deal with the surface of things, the purely material elements of jazz. If it was merely an exercise of musical rhetorics, it would not be worth spending so much time doing it. So one must admit that analysis has prospects beyond the material surface of music and that it may reach further.

How does a jazz piece work? How can we analyze it? What fundamental questions does an analysis raise? This is what this book is about. The first task is thus to reflect upon the nature of a work of jazz (knowing that it is sometimes argued that such a thing does not exist), its systems as well as some specific aspects of its practice.

For a long time, musicologists have been mostly interested in two main systems: written music, which is a concern for art music[2] and musicologists who work on the classical repertoire; and music of oral tradition, which is the main concern of ethnomusicologists. What about jazz? Improvisation is one of its main features but writing plays a role, too. Everything in jazz that relates to improvisation, to what is not written, is likely to be difficult to approach with the tools used by the classical tradition. But the methods used in ethnomusicology may also not always be totally effective for the links between jazz and the communities in which it was born; also, the original social contexts in which it was practiced grew much broader as jazz developed. Like art music, it has become a type of music with a tradition comparable to the classical one, a music that is learned, played, and studied worldwide. Of course it is possible to look at it in relation to the cultures in which it was born or the ones that practice it nowadays, but that is not the only option.

We need to think about what a true musicology of jazz would be based on, but also to try and elaborate methods of investigation that are suited to the objective. Such methods may eventually be specific to jazz, but there is much to gain in looking in the directions of both the classical tradition and ethnomusicology, for our subject matter is a mixed one. Jazz studies cannot afford to ignore existing currents of musicology on the grounds that jazz is unique. However, borrowings from other fields need to be wise and justified. As a consequence, this book does not aim to tack an existing system onto jazz at all costs. Neither does it intend to offer a "new" system. The purpose is rather first to do some methodological spadework and then to review the tools available and determine how to use them.

Having made these claims, numerous questions appear, and at least three fundamental questions may be put forward now:

1. Might the analysis of a work of jazz be limited to the analysis of its neutral level (referring to the middle term of Jean Molino's tripartitional definition[3])? Of course not. Even if we assumed that such an analysis should be possible, it seems inconceivable to ignore the conditions in which a work has been produced or received if we intend to present a comprehensive image of it.

2. What elements are significant from an analytical point of view? Using an anatomical metaphor analysis is sometimes perceived as an activity consisting of describing an invisible skeleton while looking at a body, the purpose being to unveil the "internal structures" that the eyes cannot see. An analysis can do that indeed. But what about the organs, the vessels, the flesh? Which of these elements matters most?

3. Many other questions remain, but some are probably more essential to jazz than to other musics: What is expressed and how? How are the body and the

voice being used? It has often been said that jazz is a music of oral tradition. We shall see that it probably needs to enter another category, that of phonography. We may also ask whether a "vocal" element is not strongly at play in jazz, not just in the singers of the early days, what they expressed and how they expressed it, not just in jazz vocalists that followed them, but also in all instrumentalists, and even in arrangers who, as arrangers, only produce sound via other musicians.

Reflections on jazz analysis have gradually found their place among the various possible approaches. Roger Pryor Dodge, Winthrop Sargeant, Wilder Hobson, Gunther Schuller in the United States, and Robert Goffin, Hugues Panassié, and André Hodeir in France are among the most famous founders. However, it is always beneficial to keep thinking about what analysis (and, more widely, jazz musicology) is based on. Rather than looking at jazz as a general concept, this book focuses on what makes a piece of music jazz, with the hope that it will deepen our understanding of jazz as a whole.

The first part of the book aims at defining what a jazz work is, offering suggestions based on the main features of definition and structure. The second part deals with analytical parameters. While not suggesting that an analysis merely consists of reviewing a number of parameters, it does not seem sensible to think about musicology applied to jazz without at least investigating the numerous theoretical problems raised by the use of the usual musical parameters. After having delimited our field of application (first part) and discussed questions raised by the usual parameters (second part), the third part is dedicated to the discussion of methods and problems encountered in the analytical process itself. Problems related to written transcriptions are addressed as well. The conclusion of the book considers the topic from a wider perspective, exploring the links between analysis and history.

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Part One

THE WORK OF JAZZ

CHAPTER 1

Jazz

Let us start with the "jazz" element of a "work of jazz" before considering this expression as a whole.

Many attempts at defining jazz have been made, and it has proved a difficult enterprise. Results are unclear, yet this has not stopped the music itself from flourishing. What is clear is that no definition has been reached that everyone can more or less agree on. The evolution of jazz since the 1960s and 1970s has made the task even more complex. Some people argue that jazz itself does not exist anymore but, as a fact, a tradition has continued, specific practices are observable, and jazz "worlds" exist. A form of continuity, though not linear, is there to be seen and allows us to talk about jazz even if the boundaries of the music are hard to pin down.

1. A FRAMEWORK FOR A DEFINITION

The choice seems to be between three main tendencies, each of them reflecting one of the three main approaches to the object. The first option is historical and focuses on the history of jazz and its evolution. The second option is sociological and anthropological. It looks for a definition exploring what is sometimes called the "context," that is to say the environment in which a type of music emerges at a certain time: when it emerges, among which communities, their position in society, the social, historical, racial, and cultural circumstances of that time, etc. The third option is properly musicological and investigates the nature of the object and what makes it evolve by looking mainly at musical features.

The definition appears equally difficult to reach whatever option is chosen—and perhaps it is a sterile debate to have. We may be better off not deciding which option seems best. All three approaches are justified and do not need to confront each other. In fact, they are not mutually exclusive at all and tend to actually complement each other in practice. However, it is perfectly fair to be interested in one more than the other, even if they all deserve further investigation.

2. THE HISTORICAL ASPECT OF THE MATTER

Should we give up our attempt to reach a definition because it has proved difficult so far? No, though many authors have used it as an excuse to find it a vain and useless search. Rather, we should use these difficulties as a reminder to remain cautious and moderate.

Let us start with the musical point of view. When attempting to define jazz there are three criteria analysts most often examine: a sound different from anything heard before, a certain approach to rhythm (swing), and improvisation. Problems appear immediately: there is no specific "jazz sound," so to speak; there are types of jazz devoid of swing as it is traditionally understood; and there are works of jazz that are almost totally composed (the vast majority of them being partially composed). Perhaps combining the three criteria might be a solution, as it is difficult to conceive that a piece could be totally composed, devoid of swing, and without any of the sonic traces usually associated with jazz, and still be jazz. But this only transfers the problem to a different level, for none of the three notions—sound, swing, and improvisation—can be defined easily if they have to be considered together.

The matter is actually eminently historical. Jazz has evolved very quickly. What can be identified of the early days of jazz dissolves as the language of jazz expands and as the music becomes more diverse. In the early days, the use of the drums was new and thus perceived as characteristic. Later on, it became banal and at the same time the uses became more diverse. Drums even disappeared from some jazz bands. In the same way, the "sound" of jazz rapidly grew more diverse as well as less specific. The same thing can be said about swing. Things are less clear about the historical aspects of improvisation, however. Anyway, a feature that seems characteristic at one point in time is not always so at another.

The historical dimension of the problem suggests that it can be addressed with a historical division of time that would be based on the main phases of evolution of the musical language rather than on the history of styles (knowing that the two approaches may or may not coincide). The idea behind this division is that a language of jazz exists, and that it has gone through a phase of stability, preceded by a phase of formation, and followed by another during which that language loses its dominating position. I propose to accept the concept of a "common practice" of jazz, understood as a model similar to its equivalent in the classical tradition, which corresponds more or less to the period of domination of the tonal system (approximately 1600–1900), as an object of reference. Specific problems in analysis arise outside of that phase, whether we deal with pre-tonal or post-tonal music. An analogous phenomenon happens about jazz: it is possible to define a "common practice" within which a number of features have developed to form

a musical language that has been stable for a while and has operated in a spirit of consensus. What would the features of that language be?

- Harmony:
- A mix of tonal harmony and blues
- A system of harmonicity (ways of laying out chords and linking them together)

- Form:
- Form of composition: there is a limited choice (mainly AABA, ABAC, and blues)
- Form of performance: supremacy of the head-solos-head form

- Rhythm:
- Stable and isochronic beat
- Common time (4/4) and other duple meters (2/4 and 2/2)

- Codes of play:[1] mostly walking bass and ching-a-ding

- "Acoustic" instrumentation:
- Melodic section: trumpet, saxophone, clarinet, trombone, violin
- Rhythm section: double bass, drums, keyboard, banjo, guitar, vibes

These combined features may define a common practice in jazz,[2] in which they all or mostly occur together except on very rare occasions. Historically, it becomes possible to identify this common practice around 1930, when all the features mentioned above existed individually and functioned together in a typical manner. Everyone seems to accept this manner or common language and its supremacy does not get questioned. For about thirty years, all jazz was based upon it. Even if the dissidence had been stirring throughout the 1950s, with noticeable gradual changes taking place, it is only in 1960 that free jazz and jazz known as "modal" appeared and started challenging some of the features described above (or all of them). The early 1960s mark the end of the supremacy of a certain system and language of jazz. It stops dominating the production of jazz but does not disappear. The features listed above continue to exist.[3] What happens would be more aptly described as a broadening of the language.

Such a historical division of time puts the seismic shift toward bebop in 1944–45 in perspective. Whether bebop was an evolution or a revolution is one of the most frequently recurring issues in the musicology of jazz. When André Hodeir suggested in 1954[4] that bebop marked the transition from a classical era

to a modern era in jazz, there was every reason to believe that it was indeed a radical evolution (though perhaps not a revolution, as there were many signs of continuity). This point of view has possibly changed. If Hodeir had been told at the time, "bebop marks a break, certainly, but still uses the walking bass, ching-a-ding, and the head-solos-head form," he would probably have replied that those features were components of jazz itself and that without them the music we were talking about would not be jazz. And what would he have said about the isochronic beat at the heart of the system, the very condition of swing that was nevertheless challenged by free jazz? It is always easier to notice what has changed rather than what could have changed but stayed the same. The questions of identity versus otherness, repetition versus difference, and the historical dimension of phenomena are raised in their full complexity.

This explains why Hodeir and others have identified 1945 as the turning point between a classical and a modern age in jazz. Nowadays it seems fairer to place the cursor on the year 1959, when *Kind of Blue* by Miles Davis and *Giant Steps* by John Coltrane were recorded, followed in 1960 by *Free Jazz* by Ornette Coleman. From this viewpoint, the 1930–60 period makes up a new classical age based on the common practice.

What are the features of jazz before 1930, then? It seems logical and appropriate to our scheme to define a pre-classical age. It would end when the classical age starts, in 1930, but when would it start? People agree to consider the recording of "Livery Stable Blues" and "Dixieland Jass Band One-Step" by the Original Dixieland Jass Band on February 26, 1917, as the first jazz recording. The date is a benchmark for the beginning of a history of jazz in the sense that this is when phonographic traces started being available, with the consequence that the music became directly accessible through recordings. However, jazz existed long before then, even if it is only possible to know about it through visual (photographs, drawings) or verbal testimonies. It is now considered that the early days of Buddy Bolden's orchestra in 1900[5] mark the true birth of jazz. Following in the footsteps of historian Daniel Hardie, this period may be called "elemental jazz."[6] It would be squeezed between a sort of prehistory of jazz (that could start with the Emancipation Proclamation) and its history proper starting in 1917. There is a contradiction here: on the one hand, it is stated that history would start with phonographic documents (1917), but on the other hand we recognize that jazz exists as early as Buddy Bolden (1900). This can be solved by choosing 1900 as the beginning of the history of jazz strictly speaking, while keeping in mind that history for the period of elemental jazz is only based on oral, written, and iconographic documents; the difference in sources of the history change drastically once mechanical recordings appear.

What about post-classical periods? If 1960 is the accepted date marking the beginning of a modern age, does the period have an end or are we still in it? A

TABLE 1. AGES AND PERIODS IN HISTORY OF JAZZ

Dates	Duration	Events	Ages	Periods
1866		Emancipation		
	1866–1900		Prehistory	
1900		Bolden Orchestra		
	1900–1917			Elemental Jazz
1917		First Recording		
	1917–1924		Pre-classical	New Orleans
	1924–1930			Pre-swing (Chicago)
1930		Common practice (start)		
	1930–1945		Classical	Swing
1945				Bebop (Bebop—Cool Jazz—Hard Bop)
	1945–1960			
1960		Common practice (end)		
	1960–1969		Modern	Free Jazz | Modal Jazz
				Jazz-rock
1975		Miles Davis retires		
	1975–		Postmodern	

phenomenon needs to be taken into account: the last identified style of jazz—jazz-rock (or fusion)—is complete around 1975. More than the end of a style that has followed others, this marks the end of a long cycle and breaks up a chain in which historians identified a style following another at a steady pace, usually periods of between five and ten years: New Orleans style to start with, followed by pre-swing (or Chicago style), swing, bebop, cool, hard bop, free jazz and simultaneously modal jazz, and jazz-rock. It is not possible to continue a so-called "main linear scheme."[7] Indeed, periods have been identified based on processes that showed a degree of repetition and were characterized by a dominating style and the masters of that style. Such a type of identification is not possible after jazz-rock. Since the second half of the 1970s and up until today, it seems we have been witnessing a process of multiplication (there are more and more musicians) and atomization at the same time: it has become more difficult to group musicians based on a shared style. Rather, there are tendencies, movements, and affinities.

Most importantly, none emerges as dominant and as a potential indicator of a period of time.

While jazz has become incredibly diversified, this is not new; from its beginnings jazz has been the result of mixing ingredients, but the contemporary level of proliferation is unprecedented in its history. At the same time, we observe a new awareness of history and the emergence of neo-classical styles. It is tempting to see evidence of postmodernism in all this, which is not surprising considering that that discussion has been raised about numerous other artistic practices.

There is no need to look into this matter any further for now and I propose to end the modern era in 1975, when a postmodern age would start in which are still living now.

This leads to table 1, which differentiates between ages and periods (some ages encompassing multiple periods).

3. SUGGESTIONS FOR A DEFINITION

The debate about a definition of jazz changes depending on the time period we are talking about: before, during, or after the classical age (which is the least challenging to define).

What did the first investigations of jazz come to, and which criteria were suggested for defining it? First of all, it is worth noting that the need for a definition has always been strongly felt, which is perhaps not the case for all types of music. Jazz has always questioned its own identity and has constantly required redefinition. It is interesting to note that a definition has often proved problematic for jazz musicians themselves; even the most famous of them have sometimes decided not to try. Duke Ellington preferred to think that he was making music rather than jazz ("I am not playing jazz. I am trying to play the natural feelings of a people").[8] Miles Davis saw racial connotations to the word "jazz" that he felt were irrelevant to his music. Nowadays many musicians prefer to define themselves as improvisers rather than jazz musicians.

It is also worth remembering that jazz technically is a type of music, not a genre and certainly not a style. It does explore a number of genres and of course it has produced styles. In the early days (for Jelly Roll Morton, for example), jazz was sometimes seen as a certain way of making music, but that has not been the case since then.

Before jazz itself was on the scene, two elements—identified as striking as a new type of music—seemed to be coming up. The first was the close link that these new types of music had with African Americans and their culture; today this would be called "ethnicity." The second feature was the presence of syncopation.

Sound soon came to be considered a third criterion of definition. Jazz was perceived to seek out "strange sounds." A debate started in the 1920s about whether or not improvisation was essential, but it soon began to be considered another crucial feature. The final feature to join the list of criteria for a definition of jazz was swing, understood as a particular treatment of rhythm and a development of syncopation.

Identifying a range of characteristic features does not automatically lead to a definition, however. As a result, it could be tempting to conclude that it is pointless (suspect, even) to try and mark the boundaries of jazz with a definition that would restrict it esthetically and, as a possible consequence, could deny it the capacity to evolve. Nevertheless, the accusation of essentialism that is often brought into the debate, to try and put a stop to efforts to reach a definition, seems even more authoritarian. Also, ignoring the issue does not make it disappear.

The way out of this labyrinth requires going back to the criteria already mentioned: syncopation, African American music, sound, improvisation, and swing. As said before, these are the criteria that emerged from the way music known as jazz was received throughout the twentieth century. Can they help produce a definition of jazz that works and is suited to the purpose of this book?

It is worth noting that four of these criteria are specifically musical while one (community-based) is socio-anthropological. It appears that none of them is either necessary nor sufficient in reality. It is possible to come across jazz without syncopation, jazz played by non–African Americans, jazz devoid of a specific sound, jazz without any improvisation or any swing rhythm in the strict sense of the word. On the contrary, if none of these ingredients is present, it will be hard to perceive the music heard as jazz. Conversely, if all five markers appear together, it is very likely that the sample being scrutinized can be identified as jazz. However, it is certain that one of the criteria will often be missing in pieces that will still have something to do with jazz. A conception limited to the necessity of having a number of criteria together at the same time does not lead to a satisfactory solution. Does it mean that attempts at defining jazz should be dropped? Certainly not, and there are other options to consider.

The first option lies in the existence of a mode of expression characteristic of jazz (otherwise known as an idiom of jazz). Jazz cannot be reduced to improvisation, syncopation, or swing. It is also made of a number of idiomatic features: specific melodic, rhythmic, and harmonic turns of phrase, ways of playing rhythms, preferred types of personnel or formats of orchestras, certain practices in conceiving and performing the music, etc. It is possible to imagine that jazz is involved if many of these idiomatic features appear together in a piece.

Another option lies in how the corpus is envisaged. In the search for a satisfactory solution, an overly fragmented vision of music is equally problematic as

a restrictive conception of criteria. The situations can be more varied than the question whether something is jazz or not seems to indicate. Many music pieces are clearly jazz (any piece by Count Basie's orchestra in 1938, for example) and many bear no trace of it whatsoever. But between those is a large space containing numerous pieces that show some features of jazz while not completely being jazz.

There is eventually a third way based on reception: jazz would be what is perceived as jazz by listeners. This solution has upsides: it involves the historical approach to the matter as well as the notion of cultural relativity. What may be perceived as jazz at a certain point in time may be perceived differently at another. What some people perceive as jazz at a certain point in time may be perceived differently by other groups of people.

The way forward probably lies in a combination of these options and would eventually involve giving up the idea of a unique nature or essence of jazz in favor of a more phenomenological approach: there is jazz when certain features can be identified and when the music is perceived as such.

This could lead to a provisional definition: *music displaying a significant amount of specific idiomatic features at a certain time and in a more or less comprehensive manner can be identified as jazz. These features are based on specific practices involving improvisation to a large extent, specific approaches to parameters such as sound and rhythm, as well as a set of specific turns of phrases and practices of African American origin.*

The original question can now be modified: the issue is not to define jazz at any cost and, consecutively, to work out a framework that analysis should follow. The issue is rather to create that framework so that it could be applied to what is widely perceived as jazz. This is also a good opportunity to go beyond a very general question (what is jazz?) and move on to the real question that this book addresses (how do we analyze jazz?).

On this basis, the kernel of the corpus that is referred to in this book involves the common practice repertoire of jazz developed between the 1930s and 1960s. However, we may allow ourselves to look both ways beyond these boundaries within the limits of what seems reasonable and justified. As a result, music that earlier has been defined as pre-classical or post-classical jazz may get involved, too, as well as neighboring African American types of music (like gospel, blues, rhythm and blues, or soul), practices of improvisation that followed free jazz or other types of music that are linked to other geographical areas but display practices similar to those of jazz (bossa nova, for example). In many cases these other types of music have come toward jazz, but jazz has also gone some of the way toward them. Finally, we may also refer to some types of music usually identified as part of contemporary popular music. Insofar as it may not weaken the

results of the survey, there is no reason to have an overly strict view on matters of delimitation and boundaries.

Ultimately, the discussion is facilitated when it is approached in terms of practice rather than identity. It is often difficult to say whether such and such musical production is jazz or not. But it is easier to determine whether or not a practice has something to do with jazz. A work of jazz, which is the object being scrutinized here, is the result of a type of musical practice in which (without anticipating too much the developments to come in the book) everything is not premeditated in the process (or mental gesture) of writing the music. Therefore, jazz is defined as a mode of production of a number of idiomatic features rather than only as a type of music displaying those features. To be more precise, both aspects are associated. This will lead to the concept of "codes of play," which involves identifying specific ways of playing that can also be helpful in defining the field of jazz and in discussing matters of style.

CHAPTER 2

The Work of Jazz

1. WHAT IS IT?

Composition and performance do not share the same status in jazz that they do in a written musical tradition or in art music. In jazz it is clear that performance is more valuable than composition, as early commentators such as Ernest Ansermet, Roger Pryor Dodge, Robert Goffin, or Hugues Panassié have rightly pointed out.

In art music the performance is heavily based on a prescriptive composed score that the performer interprets. This does not make any sense on the (however rare) occasions in jazz when a piece has not been composed first. And when a specific composition does exist, it usually acts as only a starting point for a development that may ultimately move well beyond the original composition. In all cases, the creative process takes place during the performance—which often involves several people—and everything that is conceived beforehand acts merely as preparatory material for the performance itself. The DNA of a jazz piece is thus to be found in its performance rather than its preparation, however elaborate the latter may be. In jazz, the most significant moment for a work is undoubtedly when it is being played, regardless of whether musicians are improvising or not, regardless of how elaborate the composed material used as a starting point is, and regardless of whether or not they are reading scores. A piece of jazz truly comes together at the time of performance, though a pre-performance stage (that includes all the preparation before the first sound is produced) and, sometimes, a post-performance stage (that involves mastering the raw recording) are at play as well.

The traditional dual concept of composition on the one hand (when the ideal object is being created) and performance on the other hand (when the object concretely materializes) needs to be reappraised. There are not composers on one side and performers on the other; both types of creators fuse in the act of the music being played and the piece becomes a unique and non-repeatable sound object. A composition—if there is one—may yield information for the

analyst, but it remains external to the sound object itself. Composition among other components may play a part in the preparation for a work and, as such, deserves to be analyzed, but in no way is it possible to reduce a work of jazz to the composed aspect. John Coltrane's version of "My Favorite Things," recorded October 21, 1960, is a work of jazz in itself. The fact that Coltrane chose "My Favorite Things" from the musical *The Sound of Music* by Richard Rodgers and Oscar Hammerstein (1959), as composed material to develop from, is one of a large number of features that characterize Coltrane's work and contribute to its uniqueness; this feature alone cannot define Coltrane's own piece. What makes his piece different from any other can only be grasped if all its components (including features that have to do with sound as well as others that do not) are taken into account.

Traditionally, a specific performance using a pre-existing composition is referred to as a "version." If it is not drawn from any identified composition, it tends to be called an "improvisation." "Piece" and "number" are also common labels used to designate either type. When the word "performance" is used instead of "version," it suggests an intention to talk about a piece in a neutral way, while "version" stresses the subjective take of musicians on the material that they are using.

The word "performance," favored by specialists of oral traditions and ethnomusicologists, is very apt for jazz. Jazz is most often recorded in a studio in which only technicians, the production team, and sometimes a few friends are present. They are not the audience for whom the recording is ultimately intended. The music is thus performed and received at different times. Despite this interval of time, "performance" is nonetheless an appropriate term to use because it suggests that something is enacted in a way that differs from allographic practices[1] such as writing music or literature at a table. Musical creation is delivered in unique acts. Even when jazz musicians are alone in the studio, what they produce is an event that is itself the most important moment in the creation of an autographic work. Keith Jarrett recording by himself at home a solo piano piece that came out on disc later[2] is an event or an act of a different kind from Marcel Proust writing a page of *À la recherche du temps perdu*. Only in the case of Keith Jarrett is it appropriate to speak of a "performance" though in both cases only the author was present at the creative moment and the message created (whether musical when the recording is being listened to or literary when a copy of the book is being read) was received by an audience later. The kind of link between the act of creation and the product created is different in one case and the other, which is why there is ground to differentiate between them.

That being said, the following statement may be suggested and used as terminological basis in this book: *A work of jazz is produced in the moment of a performance whether or not an audience is attending. In most cases, performers may produce works that make up versions of a pre-existing composition.*

Taking this into account, there is no difference between the sound object created in performance in art music or jazz, and thus the phenomenological feature that Roman Ingarden identifies in art music may be applied to jazz analysis as well: a performance is a real object that exists in the here and now; it is an event—and most importantly an acoustic one—that takes place at a specific moment that can be identified through the course of concrete, intersubjective time. Each performance is localized in space objectively as well as from a phenomenological standpoint and is accessed by means of hearing it. As a consequence, it involves the whole chain of auditory perceptions that follow one another continuously during the time of performance and that make up the main ground for appraisal of the performance.[3]

So there is no fundamental difference between hearing a performance of jazz or a performance of art music, whether live or through a mechanical recording. However, both works do not exist in the same way and analysis must reflect that. When analyzing art music, the question may be asked whether to appraise mainly the score and look at the performance only as a moment of confirmation or validation of the score, or consider on the contrary that the work can only be fully grasped and thus analyzed if the auditory reception of the piece is to be integrated in the analytical process. A work of jazz may only be appraised through listening to it performed live or via a recording (whether the performance was public or not). If a score is used when analyzing jazz, there are two options: either one has access to a prescriptive score[4] that has been used for the recording (which rarely occurs), or a more or less detailed transcription of the performance made by oneself or someone else. In both cases, these documents cannot be considered the main body of the object. They are merely useful documents for analysis.

2. THE JAZZ PIECE ON RECORD

Listening to a recording is a process that takes place after the actual performance and that can be repeated. That applies to all recorded music. However, the consequences of that fact are less great when analyzing art music because it is mostly based on the score. In the case of jazz, the sounds caught and organized through the recording process make up the object to be analyzed and so attention needs to be paid to how we perceive it. The performance is directly and uniquely accessed through listening to a phonogram, that is to say a print of the master. It is theoretically possible to listen to it again and again for as long as the content is accessible, unlike a direct performance that is unique and cannot be repeated (all performances are different from each other). A direct performance and a phonogram of it are thus heard at different points on the timeline. In addition, if some work (editing, for example) has been done on the original content of the

recording that results in the master differing significantly from the performance, then the actual succession of sounds in time may be altered.

It is becoming clear that the object for analysis when looking at a jazz piece is to be found in its manifestations or the sounds resulting from the performance. The object can neither consist of the preparatory elements (the composition used as a starting point as well as other predetermined elements) nor the performance itself. The main body of work for analysis is to be found in the recorded performance, for it is the only stable object whose specific identity is fixed and repeatedly accessible.

Are there different types of recordings, and what impact does the necessity of using mechanical recording have on the definition of a work of jazz? Several cases may occur. The most simple and common type may be called "sound transcription."[5] It applies when a recording has merely captured a sound event and least interfered with it. One tried to achieve the best sound quality possible with the technology and materials available and no recording trick has been used except to try and re-create the actual size of sound space faithfully (set up of microphones). No editing has been made except to get rid of nonmusical moments (pauses, applause), and the chronological order has not been altered.

However, there are many exceptions to this rule. In the case of recordings of public performances, it is rare for concerts or sets in clubs to be released in full. Some form of editing process almost always happens. The order of the pieces may be changed and cuts may be made within a piece. Also, some passages or instrumental parts may be recorded again in a studio.

In the case of studio recordings, the performance (and sometimes the planning surrounding it) often takes into account and is affected by the recording parameters. In the early days of wax recording, musicians and producers could not listen to what had just been recorded without spoiling the matrix irreparably. This would make it useless for duplication, so they had to trust their immediate memory to try and decide whether the work that had just been created was worth publishing. It was impossible to amend the sound material itself, so what of the material available could be released was the only choice the people involved could make and the only way they could intervene. As technology developed, it became possible to listen to the recorded material again. So choices were made on different grounds. The emergence of magnetic soundtracks made editing practices possible within a piece as well as between pieces. However, it seems that for a long time musicians and producers did not use that option and were content with merely choosing between pieces without making changes to the pieces themselves.

Overdubbing became possible with the coming of multitrack tape recorders: parts of a piece could be re-recorded (as a whole or each instrumental part separately), or other parts added; it was also possible to play each different part

successively, possibly played by the same musician. Moreover, it became possible to add pre-recorded parts, which could well consist of non-musical sound events.

Finally, digital recording and sampling made it possible to use real instrumental sounds and transform them virtually, for example by transposing an instrumental phrase at a different pitch from the original, or changing the duration of notes without modifying the pitches, or changing the instrumental timbre of the phrase, etc. It was theoretically possible with a magnetic tape to play simultaneously parts recorded separately at different times but, in practice, it was a very tricky process (causing problems of synchronization in particular) if the most recently recorded parts had not been recorded in accordance with the previously recorded ones. Most of these problems disappeared with digital technology. In particular, it became much easier to select only one instrumental part in a (given) recording. That allowed for "virtual" recordings to appear, presenting musicians who had never recorded anything together or even lived at the same time.

How does that affect our understanding of the entire work produced by a jazz musician? One tends to consider that the complete works of a musician like Mozart, for example, are known when a catalogue like Ludwig von Köchel's is seen as comprehensive. It could only change if a new unpublished manuscript is discovered, which is becoming less and less likely as time goes by. Even if we know that some works existed and were lost or destroyed, we can trust that we have a fairly stable picture of what Mozart composed. This is not true of jazz musicians, because our picture of their work is linked to the history and uncertainties of recording practices.

This is particularly a concern for early jazz. Mechanical recording was born not long before jazz itself. However, recording did not become common practice and its products did not spread widely in the population until after the first known occurrences of jazz. The 1917 recording of the Original Dixieland Jass Band is usually considered the first disc of jazz, but recording jazz only became common practice from 1923 and data truly starts to become significant from then on. The analysis of early jazz is necessarily hampered by the lack of data. The music of Buddy Bolden, for example, who is seen as the first great jazz musician, was never recorded (at least nothing ever reached us). We are left to deal with the testimonies of people who heard it, none of whom is around anymore, so there is nothing to say about this musician based on his work. The problem is of a slightly different nature with the pure original New Orleans style: the musicians practicing it have recorded it but much later than at the time the style was being created. Thus, one cannot guarantee that they were still playing in the same way as when the style was created.

Apart from these cases, the music of nearly all jazz musicians has been recorded, and that of the vast majority of significant jazzmen has been recorded profusely. However, sometimes only a fragment of the recorded material has been

published and is available. How we perceive a musician is thus necessarily limited by the corpus of available recordings. A corpus may lack in certain areas (a period when a musician stopped recording) and increase a lot afterwards, especially after a musician has died. Many official recordings (that is to say, recordings that a musician agreed to) usually are released and a great deal of unofficial ones come out later. The case of Miles Davis is very revealing in this respect. Since he died in 1991, a lot of official and unofficial recordings have been released, to the point that the quantity of recordings available has at least doubled. A large amount of bootleg recordings of concerts is now available online. One could imagine that nearly all public performances by Miles Davis might be available one day. From a qualitative perspective, the release of practice sessions and works of more mediocre quality may also significantly affect how we perceive a musician.

How much control musicians have over their works is another issue that needs to be raised, as authorship has consequences in analysis. In the case of a concert that has been transcribed, if the performers validate the eventual changes made through the recording process, the concert itself and the recording become two distinct objects and it matters to ensure that the recording bears the stamp of the lead performer. If the lead performer has not been able (in the case of posthumous releases in particular) or has refused to approve a recording, the analyst has to face ethical issues rather than theoretical ones. Technically, nothing stops us from analyzing a recording that we know is not fake, but is it right to do so if the main performer has not been able or has refused to take responsibility for it? In such cases, a recording is a work in itself but it is difficult to state who it is by. In other words, does a work need to be validated by its creator to be defined as his or her work?

In the case of studio recordings, there is ground to think (as do most musicians nowadays) that the techniques and constraints of a studio have to be taken into account when preparing for a recording. Some musicians even see the studio itself as a musical instrument, which one chooses to use in one way or another. Then the question needs to be asked in a similar way: it is possible to consider the handling of some parameters in the studio as part of the work—in the same way as how instruments are being used—as long as the will of the author has been respected. In other words, it is acceptable only if the author has supervised the preparation of the recording process or delegated it to someone and, most importantly, as long as he/she has agreed to the release of the final product (the master).

The work of Miles Davis provides us with very interesting examples of various situations that one may encounter. It has to be said that he was a musician particularly open to the new possibilities that technology was gradually able to offer. As early as 1957 with the album *Miles Ahead*, he makes a discreet use of overdubbing, which had been developed very recently. Few people noticed it at

the time. Near the end of the 1960s, Davis started to use the potential of editing intensely and delegated editing choices to his producer, Teo Macero. Studio sessions in the early 1970s were kept informal on purpose. Very few things were set in stone—duration in particular—as the raw material was destined to be edited afterwards. It is obvious in this case that the editing of the material not only was taken into account in the creative process of the work but was at its core. Many years later, after the trumpeter had died (thus having no chance to intervene), the issue came up whether to release the whole of these recording sessions. That has now mostly been carried out. Which is then the appropriate object to analyze? One may prefer the edited music as it was released at the time with Miles Davis's agreement. In this case, the tapes of the unabridged sessions inform us on the performances that were then considered preparatory work, much in the same way as a block of clay kneaded in search of the final shape and features of a sculpture to come. These tapes may be used as complementary documentation to enlighten an analysis. However, this is no final answer, and there is scope for discussing further how an object is constructed, the various layers it is made of, and when to decide that it has reached a completed stage.

In 1997 (after Miles Davis had passed away) the producer Bill Laswell made new masters apparently based on original tapes (raw recording sessions) dating from the same period of Miles Davis's work just discussed above. These new masters were edited differently and the work on sound was also different.[6] People generally saw this new release as a new work by Bill Laswell or his own reading of the music of Miles Davis, rather than a new work by the trumpeter. It is nearly sure that Miles Davis did not intervene in the similar work that Teo Macero did in his own time, but it is clear that he heard the final result and agreed to its release, which is not the case with Bill Laswell. This probably explains why the work was attributed to Miles Davis in one case and not in the other.

Here is another example: in December 1965 Miles Davis performed several nights in public with his quintet at the Plugged Nickel, a club in Chicago. These performances were recorded in full by Columbia, the label that he worked for at the time. Many years later (in 1987), Columbia released a fifty-seven-minute CD titled *Cookin' at the Plugged Nickel* made of extracts of these performances edited and prepared by Teo Macero for the purpose of this release (with a modified sense of acoustic space created by an artificial use of reverberation in particular). In 1995 Sony released the complete recordings of these performances, presented in raw acoustic conditions (no reverberation in particular) and in chronological order.[7] Because of the differences in duration and spatial choices, the resulting sound is vastly different and the esthetic appraisal of the work radically affected. But which work are we talking about here? Miles Davis died between the two publications (1991), so it is likely that he agreed to the first one but not the second. Teo Macero, who was not involved in the complete edition, did not approve of it

and claimed that the work of Miles Davis had been betrayed on the grounds that editing would have played a full role in the creative process of the trumpeter.[8] Yet the second edition reflects the reality of the performance better, as it is less edited and its sound less altered. This case questions the status of protagonists. Teo Macero sees himself as part of the creative process, as any player in the orchestra, and not just as an engineer confined to strictly technical maneuvers.[9] In the case of the studio recordings of the early 1970s, this is all the more legitimate as Miles Davis made it clear that it was how he worked. He took artistic responsibility for this way of working and the trust he put in Teo Macero as well as his sidemen. Things are less clear about the public recording of 1965: it was a public performance not necessarily destined to partial or complete publication (it has even been claimed that the musicians were not aware that it was being recorded). Also, Davis was not alive at the time of the second publication. All these circumstances show that the question is neither merely about the role of the producer nor how the master was made. This data needs to be considered a document on how the group was playing in public at the time. It is useful to help us draw a comprehensive picture of Davis's work and to better understand it; but it is also clear that different artistic intentions lie behind a studio recording meant to produce a phonogram immediately ready for publication, and the recording of a performance (especially in a club, where the stakes are different from a concert hall). Both contexts produce works that should be seen as part of the whole oeuvre, but they cannot share the same status.

Jazz is not unique in raising these questions. They apply to all practices in which the creative process takes place in several stages, and sometimes to others too. What status should the sketches of a painter be granted when they are released? Are they works in their own right, even if we know that the artist saw them as stages in the process of carrying out a work that has to be considered a different object from preparatory work? As a fact, preparatory work does not belong to the final product. *Les Demoiselles d'Avignon* is a work signed by Picasso. His preparatory sketches are by him too, but does that justify granting them the status of a work? Even if they are not, they can still be seen as part of his overall work and be exhibited to the public. From the point of view of analysis, sketches can inform the study of a painting, but only the final object makes up the work known as *Les Demoiselles d'Avignon*. Would it be justified to study the sketches as works in their own right? These are problems that genetic criticism addresses and which cannot be summed up here. An analyst can choose which position to adopt, but he/she should be able to argue it and clarify which frame of definition of a work the study is based on.

The example of *Cookin' at the Plugged Nickel* shows that things are more complicated in our case. One could consider that the whole recording is a preparatory stage in the making of the final work which itself is solely made of the substance

extracted by Teo Macero with the agreement of Miles Davis for the first edition released. However, on the one hand, the complete version contains all the extracts of the first publication without displaying the final cut itself (the 1987 CD could have been added) and, on the other hand, it is the transcription of music played in public, which suggests that it was already conceived as a work (unlike, for example, a rehearsal). Whether it was perceived as a success by the author is a question that takes us back to the previous point (the degree of control of a creator over his/her work): perhaps Miles Davis did not find all the music produced in these performances good enough to be included in his complete works. At least, he must have thought that it needed editing and did not consider that this musical object was final. Nevertheless, that music bears all the features of a finalized work, in particular the likely intent of the creator (or creators, if the other musicians in the quintet are to be included) to perform at their best artistic level, which is not the case for some studio recordings where the musicians were just trying things out.

Fortunately, it is rarely as difficult as this to locate and attribute a work. Most of the time works are easy to identify. This discussion has showed that, in the case of jazz, music tends to be accepted as a "work" when a recording of it is released. The same model applies in literature. All existing documents not included in the publication are considered work in progress. As in the case of written literary works, a mechanical recording is made of several stages that can exist simultaneously. Which of these stages should be seen as a "work" in its own right, and how important do we think the decision of a creator is? These are not straightforward questions; but the definition of a work of jazz depends on them.

3. THE SYSTEM OF A WORK OF JAZZ

The notion of "system" has been used earlier in this book, but exactly what it means has not been clarified yet. Before going any further, it is important to understand the difference between the *system* and the *tradition* that a type of music may be associated with. Oral tradition and oral system are not interchangeable notions; nor is art music synonymous with the written system. A system is about how the music works and is articulated within a specific musical practice, whereas tradition is concerned with the transmission and lineage of a practice and how it has been handed down from generation to generation; it focuses on how a type of music develops. As a consequence, tradition has a historical dimension that may well be at the source of a musical system, but historicity does not need to be taken into account when looking at the system itself.

For a long time in the Western world, no one asked what system a musical work might have been using. No one asked that question because no one thought

about it. Written Western art music was the only sort of music seen as noble and worthwhile, so music in general was reduced to it. No one felt the need to explain the system that it was using because no one could imagine that other systems could possibly exist. Only since the end of the nineteenth and the beginning of the twentieth centuries did an interest in other cultures start to develop, which led to other artistic practices to be taken into account and considered as worthwhile as Western ones. In music, a great variety of types of music got attention and none of them used any written system. This discovery of musics based on an oral system led to a new understanding of the Western practice of art music and the awareness that it was not based on a universal principle but on a specific written system.

Does jazz use a written or an oral system? The answer is neither. It is rather based on a phonographic system that, in a way, stands between the two. To give a brief description, a phonographic system does not use a score as a necessary or primary medium of a work but differs from a "pure" oral system insofar as recording produces a fixed (and, in theory, invariable) trace of the work, which reveals the intention of its creators. It also allows for the work to be heard time and time again, which makes its transfer, conservation, and analysis possible.

Right from the start, some jazz musicians like Jelly Roll Morton took recording into account in the way that they crafted their music. Later, around the end of the 1960s, the temptation existed for some jazz musicians to shape their music based on the new possibilities offered by recording studios. They may have partly had in mind examples set by pop-rock musicians like the Beatles, the Beach Boys, and Jimi Hendrix, whose musics have influenced some jazz musicians. We have already mentioned the recording sessions of Miles Davis starting around the end of the 1960s. So it is not surprising that most of the musicians who have been tempted to make use of what a studio had to offer to their creative process were to be found in the trumpeter's circles and were to lay the foundations of what was to be known later as jazz-rock. However, the comparison between jazz and pop-rock probably does not go any deeper. Josef Zawinul repeated many times that, for his band Weather Report, it mattered that the final state of their music sounded similar live even if the group used studio technology a lot. Ultimately, the use of studio technology has had a limited impact. Even since then, jazz has used the studio mostly as a tool to transcribe music. Most of the time, music is not determined by the work made on it in the studio; it is merely handled with a view to improve its phonographic presentation. However, it is clear that musicians have always taken into account the amount of time available to them based on the medium that they were using, especially in the days of 78 rpm discs that allowed only three to four minutes of music.

Even if we accept that jazz is based on a phonographic system, that does not stop it from sharing properties with oral and written systems. The absence of a prescriptive score brings it closer to an oral system, but the existence of a fixed

trace (made as a result of a performance, rather than prior to it) establishes a connection with the written system. In the case of a studio recording—the most common scenario—the ambiguity of the phonographic system is patent. It has the instantaneous, real-time quality of a performance (providing that overdubbing and other post-production means are not used), but contact with an audience is postponed. The audience is physically absent at the time of recording, and will discover the piece afterward with no chance to react to it in any way that may influence the performance. In addition, the audience is broken up insofar as one tends to listen to a recording on one's own or as a small group. From the point of view of the performer, when music is being recorded in the studio he or she does not receive the response from an audience they would performing on stage. With regard to transmission, the phonographic system is close to the written system, as recordings can be duplicated and can travel without their creators as much as or even more than scores do; but unlike scores, recordings can be accessed directly if there is something available to play them, and they do not require the ability to read music.

To sum up, the phonographic system is close to the oral system in the sense that the music is experienced in its auditory dimension (and sometimes also visual in the case of video recordings), but also differs from it and shares features with the written system: it is based on a trace that allows conservation, duplication, repetition, and transmission. It is also based on the physical absence of the creators—performers as well as composers, arrangers, producers, sound engineers, etc.

4. IN PRAISE OF RECORDINGS

A lot of people do not agree with the role and status of recordings described here on the grounds that the validity of the act of recording itself and of its product (a disc or audiofile nowadays) can be challenged. Authors who challenge the validity of recordings broadly and fundamentally reject them on the ground that there would be a distance between a reality that would exist prior to the recording and the recording whose purpose would be to re-create that reality. Unfortunately, it would fail that reality and distort it through misrepresentation and amputation of the material as well as cutting and selecting in it. Here is a summary of the main points expressed by this criticism:

- Deviation from the performance as an event
- Deviation from the performance as a project
- Deviation in chronology
- Deviation caused by commercial pressures

- Deviation due to recording circumstances
- Deviation induced by the modes and choices of release

Performance as an Event

The main criticism focuses in principle on an alleged incapacity of recordings to give account of a performance as an event. This objection is most radically expressed by the British improviser Derek Bailey in two ways: first, he complains of a physical distortion of the sound and how certain aspects of a performance are not taken into account. Second, he denounces recording for being unable to give an account of the atmosphere surrounding a performance: "Too little of improvised music survives recording. One of the reasons is quite simple. The technical illusions practised in recording ("live" or studio) are inimical to the constantly changing balances and roles which operate within most free improvisation. Recording devices such as reduction, "presence," compression limiting, filtering and stereo picture, usually serve only to fillet out or disturb quite important elements."[10]

This argument refers to the inevitable transcoding of sound that takes place in the recording process. One could argue back that the distortion is partial and that the listener's ears reconstruct what they perceive. The listener compensates in a way or, more exactly, modifies how something is heard when he/she is aware of listening to a recording rather than the original sound. It seems to me that the best proof of that work lies in the coexistence of highly varying recording quality from one disc to another and, above all, from one time period to another. It goes without saying that the recording quality cannot be the same in the case of King Oliver in 1923, Charlie Parker in 1945, and Keith Jarrett in 2019. Is the poorer technical quality of older recordings a real obstacle to the appreciation of the music? Does it prevent us from experiencing what we hear as an event? One must also not forget that recordings may also provide us with better listening conditions than those offered live. Ekkehard Jost reminded us of that possibility on the occasion of a conference on John Coltrane at the University of Tours in November 2007. The author of *Free* Jazz,[11] who was the only one at the conference to have heard the saxophonist live, underlined the fact that listening to a recording could in no way reproduce the live experience of Coltrane's "classic quartet," before adding: "including because Elvin Jones played so loudly that you couldn't hear anyone else!"

Here is what Hugues Panassié said about Duke Ellington's concert at the Salle Pleyel concert hall in Paris in 1933:

> As one should have expected, the sound made by the orchestra was a lot richer than on record. However, the solos of the less powerful

> instruments—I mean the saxophones and clarinet in relation to the brass instruments—were more or less drowned under the accompaniment or countermelodies. That is why I really struggled to hear most of Johnny Hodges' solos during that concert. From that point of view, it is clear that the microphone helps overcome many difficulties in recording. In a similar way, the whole saxophone section heard at Pleyel seemed rather weak in comparison to the brass section, whereas in recording the saxophones are placed closer to the microphone in order to find better balance. Finally, in the concert you could hardly hear the doublebass that seemed so powerful in recordings.[12]

Let us go back to Derek Bailey's arguments against recordings:

> But much more important than the limitations of the technology is the loss during the recording process of the atmosphere of musical activity—the musical environment created by the performance—"the matching of music with place and occasion," as Peter Riley describes it, which is one of the main strengths of improvisation. Ronnie Scott says: "I hate making records, I really detest making records, because to me the way I play is really a kind of momentary thing, an in-person momentary thing, that one can't hope to capture on a record, simply because it is a record." Cornelius Cardew, discussing the recording of free improvisation, says: "What recording produces is a separate phenomenon, something really much stranger than the playing itself, since what you hear on tape or disc is indeed the same playing but divorced from its natural context. What is the importance of the natural context? The natural context provides a score which the players are unconsciously interpreting—a score that co-exists inseparably with the music, standing side by side with it and sustaining it."[13]

So "being there" or "being there together" could be argued to have some importance, and a recording would reduce the experience of music shared by the performers themselves but also between the performers and listeners (in the case of music recorded in concert). This is not necessarily the case. It is true that a recording only carries the sounds,[14] what may be considered the purely musical material and the core of a musical work cleaned up from external local factors. Listening to a recording is undoubtedly a different but not necessarily lower-quality experience. In his own way, Alain Gerber suggests quite the opposite of Derek Bailey's argument: "We see more and more people who close their eyes during concerts in order to focus better on the music alone but also, perhaps, to be under the impression that they are listening to recorded jazz. Those music lovers are quite right to assert that 'the concert does not add anything.' In fact, it is even

clear for them that a concert lacks something, something really important: the daydreaming and wanders of the mind triggered by a recording."[15]

Indeed, it is possible to consider that a recording brings the listener closer to the music by getting rid of all the visual aspects of a performance, which can be distracting, and the atmospheric elements that embellish a performance but also prioritize the experience over the music. Like a novel compared to a film, it is also true that a recording allows the mind to wander. It fuels the imagination and frees the listener from the contingencies of a performance.

On a related theme, Martin Williams argues—also defended by Derek Bailey—that improvisation cannot be dissociated from instantaneity, that it happens in an evanescent moment, that instantaneousness lies at its core and is destroyed by the repeatable trace of a recording: "Thus phonograph records are in a sense a contradiction of the meaning of the music. That is, they tend to make permanent and absolute music that is created for the moment, to express the meaning of the moment."[16]

Conversely, one could say that all music goes beyond the moment of its creation and exists for the rest of time, which is what Williams actually suggests in his next comment: "On the other hand, records attest that what is made up for the moment *can* survive that moment aesthetically."[17]

The problem may come, at least in part, from the association of improvisation with jazz. Did Derek Bailey define himself as a jazz musician? Only a few pages of his book, *Improvisation: Its Nature and Practice in Music*, deal with jazz, which he correctly sees as only one of many improvisation practices. On that front, Patrick Williams distinguishes clearly between the two: "Unlike musics labelled as 'improvised' or 'new improvised music' jazz does not aim at catching the unexpected. The history of jazz shows that musicians aim at creating works and these works, however much improvisation they may involve, are based on landmarks."[18]

Performance as a Project

Philippe Michel brings forward another argument: recording would change the status of what is fundamentally merely a musical performance and turn it into a musical work: "Jazz does not produce works in the strict sense of the word. It merely produces *projects* that spread over the course of time. Whether live or recorded, representations of those projects are created on the way. They are at most a succession of stages, unstable traces that get reactualized constantly. . . . A recording does no more than capture a transitory moment in the life of a *project* (and a collection of recordings, however comprehensive, will hardly manage to embrace the entirety of a project)."[19]

This concept of "project" and, seemingly, the rejection of the status of "work" at least in the conventional sense of the word are definitely a step forward. This

issue is not specific to jazz. The concept of "work" involves closure, which is what this argument is about. A work of art is always a part of a whole, a work in the oeuvre of an artist, in his/her life, in the world in which it was produced. To consider a work as a whole object in itself induces closure. It isolates the object from the continuous course of time: it creates discontinuity, which is always debatable. However, when looking at concrete objects (which is what analysis does), it is possible to keep in mind the discontinuous and relative nature of that process, be aware of it and make it a matter of concern. All careful analysts do this by contextualizing their remarks again and again. In addition, one may wonder whether changing the concept of "work" for a concept of "project" does not merely shift the question rather than solve it. How can we isolate those "projects" from the whole oeuvre of an artist? Also, it seems that the process of identifying and isolating projects in the oeuvre of an artist may result in more arbitrary choices as projects are less well defined objects than works which are fixed and delimited on a recorded medium. Is the analyst really condemned to always refer to a whole oeuvre, the whole life of an artist, the whole society in which a piece was created, which in practice amounts to a sort of generalized relativism, to the idea that "everything is contained in everything"? That makes analysis impossible because analysis consists first in carrying out processes of discretization, in breaking up what reality offers into homogenous units that make it more manageable to approach, and this starts with the definition of the object to be analyzed.

Chronology

Commentators are also concerned with the chronology within a recording: it is often artificial and at the same time arbitrary, bearing little relevance to the actual chronology of the recording sessions. Again, Philippe Michel rather radically criticizes the artificial nature of chronology in recordings. In particular, he refers to the case of Miles Davis at the end of the 1960s, which has been mentioned before. On *In a Silent Way* and *Bitches Brew*, for example, the treatment of the sound and the editing process interfere with the raw material made of improvised performances:

> In this type of project . . . the recording is not just about capturing a performance; it is used for compositional work based on technology and gives the impression that everything was recorded at the same time whereas different things were actually recorded at different times. This may allow the concept of a "work of art." Indeed, such a process dissociates the various times of creation clearly enough that it makes possible the underlying search for perfection, distinct from reality, in a work of art: a specific time has been

> taken outside of the *performance* in order to determine the best shape that a (recorded) material could take.[20]

The author seems bothered by the merge of the different times of recording in the final edited recording. We could ask how the history of evolutions in technology that some musicians have used (whether we regret it or not) should draw a boundary between what could and could not be considered works of art.

The second issue suggested earlier raises the problem of arbitrary segmentation and discontinuity. Here is how Alain Gerber denounces it: "Discs seem to be humble excuses for music but, in reality, they impose their own rule on music in the most tyrannical of ways. The stupid and persistent thing never disappears behind the intangible and fascinating material that it contains. . . . There is some ground for the history of cinema to be the history of films but why on earth should the history of jazz be the history of discs? As a fact, it is, and no one seems to mind!"[21]

One could argue that, if the history of jazz has become the history of discs (which remains to be proven), perhaps there is a good reason for it; otherwise things would probably have developed in a different way, and contradictions could have been overcome differently. Above all, how would we know Louis Armstrong without listening to his discs and without considering that they are works signed by their author? And how does that prevent us from being aware that these works neither represent the whole oeuvre of Louis Armstrong, nor the whole Louis Armstrong, nor the whole time that he lived in? We can be aware that they are the results of processes of elaboration and creation, and that the experience of listening live—which is now impossible—was different from listening to a disc.

Gerber carries on saying that:

> In order not to be condemned to silence the critical work must be grounded on the accepted illusion that everything that has not been laid in wax or can never be is silence because it cannot be reproduced. The whole venture is thus based and can only be based on two empty beliefs: one is that discs are only made of music (otherwise one would have to undertake the daunting task of trying to separate the purely musical object from the rest); the other is that discs represent all the music of those signing it (otherwise all that there would be to do would consist in accounting for singular and discontinuous events: an obscure task that analysts happily leave to journalists).[22]

The above paragraph could serve as guidelines for any analyst of music that follows a phonographic system: to never forget that a disc is an object with its own characteristics that must be taken into account in the process of analysis;

and to never forget that the discs of a musician make up a corpus that needs to be questioned in relation to the whole activity of that musician and the period of time when they were made. However, there is nothing vain or illusory in the venture. Much the contrary in fact: it is a very fruitful and conscious work.

Let us give the last word to Patrick Williams, who eventually sees in the different chronologies a real but productive contradiction: "Publishers and discographs illustrate the temptation to try and reconcile these two contradictions: on the one hand jazz is made of a body of recordings but, on the other hand, the most truthful part of jazz escapes recordings. But as Gunther Schuller—known as one of the most serious musicologists—has shown, this contradiction lies at the heart of the passion for jazz."[23]

Pressures Brought by the Market

The role played by the commercial structure of the recording industry in how jazz developed is a key subject in the critical writing about jazz (and popular musics of today). Roger Pryor Dodge, Robert Goffin, and Hugues Panassié were among the first to denounce the damaging effects of commercialism on jazz. In his time Rudi Blesh, was in the front line of attacking it.

> The commercial era in music was well under way in America by the early 1920's. Through radio and the talking motion picture it extended its octopus hold, which today is fastened upon virtually all the sources and public outlets of professional music. Everywhere its strangling pressure is felt, in the limited symphonic repertory and the gagging of the new composer, who can scarcely achieve public hearing: in the increasing banality of popular music, and in the appearance of swing, an aural activity devoted to neurotic excitement and the cliché. Such classical music as survives in the commercial repertory fares well enough, in a sterile sort of way, protected by its unalterable score and its traditional interpretation. But true jazz, which must be improvised by inspired and devoted players, withers in such an atmosphere. Commercialization was a cheapening and deteriorative force, a species of murder perpetrated on a wonderful music by whites and by those misguided Negroes who, for one or another reason, chose to be accomplices to the deed. The story does not make pleasant reading for those who love art or believe in progress, and it has implications far beyond art.[24]

Another obvious constraint is mentioned by Richard Sudhalter: "As an element of popular culture, jazz inevitably reflected the prevailing system: if musicians themselves were relatively color-blind (and indeed they were), their managers, agents, customers, employers, audiences—and particularly critics—were not.

Beyond dispute, the machinery of the music business was not interested in social reform, and its chief beneficiaries were white."[25]

However, on the other hand, positive aspects of discs have often been noted. Very early on it may have acted as a stimulating factor for creativity. Alyn Shipton observes that Jelly Roll Morton's Red Hot Peppers of 1926–27 as well as Louis Armstrong's Hot Five and Hot Seven only existed in recording studios.[26] Count Basie also gives direct testimony in the same direction:

> There is also another thing you have to take into account when you're talking about those two bands,[27] and that is the record business. In the old days the record companies used to issue those ten-inch singles[28] with one three-minute tune on each side. But when long-play microgroove records[29] came in, those companies began to issue ten- and then twelve-inch discs with from twenty to thirty minutes of music on each side. So that meant when you went into a recording session you were really working on an album that usually called for anywhere from several extended numbers to as many as sixteen regular three-minute tracks. Naturally that spurred arrangers to bring in more and more arrangements at the same time, and that is really how we got into whole albums of tunes from just one arranger. It really wasn't a matter of having to get all those new charts for the book. Actually it was the other way around. We had to have new material for those recording dates, and then we would keep some of it in the book for a while, either because it was something we happened to like, or because it would help boost the album, or because it was something we began to get requests for after the record came out.[30]

The Recording Circumstances

Related criticism applies to the general recording conditions and the different appearance noticed between music heard live or on record. Richard Sudhalter, who is a musician himself, gives more details on the method that he followed for his monumental survey on white musicians between 1915 and 1945:

> Reliance on phonograph records has been constant and heavy. This does not entirely please me: having made records myself, I am only too aware of the ways in which studio conditions do *not* represent a natural playing environment. This was especially true in the early days of recorded jazz, when a combination of factors—mechanical, temporal, atmospheric, acoustic, and especially supervisory—could make the environment downright inhospitable for the kind of spontaneous interaction which lies at the heart

> of all good jazz. Even in those days, the crack-of-dawn scheduling of so many sessions often collided head-on with exhaustion—and, let us admit, acute hangovers, themselves enough to thwart effective performance. That so many memorable records resulted from so imperfect a circumstance is not alone a small miracle but a tribute to the resilience of both music and musicians.[31]

Gunther Schuller has reported the words of the cornet player Mutt Carey, a contemporary of Joe "King" Oliver: "I'll tell you something about Joe's records. I haven't heard a single one that comes close to sounding like Joe's playing in person."[32]

Alyn Shipton adds: "The young, white Chicagoan players whom [Bud] Freeman knew, like Jimmy McPartland, Art Hodes, Eddie Condon, and Dave Tough . . . , all heard Oliver band at this stage and recall a group that sounded many times more impressive in the flesh than on its records, hamstrung as it was by the acoustic technology of the time."[33]

Here also are the memories of Hugues Panassié about a recording session of Bill Coleman that he supervised for Ultraphone on January 24, 1935:

> Unfortunately Ultraphone's sound engineers were struggling to record the doublebass properly. [Eugène] d'Hellemmes was moved around the studio a lot and we tried to record him in all possible positions. It took about three quarters of an hour to get to a result. Coleman and [Herman] Chittison had to play "What's the Reason" for all that time because a take had to be made in each new position. The inevitable result was that their playing lost its freshness gradually; they were improvising less and less spontaneously and when we did the final take we were far from the easiness and inspiration that were there at the beginning.[34]

Another recording session of Coleman that took place later showed a different result. Panassié noted that, recording "Joe Louis Stomp," the trumpeter refrained from putting in a riff borrowed from Fletcher Henderson that he always used at the same place when he played at the Parisian cabaret Villa d'Este. Panassié drew a more balanced conclusion from it:

> This apparently unsignificant detail proved me two things that were to be often confirmed by other recording sessions. The first thing was that great jazz musicians do not prepare their solos ahead of recording sessions in contradiction to what is commonly thought. They improvise as much or more in the studio than the cabaret, except in a few special circumstances. The second thing, which derives from the first, is that musicians focus

> often more in a recording studio than in a dancing hall. . . . Of course, when there is equal inspiration in both cases, the playing of a musician is more enjoyable heard live than on record but it is not fair to assume that he plays less well on record.[35]

So the environment of a studio is not necessarily hostile. Sometimes one may even benefit from excellent acoustic conditions and be able to listen to each other really well, better than on some stages. There are a lot of jazz recordings with pianos that are unbearably out of tune, but that is also not always the case. This situation was not necessarily any different in live venues.

Modes of Release

A disc is more than just a recording. It also involves the packaging and marketing of the music. Some of the problems related to the selection and layout of the material released have already been discussed here. The practice consisting of releasing complete works has brought a new dimension to these issues, though. Patrick Williams has discussed it abundantly: "Publishers go too far when they publish every single existing take of a number on the grounds that they are releasing complete works and without applying any critical or esthetic judgement."[36]

On those grounds, Williams refuses to consider automatically everything that has been recorded as works of art and claims that some esthetic judgment must take place: "Publishers yield to the temptation of seeing everything that has been recorded as works on the grounds that a work in jazz can only exist as a recording. This extreme attitude actually leads to the exact opposite result. Too many doubles and rough copies overload complete works and give a less clear image of the work of a musician. It is rather a document on the conditions of creation, which is not devoid of value as we shall see later."[37]

On the other hand, according to Williams, an album must be considered as a work in preference to the isolated products of recording sessions: "If one dismisses the albums *Mingus Ah Um* and *Mingus Dynasty* on the grounds that they were made up afterwards and replaces them with the sessions of the May 5, May 12, November 1, and November 13, 1959, one forgets the historic role played by these albums. They alone influenced musicians and amateurs who took them as references and triggered vocations."[38]

His argument here is more about reception (how an album is perceived) than production (how it is made): an album is produced differently from a mere collection of scattered pieces because some artistic will commands how it is made and that has consequences on how the listener perceives it.

Nevertheless, Williams admits that "the intention of the author" is not necessarily the key thing and speaks in favor of complete works:

> If we define what makes up a work based on the "intention of the author" we forget that very few jazz musicians have had the privilege and opportunity to have their intentions taken into account. Above all, if everything that has not been originally created for publication was removed from the jazz corpus numerous examples would come to mind that would make the idea sound preposterous: pieces that have played an essential role in the history of jazz and which make up some of the finest expressions of this music. Paradoxically, a whole list of good reasons to publish everything then comes to mind.[39]

Also, there may be issues in defining a work precisely using complete works, but they have their advantages and prove to be useful tools from the point of view of analysis:

> Takes that have been dismissed and multiple versions of one head help to better understand the creative processes of jazz musicians. One example that comes to mind when mentioning tracking the genesis of a work is Thelonious Monk's *'Round Midnight in Progress* published by Milestone, which displays six long and beautiful trials before the pianist reaches the final version (final for 5 April 1957). We could imagine a way of publishing that already exists for literature with a dual publication: one consisting of masters only for the general public and complete works containing trials, corrections and changes for critical work.[40]

This, in a way, is already what happens today despite or because of the decline of the disc market: more and more sets are released but original albums are still available.

Circulation—Reception

From the point of view of circulation, discs are unarguably advantageous; they can make past things present and bring what is remote near. They do so in a rigid, fossil-like way, but this is still an invaluable and indispensable opportunity for non-written music to deliver music as sound and not as a code, as is the case in a score. Right from the start, commentators have welcomed the possibilities offered by this, then, new means: "Much as jazz is supposed to dominate our modern music, it is really rare in its pure state. Since its appeal is still to the few, except in adulterated form, the big cities in America are not rich in fine jazz orchestras. Instead, the chief jazz orchestras are scattered all over the country and the only feasible way to hear good jazz in quantity is through phonograph records."[41]

Hugues Panassié in 1934:

> The phonograph is a precious tool for jazz. Recordings are the only way to preserve improvisations that would otherwise be lost for ever. In classical music a few sheets of paper are enough to keep a work and to retain every aspect of its value. On the contrary, even when there is no improvisation the performance remains such an important constituent of jazz that it is in itself a part of the work created. Because they make it possible to retain all performances discs really are the best way to keep jazz. . . . A new way of expression in musical art needs to find a corresponding new mode of conservation. There is something providential in the fact that the phonograph was invented around the time that jazz appeared. It allowed us to keep the improvisations of some extraordinary musicians and the ensemble performances of no less exceptional orchestras, which is no small thing.[42]

Rudi Blesh in 1946: "Fortunately, jazz in many of its phases has an invaluable sort of documentation—that of the phonograph record. More than in any other musical field the recording is vital in jazz, a spontaneous, improvised—though systematic—music, *composed in the playing*."[43]

Discs circulate sound but also knowledge that can be drawn from the material and learned for oneself: "When Oliver's band made its first discs in April 1923, it caused something of a sensation, and other jazz musicians wore out the records, learning the parts note-for-note."[44]

The former debate was focused on the production process of a work. What about how it is received by listeners? Louis Armstrong's "West End Blues," Duke Ellington's "Ko-ko," Charlie Parker's "Koko," Miles Davis's *Kind of Blue*, or John Coltrane's *A Love Supreme* have all been recorded and engraved either as isolated pieces or as albums, as we have been reminded by Patrick Williams. Are they not works in their own right? If the recording process did not turn their performances into works, surely how they have been received would be enough to award them the status of work. Even if commentators put these pieces in "contexts" or "projects"—and rightly so—they are eventually treated as works. Like it or not, the way that these pieces have been received and the impression that they have made have turned them into works.

Is There an Alternative to Discs?

> Records were, and are, a flawed index. But in the end, what other way do we have of hearing so many early jazz musicians play? Beginning in the 1930s, live "aircheck" (recorded off the radio) and concert recordings were available, finding the musicians at their evening best, on the job, relaxed

> and often adrenalized in a way impossible to imagine at ten in the morning. But no such representations of *in situ* hot music in the 1920s and earlier have yet surfaced. Sadly, jazz before 1917, the year it was first recorded, must forever remain an aural no-man's-land.[45]

Eventually, whether we consider a recording as a "document" or as a work is of little importance in the face of raw facts. For better or worse (but more often for the better), mechanical recording has shaped (or formatted, some detractors might say) the history of jazz with the variety of media it has used (cylinders, 78 and 33 rpms, compact discs, audio files), the constraints that it imposes and the possibilities it offers, its economy and how it is received, but also because it is a pedagogical tool and a means to circulate the music. In all cases, recordings are nothing like a pale and external copy of the original music, comparable to the minutes of a trial, an executioner, a parasite, or a purveyor of false news. Gunther Schuller describes an intricate and entangled reality as well as an acceleration in the development of jazz, in which the recording process played a role as catalyst or enzyme:

> As jazz expands in the 1920s, it becomes increasingly difficult to sort out the many strands of direct or indirect influences, of concurrent or successive developments, and of regional musical-social characteristics. Indeed, the latter area is still one of the more controversial aspects of jazz research. At one level, it is self-evident that the sudden wide dissemination of recordings (and radio) broke down regional differences. A musician in Kansas City did not have to travel to Chicago or New York to know what was being played in those cities. He could hear it on records, and he could be influenced by what he heard (if he was so inclined). At the same time, and at another level of creativity, the burgeoning recording industry, with its potential for reaching an unprecedentedly large market and, in turn, a potential for economic betterment, induced even musicians from outlying areas to compete for a corner of the market. The less gifted did so by imitating the leaders and innovators. The talented developed in their own directions and hoped they would be recorded. And as a result, what had originally been a unique amalgam of numerous influences accidentally situated in one city, namely, New Orleans, now radiated out across the rest of the nation, filtered and modified by local or regional traditions, or—more importantly—reshaped and redirected by individual innovators.[46]

Did the recordings create standardization or did they act as fermenting agents helping the emergence of new music? The line between a system and a tradition can be a fine one. The following quotation by Hazel V. Carby, based on an example, shows in the best possible way how that line may have been crossed: "It has often

been asserted that this recording of the blues compromised and adulterated a pure folk form of the blues but the combination of the vaudeville, carnival, and minstrel shows and the phonograph meant that the "folk-blues" and the culture industry were inextricably mixed in the twenties. By 1928 the blues sung by blacks were only secondarily of folk origin and the primary source for the group transmission of the blues was by phonograph, which was then joined by the radio."[47]

This is how Wilder Hobson finishes his *American Jazz Music* in 1939, which is one of the first histories of jazz written:

> But jazz has never asked to be justified, either in terms of a clearly discernible future, or in any other way. It may contain suggestions for musicians-to-be, but in itself it is one of the many spontaneous languages of musical history, one of the many traditions of improvisation, with its own unique subtleties of line and spirit. Most of the others have been heard about, and lost. There is, however, a difference with this one. Like the others, it will undoubtedly pass almost imperceptibly into the general current of more formal, deliberately shaped music. But the original jazz, the improvisation, will be preserved on the phonograph record.[48]

5. THE PROBLEM OF COMPOSITION AS A WORK

The difficult notion of composition in jazz remains to be discussed. Does such a thing as a jazz composition exist? If so, is it a work in itself and how should it be defined? It is obvious that jazz performances do not come out of nowhere. They are not the product of an inconceivable innocent enunciation that would be devoid of premeditation. As has been established previously, these compositions are to be considered starting points while the core of a work of jazz is to be found in how the basic material—whether it is a composition or not—gets treated, which is different from the composed work in art music, where the core of the work is to be found in the score that performance is there to reveal. That is not to say that a composition in jazz is a transparent, shapeless, and soulless project. The expression "jazz composition" is ambiguous. Does it simply apply to a "composition used for a work of jazz" or a "composition whose features (stylistic features or others) make it enter a specific sub-category in the realm of compositions"?

If we start with the first option (that is to say, if we look at all compositions used to carry out works of jazz), it is easy to draw a line defining two large subcategories: compositions composed by jazz musicians, on the one hand, and everything else, on the other hand. "Standards," in the original sense of the word, belong to the latter. Standards involve compositions by nonmusicians, mostly for musicals, films, popular music, opera, or to serve any purpose other than a jazz

performance. The most famous of those musicians surely is George Gershwin. He cannot be defined as a jazz musician although his compositions have been used by thousands of works of jazz. "Summertime," to mention only one, is one of the most performed and recorded compositions in the history of jazz (Tom Lord's *Jazz Discography* has counted 2,073 versions of it until now[49]). If we look at this composition as it was published, before jazz musicians took it up, nothing from the point of view of style or any other relate it to jazz. It entered the realm of jazz once those musicians saw it as a suitable aid for the creation of works of jazz.

What about compositions created by jazz musicians and bearing all the features of jazz (including stylistic ones) like, say, "'Round Midnight" by Thelonious Monk? This is easy. Everything about it relates it to jazz. However, the problem of the mode of existence of a composition for jazz remains. It cannot manifest itself in a (jazz) sound object outside of a performance, which, as it is being carried out, becomes a real object in its own right. This real object is different from the composition, which remains an unexpressed "ideal" object. Even when "'Round Midnight" is played by Monk himself, in the moment of the performance it becomes a version of "'Round Midnight," a work of jazz in its own right and distinct from the composition that it is based on. So, in a way, a composition for jazz can never be heard in itself. A jazz performance is an object that conceals a composition as it creates a new version of it, whereas a performance of art music reveals the written work. In art music, a proper performance is in part a transparent and accurate process even if it has its own characteristics that make it a unique object, too. What exists in the written composition is not subsumed by the performance in the same way that occurs in jazz.

This discussion on composition is not final, and asks for further investigation. It will be discussed more in the next chapter. For now, let us state that a composition is a musical work but not a work of jazz, even when it shows some jazz features (stylistic ones, in particular). As for the realm that jazz compositions might supposedly belong to, let us give this temporary answer: Gustav Mahler's *Fifth Symphony* is not a work of jazz nor was Mahler a jazz musician. However, there is nothing preventing a jazz musician from drawing one or several themes from it in order to create a work of jazz that will, of course, be distinct (and probably very different in all aspects)[50] from the original composition. Identity is harder to determine for compositions like "Summertime" as well as the numerous other standards from which recorded jazz versions have stemmed. It is less difficult in the cases of the compositions created by jazz musicians for jazz. Putting things in this perspective reveals a virtual element in a composition used for the creation of works of jazz. Whoever created it and no matter what its stylistic features might be, there is nothing specifically jazz-like at the core of a composition used for jazz. Such a composition seems to gain a jazz element every time it is used by a musician to create a work seen as jazz. As a consequence, a work of jazz could

only be a performance. In this view, a composition remains a work in general and becomes a work for jazz in the moment that a jazz performance uses it as a starting point.

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The first two chapters of the book have offered a first investigation of the concept of work of jazz and have tried to draw elements of definition in order to avoid serious mistakes sometimes made by commentators on and analysts of jazz. A first result has been reached: the works produced by jazz are performances that we access by the means of mechanical recording, which affects those performances in a variety of ways. This implies that the performer is the main actor in the creative process. These two circumstances—the kind of object that a work of jazz is and its mode of production—make the practice of jazz differ from the practice of art music.

The next step before investigating how a work of jazz is structured (chapter 4) is to clarify the meaning of a whole set of fundamental notions that, in most cases, are specific to jazz (composition being one of them). The next chapter is dedicated to the study of those notions.

CHAPTER 3

Basic Notions

An attempt has been made in the previous chapters to define jazz and a work of jazz. We may now go further and clarify some basic existing notions while introducing some new ones. Our purpose is to try and avoid semantic misunderstandings while filling in the gaps where some tools seem to be missing. Some of these notions will be examined further in the following chapters.

These notions can be put into four groups:

1. Parameters, form, structure, metric grid
2. Composition, arrangement
3. Structure of the work, structure of the performance, structure of the process, moments, levels
4. Modes of elaboration, modes of exchange, fixed text, codes of play, improvisation, instruction, cue, interplay

1. FORM—STRUCTURE—METRIC GRID

We started with the most general concept (jazz) and gradually narrowed our focus (a work of jazz, a composition for jazz); following this logic, we could be expected to go on with the notions of composition and arrangement that belong to the same field. This will be done in the second half of this chapter for, in order to do it well, it first seems necessary to clarify some notions linked to the concepts of form, structure, and metric grid.

1.1 Form

Form is a complex concept that philosophy and aesthetics constantly question. When "form" is discussed here, it is always musical form that is being debated even if the adjective "musical" is not always mentioned.

Even when used in a restrictive sense, *form* is always a more general concept than *structure*, the latter being to some extent an element of a form. Form is an overarching template that can be manifested in a huge number of different structures. Structures display a number of features that define the form that they are associated with. AABA is a form in which an element A is repeated before an element B is introduced, followed by the return of A. With the form ABAC, B comes in between the repetition of A before a new element C comes in. Both of these forms can be organized in an infinite variety of structures. In a given structure, A, B, or C may have the same number of bars or not, repetitions may have variations (melodic, harmonic, etc.). However, a certain route or scheme, a sort of rhythm extended over a longer time frame, may be identified in a specific structure that allows it to be connected with a given form and to distinguish between forms. Such a route, scheme, or rhythm extended over a longer time frame defines and characterizes a specific form.

Even if it will be discussed in detail later, the distinction needs to be made now between the form of the composition and the form of the performance. The form of a composition (AABA, ABAC, blues, etc.) is not the same thing as the form of a specific performance. A head-solos-head form, for example, may be identified for a performance independently from the form the composition uses.

1.2 Structure

In the same way, the distinction needs to be made between the structure of the composition and the structure of the performance. In "All the Things You Are," for example, the AABA form is identifiable behind an AA'BA" structure of thirty-six bars organized in four sections: respectively eight, eight, eight, and twelve bars where the second version of A is transposed and the last occurrence of A extended by four bars. However, the structure of a recorded version of "All the Things You Are" (for example, introduction—exposition of a head—solo 1—interlude—solo 2—repeat of head—coda) is different. In this case, the structure of the performance leads to the head-solos-head form. So when analyzing a piece, it matters to distinguish between the structure of the composition and the structure of the performance.

1.3 Metric Grid

By "metric grid" we mean the internal proportions of each element in relation to the whole in a structure. The most common metric grid in structures associated with the AABA form is made of four sections of eight bars each. The metric grid in the conventional changes of blues is made of three sections of four bars each.

On the other hand, the chordal grid of "Flamenco Sketches" as recorded by Miles Davis on April 22, 1959, is made of five chords; musicians may play each of them as long as they wish before moving on to the next one, so there is no metric grid at all in this case. Or rather, the structure is improvised during the performance, and so is the metric grid. As a result, the metric grid and structure may be different for each performance carried out according to these chord changes.

The concepts of metric grid and structure are thus distinct. For example, two structures AABA and AA'BA", each organized in four sections of eight bars, are different while their metric grid is the same. In the case of structures coming from different forms—for example, AABA and ABAC with the same number of sections and bars (let us keep the length of 32 = 4 x 8)—the metric grid is also the same.

It is worth noting that, in principle, a form cannot be associated with a specific metric grid because a form is a sort of object that only exists as an idea (it does not materialize in the physical world). However, in the case of AABA and ABAC, the metric grid made of thirty-two bars in four sections of eight bars each is by far the most common scenario. The case of blues is ambiguous: with very few exceptions, the twelve-bar metric grid is linked to the form itself. If we consider that this metric grid is a defining feature of the form, then the concept of metric grid of a form becomes possible. The same may be said of the 32 = 4 x 8 metric grid in rhythm changes, if we see Rhythm changes[1] as a form.

These notions clarified, one may further investigate the concept of composition—which, as seen before, needs to be approached in a particular way in jazz—and arrangement that cannot be avoided and is used in a relatively specific way.

2. COMPOSITION—ARRANGEMENT

2.1 Composition

What is a composition in the field of jazz? It is precisely this specification (field of jazz) that should set the direction in which to look. In the previous chapter a general approach of this concept has been sketched. It is better to talk of a composition for jazz than a jazz composition. This composition is not the core of the work but its starting point, and often a decisive one. So we are trying to grasp a process of production of a work of jazz where the composition is the first step most of the time, and to delimit that starting point. We may well end up with a continuous rather than discrete concept of composition: we would then have a lot of composition at the source of a performance, or only a little or none at all.

Before going any further, another notion, which is involved in the definition of the composition most of the time, needs to be discussed: that of the chord changes.

2.1.1 THE CHORD CHANGES

What are chord changes?

There are two parameters involved: harmony and form. At the level of harmony, it is a given progression of framed chords. The first information provided by some chord changes is thus an order in which chords appear. At the level of form, the notion of chord changes usually involves a metric grid expressed by a number of bars that delivers information on how long each chord of the changes lasts (even if the duration may vary with tempo, the proportions remain).

A comprehensive definition of the concept of chord changes should also involve repetition. A chord progression given on a metric grid does not make up chord changes if it is not repeated at least once. But what is the scope of assessment of repetition? In principle, we assess it by looking at the repertoire in general rather than at a single analyzed performance. Let us take the example of "Koko," recorded by Charlie Parker on November 26, 1945. The head is played on a certain harmony and the improvised solo on the changes of "Cherokee," which is different from the harmony of the head of "Koko." It happens that Parker plays two choruses on the "Cherokee" changes; but if he had played only one, it would still be acceptable to talk of chord changes because this progression has already been heard in the multiple recorded versions of "Cherokee."

With this extensive definition of chord changes, it becomes the equivalent of a form: it may be repeated and possibly with variations but remains identifiable despite those variations.

2.1.2 WHAT IS A COMPOSITION IN JAZZ?

To start with, what is a composition in general? The word applies to the action of composing as well as the result of that action. If we stick with the first option, it is a mental process that precedes the moment of the musical sound. Whatever definition we go for, the concept of composition implies premeditation (improvisation is often seen as "spontaneous composition," but this seems questionable).

We need to look at composition in the context of jazz, in which it is a very different concept that requires a fresh approach. Premeditation is the only common feature that can immediately be retained from the concept in general. Composition thus exists in jazz before the performance itself. It exists in the preparatory stages of the performance. Here are the questions to ask in analysis: Is a composition (the product of the act of composing) present at this stage? If so, how does it express itself? The next step will be to investigate how and in what way the composition has been used in the performance.

What is a composition in jazz? It has already been established that our purpose is not to try and identify stylistic features that would need to be present to see a composition as belonging to jazz. Our purpose is to grasp how a composition works in the process of producing a work of jazz. That is why the expression "composition *for* jazz" seems better than "jazz composition." Many compositions—Tin Pan Alley standards in particular—are not jazz stylistically but are used as starting points in works defined as jazz. Because they have been chosen as material by jazz, they belong to the group of compositions for jazz. The status (composition) is defined by the context (jazz).

A composition for jazz appears to be an ideal musical object (in the sense that it is an idea) delivering terms that are melodic, rhythmic, and harmonic at the same time and that define a resulting structure (all of which may be called the text of the composition). It is produced through a writing process that takes place before the text is carried out as sound. In very exceptional circumstances, one or two of these three required elements may be missing.

A problem arises with scripted complements. What are they? Are they part of the composition and, if so, in what way? In general, there are three types of supplements in the common practice of jazz:

The introduction: a fragment that normally introduces the head
The interludes: short fragments sometimes used as links between two important elements of the structure (the head and solo, in general)
The coda: a fragment that may be used to conclude a piece after the final repeat of the head

Introduction, interludes, and coda are short fragments most of the time. They may equally use an original progression or part of the changes as their harmonic aid. The composed chorus is a bit tricky, as its status may be somewhere in between the supplement and the solo. If it uses its own progression (that is different from the changes), it is more like an interlude. However, if the term "chorus" is used, then it means that it is on the changes. Structurally speaking, it works like a solo and and we are justified in seeing it as something similar.

Should the supplements be included in the "composition"? Usage provides the answer. In "'Round Midnight" by Thelonious Monk, usage has gradually integrated the introduction and coda into the composition. However, versions that only play the head without the supplements are still versions of "'Round Midnight." The notion of head appears necessary here. The head is the main element of the composition, though it can include others. Most of the time, the composition is merely made of the head, which the language reveals: in jazz, when we talk of the text of the composition we call it the head.

2.1.3 THE VIRTUAL NATURE OF THE COMPOSITION: THE TEXT OF REFERENCE

Where can we find the text of reference of a composition for jazz? There are two options: in graphic form or in one (or several) sound recording(s). Two observations must be made about these options. First, no text in jazz is required to be followed scrupulously. This freedom of interpretation is one of the defining elements of the practice of jazz. Second, if the notion of text of reference can make sense, that sense calls for clarification. It is preferable to see this notion as a continuous rather than discrete variable. There is no absolute text of reference for a given composition, but various texts can be used to a greater or lesser degree as reference. From those relative points of reference and materials the jazz musician is free to create a new and unique aesthetic object. We will try to assess these various degrees of reference, which can be defined as the degree of closeness of the text being assessed with the thought and expression of the composer.

***The Text of Reference in Graphic Form*—**Most of the time, compositions in jazz are made of a tune with harmonization (realized or not). If the chords are not realized, the harmony tends to be presented in shorthand, fake book–style notation. From a graphic point of view, this is called a lead sheet. In theory, the figuring describes more or less explicit chords (made of three, four, five, or more sounds, and an inversion may be indicated), but in it reality indicates harmonies, as the rule allows chords to be inverted, enriched, altered, transformed, substituted or deleted, etc. Except on rare occasions, the composition is not fixed in any more precise manner in any other scripted text.

Two types of situation need to be envisaged in order to assess a level of reference: is the composer a jazz musician or not? If he is not, the reference matters less, as we are dealing with a composition for jazz which is not likely to be in jazz style. It does not matter much whether the composer uses a system of notation that is close to the shorthand mentioned above or not, because the transformation of the composition into a work of jazz is very likely to drastically change the original material anyway. For example, the lead sheets of Broadway standards work as guidelines.

The problem is different if the composition is by a jazz musician and destined to be performed as jazz: in the graphic presentation, how do we separate what belongs to the composition from what belongs to a particular arrangement? A performing jazz musician may not feel allowed to modify the text of a composing colleague. In this case, where the performer decides to put the boundary, based on the graphic presentation of the piece, is of real importance in addition to the consequences it has in terms of respect for the text of reference and the thought that the composer put into it. The first task consists of assessing how close the graphic text is to the thought of the composing jazz musician. How

much of the composition is actually written is also a matter for consideration. A work like "Anna Livia Plurabelle" by André Hodeir—which is probably the most explicitly written composition in the history of jazz—exists almost entirely on the score, which is then clearly a (even *the*) text of reference in the same sense as in art music. But this is an exception and possibly even a unique scenario in jazz. Let us take a less extreme case like a composition by Duke Ellington and arranged by himself. The certified original manuscript—like those that can be consulted at the Library of Congress in Washington—certainly has the status of text of reference. However, it is more a reference of the arrangement put down in writing in the manuscript than a reference of the composition itself, which, like any other jazz composition, can be arranged differently by the composer or any other musician. With "Anna Livia Plurabelle," composition and arrangement are so intrinsically related that they nearly overlap completely. On the contrary, the arrangement by Duke Ellington of one of his compositions is a reference for that specific arrangement but not for the composition itself. There is an aesthetic reference, however, as the signs scripted on the score are of the composer's hand. This does not have to be taken into account, as the same degree of freedom in adapting the text still exists, even if the reference is of a particular nature in this case and has a stronger feel than with a text whose origin is unsure.

Both cases are rarities, actually, as manuscripts are rarely available. As soon as one is dealing with printed music, it is difficult to know how much it was certified by the composer. Two cases most usually occur: publishers' scores and fake book transcriptions. Because those books are generally not official (hence their name), the authors of the transcriptions are not normally mentioned but, almost by definition, they are not themselves the composers. So such scores must be used with caution. They usually represent the perception of a transcriptor who is unknown most of the time, and his/her perception of a specific version, which is often not mentioned either. As for publishers' scores, it is always difficult to know the exact details of what the composer approved of. By nature, these scores are more reliable than fake books, but they still require some detachment: their level of reference is stronger than transcriptions in principle but weaker than manuscripts.

The Text of Reference in a Sound Recording—The problem is different for sound recordings, as their origin is certified. We know (almost always) who has been recorded. Again, several situations may occur: is it a composition by a jazz musician or not? Is the composer the authorial voice of the recording? However, these questions share the same more general problem that we faced with graphic documents: the perception of a composition and a particular arrangement simultaneously when listening to a recording.

A composition is necessarily present in an arrangement, but an arrangement is not just an identifiable addition to a composition. An arrangement involves choices in the fields of instrumentation, orchestration, sound, and form, but also rhythm, melody, and harmony. So it is hard to separate the two with certainty. There is nothing stopping a musician from deciding to play a composition in a different arrangement from the alleged original version. As soon as two recordings of a composition exist, there is no reason to choose one above the other as a main reference. It is likely that many elements of the composition will remain in both versions, but not all of them. The composition then becomes what is common to both versions. Following this logic, if a composition is recorded many times (becoming a standard in the wide sense of the word), it would then become what is common to all versions.

Things do not actually happen like that. As versions multiply, the common features tend to diminish and sometimes disappear instead of revealing a backbone. Of course, that does not mean that a composition keeps dissolving as it is played in a growing number of versions. It is more accurate to define a composition as the features that are found most of the time and in some form or another in a majority of versions.

Let us look at "'Round Midnight" again for better clarity. The first version is recorded August 22, 1944, by Cootie Williams's orchestra. It is the original version. Monk records it again with his orchestra on November 21, 1947, for the Blue Note label and the composition subsequently is recorded hundreds of times. In 1982 Michel Petrucciani and Lee Konitz perform a version in which they improvise on the changes without playing the tune or in fact referring to it at all. If we find a version in which the tune is played with no accompaniment there will be nothing in common in those two versions theoretically, except for a virtual presence of chord changes. That is not to say that "'Round Midnight" would disappear in the process.

So how to define the text of "'Round Midnight"? Is the reference the arrangement of the original version of 1944 or is it the first version recorded by the composer in 1947? When Petrucciani and Konitz play the chord changes without the tune, are they still playing that composition? Moreover, it is clear with this example that a composition is not an object with definite boundaries: its own body may evolve. The introduction and coda of "'Round Midnight" appear in a first version by Dizzy Gillespie on February 7, 1946; the interlude (probably composed by the arranger Walter "Gil" Fuller) comes in addition to the introduction and coda in another version for large orchestra, also in 1946. However, only the introduction is played in the first version recorded by Monk himself in 1947. But this introduction and coda are present in a majority of the following recordings. So should they be considered part of the composition?

It would be preposterous to assume that "'Round Midnight" does not exist on the grounds that no feature may be identifiable in all versions. It is undoubtedly a musical object in itself. If you play a few bars of any version that contains even a portion of the tune to vaguely informed listeners, they will immediately recognize Thelonious Monk's composition. This highly recognizable tune, as well as its harmonization, are present in the vast majority of versions in a plethora of ways. The identity of a composition in jazz seems to manifest itself through all its recorded occurrences even if all of its allegedly characteristic features do not appear. Some of these features may appear in diverse ways. The tune, of course, will not be played the same way each time. The harmonization may show through different chord progressions. There is no minimum common denominator that would be required, or rather, such a denominator could vary.

This example applies to the composing jazz musician, in which one must distinguish between, on the one hand, the recordings where the composer is present (especially those made under his name) and, on the other hand, any others. As in the case of manuscripts for graphic documents, the former have a stronger level of reference. An original version recorded by the composer may not have an absolute legitimacy to represent the text of a composition but it is nonetheless more legitimate than others.

If the composer is not a jazz musician, all versions stand equally, and that includes the first version or the one recorded by the composer himself, because the idiom of the composition itself changes as it becomes a jazz performance. Take a look at the repertoire of Tin Pan Alley standards: George Gershwin's "Summertime" as it appears in the 1935 version of the opera *Porgy and Bess* is undoubtedly a composition with rich potential for jazz (and one of the most played by jazz musicians). But in order to get an idea of "Summertime" as an aid for works of jazz, one needs to look at the first versions of it performed by jazz musicians. The original version is a necessary landmark, but it has no more standing as the text of reference than the versions by jazz musicians.

It has become clear that we are justified to talk of the virtual nature of a composition for jazz, partly because a composition cannot be heard as such (it is always expressed in a particular performance, which is heard as sound) but also because no text—whether in a scripted form or as a recording—can claim to be an absolute reference. This reference can also be seen as a continuous variable. When the composer is a jazz musician, the level of reference is reinforced by definition.

What the ethnomusicologist Constantin Brăiloiu said about singers could then apply to jazz performers: "In the absence of an indisputable text one has to admit that one gathers only variants and that, at a latent level in the minds of singers, an ideal archetype exists, of which they offer short-lived expressions."[2]

The Composition as a Model—The concept of model offered by ethnomusicology can be of some help here. Bernard Lortat-Jacob has described the relationship that may exist between a model and improvisation as well as the results that may come out of it: "We shall approach the problem of improvisation using the concept of model and looking at the ways in which a model is expressed in concrete productions, bearing in mind that we consider a model as made of a finite number of elements that have been fully memorized while improvised productions are, at least in theory, infinite."[3]

The author distinguishes between two types of models, the "dense" model and the "loose" model, described as follows:

> A model that is strongly structured constitutes a reference which is a reliable basis for appraisal because it is firmly asserted. . . . A "dense" model allows variation. . . . In this context, variation can be defined as a practice that alters the dense model or, in the case of a set of variations, the previous variations (which are themselves variations of the model). This process of modification may be carried out in a variety of ways which are not necessarily different from composition techniques (ornamentation, transposition, metabolization, modulation, elongation, diminution, etc.). The structure of the model remains through these processes. . . . But a very different type of process may occur in which the parts that make the model appear unsettled and momentary. In this case, the model gets "absorbed" by constantly renewed improvisations, in a way. It becomes clear that such a model (that we call "loose" in contrast to the previous "dense" model) loses its quality of unique material as it keeps facing a variety of situations. Such improvised situations that are constantly renewed alter the identity of the model which eventually dissolves. The structural and perceptive landmarks which made the model exist in the first place become difficult to grasp.[4]

It is perfectly acceptable to apply this concept of model as defined by Lortat-Jacob to a composition for jazz. However, it is also clear that a composition for jazz is not one or the other of the two types by nature. It becomes one or the other depending on how it is treated.[5] In itself, a jazz composition is not associated with either model. It will relate more to the dense or loose model depending on how the performers treat it each time.

2.2 Arrangement and Protagonists

2.2.1 ARRANGEMENT

Arrangement has been mentioned in the book before, but this notion, which is often confused, has not been clarified yet. For now, it could be defined as the process of transforming initial material that exists at a virtual level (the composition, most of the time) into a musical object expressed as sound. With this definition the process and its result are still mixed up, as the initial material and the arranged result are not separated during the listening process.

However, music writing and arrangement are too often seen as interchangeable, and that should not be the case. Of course, an arrangement may be written, but it can also be in the form of a head arrangement. Moreover, arrangement must be understood as material organization in a broad sense even if some of the material (or the whole of it) is neither written nor fixed; it may be produced by the use of rules or improvisation. Ornette Coleman's version of "Free Jazz" recorded December 20, 1960 (lasting over thirty-seven minutes and largely improvised) is undoubtedly an arrangement, though only a few bars have been fixed (and written, certainly). This example presents all three modes mentioned: a fixed text (the orchestral sequence), the use of rules (the order of the parts in the sequence as well as the order and structure of solos), and improvisation (some structural elements that are probably improvised). If the arrangement (as a process) is improvised during the performance, we may call it a "resulting arrangement." It is possible to go further and broaden the first definition given here: arrangement is the process of transforming a composition into expressed sound, but also the organization of that expressed sound itself, whether composition is present in the preparatory elements of the performance or not. Strangely enough, "composition" in the literal sense of the word would be a better term for this notion, as it suggests putting together disconnected elements without any one of these elements being considered essential.

The definition suggested above makes arrangement a very broad notion. In this light, it may be understood as the organization of different parts, whether these parts (and how they are organized) have been planned or not. This is problematic, as the term "arrangement" is usually used in a very restricted way to describe only the process of writing out musical material. I am definitely in favor of a broader definition: arrangement is the process that builds and structures the real sound. This process may involve fixing the music on paper (writing) but not necessarily (in the case of head arrangement); it may also use codes, rules of practice, or improvisation to some extent. Deciding on instrumentation is already a choice of arrangement. For all these reasons, it seems inaccurate to limit the notion of arrangement to potential music writing work.

Now, what term could be adequate to designate a fixed text outside of a composition? We suggest calling it a "fixed fragment." So the fixed text in a performance combines the composition and the fixed fragments. The latter are often scored, but they can also be orally passed on. This is why the term "fixing" is preferable to "writing."

Supplements (introduction, interlude, coda) are a recurring problem. As seen before, it is possible to consider them parts of a composition in some cases. They can also be improvised or fixed. If they are fixed or stabilized, it hardly matters which category they may belong to (composition, fixed fragments, or a third category of their own); ultimately, the important thing is not to miss any element of a performance.

In Miles Davis's version of "'Round Midnight" recorded September 10, 1956, the three bars that appear in between the end of the exposition of the head and John Coltrane's solo can be considered an interlude and a fixed fragment: they are made of imposed rhythms and pitches but are not part of the composition. We do not know either whether they have been learned from a score or passed on orally. By contrast, in music for big bands arrangers usually have "their" chorus, which they have written for the orchestra. This is clearly a "fixed fragment" and, in this case, it is always written.

2.2.2 PROTAGONISTS

How do we distinguish between the protagonists behind a performance? A distinction has already been made between composers and performers (who can sometimes be the same person, of course). What about arrangers? If we retain the broadest definition of an arrangement, all performers are arrangers. But a third, intermediate category of protagonists can appear, suggested by the more common use of the word "arranger." This points out the person who processes the initial material (whether it is a composition or not) and provides the musicians—before or during the performance and usually, but not necessarily, in written form—with the organization and modes of realization of the different parts.

The case of the conductor and arranger Gil Evans can illustrate this well through changes in his practices. Two of them will be pointed out here. In a first phase, which corresponds to his work in the 1950s and 1960s, his scores were very composed. In a second phase (1970s and 1980s), they were a lot less detailed and the orchestra was left in charge of a significant part of the realization, which was organized by a system of rules leading to a controlled freedom.

In the first case, the arranger writes music that performers then perform. Except on very rare occasions, a work of jazz is never limited to what is scored and always involves some degree of improvisation. However, sometimes the composed or "arranged" part can play a major role and shape the general look of the music. It may even be predominant, as is the case in most arrangements

for large orchestra. We describe this sort of music as "very composed." This part of the music that is prepared belongs to what later in the book will be referred to as the pre-performance stage. This stage is when the writing or scoring takes place. When it is not the case, we are dealing with head arrangements.

In the second phase of Gil Evans's work, the arranger behaves like a conductor: at the time of performance he indicates or gives the impulsion to move on from one part to another while granting the members of the orchestra some initiative. The process of arrangement partially or totally moves on from a fixing process to one based on codes and takes place at the time of performance rather than prior to it. In this scenario a conductor is an arranger if, during the course of a performance, he makes decisions that have an impact on the development of that performance. He may call forward a soloist to the front of the stage; he may indicate the end of a solo or, on the contrary, extend it; he may suggest fours, create a coda himself or trigger an improvised one, etc.

Gil Evans also developed a third and more peripheral practice in arrangement. He attended a lot of Miles Davis recording sessions without playing, but every now and then he would throw in an orchestration idea, write a few bars to be used as an interlude, or suggest an introduction. This is a minimalist approach to the role of arranger. It consists of bringing cosmetic touches on a one-off basis, usually about details on the surface rather than affecting the way that the music is designed at a deeper level.

A designer-conductor who does not touch the arranged material himself is another borderline scenario that can be illustrated by one of the greatest, Count Basie:

> By the time we first started getting that band together at the Reno, I already had some pretty clear ideas about how I wanted a band to sound like. I knew how I wanted each section to sound. So I also knew what each one of the guys should sound like. I knew what I wanted them there for. Even back when I was dictating those arrangements to Eddie Durham for Bennie Moten's band, I could actually hear the band playing those passages while we were working on them. And that's the way Eddie wrote. We could write just like I heard it. He could voice each section just the way I wanted it.[6]

A fourth protagonist appears in the distance (after composer, performer, and arranger): the artistic director, or producer in the sense meant since the 1970s and 1980s, mostly in the field of pop and pop-rock music. He/she chooses the performers, designs the global sound, and is responsible for the achievement of a result that matches the project. He/she may also be the person managing a

recording session, the one who is able to reboot it in case it gets stuck. Sometimes the artistic director or producer also chooses the repertoire or gives some guidelines in this area. He/she may also decide which takes will be published and in which order items will appear in the final product. Rarely in the history of jazz has anyone in this category been a decisive protagonist; however, there are a few significant examples. Teo Macero's role in the music of Miles Davis in the 1960s and 1970s has already been mentioned; but in a more indirect though decisive way, one may think of founders of labels such as Alfred Lion (Blue Note), Ahmet Ertegun (Atlantic), or Manfred Eicher (ECM). There is also the example of Creed Taylor, who, after he worked for Verve, imagined a crossover type of jazz (supposed to shift the boundaries of genre and style) and started the CTI label for that purpose. Sometimes a studio and his sound engineer are associated with a label and its identity. Some famous cases include the dining room in the house of the sound engineer Rudy Van Gelder in Hackensack (Blue Note) or the Arne Bendiksen and then Rainbow studios in Oslo with their sound engineer Jan Erik Kongshaug (ECM).

There is one last, and important, protagonist left to mention: the sideman, a musician taking part in the recording but not responsible for it. He/she is one of the direct producers of the sound in performance. On many occasions he/she takes part in the pre-performance arrangement process, and he/she plays a major role in performance.

After reviewing the key notions of form, structure, and metric grid, followed by that of composition and arrangement, one needs to address the work itself, starting with its structural features.

3. STRUCTURE OF THE WORK

It is useful to break down the analysis process of a performance into two separate objects. We shall call the first object "structure of the performance." It consists of breaking down the performance as we hear it on record (even if post-production handling of the material may have modified what happened at the actual time of recording). The second object will be called "structure of the process." Its purpose is to help us understand what had been planned before the performance (all the preparatory elements), what was decided at the time of performance (how the preparatory elements are carried out during the performance), and what was decided after the performance (everything that modifies the product of the performance after it has actually happened: overdubbing, editing, etc.). The first object focuses on the product while the second focuses on the process.

3.1 Structure of the Performance: Levels—Moments

The first step is to look at the structure of the performance as it comes across on record. This involves segmentation and definition of layers in the work. Two notions are needed to achieve this: "level" and "moment."

The method looking at levels (Heinrich Schenker's, for example) is based on a vertical metaphor: starting from the "surface" (what is heard) one "digs" to allow ever "deeper" levels to emerge. The horizontal metaphor is used to describe everything that happens in a consecutive manner on the timeline (so referring to chronology).

The notion of moment as it is used here does not raise difficulties in principle. Moments are segments in the continuous sound that are characterized according to factors that the analyst decides on (amount of improvisation, parameters, etc.). Moments occur one after another on the timeline. As a result, it is only possible to be at one moment at a time in the chronology of a work. The solo follows the exposition of the head, which itself follows the introduction. Each moment is in a "horizontal" chronological relationship to the next or previous moment. The notion of moment can be applied within a work but also on a larger scale, as when looking at the "structure of the process": the preparation of the performance, the performance itself, and the post-performance stage make up separate moments of a work.

The concept of level is more complex. It can be seen as a tool of classification. The surface (level 0) is made of all the consecutive events that one can hear. These events are grouped in sequences that get longer as well as less numerous at each level. This implies that fragmentation in discreet units is possible: for example, the surface is made of consecutive notes that will be grouped in motives first, then phrases, themes, etc. There is no reason to dismiss this type of structural organization in principle, but one may wonder whether it is always adequate beyond the descriptive tool it offers. Schenkerian analysis is of this type but adds a fundamental element of an organic nature: the deepest level, known as the fundamental structure, generates the other levels up to the surface. This fundamental structure, as well as all the intermediary levels, are "totally" present at the surface: the work is seen as an unfolded structure. It seems difficult to find an equivalent of this fundamental structure in a work of jazz even when it is strictly tonal (which is not to say that Schenkerian theory is of no use in jazz). It would be possible to conceive the chord changes as a deeper level compared to a solo (the surface) as it is, indeed, a "fundamental structure" in a way, but that does not have the status of primary source that a fundamental structure has in Schenkerian theory. Indeed, neither the changes nor any other element of a work of jazz works as a matrix generating the work in an organic process of development. When it exists, the

chord changes are a most important element of the global system that produces the work; but it is still only an element among others.

One could expect that models based on levels could present the structure of a work where each level can be divided and produce the next level below and so on, starting from the surface (level o) until the deepest level (level n) is reached. Such presentations have the advantage of being systematic but may not be the most adequate at presenting the most significant and effective structuring elements for analysis in an efficient way.

The next chapter will offer a slightly different model that is less systematic and more pragmatic. The surface will be presented as a chain of formal events (introduction—exposition of a head—interlude—break—solos—return of the head—coda, etc.). At another level each part will be granted a *status* depending on whether the moment being scrutinized is fixed or not. Eventually, two levels of structure will be suggested: the first will be based on the structure of the composition, while the second will give greater emphasis to instrumental matters (which instruments or groups of instruments are in the foreground). Other structural levels referring to other criteria (intensity levels, for example) may be added if required for the analysis.

Finally, a composition or solo may also be studied from the point of view of melody, harmony, rhythm, form, or sound; but these parameters themselves are not in a structural relationship to the composition or solo. They are not connected to a moment or a level, but offer various points of view on a given element of the structure.

All this will be discussed further in the next chapter.

3.2 Structure of the Process: Moments

Assuming the internal structures of a work have been described, analysis is still not complete. It is a separate task to understand the creative process behind a work. Again, the concept of moment will prove useful to grasp the structure of this process. There are three moments or stages to distinguish between: the pre-performance stage, the performance stage, and the post-performance stage.

As seen before, the preliminary text to a sound event itself is problematic in many ways in jazz. The text may simply not exist at all in cases of total improvisation. The nature of the music itself and its practices causes the analysis of jazz to break down the sound event in three phases: what happens before, during, and after the event itself. Except in marginal cases of supposedly total improvisation, musicians always arrive on stage or in the studio with a plan. There is always a pre-existing fixed element present, whether a composition written on paper or not, like codes of play (in the field of harmony, melody, rhythm, structure, or

something else) that performers share, or like sometimes more, sometimes less complex verbal instructions given to the musicians.

The preparatory, pre-performance elements need to be analyzed first. Analyzing the performance is second, assessing how what was fixed has actually been played based of the recording of it, how the codes and instructions have been carried out, what has been improvised, and, more generally, everything that happened during the performance. Finally, the analyst will look at everything that the word post-production entails: overdubbing when it exists, the addition of sounds produced outside of the performance (recorded sounds, samples), and all editing work—sound treatment, mixing, mastering, etc.—that leads to the final phonographic product. If the work of jazz is considered as belonging to a phonographic system, as is done here, there is no reason not to look at the post-performance stage, which participates in the creation of the work just as much as the other two moments.

Let us note straightaway that the traces of the pre-performance stage (potential scores that have been used, conversations between musicians before playing, or rehearsals) are rarely available. The same can be said of post-production indications, in particular details on overdubbing and editing work. From the point of view of analysis, the pre-performance and post-performance stages can only be accessed through the performance itself, that is to say the recording as it is heard ultimately. By definition in a way, jazz analysis is thus subjected to the constraints of perception: the work is accessed through the final result that is being heard and the analyst will try and formulate some hypotheses (for example, it is often difficult to decide whether a fixed moment has been written or passed on orally). It is a very different process from the analysis of a score that has been used to perform a composed work and that, in itself, documents the production of that work. Jazz analysis is based on perception (an esthesic approach), while score-based analysis emphasizes production (a poietic approach).

Let us look at a precise example: a specific work of jazz based on a specific composition, "New Rhumba" by Ahmad Jamal, in the version by Miles Davis and Gil Evans recorded May 23, 1957, and released on the album *Miles Ahead*. This composition existed before this version and, despite the difficulties discussed earlier about the virtual character of a composition, it is possible to study it as such, independent of the specific version that we are focusing on. This original composition belongs to the pre-performance stage, of course. Beyond the differences that appear between the different versions of "New Rhumba," it is still possible to comment on the structure of the piece, its harmony, melody, etc. The treatment of this composition by Davis and Evans as revealed in the recorded version denoted above is a different musical object with, potentially, a different form, a different harmonization, a different melodic and rhythmic treatment. This arranged composition belongs to the pre-performance stage too, as the

arrangement was made prior to the performance. The arranged composition is then performed in a certain way. The analysis of how the arranged version has been carried out and of everything that happened during this specific performance (to include improvised elements) belongs to the performance stage. In this case, we know that Miles Davis overdubbed certain parts separately on August 22, 1957, and that various takes were available for editing and the creation of the master (there are even several different masters that have been released for these recordings). The analysis of the post-performance stage will try to reveal what happened and understand the implications of all the processes that took place after the actual performance.

This example shows that it can be easier to identify and separate the three moments than one might imagine. All three moments are considered moments of the work (if one admits that the work starts to exist when it is in preparation). The three-part process of analysis reflects that fact (though the different moments do not need to be analyzed in this order). Ultimately, these moments are phases of a process, hence the choice of the expression "structure of the process." However, all three moments are present together in the work being analyzed.

This concept of a work articulated in moments and levels is summed up in the following figure:

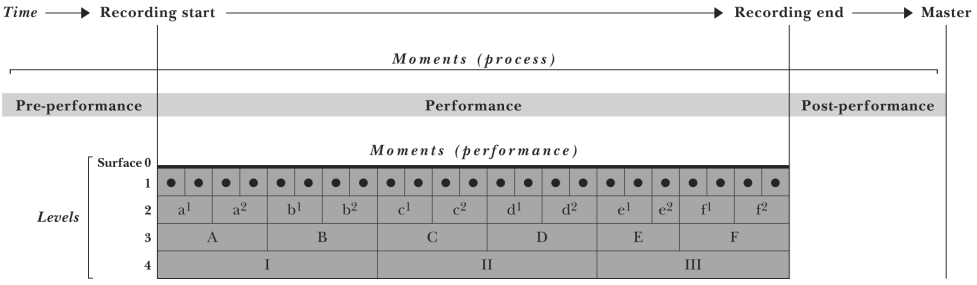


Fig. 3.1. Moments and levels

The top line shows the chronology of the process. The structure of the process appears in light grey and that of the performance in a darker shade of grey. For the sake of clarity, the structure of the performance is presented in levels each subdivided at a superior level.

Once the different moments of a work have been defined, how does the music to be analyzed develop? How do musicians carry it out?

When studying a recorded performance, the first inclination is often to try and distinguish between what is composed and what is improvised. This turns out to be insufficient whatever angle of approach has been chosen (either the neutral or poietic levels). It is possible to create a more precise tool with six notions articulated in two categories: the modes of elaboration on the one hand (fixing

process, codes of play, improvisation) and the modes of exchange (instruction, cue, interplay) on the other hand.

These are operating modes, not musical content. The purpose here is not to draw a list of the possible features (musical content) in a work of jazz but rather to identify the different ways in which the musical content is carried out.

4. MODES OF ELABORATION

4.1 The Fixing Process

This first notion deals with the material that is turned into explicit musical conventions through meticulous planning. Concretely, most of the time these are imposed pitches and rhythms but can also be chord progressions. Mainly the composition but also fixed fragments (a part of the piece that is arranged, for example tuttis for large orchestra, fixed backgrounds, introduction, interlude, arranged codas, etc.) and fixed chord changes belong to this category. Most of the time, this will exist as written musical text. However, it is possible for the fixing process to take place outside of notation. The composer or arranger may pass on their ideas to other musicians orally, making them memorize the data. This is why it matters to distinguish between a "fixed text" and a "written text." The latter is only a part of the former, considering that any fixed material can be handed down either in writing or orally. Why does it matter not to confuse the two? This is not just a difference in the mode of transmission. The actual process of using any graphic means creates a relation to the score as an object that impacts its content and makes it a specific product. It is different from the same content that is merely imagined, grasped mentally (or while playing on an instrument) without reading it on a score. Even when texts are short (which is often the case of compositions for jazz) and not really challenging for the memory, there is ground to think that the reflexive process that takes place when reading a score has consequences, on style particularly.[7]

When the distinction is made between written and memorized texts, fixed texts may also be classified in three different types of elements: the composition, the fixed fragment, and the harmonic changes.

As for the first two elements, it would be more accurate to call them the "composed material" and the "fixed arranged material," as we are describing results rather than processes. Composed material means a written, structured, and consistent material that is normally devised in order to be used in a variety of contexts rather than a specific performance. "'Round Midnight" is a written composition by Thelonious Monk, potentially created to be played again and

again by him or others *ad infinitum*. History then decides how prolific a composition has been based on the number of versions of it that have been recorded, especially by musicians other than the composer. Monk could neither anticipate the version of Miles Davis on September 10, 1956, nor all the ones that followed the first one; but composing "'Round Midnight" created a definite musical object that was potentially destined to be reprocessed, to have a life of its own through all the versions to come. However, the fragments written for the performance of September 10, 1956 (for example the three-bar interlude that does not belong to the composition as well as the new harmonization in some places) belong to the fixed arranged material. This area of fixed arrangement is performance-specific. This does not mean that it cannot be used for another performance, but that is not its original purpose. A composition is thus superior to an arrangement with regard to the fixation: the arrangement is momentary whereas a composition is there to stay and be reused.

As has been said before, no composition exists outside of an arrangement in the broad sense of the word, because composition in jazz can only be expressed as sound, that is to say through a performance where a process of arrangement necessarily takes place. However, an arrangement may neither be written at all (no score) nor involve any fixed fragment specific to it. This is what happens in a jam session: composition (fixed text) is played in a given arrangement (a chosen instrumentation, structure, rhythm, etc.) but no new fixed text is added. In this case, the fixed text is limited to the composition.

Looking at things the other way around, may a fixed (and possibly written) arrangement exist with no composition? As an example, applying certain rules that dictate how the music should be played (mentioned before as "codes of play") may result in fixing fragments even when no composition as such actually exists in the background. Everything depends on how structured the fixed material is. If the fixed material is not structured enough to be seen as a composition (a composition requiring the existence of a consistent whole), then it is possible to imagine an arrangement remaining at the state of fragment, devoid of composition. Charlie Parker's "The Hymn," recorded October 28, 1947, for Dial, is a good example. It is a blues in F, where twelve bars written with long notes are used as an interlude between the solos and then repeated at the end. A composition called "The Hymn" by Charlie Parker is listed, but it is clear that it actually is a fragment that was almost certainly made up a few minutes before the recording and shared orally. It is a basic arrangement that could only be considered a composition in a very broad sense of the word. The same could apply to Duke Ellington's "C Jam Blues." The title shows that it is a riff that was probably found during a jam session. These two examples can either be seen as part of a vast and uniform category of compositions or a (necessarily arbitrary) limit can be drawn based on the level of complexity, sophistication, and unity of the piece.

It does not really matter to establish what criteria (form or something else) are to be used to define where the field of composition "starts." What matters is whether or not a hierarchy is established. Sometimes, of course, the complexity, subtlety, and artistic value of the work produced by "arrangers" challenge this hierarchy. Strictly speaking, Gil Evans composed very little but the vast majority of his arrangements reach a degree of sophistication far beyond the minimum expected in a jazz composition. So in a way this example contradicts the idea of a formal inferiority of arrangements in comparison to compositions; however, the short-lived quality of arrangements still stands: sophisticated as they may be, these arrangements have never been used again outside of recent identical re-creations for conservation purposes (which is usual in the practice of jazz).

Finally, let us deal with the harmonic changes, which is a specific object. It certainly belongs to fixing processes (imposed chord progressions) and can thus be written (possibly using a different code, like shorthand). Equally, it is a text of its own and may easily be the only fixed text available, like in jam sessions on blues or Rhythm changes. Given chord changes can cope with distinct melodic lines (which is what happens when changes are used to create new tunes, usually known as *contrafacts*[8]) as well as changes chosen as aids for numerous compositions (like blues changes or Rhythm changes again). However, it works differently: most of the time the changes are present throughout the piece; it is a structuring element found when the head is exposed, in solos, and possibly at other times, too. Nevertheless, this difference is no reason to reject these changes as fixed texts.

4.2 Codes of Play

The new concept of "codes of play" needs to be introduced. What does it mean? We are investigating the relationship between several senders of a musical message in the process of the music being created rather than the relationship between the message and the receiver. Conventions play a major role in this. Codes—in the restrictive sense of the word—consist of knowledge that musicians are expected to have acquired and that they can use with no need for explanation. In order to avoid confusion, let us call these "codes of play." The walking bass is a good example of one of these codes. If a double bass player is asked to produce a walking bass on given changes, it is not possible to know exactly which notes will be played, and two different players will produce different lines. But they will share common points based on the code of what a walking bass is expected to be like: the crotchet as the rhythmic value of reference, the root of chords generally on the first beat, etc. Ching-a-ding is another example of a code. The variety of ching-a-dings that can be produced must have a matrix in common, which is defined by the rule behind it. In both cases there is no need for a fixed text to obtain what is wanted (and in fact, it is better that way).

Criteria are needed in order to list these codes of play. Parameters are necessary but not sufficient. It is easy to identify rhythmic, harmonic, or formal codes of play (melodic or sound codes are less straightforward). Many codes apply to particular instruments (or groups of instruments). These codes are mixed most of the time. The walking bass is an instrumental, rhythmic, and harmonic code of play. Ching-a-ding is an instrumental and rhythmic code. Some harmonic changes have gradually developed into codes. The blues changes and Rhythm changes in particular are each made of a harmonic and structural code. The most-played changes, which are also expected to be the best-known ones, tend to be associated with codes. This highlights the conventional and relative side of codes of play. Chord changes are a code if the musicians present know it. If they do not, all chords must be explained and the changes are merely a fixed text. Codes are thus mostly cultural, in the broad sense of the word, and not set in stone: a code of play is such at a certain given point in time and for a specific community of musicians.

The concept of code may be extended to some compositions. A given composition makes up a (melodic, harmonic, structural, and possibly rhythmic) code of play if musicians know it and it can be played with no need to explain the music in more detail with a fixed text.

The difficulty is not to merge this concept of code with all the idiomatic features that are more or less associated with jazz. The harmonic changes, for example, are one of the important elements of the musical language of jazz. No musician claiming to be a jazz practitioner can avoid knowledge of this element. However, it is not a code in itself except in a few cases, like blues or Rhythm changes, that become universal. Codes of play may thus be defined as conventional knowledge that can be activated when the instruction to do so is given, with no need for further explanation of the contents. A distinction can then be made between codes that are not fixed (walking bass, ching-a-ding, oom-pah) and fixed codes such as the blues changes, Rhythm changes, or universally known standards. A fixed code is rarely fixed in its entirety, however; blues changes, Rhythm changes, or standards may vary.

How can one determine the difference between codes of play and idiomatic features? In the field of rhythm, binary and ternary divisions of time each seem to involve a code of play (that can be used but does not carry any imposed content), whereas isochronous pulse is too universal to have that status. As for form, the introduction and turnaround may be classified as codes of play while the interlude and coda carry less conventional content. However, should all stylistic features be looked at from the angle of codes of play? This is a difficult question.

Whatever the answer might be, the concept of codes of play is needed for analysis and may also prove a useful tool for stylistic and historic appreciation. Indeed, though codes of play are at work in many jazz styles, one could envisage

defining styles according to the codes of play they involve. The stride piano is associated with early styles. It has already been suggested that the combination of walking bass and ching-a-ding is the basis for a definition of the common practice. Musicians who specialize in early styles all know "After You've Gone," which works as a code of play within that community of musicians, but they may not know "Footprints," in which case they would have to learn it or read it in order to be able to play it. The opposite would be true for more modern musicians.

The best tests to define the boundaries of the concept will probably lie in repeated use in analytical contexts and the development of inventories. However unclear these boundaries may be at this stage, the concept of codes of play is a necessary tool that should be at the heart of analytical protocols.

4.3 Improvisation

Improvisation is understood here as a production that does not require any fixed text or code of play (though they should not be ruled out in theory). Let us take the obvious case of solos in the common practice of jazz. Some fixed text is present in the form of chord changes that provide improvisation with their harmonic frame. However, the range of available choices is nearly infinite, which dissociates improvisation from codes of play. Nevertheless, there is nothing stopping the improviser— here, the soloist—from using some codes during the improvisation. A pianist may use stride, a saxophonist may decide to double or halve the tempo, etc. The soloist may even occasionally refer to some fixed text by quoting other themes than the one that he or she is improvising on.

Table 2 shows an initial attempt to summarize the modes of elaboration.

TABLE 2. MODES OF ELABORATION

Means of Communication		**Fixing Process**		**Code of Play**	**Improvisation**
Content	***Fixed***	Written	Non-written	Code with fixed content	
	Non-fixed			Code with non-fixed content	No text nor code imposed

Written fixed text: Imposed rhythms and pitches written on a score and read from it. Examples: Non-solo parts in swing big band; arranged parts.

Non-written fixed text: Imposed rhythms and pitches shared in a non-written manner. Examples: Big band head arrangement; imposed theme learned orally.

Code of play with fixed content: Conventional, shared, non-written fixed text. Examples: Rhythm changes, blues changes, standards.

Code of play with non-fixed content: Use of conventional knowledge without imposed pitches or rhythms. Examples: Walking bass, ching-a-ding, stride, fours.

Improvisation: Production with no compulsory use of any fixed text or rule of play.

5. MODES OF EXCHANGE

We have assumed that non-improvised content was being created in two ways: a fixing process and the use of codes of play. A trigger must be pulled before or during the performance for the performers to release this content. This exchange of information can happen in four ways:

- Exchange of fixed musical content (written, instrumental, or oral)
- Verbal or visual instructions
- Cue
- Interplay

5.1 Exchange of Fixed Musical Content

Fixed musical content can be shared before a performance in two possible ways: the score, or oral/instrumental exchange.

The score may be fully written or merely consists of changes or a few fragments. In all cases, it makes use of musical conventions (notes, figured chords).

Fixed content may also be shared without any score, for example, by singing, dictating chord changes or notes, or simply by playing something so that other performers can learn it.

5.2 Instructions

An instruction is a verbal (oral or written) or visual call to do something. The instruction given may be the implementation of a code or any other element taking part in the creating process of the work. The start and duration of the intervention of various instrumentalists is the most obvious case; the order of solos and number of choruses are the most typical instructions. However, instructions often at least partially involve a code of play. The classic instruction of a jam session, "play blues" or "play Rhythm changes," refers to codes of play, of course. But instructions may not refer to any code of play at all. It may apply to the sound (dynamics, tone colors) or character wanted for the performance (soft, violent, easygoing, intense). It may also apply to general matters such as duration.

There are two types of instructions:

***Verbal*—**The most common instructions are oral: what is said before the performance, most of the time. It may also be written. For example, one may find notations on a score that do not belong to the repertory of graphic symbols in general use. One may also write down on a piece of paper a sequence to play.

***Visual*—**Visual instructions given during the performance are important, too. A glance is enough for a soloist to indicate that he/she will not play another chorus. A signal given with four fingers may indicate that fours are about to happen. Tapping the top of one's head has become a usual convention to indicate the return of the head. Some groups of musicians have established elaborate gestural codes.[9]

5.3 Cue

A cue is a musical indication doubled with a message sent to the performers. When musicians are playing ad lib (a vamp, for example), the use of a cue may be preferred to a visual instruction to move on to the next part. The return of the head or a simple mention of it may act as a signal. Enrico Merlin has investigated a whole system of coded phrases used by Miles Davis and his orchestras in the 1970s.[10] Cues may have been agreed on before the performance, but most of the time they depend on the intuition and understanding of performers during the performance. The way the rhythm section of a group decides to apply double time based on cues given by the soloist stands as one example among others. This leads to the notion of interplay.

5.4 Interplay

This involves all the types of interaction occurring between musicians in the course of a performance, that is to say, all the ways in which each of them takes into account the musical suggestions made by others. It can be the way the bass player and drummer coordinate their perception of the beat or the homogenization of articulation in a big band section. However, the largest amount of interaction takes place in the context of improvising, especially between the members of the rhythmic and melodic sections. In all styles running between the 1930s and 1960s, the interactive relationship between the soloist and the rhythm section—especially the harmonic accompanist (piano, vibraphone, guitar, etc.)—appears crucial. As styles developed and gradually freed themselves from a number of restrictive rules, interplay grew more important and more varied.

Interplay involves cues and codes of play, of course, but cannot be reduced to cues triggering the use of codes. Indeed, the most interesting interactions consist of responses to musical suggestions that are self-referential and thus not destined

to work as cues. The producer of the original message has no intent to send a signal. The responding partner then organizes his/her own response in relation to the original message (and the primary sender may respond again in return). The ways in which partners are aware of each other's suggestions and take them into account outside of codes or cues create interactions that are far more than a simple function of the music. Consequently, interplay encompasses how codes and cues work but reaches far beyond. It is at the heart of areas of jazz that focus on improvisation and, more generally, of musics categorized are "improvised."

Table 3 sums up the modes of exchange and complements table 2.

TABLE 3. MODES OF EXCHANGE

Mode	Exchange of fixed musical content		Instructions		Cue	Interplay
	Composed	Oral-instrum.	Verbal	Visual		
Convention	Musical (notes-figuring)		Non-musical (words)	(gesture-glance)		
Manner	Explicit			Explicit or implicit		Implicit

Exchange of fixed musical information: Information is passed on via a score or is sung or played by an instrument. In the first scenario, conventional musical language is used (notes or chord symbols). In the second case, no convention is used at all; the music is heard directly. In both cases the content is explicit, as it consists of fixed musical information.

Instruction (verbal or visual): Musical content is passed on via non-musical means (words or a visual sign, whether a gesture or look). The convention used is non-musical (words, gestures, looks), always explicit in the case of words, explicit or implicit in the case of gestures or looks.

Cue: It gives indication about the handling of musical content (for example, the repeat of the last notes of a head indicates moving on to the next part of an arrangement). This additional content may use a conventional language or not. If it does, the content is explicit; if not, the content remains implicit.

Interplay: Musical information is used and performed freely; it is perceived as an opportunity for new musical content. The interplay makes no use of conventions and is implicit.

6. HOW ARE MODES OF ELABORATION, MODES OF EXCHANGE, AND MOMENTS ARTICULATED?

As mentioned earlier, a code of play may be triggered by a cue. Some of these codes are associated with fixed text: the head-solos-head form involves a head as minimum fixed information. A written part has to involve some element of instruction, at least to indicate when it is meant to happen. Visual instructions, cues, and interplay in the course of a performance work together to organize texts and codes of play. As improvisation is based on fixed text (chord changes, for example), it is very likely to involve some interplay and possibly instructions and cues or even the written text as well. The seven categories (fixing process, codes of play, improvisation, exchange of fixed musical data, instructions, cues, interplay) are consistent and seem to operate well, even if they may sometimes be difficult to separate. Using them makes it possible to understand situations in a more refined way than with the simple written/improvised (or even fixed/improvised) opposites, which in practice do not prove very satisfactory. These seven categories even help offer a refined definition of improvisation, which will be done later in this book.

Before we get to this, let us see which are the most usual contexts of use of these categories depending on which stage is being considered. The fixed text and how it is passed on only involves the pre-performance stage, of course. To be more precise, it is prepared during the pre-performance stage and carried out during the performance. The fixing and, even more, the writing processes—as defined earlier—involve planning and time for preparation that take place prior to the performance. The same does not apply to the other categories. Some codes of play may be decided on before the performance: one may decide beforehand to play a blues in F. Equally, one may just as well start to play the harmonic progression of blues during a performance, which will be immediately identified as such and taken up by the other musicians. In this case, the code of play is not triggered by any instruction given beforehand, but just happens during the performance. It must then be regarded as a process of improvisation (as well as a form of cue). The case of instructions given during a performance is a bit less straightforward to deal with but still exists. In theory there is no speaking while playing, and therefore no verbal instructions. However, as mentioned before, a visual cue may occur, especially to repeat the head or call up any structural element.

The modes at work in the post-performance stage are more difficult to define. There is no reason not to look subsequently at how a fixed text has been carried out, how codes of play may have been used in the course of overdubbing, or to consider external sounds added after a performance took place. On the contrary, instructions and cues cannot occur at this stage, as performers are not present anymore, although it is possible to imagine a marginal form of collective

overdubbing where it would be possible. As for interplay, it is only possible as a one-way system at this stage: when overdubbing, a soloist may react to what he hears at the time of playing, but the opposite is not possible. For that reason, it is more appropriate to talk of "reaction" rather than interplay in this one-way scenario. It is even a peculiar type of reaction, as the person reacting is aware that the others cannot be influenced by it.

Post-production processes that do not involve performers are excluded from this summary, as all processes of elaboration and exchange of musical content are already completed and fixed when editing, mixing, and mastering take place. That is not to say that post-production processes do not have an impact on the final musical product; but they influence the surface or the order in which the musical contents are presented without affecting the material deep down, hence why they are dismissed here.

Table 4 gives a first outline of how moments, modes of elaboration, and modes of exchange are related.

TABLE 4. ARTICULATIONS BETWEEN MOMENTS AND MODES OF ELABORATION AND EXCHANGE

Pre-performance stage	Performance stage	Post-performance stage
Fixing process	Enactment of fixed text	Enactment of fixed text
Codes of play (by verbal agreement)	Codes of play (enactment or on visual cue)	Codes of play (enactment)
	Improvisation	Improvisation
Instruction (verbal)	Instruction (visual)	
	Interplay	Reaction

7. BACK TO IMPROVISATION

One may rightly suggest that the fundamental notion of improvisation has only been touched on lightly so far. This was only to save a more detailed discussion of it for the end of these preliminary chapters. Indeed, because jazz is perceived as "improvised music" and improvisation as "spontaneous composition," improvisation is taken for granted in jazz; discussions on jazz too often take improvisation as a starting point, while it is in fact a complex phenomenon, and possibly the most complex of all. For that reason, it is necessary to look at it at the end of the discussion rather than at the beginning: the notions described in this chapter and the preceding ones are needed to define such a complex phenomenon.

On page 60 improvisation has only been considered in its restrictive meaning: the production of music with no compulsory use of fixed text or codes of play. It is clear that improvisation goes beyond this particular type of production. It is

necessary to distinguish between this specific expression of improvisation and improvisation as a *gesture*, which is a much broader concept even if it involves the possibility of improvisation as defined above. Improvisation as a gesture takes place virtually at every stage of jazz, especially when rules are at play and even often when fixed text is being enacted.

The improvisational gesture is not only complex but also multidimensional: it has musical but also cognitive, cultural, and sociological dimensions. It is not the purpose of this book to explore this complexity in great detail. However, a broader definition of improvisation than the one offered so far ("the production of music with no compulsory use of fixed text or codes of play") will be suggested, bearing in mind two self-imposed restrictions. First, it will only apply to how improvisation works in jazz (though it would be a bonus if it partially or completely applies to other musical idioms or fields); second, it will take into account only the musical dimension of improvisation and will deliberately ignore others.

Once the above restrictions have been mentioned, improvisation will be considered here as a gesture rather than as an action. At every moment of a performance, each performer faces choices that are determined by the presence or absence of fixed text, codes of play, instructions, and cues. Improvisation consists of the successive choices made at each moment of the performance among the multiple options offered by the determining factors. In addition, these options and choices are influenced by all the possibilities of interaction with the other musicians and by the context in general. This definition introduces a decisive element for the understanding of improvisation: the "successive" aspect of the process, which stresses its dynamic quality.

7.1 Some Cases

Let us look at several cases, starting with the two most extreme:

Strict reproduction: This is a situation where everything exists as fixed (and probably written) text along with a strict instruction for minimum deviation of the performance from the model given by the text. This is how the common practice of art music is performed in its most controlled version.

Totally free improvisation: This is a situation with neither fixed text nor instruction. The improviser may or may not make use of codes of play. If the performer is not alone, interplay should theoretically play a major, active role in how improvisation is carried out.

The whole gamut of the usual practices of improvisation in jazz are to be found between these two milestones. Here are a few:

A performer's solo in the context of the common practice: One may note the presence of a fixed text (chord changes) used as a background by the soloist as

well as the accompanists. Instructions may take place: where the solo happens and how long it lasts are elements that may have been decided and fixed beforehand, or the information may have been passed on, by the conductor to the soloist for example, in the course of the performance. But instructions do not have to occur; a performer may initiate a solo during the performance and decide its duration by him/herself. Interplay between soloist and rhythm section varies depending on style. Performers (especially the members of the rhythm section) may use codes of play (walking bass or ching-a-ding, for example) or not, depending on their choices, the instructions of the leader, and stylistic requirements.

New Orleans–style collective improvisation: Fixed text exists as a composition and changes. Codes of play are present and very restrictive. Each player has to observe very closely the codes required by the stylistic norms. This is a most interesting example precisely because of the consensual name it has been given: collective improvisation was at the heart of New Orleans style. As people generally see it, this is true, but closer investigation reveals that it was not quite so. It is acceptable to say that the codes of play at work were so strict that this is not anymore improvisation as it has been defined here, though it is undeniable that the improvisational gesture was very effective.

Collective improvisation in free jazz: The whole range exists from the extreme case of totally free improvisation to more or less restrictive instructions. It is very likely that the fixed text is kept to a minimum. Performers tend to avoid codes of play or at least those associated with previous styles. Improvisation is probably mostly fueled by interaction.

The various tools suggested help describe a variety of improvisational situations. Nevertheless, it would be wrong to imagine that they are sufficient to solve every aspect of the problems raised even if we limit ourselves to the strictly musical dimension of improvisation. The stages suggested (pre-performance, performance, post-performance) help describe phases of the creative process behind a work. The pre-performance stage focuses on the description of everything that happens before the performance *but only at the level of the material used*. How the improviser reacts to this material and uses it in the specific context of a performance may be the next area of investigation.

7.2 Suggestions for a Description of the Context of Improvisation in Jazz

It is worth reminding the reader that the discussion taking place here only applies to the specific idiom and common practice in jazz. It may turn out to be applicable to other jazz practices or other types of music, providing the borders of the idiom and of these jazz practices are clearly defined.

Suggesting a list of types of results produced by improvisation (those assessing the lesser or greater distance of an improvisation from the original material, for example) is not the purpose here. It is rather to study the conditions in which improvisers practice their skills in a given situation.

This study will use concepts suggested by Yizhak Sadaï and Jeff Pressing as starting points, beginning with Sadaï's idea of what is "pre-composed" in an act of composition: "A systemic approach involves a clear distinction between what is *pre-composed* (provided by the system) and what is *composed* (created by the composer). This distinction allows [us] to question the levels of musical structuring more precisely and should help determine which levels are relevant or not to analysis."[11]

Providing further investigation is made to confirm the appropriateness, it seems possible by analogy to replace the words "composer" with "improviser," "composed" with "improvised," and "pre-composed" with "preconceived" (as "pre-improvised" would sound a bit strange). "Preconceived" could lead to "pre-improvisational," which could be briefly defined as the association of what Jeff Pressing calls "referent" and "knowledge base" and which he sees as present in all improvisation practices: "To achieve maximal fluency and coherence, improvisers, when they are not performing free (or 'absolute') improvisation, use a *referent*, a set of cognitive, perceptual, or emotional structures (constraints) that guide and aid in the production of musical materials. In jazz, for example, the referent is the song form, including melody and chords."[12]

> Another tool for improvisational fluency arises from the creation, maintenance, and enrichment of an associated knowledge base, built into long-term memory. One difference between experts and nonexperts is in the richness and refinement of organization of their knowledge structures. Chase and Simon established immediate access to relevant knowledge as a major dimension distinguishing masters, experts, and novices. This results in better solutions, determined faster, and is clearly applicable to musical improvisation.[13]

The "referent" would consist of the concrete material in a given specific situation, and the "knowledge base" of all that is constant in an improviser. Distinguishing between these is fundamental to defining what an improvisational gesture in jazz may be and, with a few minor adjustments, this is the basis for the suggestions made here:

- Pre-improvisational
  This involves everything that precedes the improvisational gesture in a given situation. It is to be divided into referent and knowledge base.

- Referent
  It sums up everything related to a specific improvisational situation. What is played on that particular day and place? Who is involved? What are the conditions?
- Competence Base
  This involves all the physical, cognitive, and intellectual skills and capabilities that improvisers have at their disposal in any situation of improvisation. It is worth noting that it involves not only intellectual knowledge but also know-how (in particular, knowledge of automatic functioning and reflexes). This is why the term "competence base" is preferred to Jeff Pressing's "knowledge base."

With improvisation in the common practice of jazz in mind, let us clarify the content of the referent and competence base (making up what is pre-improvisational).

7.2.1 REFERENT

This involves everything that makes up the specific, concrete situation that an improviser faces in the moment.

TABLE 5. REFERENT

Material	Composition Arrangement	Fixed text Codes of play Instruction	Melody Harmony Rhythm Form Sound
Context	Orchestral format People involved Concrete situation		

The referent is made of two elements: the material and the context.

The material is made of everything that the improviser is offered with: the composition, the arrangement (both coming as fixed text), codes of play, and instructions, i.e., everything that takes place in pre-performance preparation. Concretely, these will provide the improviser with a number of parameters: harmonic, melodic, rhythmic, formal, and sound parameters determined by the nature of the material itself.

Some elements of the material may, as referent, influence the production greatly and at the same time have little impact on how the work is received by the listener. This may be the case with the key that the piece is played in, for example (providing that there is one). In the case of two strictly identical arrangements apart from the key (one is in B♭ and the other in B-natural): at the level of reception it makes little difference, but the difference is huge for performers especially

at the moment of improvising. In the same way that instrumental *topoi*[14] exist, there are key *topoi* too (without entering the subject of the ethos/affective properties of keys). Here is what Thomas Owens writes when asking himself what the most consistent way of classifying Charlie Parker's solos may be: "The most useful subdivision is according to key, for each solo is in a particular key and has distinctive characteristics that relate to being in that key."[15]

This criterion is put on the same level as the harmonic changes, which means that when Parker plays the blues in B♭ it matters as much that he is playing in that key as the fact that he is playing the blues.

The material is also offered to an improviser in a given context that may be summed up in three elements: the orchestral format, the people involved, and the concrete situation. The format of the orchestra is a deciding factor, of course: improvisation is not carried out in the same way playing solo, in a trio, quartet, quintet, or big band. The people involved are also major factors: the co-performers in the first instance, but also the improviser himself, who is in a special place physically, mentally, and emotionally when performing. In a studio, the producer or sound engineer may also influence improvisation, but in a more limited and random way. The concrete situation that the performance takes place in matters, too: is the performance being recorded or not? Does it take place in studio or public venue, a club, restaurant, concert hall, in an intimate place or a huge space, and how comfortable is it? Are there a sound system and lighting equipment? If so, what are they like? Are the musicians in the middle of an exhausting tour? Did they arrive early enough? Have they had time to rehearse enough, to test the acoustics of the place, to sort out the sound system? Are they playing on their usual instruments? Are the instruments in a good state and well tuned? Is the reed player playing a flute, oboe, or saxophone (in B♭ or E♭)?

7.2.2 COMPETENCE BASE

Table 6 shows all the skills, knowledge, and know-how that improvisers have at their disposal at the moment they start a specific improvisation. It is possible to divide it in five elements: knowledge, techniques, vocabulary, culture, and instrumental *topos*.

- Knowledge: all the intellectual information, involving mostly theory and codes of play. Harmonic, rhythmic, and formal knowledge are part of theory. A number of jazz practices and codes of play may be known intellectually, which does not mean that one can actually enact them.
- Techniques: A performer has a number of skills.
  - Instrumental technique: the capacity to play one's instrument.
  - Rhythmic technique: the capacity to play in 4/4, 3/4, 5/4, or 7/4, in syncopation (the capacity to swing?), in double or half tempo, or the capacity to play several rhythms at the same time.

TABLE 6. COMPETENCE BASE		
Knowledge	Theory Codes of play	
Techniques	Instrumental Rhythmic Harmonic Formal Sound Codes of play	
Vocabulary	Melodic patterns	Path—Licks
	Harmonic Rhythmic Sound	
Culture	Repertoire Heard before Mental template	
Instrumental *Topos*		

Harmonic technique: the capacity to figure out chords, lay them out, invert, enrich, alter, or substitute them.

Formal technique: involves the secure appropriation of the cycles of four, eight bars, and beyond.

Sound technique: the capacity to produce certain sounds or to modify sounds.

Technique of codes of play: how to play a ching-a-ding, walking bass, stride piano, etc.

This list involves all the processes and know-how that are to be acquired and automated as motor, physical, and cognitive mechanisms.

- Vocabulary

  Melodic: the repertory of melodic patterns that one can create for oneself or borrow from other performers or from a specific style.

  Harmonic: harmonic patterns, preferred chord lay-outs.

  Rhythmic: rhythmic patterns, polyrhythms, etc.

  Sound: sound alterations, the sound changes that the technology of each instrument allows (from alternate fingerings for the same note on wind instruments, playing with strings and microphones, to electronic treatments of all sorts and sound banks on synthesizers and other samplers).

- Culture

  Repertoire: the set of pieces from a corpus that an improviser knows. It makes the life of the improviser easier if he/she needs to improvise on one of these pieces, but it is also a pool to draw from for the development of vocabulary.

Things heard before: this represents culture in the usual sense of the word; all the music that one knows makes up a knowledge base for the improviser even if, unlike a repertoire, it cannot be played directly.

Mental template: this expression is borrowed from Gerhard Kubik, who does not formally define it but regularly uses it in his essay on the African origins of blues.[16] It is a set of schemes that musicians may have in mind, printed in their memory on a rather unconscious level. Musicians may not be aware of it because it happens as a function of transmission and heritage in the long term. An example may be found in the reminiscence of systems of scales that do not belong to the situation in which the improviser is working; such a reminiscence may cause the improviser to play things that do not make any sense in the system in use because their origin and logic reflect an old reference that is present in a latent state in the mind of the improviser.

- Instrumental *Topos*

  It is not exactly a skill but rather a general shape that has an impact on improvisation gestures. It involves everything that has to do with the morphology of instruments, regardless of the concrete model actually being played. For example, it is obvious that multi-instrument reed players are influenced differently whether they are playing a saxophone in B♭ or E♭, a tenor or soprano saxophone, an alto or baritone saxophone, a saxophone or a clarinet, a flute or an oboe. These are different materials that have consequences on the technique and vocabulary used: some phrases can be played on some instruments and not others; the same multi-instrument musician may use a vocabulary a little or very different when swapping instruments. Also, beyond the physical constraints, each instrument imposes a specific mental representation of the sound space on the player: three valves seen at eye level probably do not generate the same vision of the world as seeing eighty-eight keys from above.

◊ ◊ ◊

These three concepts (pre-improvisational, referent, and competence base) are not enough to explain the improvisation gesture in a given idiom (jazz, in our case). However, they allow us not to rely only on notions such as inspiration or artistic expression and to provide guidelines to start mapping what may be noticeable. Improvisation is not the result of pure instantaneousness, unveiling always new material brought to light through a candid gesture that discovers itself as it unfolds. Finally, let us mention Jeff Pressing again, who brings up the articulation between identifiable musical and cognitive materials on the one hand, and what belongs to expression (which is by definition harder to grasp):

"As with the referent, the musical knowledge base is not purely 'engineered' by considerations of performance efficiency; it encodes the history of compositional choices and predilections defining an individual's personal style. Two drives, one towards efficacy of action, and one towards artful expression, primarily shape the selection of information and performance resources in real time, and guide their integration."[17]

CHAPTER 4

Structuring a Work of Jazz

A framework for analysis has been suggested and the concepts that it involves have been described in the previous chapter. The process that gives a work its structure may now be discussed further. Analysis (not the work itself) is responsible for structuring the work. The "structure" appears to be the result of that process. How are the various parts of a work determined in view of analysis? How do we give a representation of a work? The solutions suggested here are not rigid and involve a variety of models (diagrams). The musical material is usually too complex to be broken up into clear-cut segments. Despite this difficulty, is it possible to work out a method that could work for any jazz corpus? The common practice will be our first port of call. Later on, we shall see whether a general structuring model may be drawn from a significant example taken from the common practice.

The starting material is made of a "surface" that presents all the events that can be heard successively. When listening to a performance, listeners perceive a sound continuum that they intuitively tend to cut out in successive events based on various criteria (form, rhythm, intensity, density). A first formal division stands out, which takes five types of events into account:

***The head*—**The head is made of a tune and its harmonization. It is the main element of a composition, although a composition may involve more than one head in case of multithematism or of additional heads that may be incorporated. In jazz, the head is a melodic (and, at the same time, rhythmic and harmonic) proposition that makes up the whole composition most of the time.

***Supplements*—**This is a generic term for introduction, interlude, break, and coda. They do not have the same status as a composition (though usage may integrate some supplements into the composition),[1] but they are also different from the fixed fragments, which do not have a status at all.

***Fixed fragments*—**Everything that is fixed outside of a composition and supplements comes under this category. Big bands' *tuttis* are an example of fixed fragments.

***Solos*—**The term is used according to its usual meaning: an improvised utterance based on a chord changes background (the most common case in the common practice) or not.

***Non-fixed fragments*—**Non-fixed fragments include all the non-fixed propositions outside of solos, for example the fours that sometimes provide closure after solos or moments of collective improvisation.

1. COMMON PRACTICE

Let us look at an example drawn from the common practice: Charlie Parker's version of "A Night in Tunisia," recorded with Miles Davis March 28, 1946, one of the most famous recordings of bebop.[2]

What do we hear in that performance? It starts with an introduction, the famous bass motive played twice by the double bass, piano, and guitar. The drums join in four bars later and the saxophone another four bars later. So the introduction lasts twelve bars. Miles Davis then exposes the head, which follows an AABA form with a conventional structure of thirty-two bars in four parts of eight bars each. Charlie Parker's alto saxophone picks up on the bridge (B) until the trumpet marks the return to A. Then comes the interlude as a tutti of twelve bars before Parker's memorable break takes place for fours bars, followed by three solos of half a chorus each: alto saxophone (on two A), trumpet (BA), tenor saxophone (AA), plus eight bars of guitar solo on B. The trumpet then repeats the head accompanied by the bass motive on A only and the piece finishes with this motive gradually fading out. We shall consider that the coda lasts eight bars in order to keep this presentation simple.

One may then try to establish the *status* of each of these events, that is to say whether they are the result of fixed or non-fixed procedures. The introduction is fixed without any doubt. The bass motive is exposed in a unison and saxophones play in homorhythm. None of that can have been improvised. It is also likely that the drummer was given the instruction to play on toms only. The head is also fixed, as is the interlude. The break (which can be seen as the end of the interlude) is not fixed, though it is not possible to be totally sure that it was entirely spontaneous and that Charlie Parker did not prepare it in any way. This is followed by non-fixed solos before the return of A from the head and a coda

No. of bars	4	4	4	16		8	8	12	20			16		16		8	8	8
Structure 2	bpg	dm	sax	tp		sax	tp	tutti	as			tp		ts		g	tp	rhythm
Structure 1	Introduction			A	A	B	A	Interlude	Br	A	A	B	A	A	A	B	A	Coda
Events	Introduction			Exposition of the head				Interlude	Br	As solo		Tp solo		Ts solo		G solo	Head reexp	Coda
Status	Fixed								Non fixed								Fixed	

Fig. 4.1. Status, events, structure 1 & 2 (Charlie Parker, "A Night in Tunisia," March 28, 1946)

that reuses the material of the introduction. Both the return of A and the coda are fixed. This identification of what is fixed or not in the piece provides a second, "deeper" level (thus placed placed under the first level graphically).

Identifying what is fixed or not can be more difficult than it seems. Indeed, the criteria used consists of observing the state of the melodic line. However, as seen before, a fixed tune may be played in a very loose way. As a consequence, something fixed may display non-fixed elements as well. Also, a solo improvised on chord changes belongs to the non-fixed category while the changes itself are a fixed element. As a result, the status of the melodic line before the performance is the criterion used to establish what is fixed, while the status of the improvised line at the time of the performance is the criterion used to establish what is not fixed.

Then a structural level may be added that will show the structure of the composition (here, AABA). As this level is responsible for the level of events, it can be placed above it graphically, nearer the surface.

Depending on the criteria selected by analysts, other structural levels may be added. Let us take one example based on instrumentation. The introduction is segmented in three parts of four bars each which each correspond to the intervention of a group of instruments. The exposition of the head follows an AABA form with the trumpet displaying A and the alto saxophone taking over for B. This structural level starts to differ from the other after the interlude and the break: each solo lasts sixteen bars, while the section is made of eight and the chorus of thirty-two. As this is not a deeper level, this level is placed on top of the previous structural level in the diagram. However, it does not provide a segmentation of the primary structural level in smaller units. Indeed, the units identified in solos are larger than the ones corresponding to the same moments in the primary structural level (see fig. 4.1).

In both these levels, segmentation is either based on the structure of the composition (primary level) or the instrumental organization (secondary level); but other criteria or parameters (such as harmony or melody) may be used in a similar way. If the focus is on harmony, segmentation appears different. A small number of harmonic cells—twelve, each made of two or four bars—is enough to give a representation of the whole harmonic framework of the piece. Presented chronologically, it shows a different structure from the ones identified earlier (see fig. 4.2).

No. of bars	8				4		6			2	6			2	4	4	6			2	2	2	2	2	2	2	4	…
Melody	a	a	a	a	b	b	c	c	c	d	c	c	c	d	e	e'	c	c	c	d	f_1	f_2	f_3	f_4	f_5	f_6	k	…
Harmony	α	α	α	α	α	α	α	α	α	β	α	α	α	β	γ	δ	α	α	α	β	ε	ζ	η	θ	ι	κ	λ	…
Structure	Introduction						A				A				B		A				Interlude						Break	…

Melody		No. of bars
a	bass motive	2
b	saxophones motive	2
c	Section A Phrase 1	2
d	Section A Phrase 2	2
e	Section B Phrase 1	4
e'	Section B Phrase 2	4
f_1	Interlude Phrase 1	2
f_2	Interlude Phrase 2	2
f_3	Interlude Phrase 3	2
f_4	Interlude Phrase 4	2
f_5	Interlude Phrase 5	2
f_6	Interlude Phrase 6	2

Harmony		No. of bars
α	E♭7 – Dm	2
β	EØ/$A7^{♭9}$ – Dm	2
γ	AØ – $D7^{♭9}$ – Gm – 𝄪	4
δ	GØ – $C7^{♭9}$ – F – EØ/$A7^{♭9}$	4
ε	EØ	2
ζ	E♭7	2
η	Dm	2
θ	G7	2
ι	GmΔ – Gm7	2
κ	G♭7	2
λ	F – 𝄪 – EØ – $A7^{♭9}$	4

Fig. 4.2. Structure, melody, harmony (Charlie Parker, "A Night in Tunisia," March 28, 1946)

The segmentation can vary depending on how the harmonic cells are identified. For example, the d cell could be interpreted as c' if one considers that it is the same as c but transposed a tone lower and with a transition added in order to make the relative minor key return. Equally, b could be seen as a' if one considers that both series of chords are variants of V-i.

The same process can be followed swapping harmonic cells for melodic cells, which leads to yet another structuring. The downside in this case is that it can probably only be done on fixed parts (see fig. 4.2).

The same issues of interpretation that have just been raised above apply to the segmentation of melodic cells, too. Here, for example, it is considered that the second phrase of B is the transposition of the first phrase a tone lower (even if the end is different). The six phrases making up the interlude are seen as variants of the same pattern.

It seems more difficult to follow the same logic with parameters such as rhythm and sound but, if necessary, it is theoretically possible to do so.

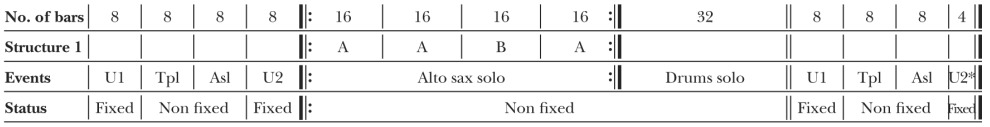
2. OTHER CASES

The structuring method suggested raises two questions:

- Do the structuring models suggested work for cases outside the common practice?
- If they do, does that mean that a general model can be drawn from them?

What defines the general case of the common practice from a structural point of view? There must be a global frame involving some fixed text (the composition), some non-fixed text (the solos, except in rare cases), and a head-solos-head form of the performance.

There are not as many alternatives as one might think. However, two of them are significant and worth noting. The first alternative involves some fixed text but the head-solos-head form is absent. This is the case of "Koko" recorded by Charlie Parker November 26, 1945.



U1 = unison 1 • Tpl = trumpet line • Asl = alto saxophone line • U2 = unison 2 • U2* = unison 2 (first 4 bars)

Fig. 4.3. "Koko" (Charlie Parker, November 26, 1945)

There is no significant change. Only the structural level in the formal structuring is slightly different: the head-solos-head form will not appear, of course.

It is also possible to envisage the case where the head is absent even if some composition still exists, like in "Flamenco Sketches" where there is an imposed chord progression but no metric grid.

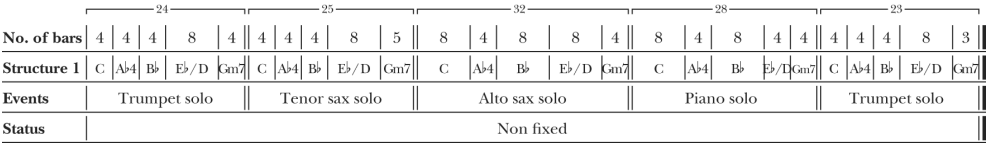


Fig. 4.4. "Flamenco Sketches" (Miles Davis, April 22, 1959)

What other cases may occur? Many, probably. In particular, works where improvisation plays the most important role have not been taken into account here. There is no guarantee that a general framework could always work and be reliable (though it should not be discarded, as it may operate well). It seems to me that one needs to be flexible and choose an appropriate structuring method for each individual case.

As for the second question (can the structuring models described here be used generally?), again, it seems preferable to keep an open mind. It is clear that these models can prove very useful for analysis. In fact, analysts need to decide on the type of analysis that they intend to carry out and choose the appropriate tools accordingly. There is no need to recall general principles, like "such and such models must apply to such and such types of performance and no other" or "this diagram corresponds to this situation of analysis."

Depending on the purpose of the analysis and given a specific corpus, one may (or may not) use one or several of the models suggested. These models are tools that must serve a purpose, not hamper it with unnecessary and sometimes abstract constraints.

Part Two

ANALYTICAL PARAMETERS

> Whereas timbre, rhythm, and form are of undeniable interest, this essay argues that pitch relationships are of central importance, forming the core of the structure, the identity, and even many of the expressive capabilities of pop-rock music. Rhythm and form, while of great value in music, have similarly important roles in all temporal arts such as poetry, drama, prose, dance, and film. But whereas pitch may play a small part in most of these sister art forms, it is this quality alone that separates music from all other means of artistic expression. It might be said that tone color as well is far more important in music than in these other forms, but this essay will argue that, as with the other musical analytical parameters mentioned here, timbre must take a back seat to pitch in terms of core structure in all or nearly all of the music of the pop-rock literature.[1]

This statement by one of the best specialists of pop-rock music in the opening of an essay on pitch relations in that music is interesting in many ways. First of all, it is worth noting that, even more so than jazz, pop-rock has long been dismissed by academics who believe that it lacks melodic and harmonic richness. They appreciated it as a social phenomenon and would occasionally see quality in the lyrics of certain songs, but nothing more. When interest started to grow the focus was mainly on sound innovations, not pitches. Only in the last two decades of the twentieth century (and possibly even only in the last one) did a growing number of authors take an interest in the melodico-harmonic features of pop music and show that it actually displays a wealth of elements worth studying.

However, now that the field is well established in academia, it may seem a bit surprising to hear one of the most prominent specialists claim that form, rhythm, and sound are in fact secondary. Not being a specialist in the field myself, I will not take position in this debate. However, I note that jazz followed a similar path

toward being recognized as an object worth studying, but that many authors also oppose the dominant importance that pitches are granted. There are two levels to this criticism: at a first level, it questions the prevailing importance granted to melody and harmony over form, rhythm, and sound. At a second level, it becomes a much more radical form of criticism: it questions the use of musical theory itself on the ground that it does not take the non-musical environment into account—and yet, for those supporting this criticism, this environment is key to the true understanding of works (when the concept of work itself is not challenged).[2]

In this book, three chapters focus on harmony alone, one on rhythm, and only one on the three other analytical parameters. Why? I would like to remind the reader that, in my opinion, the amount of commentary that an object gives rise to does not necessarily reflect how prominent that object is. That being said, readers will make up their own minds on this apparent lack of balance.

CHAPTER 5

Harmony 1—General Points

The hybrid nature of jazz is reflected by its harmony. Each type of music that has taken part in the making of jazz has brought a certain vision of harmony with it. It is this original blend which makes the harmonic system of jazz (if that expression makes any sense) rather complex, not how sophisticated the harmonic rules are. These rules do not need to be applied in a particularly strict way, as will be shown later in the book.

Before discussing in detail the theoretical problems raised by jazz harmony, here is a contextualization of the past discussions on the matter and the methods used to approach the question.

1. FRAMEWORK AND METHOD

Four different harmonic situations are to be identified: tonality, blues, modality, and non-functionality. From a historical point of view, the first two exist at the start and are founding elements of this music. The other two only earn their status in the 1950s and 1960s, so quite late. Before presenting what is specific about each of these situations, some questions must be addressed about the nature of chords generally. Then, harmonic phenomena must be approached in different ways depending on which situation they appear in. An attempt at giving an overview of tonality in jazz will be made in chapter 6 while the other three situations will be treated in chapter 7.

Here is a list of some well-established books that will be referred to and occasionally discussed when it is deemed useful for the purpose of clarification. (For complete publication data, see the bibliography.)

Jo Anger-Weller, *Clés pour l'harmonie* (1990)
David Baker, *Jazz improvisation* (1969)
Philippe Baudoin, *Jazz mode d'emploi Volume I* (1990)
Bill Dobbins, *The Contemporary Jazz Pianist* (1984)

Andrew Jaffe, *Jazz Theory* (1983)
Mark Levine, *The Jazz Theory Book* (1995)
John Mehegan, *Jazz Improvisation Vol. I, Tonal and Rhythmic Principles* (1978)
Robert Rawlins and Nor Eddine Bahha, *Jazzology* (2005)
Jacques Siron, *La partition intérieure, jazz, musiques improvisées.* (1992)

2. UNDERSTANDING A CHORD

Like many elementary concepts, chords are often taken for granted. Yet, many questions can be raised about them: In which environment do they appear? How are they structured? What is their nature? How should they be described? How do they relate to melody?[1]

2.1 Isolated Chord or Chord in Relation to a Situation

The first task is to try and establish the common basis for understanding a chord in any harmonic situation (tonal, blues, modal, or non-functional). In order to do so, a chord needs to be looked at in an isolated manner, outside of relations to other chords. In a second phase, focus should shift to the context: how a chord relates to other chords that may take place before or after it. In the latter scenario, the kind of harmonic that chords or harmonic phrases are in specifically determines how they behave as well.

As soon as one starts to investigate chords individually, it is worth remembering that their realization in jazz is either the responsibility of the improviser or the arranger. Chords are formal items and they are to be defined prior to their realization. However, defining chords within the realm of jazz harmony can prove a very intricate task. The common definition of a chord (the simultaneous emission of several notes that can be heard together) is not appropriate. Indeed, the concept of "emission" takes place at a much later stage in the life of a chord, only when it is actually realized by the arranger during the writing process or by performers as they are improvising.

First, an isolated chord exists conceptually as a set of virtual notes with no particular order.[2] Let us take an example: a seventh chord on C, notated C7 in jazz, is made of C, E, G and B♭. However, the same notes in a different order, for example C-G-E-B♭[3] and all inversions besides the root position, are seen as the same chord. There is no hierarchy between the notes, which is why we speak of an *unordered* set. The different positions of pitches in a chord are seen as a change of appearance, not a change of nature. The system of descriptive figuring in normal use reflects that idea: symbols exist to point out inversions (not spacings), but they are rarely used.

In addition, C-E-B♭ without G is also analyzed as C7. Often, E-B♭ (so with neither the root nor the fifth) may also often be analyzed as C7. Such sets may even be altered (G♯ for example) or some notes added (D, F, or A, for example) and still be seen as C7 chords—hence the *virtual* element in the above definition: the pitches are part of the formal setting of a chord but their statuses differ, and hearing *all* these notes and *only* these notes simultaneously is no necessary condition to identifying a chord.

Moving on to the second phase of the investigation (the chord in its environment), the same remark that was made about the realization of chords in isolation applies here, too: the voice leading is the responsibility of the improvising performer (or the arranger). The link between voice leading and the specification of chords in a harmonic phrase is a lot looser in jazz than in classical harmony. The link exists but its structuring function is a lot less clear. In jazz there is nothing comparable to the rule concerning consecutive fifths and octaves in classical harmony. Novice jazz musicians internalize patterns of chord progressions not necessarily linked to a specific real context of realization (which is often a pedagogical problem).

Let us take the example of a chord in a tonal harmonic environment in jazz: we consider that a seventh on G (G7) and a C chord (C) realized in that order make a perfect cadence in C major:

even if B does not resolve to C and F to E as should be expected;
whether the C chord is made of three or four notes or fewer as long as its third is major;
whether or not G and C are heard in the bass;
whether the G7 chord is altered or not, etc.

To sum up, if F and B are played simultaneously and are followed by E in isolation, it is considered a perfect cadence. At the other end of the spectrum, the progression consisting of an altered seventh chord on G made of eight notes or more followed by a C major chord of six or seven notes is considered in the same way. Both cases as well as all intermediary situations may be notated G7–C, analyzed as a V-I progression and considered perfect cadences in C major. In the process of harmonic analysis, the V-I progression needs to be identified whatever the realization may be. Unless it is deemed absolutely necessary, a single figuring will be used for all these different chord realizations. Further investigation of specific realizations may take place in concrete particular contexts, for example, inversions on the keyboard or guitar or the writing of arrangements for orchestra.

Are chords understood in similar ways in tonal jazz and tonal art music? Obviously, the tonal system is globally the same in both types of music. However, historically speaking, things have happened differently. Commentators sometimes

like to underline how dissonances,[4] and new chords have been assimilated in a parallel way in both types of music, with the difference that jazz took a much faster track. However, the time as well as the background were different. There is no modal background prior to tonality in jazz, but blues put its own features in the mix (some of which are remote from tonality) right from the start.

There seems to be an important, if not essential, difference. The tonal element in jazz harmony seems much more vertical to me, a lot less determined by voice leading than in classical harmony. In jazz, harmony is essentially realized at the time of performance; the realization is thus clearly detached from the conception. It seems logical to think that the voice leading, as it happens as musicians are improvising, is carried out in a more direct, less thought-out way than in art music, which creates a different rapport to harmony. That does not mean that voice leading is random in jazz. It is much the contrary, in fact, but it works in a different way and must be analyzed accordingly.

2.2 Chord Formation—How Many Notes?

The first question to ask is whether or not the superimposed spacing of thirds on each other plays a structuring role or not. Beyond the theoretical issue, it seems to me undeniable that the spacing in thirds is structuring in jazz (and that probably applies beyond tonality). Anyway, this is how musicians have thought of chords before and during a performance at least since bebop, if not even earlier. As a consequence, tonality in jazz is based on real rather than fundamental basses, and we hope to prove this as we go on.

It is worth noting that the system used to describe chords in jazz figures each degree of the scale in relation to the fundamental bass, whether realized in bass position or not and even whether or not it is actually present. In contrast, the figuring system of intervals used in classical music figures inversions, that is to say how notes are placed in relation to the real basses. This difference of approach in figuring may be fortuitous. It seems to me that it is already a sign (and perhaps one of the causes) of deeper differences. This may seem to contradict the argument made about real basses above, but I believe that it paradoxically supports the assertion, and will come back to that later.

However, whether intervals are determined in relation to the preceding note and the stacking of thirds or in relation to the root, a chord produces notes from bottom to top and orders them in thirds. The seventh degree may be envisaged as an interval in relation to the fundamental note or the degree below (the fifth); in both cases it is generated following a logic based on thirds. The same applies to the ninth, eleventh, and thirteenth degrees. This is how tonality in jazz conceives chords.

Basic chords are thus made of superimposed thirds (two in the case of three-note chords, and three in the case of four-note chords). In practice, usage quickly made four-note chords the norm in jazz, which Winthrop Sargeant observed as early as 1938: "In jazz harmonization one can almost say that the seventh or ninth chord is the rule, the triad the exception."[5]

Early jazz used mostly three-note chords, with the addition of the seventh chord on the fifth degree, of course, but also sometimes on other degrees, the second for example (the case of blues, which uses these chords in different ways, is not discussed here). However, four-note chords (avoiding calling them "secondary sevenths") were introduced and spread very rapidly, which resulted in an implicit norm developing around them: they were built on a root, third, fifth, and seventh. The third could be changed for the fourth as the second note of the chord and the seventh replaced by the sixth as fourth note. We will see later[6] that the process of four-note chords penetrating the system and becoming widely practiced is anything but trivial and raises very general theoretical questions. This key issue involves a great deal of what is theoretically specific about jazz harmony, at least for tonal jazz, and is rarely addressed directly in textbooks.

It seems to me that the disappearance of the concept of dissonance is the consequence of this implicit agreement on four-note chords as the basis of harmony. The four-note element is not what matters most in the jazz approach to harmony, for the triad could have played the same role just as well. The important point is to admit that there is no reference (three, four, or more) as to how many notes define a chord in jazz because it has no structuring value and is thus unnecessary. A chord may be made of three, four, five, or even seven or more notes. Dissonance does not exist anymore in this context or at least conveys a different meaning. Dissonance is no longer a state deduced from a consistent system; it depends on how it is received by the listener. How dissonant a note within a chord (or a chord within a chord progression) is perceived will depend on its location, the style involved, the listening habits of the audience, and other contingencies. Beside and parallel to this evolution, piling up thirds may be seen as the true generative principle of the notes of a chord and thus as a structuring factor.

These are the facts that any reasoning on jazz harmony must take into account. Before discussing the growing number of notes in chords, one must ask what the nature of a chord is based on.

2.3 Nature of a Chord—Role of the Bass—Features of Chords

Analysts sometimes face sequences of chords that are already figured. Before identifying the sequences, one must check that the figuring, when there is one, is relevant.[7] When no figuring is offered, chords need to be identified according

to a theoretical framework that lists all the different types of chords that may occur and defines them. Unfortunately, textbooks tend to lack this theoretical foundation, and one is left having to work out or guess the viewpoint of authors based on the practical examples that they give.

Observation shows that the third interval defines the type of chord in three-note chords while the third and seventh intervals define four-note chords. However, the ambiguous status of the root and the fifth in particular instantly questions how strict that rule is.

We have already seen how the root does not need to be in bass position to be seen as a root. Any jazz musician will see an ordered set of G-C-E as a C major chord without giving a thought about its six-four quality. As said previously, how a chord is laid out is not taken into account at first; spacing and inversion issues are left aside. But what happens when the fundamental is not there? One may assume that jazz musicians tend to infer it if the third and seventh are heard. We have already mentioned the B-F example, which is very likely to be understood as a seventh on G with the root missing. However, if enharmonic constraints are not taken into account, the same set of notes may be seen as a D♭7 or C♯7. We already find ourselves in a realm of approximative definitions, which hampers the forming of a strict system even if it allows fruitful, though probably somewhat disordered, developments. I find a jazz attitude in how it conceives harmony and the inference of degrees.[8] This is not a mere theoretical observation, as a style of piano accompaniment developed in the second half of the 1950s (by René Urtreger or Henri Renaud, for example) that often uses such sets of two notes to "sum up" a chord by only presenting its essential degrees—thirds and sevenths—especially in a fast tempo where efficiency is desired. The root is played (in theory) by the double bass, but the choice of notes is significant. Other pianists (Thelonious Monk in particular) push minimalism further playing one note only, generally the third or seventh of the chord. To sum up, one could say that the root is seen as part of a chord (the first identification of a chord is based on it) but its presence may be "real" (heard in the bass or in another position) or "virtual" (not actually played). The fifth is also problematic. It belongs to four-note chords because they are built on superposed thirds, but its status varies. Most of the time it is perceived as an ancillary note: unlike the third or seventh, the fifth is not taken into account to define the nature of a chord (it is most likely that the acoustic properties of rank three harmonics, when heard at the same time as the root, have something to do with this status). In this case, the fifth is regarded as an enrichment of a chord like ninth, eleventh, and thirteenth intervals. However, if the fifth is altered it may change the nature of a chord in some cases. When it happens, the fifth becomes an essential rather than secondary note in the chord. The set C-E-G is a C major chord, but the set C-E-G♭ is an altered and thus derived form of C major. By contrast, C-E♭-G is a C minor chord but the chord

C-E♭-G♭ is not an altered form of C minor. It is another chord (a diminished chord in C), not a derivative.

Before moving on to the quality of a chord, let us consider further how a chord's nature may be described when notes are added to the basic four.

2.4 Enrichment—Alteration

A basic chord can be enriched by adding other thirds on top of the three basic layers already mentioned. A five-note chord may be created by adding the ninth, a six-note chord by adding the eleventh, and a seven-note chord by adding the thirteenth. A conventional terminology has developed and is relatively widely accepted, according to which the first four notes (root, third, fifth, seventh) make up the *infrastructure* of a chord and the next three (ninth, eleventh, thirteenth) its *superstructure*, the whole lot being called the *developed chord*. *Enriching* a chord is achieved by adding one or several notes of the superstructure to the infrastructure.

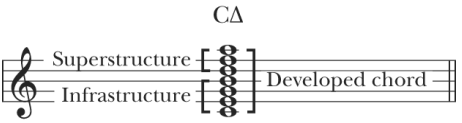


Fig. 5.1. Infrastructure, superstructure, and developed chord

Analyzing alterations requires us to look at the specific harmonic within which a chord appears. Indeed, a note that may be regarded as an alteration in a tonal system, for example when analyzing the function of a chord or the key that it is in, may not be seen as such in a blues, modal, or non-functional environment. However, some general features can be identified which may then be interpreted in different ways depending on which harmonic one faces.

The fifth may be diminished or augmented, the ninth is altered either by means of minorization or augmentation,[9] the eleventh by augmentation, and the thirteenth by minorization.

Consequently, there are theoretically six possible alterations. Two cases of enharmonic changes occur: the diminished fifth and augmented eleventh on the one hand, and the augmented fifth and minor thirteenth on the other hand.

In theory it is thus possible to make up chords with as many as nine notes: the three notes of the infrastructure without the fifth plus the six possible alterations. It is possible to go further, as there is nothing stopping us from playing simultaneously a non-altered degree and its alteration or two alterations of the same degree.

Chords that are not built on superimposed layers of thirds are still to be investigated. They are of three kinds in principle:

- the major sixth chord (C6) C-E-G-A
- the minor sixth chord (Cm6) C-E♭-G-A
- the "sus4" chord (C7sus4 or just C7sus, "sus" meaning "suspended") C-F-G-B♭.

The first two are usually seen as enriched perfect chords, in which case the sixth is considered an enrichment, like the ninth, eleventh, or thirteenth. The third case is less straightforward and depends on the context. In a tonal situation, the "sus4" chord is a form of suspension.[10] In other contexts, it will be considered a specific chord.

The question is asked of the distinction between the fourth and eleventh on the one hand, and the sixth and thirteenth on the other hand. How do we decide that F in a C chord is a fourth or eleventh or A a sixth or thirteenth? The reality shows that it is a total mess in the practice of jazz musicians. When a figuring including "4" or "11" (even more so with "6" or "13") occurs, it is impossible to know for sure what exact degree the author is referring to. It seems to me that the rule should be this: if there is a fourth then there is no third, and if there is a sixth then there is no seventh. Implicitly, this comes down to considering that the fourth is a substitute for the third (as mentioned before, this is easy to understand in a tonal system) and the sixth a substitute for the seventh. This is a consequence of chords being built up on superimposed layers of thirds (which confirms the structuring nature of such a build-up, by the way). For F to be an eleventh, the third (E or E♭) must have existed beforehand. The same applies for A to be a thirteenth: a seventh, B or B♭, must have existed beforehand. Yet, the "7/6" figuring often occurs, which contradicts this rule (the "13" figuring should include the seventh implicitly). This does not reveal a different approach to that chord but a lack of rigor in figuring practices, with the implicit idea behind it that, as jazz is a type of music based on oral traditions and practices, any localized ambiguity can be clarified at a later stage.

2.5 Nature of a Chord—Quality of a Chord

It may be useful to underline what seems to me a specific feature of the way jazz approaches harmony. Jazz musicians and analysts show an irrepressible tendency to consider chords the basic units that generate everything else (the scales used for improvisation in particular). This is the basis of the chord-scale theory, which sums up the topic of improvisation in a single question: what scale can be played on such and such chords? What has been said earlier about the realization of chords applies here, too: whether in the process of writing an arrangement or improvising, the realization of chords takes place at a later stage, at the moment of its performance. Chords thus exist prior to voice

leading, which gives them precedence and superiority over counterpoint. As a consequence, the vertical approach to harmony is clearly favored over the horizontal one. It is very rare that harmony results from horizontal movement. It is almost always produced beforehand, and melody has to develop from it later in the context generated by the chords. Of course, chords may be modified (enriched, altered, substituted), but even this process is carried out based on the chords themselves (their color) and are not led by the melodic development of the voices. In practice, an (overly) vertical way of thinking is a flaw often seen among jazz musicians (especially for polyphonic instruments), whether they are improvisers, arrangers, or composers.

However, it is absolutely necessary to establish a list of types of basic chords so that, when realizing a chord, it is possible, based on constant criteria, to identify whether it is derived from an elementary quality (that is to say inversed, enriched, or altered) and what its quality is.

At this stage, it is necessary to clarify which linguistic and notational conventions (in accordance with the most common practice[11]) will be used for four-note chords:

CΔ (major third, perfect fifth, major seventh): major seventh chord (or major seventh)
C7 (major third, perfect fifth, minor seventh): seventh chord
Cm7 (minor third, perfect fifth, minor seventh): minor seventh chord (or minor seventh)
CØ (minor third, diminished fifth, minor seventh): half-diminished chord (or diminished fifth minor seventh)
CmΔ (minor third, perfect fifth, major seventh): minor major seventh chord
CΔ(♯5) (major third, augmented fifth, major seventh): major seventh chord with augmented fifth
C6 (major third, perfect fifth, major sixth): major sixth chord
Cm6 (minor third, perfect fifth, major sixth): minor sixth chord
C7sus4 (perfect fourth, perfect fifth, minor seventh): suspended fourth chord

2.5.1 AUTHORS' POINTS OF VIEW

John Mehegan, one of the first authors (as far as I am aware) to have formulated a hypothesis about chord qualities, favors a basis of five qualities (and he attributes a symbol to each of them):

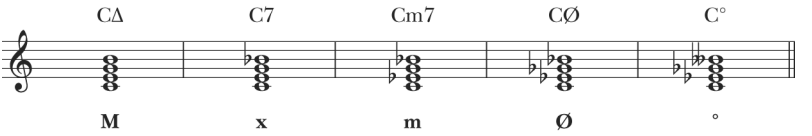


Fig. 5.2. The five chord qualities according to John Mehegan

Bill Dobbins is also in favor of a system of five chords. Philippe Baudoin, without giving any theoretical background to his position, chooses six chord qualities that he calls the "six main groups of chords." Jo Anger-Weller does not really take a clear position on the matter. First, she identifies the four qualities that come from the major diatonic scale. Then she mentions four "other types of chords": sixth chords, diminished sevenths, augmented chords (augmented fifth), and minor major seventh chords. After taking into account the four qualities generated by the major scale, Andrew Jaffe adds eight new qualities: two for three-note chords and six for four-note chords, which makes ten qualities in total for four-note chords. Jacques Siron is the only author to distinguish clearly between three- and four-note chords. For three-note chords he identifies four qualities divided in perfect fifth triads and altered triads (augmented or diminished). He then looks at four-note chords (tetrads) for which he identifies seven qualities.[12] J. Rawlins and Nor Eddine Bahha believe (also without explanation) that there are seven chords of four notes: major seventh, minor seventh, half-diminished, diminished, seventh (or dominant), minor/major seventh, and suspended dominant (or "sus4"). David Baker displays a list of six chords in a strange order: "Δ,"[13] "m7," "7" (that he calls "dominant" as well), "°," "augmented" (but with three notes), and "Ø." Everything is very hazy in the case of Mark Levine, because it is nearly entirely empirical. For example, he does not distinguish between fourth and eleventh or sixth and thirteenth.

2.5.2 SUMMARY AND SUGGESTION

One may question the legitimacy of some of the theoretical points mentioned above. They show that the underlying arguments these points are based on are often vague or nonexistent in the theoretical and pedagogical jazz literature. Most of the authors mentioned start from hypotheses that they neither try to ground theoretically nor to explain clearly. When they do, they do it sketchily, which does not help the debate. In the case of John Mehegan, for example, the qualities of a chord can be deduced from the rule on which it is built: the stacking of thirds and how it unfolds along the degrees of the major scale. Then, without giving any warning, he finds practical reasons to ground the fifth quality that he is looking for: "There is one chord used extensively in jazz harmony which does not appear naturally in any key—the *diminished* seventh chord."[14] So the fifth quality allegedly exists because there are concrete occurrences of it. That does not explain why it is a quality in its own right that could not be assimilated to another one. Mehegan does not take the argument any further, so we are left to understand that his view on chords—which consists of five types—is more or less anchored in experience and intuition. He prefers to bend his argument to fit a predetermined result rather than suggest and then challenge theoretical criteria, taking the risk of failing to come to a satisfying result and thus admitting the intuitive nature of his own idea.

Yet, if Mehegan had not conveniently replaced the diminished seventh of the diminished chord with a major sixth, he could have brought into the discussion a fact that clearly appears in the graphic presentation of the five qualities. When degrees are presented (as he does) in the order in which they appear in the cycle of fifths of the functional degrees of the major scale (IV-vii-iii-vi-ii-V-I), starting from the end and adding the diminished chord that has been dismissed, it appears that every time one moves from one quality to the next, one of the notes of the chord is lowered. It is not an argument, but it is at least an observation that follows a logic.

In his defense, the definition of chords' qualities is difficult and problematic. The first difficulty consists of reasoning outside of a given context. The aim is define "objective" types of chords with no relation to a harmonic, but it is very hard—and perhaps impossible—to escape tonal reasoning in this field, even if chords are envisaged in isolation (that is to say, before they become part of a chord progression).

Let us try and carry on the reasoning where Mehegan left it: the superimposition of layers of thirds as the building principle of chords is an acceptable premise. It is not easy to justify it from a formal point of view, but it is relevant historically and empirically. Also, it seems to me that there is no truly satisfying alternative to it.[15] As for unfolding the different chords based on the major diatonic scale, this comes close to confessing a "tonal way of thinking," but it is difficult to avoid. A statistical approach looking at all possible types of chords involving three superimposed minor or major thirds (and why not diminished and augmented thirds, too?) is surely not a solution, either. So let us accept the validity of these two premises, for heuristic purposes at least.

Only four qualities emerge from this approach, which is problematic because there are clearly more qualities than that in reality. If one goes further with the tonal approach, there may be a solution in looking at the minor scale. But which one to choose? The same four qualities (corresponding to different degrees) emerge when selecting the natural minor scale. Three of these qualities appear, but also two new chords with the melodic minor scale:

the seventh major minor chord on degree i
the major seventh chord with an augmented fifth on degree III

The four qualities from the major scale and the two from the natural minor scale come up with the harmonic minor scale again, but one last quality appears: the diminished chord on vii.

This adds up to seven chord qualities:

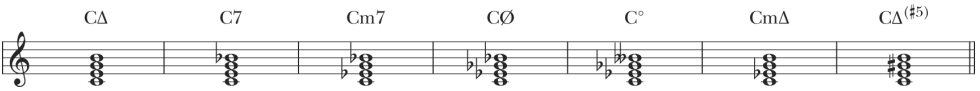


Fig. 5.3. The seven qualities emerging from the major and minor modes

It would be possible to end the discussion here if another difficulty did not arise: when does an alteration of a chord affect its quality and why? I do not have any systematic answer to this and can only rely on empirical observation.

The major seventh chord with an augmented fifth is considered an alteration of the seventh major chord in principle. The former must thus be seen as a derived version of the latter, but both share the same quality. The alteration of the fifth thus has no "qualitative" impact.

Still, in principle, the half-diminished chord is seen as of a specific quality, which makes it different from the minor seventh chord. The alteration of the fifth triggers a change in quality in this case.

We are unable to produce ground as for why a change of quality occurs in one case and not the other. This description is based only on empirical observation and is thus debatable.

If the major seventh chord with an augmented fifth is removed from the set of seven qualities obtained from the major and minor scales, we end up with only one more chord than Mehegan suggested: the seventh major minor chord makes up the "sixth" chord. Digging further in Mehegan's book, one realizes that he associates this chord with the "minor seventh" quality. On grounds once more empirical, he goes even further and associates the minor perfect chord with this same quality, leaning on a very common harmonic cliché in jazz, which consists of taking the minor perfect chord to a minor seventh chord by way of moving the top voice down a series of semi-tones:

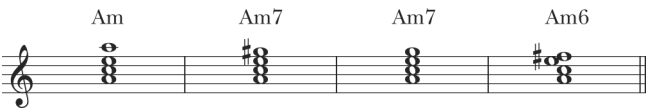


Fig. 5.4. Harmonic cliché on the first minor degree

In this scenario the first two chords are merely anticipations of the third with which the quality appears. This "explanation" does not ground anything and is largely problematic, for example when the minor perfect chord is a first degree of a minor key.

So we stand at a relative dead-end: it does not seem possible to identify a clear number of chord qualities based on consistent criteria.

There are between five (Mehegan) and nine chord qualities registered (if the major seventh chord with an augmented fifth, the seventh major minor chord, the added sixth, and "sus4" chords are to be included). The purpose of this discussion is to find practical applications. As a result, it is better to make an arguable choice than no choice at all. Like Philippe Baudoin, I believe that the best solution is to go for six chord qualities, and the suggestions for practical harmonic analysis that will be made later are based on this assumption.

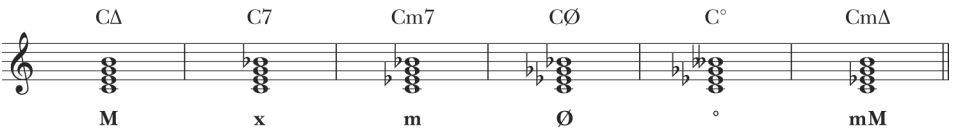


Fig. 5.5. The six chord qualities

2.5.3 QUALITIES OF THREE-NOTE CHORDS

As a consequence of the preponderance of four-note chords, all the authors previously mentioned review three-note chords rather quickly. Yet, it is important to identify the chord quality of three-note chords, too. Without going into a detailed argument again, the following three qualities are seen as acceptable:

major perfect chord: major third and perfect fifth
minor perfect chord: minor third and perfect fifth
diminished chord: minor third and diminished fifth

Major chords with a diminished or augmented fifth are seen as alterations of the major perfect chord. A minor chord with an augmented fifth is seen as an altered minor perfect chord.

2.6 Vertical versus Horizontal Relations: How Chords Relate to the Melody

It has been said earlier that voice leading plays no part in how chords are structured, as this process takes place during a performance or at the time that the music is arranged, which is also when it is decided how chords are going to be realized. However, it is impossible to discuss chord progressions without addressing both vertical and horizontal dimensions. Indeed, even if chord realization in jazz does not obey any rule other than those of styles, it is clear that the melodic motion cannot be totally unrelated to the location of chords in a progression. Jazz musicians may carry out a perfect cadence in any way that they like; they can decide to bring out or conceal the compulsory melodic progressions. Nonetheless, melodic constraints are at play when the cadence starts, and exist when the cadence is played. Moreover, there is no obligation to use rules, but that does not mean that musicians do not apply them. None of the rules of tonal harmony have to be used by jazz musicians, but they all know many of these rules at least in practice; and jazz musicians are well aware that they constantly use these rules or actively choose to ignore them. Melodic motion plays a part in harmonic structuring: the alternated thirds and sevenths in the progression of the four-note diatonic chords in the cycle of fifths create two descending diatonic countermelodies. In the course of analytical practice, looking at the melodic motion of the

voices often solves puzzling chord progressions. Voice leading may have a less prominent structuring role than other factors in jazz, but it proves nonetheless a useful tool in analysis and should not be neglected.

The issue of "secondary dominants" (see pp. 119–23) is typical of the double approach that is possible to envisage. In the progression (in C major) Em7-Am7-Dm7-G7-C transformed into E7-A7-D7-G7-C, the two countermelodies created by the alternated thirds and sevenths are diatonic in the first case and become chromatic in the second. Is that change of nature caused by the modification of three seventh minor chords, corresponding to the degrees iii, vi, and ii (vertical explanation), or the result of a chromatization of the two melodic voices producing seventh chords in lieu of seventh minor chords (horizontal explanation)? Is harmony a structuring process or the result of other processes? In the context of analysis, it is not necessary to choose between the two approaches, and one has to take both into account.

"Coloring notes" provide another example. The metaphor of colors is often used by jazz musicians: "Everybody's approach to chords is different. . . . It's just like someone's making a picture. You can take the same chord, but add different colors to it. You can make a little red streak, then you add a little pink to it and a little streak of black, and it makes it more beautiful."[16]

According to this quote, coloring notes are ornaments, embellishments used for decorative purposes; they are not meant to alter the nature of a chord. Notes belonging to the superstructure (ninth, eleventh, thirteenth) are sometimes called "coloring notes" (and the fifth could be added when it is perfect). This is a vertical approach of chords envisaged individually. There is no need to know the context in which a chord appears to "color" it. However, one must ensure that ornamental notes belong to the harmony at work at the time of the chord considered. What happens when the coloring note is an alteration? Should an altered note be considered a "color" among others or a chromaticism produced by voice leading? In Dm7-G7(♭9)-C, which is a harmonic cliché, it is clear that the minor ninth of G7 (A♭) is produced by the motion leading from the fifth of Dm7 (A) to the fifth of C (G). Even if one does not consider that this progression is produced by melodic motion, it would be a mistake to ignore that motion and simply consider A♭ a "coloring note." This does not mean that the minor ninth chord cannot be associated with a color generally. The color-based way of thinking (that is easily induced by the chord-scale theory) can be a flaw often found in inexperienced improvisers. If a vertical and isolated conception of chords is too overly favored, there is a risk of overestimating the decorative function and missing the melodic structuration of the musical discourse.

At the level of music production (poietic level), what happens in the heads of jazz musicians when they improvise is a question that has been asked ever since jazz has existed. The issue of whether or not melody precedes chords is

impossible to solve, because it varies considerably depending on the harmonic and each individual. It is clear that improvisation in bebop is partly the result of a strictly harmonic way of thinking that has been fertilized by the enrichment of the harmonic material. However,[17] it is possible to imagine a purely melodic way of thinking about improvisation while virtually impossible to imagine a harmonic equivalent to that.

CHAPTER 6

Harmony 2—Harmonic Situations: Tonality

It seems to me that there are four harmonic situations that one may encounter in jazz:

- Tonality
- Blues
- Modality
- Non-functionality

People often discuss harmonic systems, but it is better to talk of harmonic situations. Indeed, only tonality appears organized enough for the word "system" to be applicable. Even so, its use in jazz is quite distorted. In the case of blues, an attempt to describe all the different meanings of the word will be made. However, it is clear that the harmony of blues is not organized in a set of rules and relations that could be described as a system. The same applies to modality regarding the way it has developed in jazz. The fourth scenario is a category by default that is meant to include all the cases that do not fit in any other group. The privative prefix in the word "atonal" (even more so with "a-blues" or "a-modal") would be too restrictive. In the absence of a better option, the less restrictive but still privative term "non-functionality"[1] is used and an attempt will be made at specifying it.

All four situations need to be looked at from a historical point of view. Tonality and blues appeared simultaneously right from the beginning of jazz and they played a part in its formation. Modality and non-functionality also appeared nearly simultaneously but much later, in the late fifties, even if forerunners are detectable earlier.

It is essential to note that harmonic situations mix easily and it is rare to deal with a work that displays only one. Tonality and blues cohabit quite naturally. The use of modality emerged from relative exhaustion of the first two situations in a way that is in part comparable to the transition of art music toward a post-tonal

language at the beginning of the twentieth century. Modality as it has developed in jazz is, of course, heavily influenced by the preexisting tonality and blues. Even in more recent times it is rare to find works in which the harmony is purely modal. When the analytical tools provided by these three harmonic situations appear insufficient—which can be be quite often—the situation is described as non-functional.

What should the harmonic analysis of a tonal (or mainly tonal) work of jazz contain? Our focus will be on harmonic progressions and I will propose a grammatical framework for their analysis. First, problems specifically related to the figuring of chords in a tonal situation will be addressed using an approach based on degrees. Then, ideas for the development of this grammar will be suggested. This will be done in a generative perspective, observing models of chord progressions that work as matrices to produce a great variety of chord progressions through transformational rules that we will attempt to define. A few examples will be developed for illustrative purposes. Next, issues related to the identification of keys will be briefly discussed. Finally, a few hypotheses about what may be a specifically jazz take on tonality will be made.

1. SUGGESTIONS FOR A FIGURING SYSTEM BASED ON DEGREES

Figuring can be done on three levels in tonal art music and there are three figuring systems corresponding to these levels: the figuring of intervals from the bass ("figured bass"), the figuring of the fundamental bass (Roman numerals), and the figuring of functions (e.g., Riemann's T, S, and D).

The *figuring of intervals from the bass* ("figured bass," using Arabic numbers) can be used in two ways: for descriptive or prescriptive purposes. The descriptive figuring of chords in a musical text does not, in theory, take the tonal situation into account: a chord is figured per se, whatever key is in use when it occurs. In the case of three-sound chords with no doubling, there is no ambiguity: the figuring describes a single set of sounds.[2] The set E-G-C, for example, is figured "6" whatever key is in use. However, the same figuring may apply to a four-sound chord with some doubling. As a consequence, a chord may only be figured in one way, but a figuring may apply to several chord realizations.

While in theory the figuring does not take the tonal situation into account, in practice the key is often identified (by the sign "+," which indicates the presence of a leading note). In the course of a text analysis, the key signature as well as the main cadences (the final one in particular) are noted, in order to check that the situation is indeed tonal and to identify the tonal areas. It is hard to separate this process from that of figuring intervals. The same applies in the case of prescriptive

figuring (continuo bass, for example). In this case the figuring is ambiguous: a given progression of figured chords may be realized in many ways. Equally, in textbook exercises consisting of a given bass and a given melody to be realized for four voices, a figuring for each note is drawn from the predetermined tonal situation, and several realizations are possible.

The *figuring of the fundamental bass* (Roman numerals) is in principle only conceivable in a tonal situation. Its purpose is to determine the "position of a chord on the scale used," which involves the identification of that scale prior to the figuring process. As it is used today, this figuring system is made of a variety of things: it uses a convention specifically designed to describe the degree of the scale (Roman numerals) but it is coupled with the figuring of the intervals using Arabic numbers: I^6 = E-G-C. The same chord may also be figured in several different keys simultaneously every time a tonal ambiguity occurs that one wants to take into account, for example, pivotal chords in modulating areas. In theory, this system of figuring is descriptive only.

The figuring of functions is often confused with the figuring of the fundamental bass. Yet, a chord figured "V," for example, does not necessarily bear a function of dominant; or, at least, there are enough different dominant functions (principal, secondary, etc.) that another type of figuring seems required to identify the exact type of functions that applies to chords beside their position and morphology. This is the purpose of Hugo Riemann's figuring system based on three main functions—tonic, dominant, and subdominant, represented by the capital letters T, D, and S.

Here is a suggestion of definition for the three levels of figuring described: the first level can be conceived as *morphological* in the sense that it aims at describing the shape of a chord independently from the situation it appears in. The second level is *scalar*: the figuring indicates the position of a chord on a given scale. The last level is *functional*: the figuring aims at indicating the function of a chord in its situation. These three figuring levels are in use in tonal jazz, too, but in a different way.

The common system of chord symbols, combining Arabic numerals and capital letters indicating the bass, has been described earlier. Does it figure the real bass or the fundamental bass? There is no simple answer to that question, because it is a very flexible system. It can be prescriptive or descriptive. It is prescriptive when it is used in scores that let the reader work out the whole chord realization or parts of it. It becomes descriptive when used as a tool to analyze a concrete realization. Equally, it can give an overall picture or give a very precise description. In theory, the range of symbols available allows the figuring of any set of notes, however complicated. Nevertheless, the idea behind this system is more inclined toward providing an overview. When intended for prescriptive purposes, it remains generally simple in order to give the reader some freedom in

realization (which means that it is only partly prescriptive). When it is descriptive, very detailed figuring is likely to be more cumbersome than a stave notation. This system becomes a first analytical step that provides an initial appraisal of the importance and function of each note in a chord.

Let us take two examples. Two chords among others are heard in the transcription of a piece played by a pianist. Here are the chords, starting from the lowest sound:

- Chord 1: G-F-B-D-A♭-C♯-E
- Chord 2: F-B-D

Among many options, the first chord can be figured G13(♭9♯11), G7(♭9), or G7. The first option gives all the notes of the realization, simply changing the code in which it is read. Only the order in which the sounds appear is missing compared to a traditional notation. Equally, it is possible to merely indicate the alteration of the ninth (second option) if we want to highlight the fact that it is the degree V of a minor key (here, C). The third option summarizes the chord most, by showing only its quality as a seventh and not any altered notes or enrichment.

It is unlikely that the second chord would be figured based on the real bass, as it would give an unhelpful result: F6(♯11no3no5). The Bm(♭5)/F solution is much more likely to be chosen. However, G7 is possible even if the root is absent. It may be played by another instrument (double bass, for example), but even if it is not played the situation clearly indicates that it is a seventh chord on G.

Let us go back to the initial question: is it the real bass or the fundamental bass that is figured? The question does not apply to the first chord, as it is the same note. Things are less simple for the second chord. Imposing the real bass does not make any sense here, but the figuring inversions do not solve the question. Bm(♭5)/F (the second option) shows that it is easier to understand the chord as an inversion, but nothing indicates that the fundamental bass is B rather than the real bass F. Only the third option (G7) clearly presents itself as figuring the fundamental bass and thus chooses the missing G.

This system of chord symbols is thus many-sided and allows the figuring of either the real or fundamental basses. Though radically different from figuring intervals, it makes sense to see it as a first (morphological) level of figuring. Indeed, doing so targets the narrowest field of observation. Yet, when it starts to take the situation into account—which happens rather often—this system becomes more analytical than the figuring of intervals, at least in its descriptive use. The potential comprehensiveness of this system allows it to indicate a fundamental bass even when that is not actually realized, which requires interpretation to play a greater part.

The figuring of the fundamental bass may also be called figuring based on degrees, though there is no common and widely accepted term for it. Figuring based on degrees takes into account the key in which a chord appears, unlike the system of chord symbols described above, which does not necessarily do so. This allows the comparison of chord progressions in different keys.

This system requires the prior identification of the key, which can prove problematic: should analysts work out degrees based on the general key the piece is in (providing that there is one), or should they take into account local modulations, borrowings, and hints (which would require one to be able to define each of these situations with clarity)? This type of problem has led some theorists to favor systems that evaluate the distance between chords rather than their place in a key or other problematical referential system. The harmonic vectors theory sets an example of this kind of solution.[3]

Despite the potential effectiveness of such an option applied to jazz and the drawbacks of degree-based figuring, our preference goes to the latter. In fact, a combined approach may well be the most fruitful option.

The system that will be presented here is original and largely inspired by that of John Mehegan.[4]

The problem for jazz consists of integrating the figuring of the chord's quality to the functional figuring, which informs the reader of the position of the chord on the scale of reference. This is not problematic in art music, as there is an accepted norm for figuring intervals: it is painlessly added to the Roman numeral used to figure the fundamental bass. In jazz there is no definite norm for the use of chord symbols (which is not really problematic); and, unlike the figuring of intervals, chord symbols already potentially provide a figuring of the fundamental bass without giving any details about the internal organization of a chord. In this sense it is a morphological type of figuring, because it defines the quality of a chord without revealing its organization. The reader is reminded that the following set of notes: F-B-D may be figured G7 even though G does not appear. If the C major key is identified when the chord appears, then it may be figured V, of course. The most commonly used system, known as "Berklee figuring" (after Boston's Berklee College of Music), simply adds chord symbols to Roman numerals, which gives the result V7 for the example just mentioned. However, one may question the benefit of giving redundant information: the V degree naturally bears a seventh quality with a major third, perfect fifth, and minor seventh (when conceived with four sounds). In art music the combination of a Roman numeral (which indicates the position of a chord on a scale) and an Arabic number (which reveals the internal organization of a chord) gives two distinct pieces of information. For the sake of effectiveness and economy, it could be justified to have the same demands for jazz: any addition of a symbol should deliver some new information, for example

when a degree does not correspond to its default quality (i.e., the normal quality of a chord on that degree of the scale). Continuing with the previous example, V7 does not add any information compared to V only, because a seventh chord is the chord by default on a fifth degree. On the contrary, Vm7 in C major shows that G is the root but also that the third is minor; it is thus a minor seventh with an accidental B♭ in relation to the key of reference. Thus this notation provides an additional, distinct piece of information.

Because of these difficulties, I largely support the figuring system suggested by John Mehegan,[5] but with some adaptions to overcome its flaws. I believe that the disadvantages to his method can be solved to the overall benefit of the system. My "reformed Mehegan system" is based on a set of rules and principles listed below (all examples are given in C major).

Rule 1: Chords with Major or Minor Thirds

A capital Roman numeral indicates that a chord has a major third, while lowercase Roman numerals are used for chords with minor thirds.

This rule or convention is not used by Mehegan, probably because it was not yet widely used at the time he created his figuring system; it makes sense to use it nowadays. It also offers the advantage of not contradicting any other rule or principle.

Rule 2: Default Qualities

In major keys, degrees are granted a default quality for four-sound chords:

I, IV	Major seventh
ii, iii, vi	Minor seventh
V	Seventh
vii	Minor seventh with diminished fifth

The Roman numeral is used on its own when a default quality applies to a chord.

CΔ	I
Dm7	ii
Em7	iii
FΔ	IV
G7	V
Am7	vi
BØ	vii

In my opinion, this is the keystone of Mehegan's system: as will be explained later, it allows us to immediately distinguish between chords that correspond exactly to a degree and those that show an anomaly from a tonal viewpoint.

However, to envisage all degrees with four-sound chords straightaway has important implications and is a fundamental peculiarity of this system.[6]

Rule 3: Accidental Qualities

All six chord qualities are granted a symbol:

Major seventh	M
Seventh	x
Minor seventh	m
Minor seventh with diminished fifth	Ø
Diminished	°
Minor major seventh	mM

The symbols above apply only to chords that do not possess their default quality.

Ex. CΔ = I C7 = Ix
Dm7 = ii DΔ = IIM

As mentioned before, Mehegan sees five chord qualities, to which I have decided to add the minor major seventh.[7]

This rule complements the previous one, and the articulation of both underpins this system, helping make it better than Berklee's.

Indeed, Dm7–G7–CΔ corresponds to

IIm7–V7–IΔ in Berklee's system;
II–V–I in Mehegan's.[8]
D7–G7–CΔ corresponds to
II7–V7–CΔ in Berklee's system;
IIx–V–I in Mehegan's.

This clearly shows the advantage of Mehegan's system: a symbol is added to the Roman numeral that indicates the degree only if something abnormal happens, like a raised third on degree II here. Berklee's system does not provide this piece of information, as it does not distinguish between chords that include accidentals and those that do not. The occurrence of F♯ in C major is a tonal event in the second chord progression presented here that Mehegan's system highlights but is lost in Berklee's.

We started from the assumption that the chords corresponding to the basic degrees were made of four sounds and organized in superimposed layers of thirds. Of course, it is clear that three-sound chords, by definition, share all the same functions. Besides, in a number of cases swapping a major seventh for a sixth does not have any impact on the diatonic degree of reference. This is the case with I and IV: from a tonal point of view C6 is equivalent to CΔ and F6 to FΔ, as no accidentals are brought in and the chords can be seen to share similar morphologies. The case is different with D6, E6, A6, and B6: each of these chords carries one or several accidentals. G6 is peculiar: all its notes come from within the key but it is not equivalent to G7 on V because the seventh is erased by the cadence. G6 on V is thus seen as abnormal. The situation described in this paragraph generates a fourth convention, which can be presented as follows.

Rule 4: Equivalences

C, C6, CΔ	All figured I
Dm, Dm7	All figured ii
Em, Em7	All figured iii
F, F6, FΔ	All figured IV
G, G7	All figured V
Am, Am7	All figured vi
Bm(♭5), BØ	All figured vii

It is important to note that this way of presenting harmony differs significantly from the classical theoretical take on it. In the case of degrees I and IV, we consider CΔ and FΔ as the respective original degrees. To start from the assumption that one is dealing with four rather than three sound chords is already a significant step away from strict tonal theory. To include the leading note in the first degree of a chord is another infringement. Once these differences have been accepted, going back to three-note chords is straightforward, as is the equivalence between CΔ and C, on the one hand, and FΔ and F, on the other hand. The problem is different with the addition of the sixth. Like the leading note on degree I, it is seen as an ornament or chord's embellishment which affects fundamentally neither its nature nor its function. The sixth is added and is thought of as a first inversion (6th and 5th) of the chord built on a third lower: the first inversion of C6 corresponds to Am7 and F6 to Dm7 in the same way. In both cases the chords, degrees, and functions are different.[9] It is clear that an epistemological shift has occurred in how the vast majority of jazz musicians (and the ones whom I know certainly think and feel that way) understand harmony. It may seem trivial but is actually significant: the way jazz conceives harmony seems to be based on real rather than fundamental basses. Jazz musicians tend to consider real bass as a fundamental, whether it is or not, and build more or

less complex chords from it. The search for possible inversions is less natural than for classically trained musicians. Another explanation for this difference could involve the disappearance of the idea of dissonance in jazz (as it is classically understood), which allows three- and four-sound chords to be dealt with indiscriminately.[10] One must bear in mind that, even if a process of assimilation was necessary to allow dissonance to become completely insignificant in jazz harmony, the fact that jazz does not take dissonance into account is not merely the result of assimilation.

I have to admit that I do not feel comfortable with this discrepancy between classical theory and the usage of jazz practice. In my view, the degrees I and IV must fundamentally be expressed on a three-sound basis in jazz, too,[11] as the sixth and seventh that may be added operate as decorative coloring notes.[12] In theory, the same should apply to the degrees ii, iii, vi, and vii; but here I tend to yield to usage and think of them on a four-sound basis.[13] As a result, the following presentation of the rules of chord transformations will always be expressed on a three-sound basis for the degrees I and IV and on a four-sound basis for the others. This option lacks consistency and feels uncomfortable, but I have not found any preferable option.

Rule 5: Chromatic Degrees

An alteration (♭ or ♯) in front of a Roman numeral indicates that a chord is located on a non-diatonic degree. These chords are not granted any default quality.

Ex. B♭7 = ♭VIIx
C♯° = ♯i°

Rule 6: Inversions

Inversions may be expressed by an Arabic numeral following a forward slash indicating the bass note in relation to the root.

Ex. Em7/D = iii/7
C7/B♭ = Ix/7
C/F♯ = I/♯11

It is advisable to be parsimonious with the use of this inversion figuring. In the first example given above, this choice should only be made if the seventh in the bass is a striking tonal fact rather than the mere result of chord realization.

Conversely, inversions may help read chords better and more quickly. This is the case with two chords that are not built on superimposed layers of thirds and that have not been discussed yet: the minor sixth and "sus4" chords.

If a Dm6 chord is seen as operating in a similar way to a Dm or Dm7 chord, it can be notated ii as a way to apply the rule of equivalence. However, it may often be notated vii/3 when the situation leads it to be understood as actually operating as a degree vii.

If G7sus4 is truly a suspension and that the "real" V degree, G7, follows it, it can be simply notated as V. Occasionally, however, it may be justified to see it as an inversion of ii: ii/11.

Following the above rules as a starting point, our figuring system is then built on a series of principles.

Principle 1: The Root

Figuring must indicate the position of the root in the given scale.

Ex: Dm7 = ii

This is a basic principle in any degree-based figuring system.

Principle 2: Anomaly

Any symbol added to the indication of degree must be made necessary by the occurrence of an anomaly:

- Presence of one or more accidentals (ex.: D7 = IIx: one accidental; DΔ = IIM: two accidentals).
- A chord that is different from the original chord or its equivalents (ex.: G6 instead of G7 on V).

This principle formalizes rules 2 and 3.

Principle 3: Being Economical

Whenever possible, figuring should remain straightforward. More complex figuring (inversions, for example) must only be chosen when necessary, that is to say when it is the only way to highlight a striking tonal fact that it would be harmful to ignore at the figuring stage.

This is a fundamental principle which guarantees the efficiency and the raison d'être of figuring. The system must present immediately readable essential information which must be restricted in quantity in order not to become buried in excessive description. As a consequence, one must generally avoid indicating inversions, enrichments, and alterations so long as these are not seen as vital for appreciating important tonal phenomena.

Finally, one must note that this degree-based figuring system is not normally used in a prescriptive way. However, jazz musicians carry out a similar mental process without expressing it when they improvise the transposition of a piece.

I am not aware that any functional figuring system similar to Riemann's for art music exists in jazz (but in theory Riemann's could be used in tonal situations in jazz[14]), despite the fact that functional analysis is fully part of jazz analysis: musicians practice it when they improvise in a tonal situation. In fact, functional reasoning is an essential feature of the harmonic side of jazz improvisation, and it is rare that this process does not involve any tonal dimension at all. Harmonic improvisation is, effectively, functional reasoning being enacted.

Once figuring issues have been addressed, it is possible to move on to the heart of tonal analysis: the study of harmonic progressions. The various options available will be reviewed in a similar way as has already been done for figuring systems; and, eventually, a new system will be suggested in the form of a grammar of harmonic progressions used in jazz.

2. SUGGESTIONS FOR A GRAMMAR OF HARMONIC PROGRESSIONS IN JAZZ

This chapter aims at suggesting a grammar describing (and hopefully explaining) harmonic progressions in tonal jazz, with no intention to develop a new theory of tonality. Indeed, the same tonal system is at work in jazz and art music; but the situations are different, and it operates slightly differently in both fields (we will try and summarize these differences in the conclusion to this chapter). There is thus no justification for a "new" theory. Our aim is the same as that of Dmitri Tymoczko: "to offer an effective grammar of elementary harmony in the major mode."[15] However, such a grammar involves a degree-based approach and has connections with the Schenkerian concept of prolongation: "Schenkerian theorists sometimes suggest that musical grammar displays a similar kind of recursive complexity [to natural languages]. Behind this lies the idea that a simple progression of chords . . . may be ornamented with numerous subsidiary progressions that create 'prolongations.'"[16]

However, the grammar described here distances itself from Schenkerian theory insofar as it has no interest in any fundamental structure and retains more than one model to arpeggiate the bass. Rather, it suggests three archetypal models meant to combine with each other rather than provide a framework for whole pieces as such.

A few points need to be made prior to the description of the grammar itself.[17]

2.1 Preliminary Points

2.1.1 THE NATURE OF HARMONIC TEXTS USED FOR REFERENCE

There is a tradition in art music to draw examples of tonal harmony from Bach's chorales (which make up a sort of ideal and varied archetype) or later pieces from the nineteenth century, for example, and there is ample choice in that area. It is difficult to decide what makes a text of reference in jazz; how to choose one has already been discussed and appears again here. There is no equivalent of Bach's chorales for jazz harmony. However, there is a basic tonal repertoire made of standards, i.e., the repertoire of the Great American Songbook and other pieces composed by jazz musicians following identical or similar models. One may argue that standards are not solely made of tonal harmony and that many of them are blues using the corresponding harmonic system. However, when looking for archetypes of tonal harmony as used widely by jazz musicians, standards make up the repertoire where they exist. As a result (and paradoxically), the most archetypal (tonal) harmonic texts are to be found in the music of composers who do not come from jazz (George Gershwin, Cole Porter, Richard Rodgers, Harold Arlen, etc.). The dual aspect of texts and stages (text of reference at the pre-performance stage and final text at the performance stage) is involved here again, of course. The aim is to understand the texts of the latter category which, unlike those of the first category, are unquestionably produced by jazz musicians. In order to achieve that, it is necessary to start from the texts of the first category.

2.1.2 THE DUBIOUS STATUS OF HARMONIC TEXTS

It is not possible to be absolutely certain that the harmony found even in the official editions of standards is original (presuming that an original one actually exists). This is one of the issues addressed by the grammar suggested here. Our purpose is to relate a number of chord progressions that differ on the surface to a limited number of models, i.e., to identify such progressions as variants of the models. In this situation it does not matter anymore to know whether one of these variants might be a more original progression from which all the others have stemmed.[18]

2.1.3 PROGRESSIONS IN MAJOR MODE

Again following in the footsteps of Tymoczko, my investigation is limited to the major mode. The idea is not to deny the existence of the minor mode, but major keys allow for the comprehensive presentation of the principles suggested without having to go into the unavoidable complications that take place when the minor mode gets involved. Issues brought up by the minor mode will be addressed in a specific paragraph.[19] Finally, some harmonic progressions will

be examined separate from the tunes that they are associated with, which may be occasionally problematic. However, this will allow greater brevity while not affecting these results.

2.1.4 THREE- OR FOUR-SOUND CHORD PROGRESSIONS

According to Tymoczko, "It is rare that a seventh chord is required to make a syntactic progression. Generally, triads can be used freely where seventh chords are appropriate," which makes acceptable "not taking into account the difference between triads and seventh chords."[20] Like when discussing figuring, most of the progressions referred to here will involve four-sound chords, because that best reflects jazz usage even if three-sound chords are by no means absent. It is also possible to reverse the same argument: there is nothing preventing us from thinking about progressions on a three-sound basis whenever possible.

2.1.5 PROGRESSIONS INVOLVING CHROMATICISM

Chromaticism has been included too, when necessary. The avoidance of both chromaticism and four-sound chords would lead to a grammar so similar to the one built for the use of tonality in art music that it would be useless.

All these choices have been made in order to present general principles in the clearest and most simple manner possible with a view to building a grammar. The purpose of this work is neither historical (to explain how harmony started and developed) nor directly practical, for this grammar is not a model for analysis per se. Analysis faces more complex situations and requires a number of additional factors to be taken into account. The purpose of this grammar is rather to offer a theoretical foundation for the analysis of chord progressions in tonal jazz.

2.2 Progressions and Models

What way of thinking has been used in dealing with jazz harmony up to now? I have tried to identify the most restricted fixed number of chord qualities required in order to be able to differentiate between repeated chords with variants and genuinely different chord qualities. This is a generative way of thinking, the purpose of which is to define irreducible models that can encompass all occurrences observed in reality. Some transformational rules are at work which need to be defined in order to outline these models. In the case of chord transformations, these rules involve inversion, extension, enrichment, and alteration.

This way of thinking reflects how jazz musicians produce music: they follow such a thought process[21] in how they deal with harmony when improvising. When it comes to harmony, what is called the "vocabulary" of jazz musicians involves a stock of memorized chords and models of progressions as well as a number of assimilated rules of transformation that can be enacted depending on the situation

in order to get to the desired realization: "Fred Hersch eventually concluded that 'there were as few as ten or so different harmonic patterns' whose combinations and variations formed the basis for much of the repertory of jazz standards."[22]

In this situation, virtuosity does not consist of having the largest stock of models and transformation rules at one's disposal, for this stock is in theory quite limited and the same for everybody; rather, it consists of the capacity to use, combine, and adapt these rules instantaneously, in the fastest and most musical manner, according to the situation.

The same type of generative thought process will be applied to the superior harmonic structural level, that of chord progressions. We will reserve the term "model" to identify those chord progressions seen as fundamental. Used in that sense, the term "model" means the same for chord progressions as "chord quality" for chords. They simply operate at two different levels: an inferior level consisting of smaller units (chords) for chord qualities, and a superior level consisting of bigger units (chord progressions) for models. Harmonic analysis thus consists of identifying series of chords that can be identified with basic chord progressions known as models in a given piece.

As for chord qualities, the first issue consists of defining what these models are and how many of them there are. The solution to that problem could be simple (with a Schenkerian approach, for example): only one model (I-V-I) for tonal music. With units of an appropriate length and enough transformational rules to account for all situations, it would probably be possible to see any series of chords as a variant of I-V-I. The decision about the number of models to go for depends on what one ontologically thinks a model is, and on empirically based practice. Either way, the important issue of the plagal progression I-IV-I remains. Is it a variant of a perfect cadence or is it an ornamental progression similar to a coda that could not be put on the same level as the perfect cadence (which the Schenkerian hypothesis seems to imply)? I believe that the discussion of the plagal cadence in the context of jazz differs from the discussion in other contexts. From a historical point of view, the plagal cadence has played an essential role in the (mostly tonal) music of black churches (spiritual, gospel). The plagal cadence is called "amen" because religious songs end with the two syllables of the word sung on degree IV and I consecutively.[23] The case of blues and the structuring nature of the degree IV could be discussed, too. It is difficult to make a decision on this matter and unclear how that could be done. However, it seems more pertinent to accept the plagal cadence as a model alongside the perfect cadence with no hierarchy between the two. Practice comes into it if we consider the practical realities of analysis. If all series of chords need to be derived from the perfect cadence, there is a chance that analysis could merely become an exercise of rhetorical virtuosity. Too systematic an approach and an attempt to formalize the material in only one way could lead to reducing the depth of the

material itself. It may be more fruitful to keep several models that highlight the richness of the material. For example, we shall see that the following progression C-Fm7-B♭7-C may be derived from a perfect cadence as well as a plagal cadence using the same transformational tools. It may be more interesting to give an account of that ambivalence rather than look for a unique root. Also, it may well be possible that such an ambivalence can actually be perceived by the listener, in which case analysis would benefit from highlighting the fact.

I believe that the progression based on second intervals (i-ii-iii type) should be added to the perfect and plagal cadences as a third model. It is neither an ending nor a cadence, but practice pleads in favor of it. It is a very common progression and it would seem simplistic to me to apply transformational rules that reduce it to a perfect or plagal cadence, though it would be possible to do so. Besides, it is an "open" model as it does not end on I. It can take the shape of I-ii-iii-I but it connects with either of the other models most of the time (I-ii-iii-vi-ii-V-I or I-ii-iii-IV-I).

Our solution consists of three models: the first two relate to cadences (which grants them a more prominent status), while the third has been established based on practice:

a) I-V-I Circle of Fifths Model
b) I-IV-I Plagal Model
c) I-ii-iii Progression of Seconds Model

Once more I am aware of the normative and arbitrary dimension in these choices. My purpose is to ask questions (which are rarely addressed by jazz literature) even if I cannot always solve them, but at least to suggest strategies to deal with them. Our final call is to go for six types of chords and three models, based on the theoretical discussion exposed above and a practical reason: our aim is to provide a harmonic thought process for analysis that can operate effectively and be relevant in the context of practical analysis. The choices made may be questionable, but they will make the analysis of works based on explicit, identifiable, and thus arguable concepts and methods possible.

Finally, as with the presentation of our figuring system, all examples are given in C major.

2.3 Transformations of Models

The number of models having been established, a number of rules (as few as possible) is now needed to describe how these models are transformed. This has to be done in a way that allows for the largest number of cases of chord progressions to be related to the models. For Rudolph Réti, "The I-x-V-I progression

accounts—though in an obviously very basic way—for the harmonic journey of any composition of the classical era. X usually manifests itself in a chord progression which is a complete series of chords and which makes up the music within the scheme. Through the V-I formula this scheme becomes a unit, a group or even a whole piece."[24]

X becoming "a whole piece" suggests the Schenkerian idea, though the approach here starts from the other end of the paradigmatic chain: from the chord and then moving on to chord progressions. As said before, in a generative approach we are trying to describe rules of transformation that allow us to point out how a vast number of chord progressions are derived from the three models defined above. These rules, which operate on chords envisaged within a progression, are of three types:

- *Rules of transformation* allow the transformation of chords that belong to the original model.
- *Rules of addition* allow the addition of chords to those of the original model.
- *Rules of substitution* allow the replacement of a chord of the model by another one.

These rules may combine, of course.

2.3.1 TRANSFORMATION OF CHORDS

The first set of rules is linked to the flexible nature of chords in jazz harmony, which has been pointed out earlier (when talking about chords in themselves outside of any situation). This flexibility of chords remains in progressions, but factors linked to the location and function of a chord within a progression will be added. A chord in a progression may be subjected to four types of transformation:

- Inversion
- Extension
- Enrichment
- Alteration

***Inversion*—**A chord may be inverted. It has been said before that inversions are part of the realization of a chord, and that it would thus be discarded. However, there are situations when an inversion can become significant from the point of view of the transformation of the model. This is the case with the first inversion (on its third) of the major perfect chord, for example, which may be a necessary step toward a transformation of I into iii.

***Extension*—**It has been stated earlier that we would consider three-sound chords for degrees I and IV and four-sound chords for the others. It is possible to add a sound from the infrastructure (sixth or seventh) and extend the first two chords to four-sound chords. Here are the possible results:

C-> C6 or C7 or CΔ
F-> F6 or F7 or FΔ

Accidentals appear in C7 and F7. In order to remain consistent with the table of equivalences (p. 105), it is logical to consider C6 and CΔ as extensions of C and F6 and FΔ as extensions of F, as the chord is extended to four sounds but its quality remains the same. C7 and F7 are different because accidentals appear. The addition of the fourth sound does not just extend the chord; it affects and changes its quality (and, in this case, its category) so this is actually a case of harmonic substitution.

***Enrichment*—**One or several notes from the superstructure may be added to a chord made of three or four sounds (major ninth, perfect eleventh, or major thirteenth). The same issue as for extensions arises: depending on degrees, some of the notes used for enrichment belong to the scale but others do not. There is no problem on I, ii and V. For the other degrees at least one note used for enrichment is an accidental. On iii (Em7) for example, the eleventh (A) belongs to the scale but the major ninth and thirteenth (F♯ and C♯) do not. However, it would be a mistake to consider these added notes alterations, as they do not alter the essence of the chord. It will thus be necessary to identify the cases where a note is truly an enrichment of a chord (the major ninth, F♯, on iii, for example).

***Alteration*—**One or several notes of a chord (from the superstructure or the infrastructure) may be altered if the quality of the chord is not affected. The previous problem reappears here but the other way around: some alterations are diatonic (the augmented eleventh on IV, FΔ, for example, is a natural B). The same thought process that has been applied to enrichments will be applied here: it will be pointed out when alterations are diatonic or chromatic in relation to the scale in use at the time.

It is becoming clear that establishing a nomenclature for chord transformations is not as easy as it may seem. Criteria (such as the introduction of accidentals) cannot always help make the final call in tricky situations. Despite the haziness surrounding each element of this list, the benefits of having it outweigh the inconveniences, as it provides an operating mode to distinguish between situations before a more refined analysis of specific concrete cases can take place.

2.3.2 ADDITION OF CHORDS

The possibility of transforming the chords existing in the basic models has just been investigated. Now is it possible to add chords to these models? If so, models should be defined as "schemes" that can be "filled in" with chords in order to produce larger harmonic formulas. Additions could occur in three ways: they could be anticipations (a chord is added before a chord of the model), continuations (a chord is added after a chord of the model) or insertions (a chord is added to another which consequently is split into two).

It is important not to confuse models with rules of additions. Adding a chord and using the circle of fifths to do so does not correspond to the "circle of fifths" model. The circle of fifths, as a rule, may apply to the circle of fifths model or any other. The same goes for the rule of plagal addition, distinct from the plagal model.

Addition using the circle of fifths—The main rule of addition is generated through extending the progression of a perfect cadence to other degrees of the circle of fifths:

ii may be added before V.
vi may be added before ii.
iii may be added before vi.
vii may be added before iii.

Whether or not IV may be added before vii is questionable, as the interval between the two roots is a diminished fifth, not a perfect fifth. Usage allows for supple ruling to apply in this case.

Let us call this rule an addition using the circle of fifths. It is considered an anticipation in theory (V-I becomes ii-V-I, then vi-ii-V-I, etc.) but it may also occur as an extension (V-I becomes V-I-IV).

Here are the most common formulas in use:

I-ii-V-I
I-vi-ii-V

This rule can apply to other models: in the progression of seconds model I-ii-iii, it is possible to add vi before ii and vii before iii in order to produce the following harmonic cliché I-vi-ii-vii-iii.

Things are more complex with the plagal model. There is no need to apply the rule using the circle of fifths before IV as the resulting chord, I, already exists. In theory, it would be possible to do it as an extension with vii following IV, but this is hardly ever done. Also, if vii is treated like a rootless fifth degree, the plagal

model is transformed into a circle of fifths (and the same happens if the rule is applied as anticipation of the last first degree of the model).

However, there is an addition using the circle of fifths that is very commonly practiced: it is known as V/IV and consists of adding the dominant of IV (Ix) to produce C-C7-F-C. This involves chromaticism and the application of a rule of harmonic substitution (allowing all secondary dominants V/ii, V/vi, etc.) that will be presented later (see pp. 119–23).

A sense of anticipation is created by the cadential construction (based on the perfect cadence built on a final chord) that is linked to the model based on the circle of fifths. Indeed, other chords find their place and function in relation to that final chord. This induces a practical rule in harmonic analysis: most of the time one needs to look at the end of a chord progression to understand and reconstruct it backwards. The same logic can work the other way around: V may be added after ii, ii after vi, etc. However, anticipation does not have to combine with continuation: in the I-vi-ii-V-I progression, vi is explained as an anticipation of ii (which itself anticipates V), but there is no need to explain the I-vi motion and even less need to formulate a new transformational rule to explain it. The explanation comes from a higher level of segmentation: It is seen as the end of a previous harmonic sequence (or a unit in its own right) and vi is seen as the start of a new sequence that finishes with the final I.

The combination of anticipation and continuation in this rule has produced a harmonic cliché, as seen in the first bars of "Autumn Leaves" (Prévert-Kosma). If one considers that the basic harmony of the first two phrases of the tune is made of V-I, it is very often replaced by ii-V-I-IV, where ii has been added before V (anticipation) and IV after I (continuation).

The plagal addition—The transformational rule that has just been presented is the result of the generalization of the V-I motion of the perfect cadence. There is no equivalent of that for the plagal cadence; generally, the plagal cadence does not get "filled in" in the same way as the perfect cadence does. However, the plagal cadence itself may be added to by inserting a fourth degree (IV) "within" the first degree (I), which divides in two (it is rarer to see V inserted between two occurrences of I). If the first degree lasts for two bars, it is possible to insert IV in the second part of the first bar in order to come back to the first degree (I) at the beginning of the second bar, as is the case in the following example taken from an accompaniment by Red Garland and quoted by P. Berliner.[25]

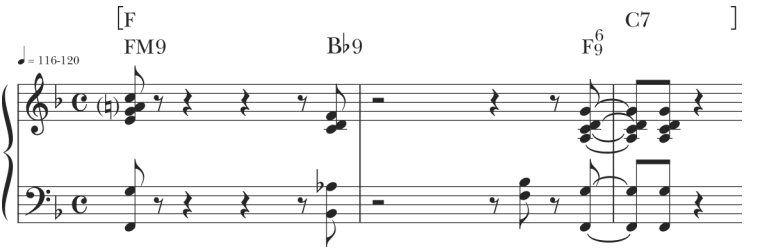


Fig. 6.1. "Bye Bye Blackbird" (Miles Davis, June 5 1956), piano, transcribed by P. Berliner

Here, IV is also transformed into a seventh (harmonic substitution).[26] The progression presented here may occur at the end of a piece with or without this added transformation. The addition of IV after the final first degree (which then is reasserted) acts like a coda. This formula may be called plagal addition.

***Addition by progression of seconds*—**This progression has been amply described by Richard Franko Goldman in *Harmony in Western Music* (1965).[27] Jean-Jacques Nattiez expresses it as a rule of anticipation:[28]

V may be added before vi;
ii may be added before iii;
IV may be added before V;
iii may be added before IV;
vi may be added before vii.

Except I and ii, all degrees are involved. It seems to me that this rule works for jazz but should be expressed differently, envisaged for use as a continuation as well as an anticipation, and some degrees should be excluded: iii may be added before IV by applying a rule of substitution (known as "diatonic substitution," which will be described later on) to the plagal model. This rule enables the original first degree (I) to change into iii. A similar process occurs for the other pair of degrees separated by a half-tone only (vii before I): the same rule of diatonic substitution enables the fifth degree of the perfect cadence (V) to be converted into vii.

The rule of addition by progression of seconds may also be used as a continuation. Here is a list of the various cases covered by this rule:

ii may be added after I;
iii may be added after ii;
V may be added after IV;
Vii may be added after vi;

I may be added before ii;
ii may be added before iii;
IV may be added before V;
vi may be added before vii.

To sum up, three rules of transformation by addition have been exposed:

- The addition using the circle of fifths may be applied to the model based on the circle of fifths or the model based on a progression of seconds.
- The plagal addition may be applied to any lasting first degree (I).
- The addition using a progression of seconds may be applied to any lasting first degree (I).

These rules are strictly diatonic: the resulting progressions do not display accidental notes. Some additional rules that produce chromatic results will have to be added, but chord substitutions need to be addressed first in order to make these additional rules possible.

2.3.3 CHORD SUBSTITUTIONS

Substitution works as follows: one or several chords (the first degree to be included) or even all the chords in a harmonic formula may be changed for others based on common notes.

The level of differentiation between original chords and their substitutes may be measured based on the number of common notes between the two infrastructures and the number of altered notes in an original chord that are to be found in its substitute. For example, CΔ and Em7 have three notes in common (E-G-B) and no altered notes. If CΔ is changed for EØ, the two chords have two notes in common (E-G) and one altered note (B♭). The term "altered note" is ambiguous, as it may apply (like in the present example) to any degree, although it is normally used only for fifth, ninth, eleventh, and thirteenth degrees. "Altered" must thus be understood in its broader meaning here. "Altered note" seems a better term than "accidental," as it is best to save the latter option in relation to the key in use (B♭ in EØ is an accidental if we are in C major).

Substitutions operate according to a limited number of principles that are implicitly related to three states a chord may be in. As a consequence, three different transformational rules may be expressed, which are listed here based on the level of proximity (from the most remote to the closest) between original chords and their substitutes.

- Diatonic substitution: no altered notes.
- Harmonic substitution: one or several notes of the infrastructure are altered.
- Tritone substitution: one or several notes of the infrastructure and/or superstructure are altered.

***Diatonic substitution*—**At first it consists of substituting a chord for the one located two harmonic degrees above it, bearing in mind that each pair of these chords have three notes in common:

I is substituted for iii;[29]
iii is substituted for V;
V is substituted for vii;
vii is substituted for ii;
ii is substituted for IV;
IV is substituted for vi;
vi is substituted for I.

All the above pairs share three notes and do not display any altered notes. It is also possible to see the substitute as the original plus its ninth or minus its root (Em7 = CΔ9 without C).

The same rule can work the other way around. Indeed, the substitute has been seen as an enriched (or altered) portion of the original chord so far: Em7 = CΔ without C but with the extension D, G7 = Em7 without E but with the extension F, etc.; but is it possible to add a note to the third below the root? A third (A) may be added beneath the root of CΔ, which produces an Am9 chord where the ninth can be kept or not. That way, I is substituted for vi (which, in the case of a perfect cadence V-I, substitutes it into an interrupted cadence V-vi). Here are the options if we generalize that principle:

I is substituted for vi;
vi is substituted for IV;
IV is substituted for ii;
ii is substituted for vii;
vii is substituted for V;
V is substituted for iii;
iii is substituted for I.

Though less frequent, this way of operating the rule should not be seen as any less important than the other.

***Harmonic substitution*—**Harmonic substitution consists of changing the quality of a chord, that is to say altering one or several notes of the infrastructure. The most common use of this rule produces secondary dominants: in sequences based on fifth relations expressed by functional degrees (I-IV-vii-iii-vi-ii-V-I), this consists of transforming any of the chords preceding V (except IV), that is to say either vii, iii, vi, or ii (all chords with minor thirds) into a seventh chord:

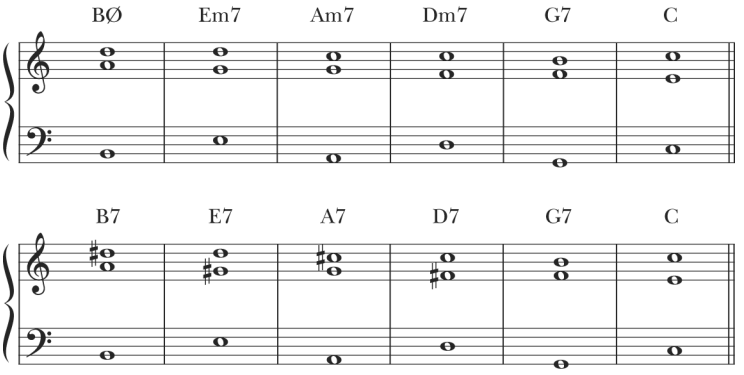


Fig. 6.2. Diatonic and chromatic circle of fifths

ii is turned into IIx (V of V), vi into Vix (V of ii), iii into IIIx (V of vi), and vii into VIIx (V of iii). This way of conceiving such chords has led to the following figuring convention: V/V, V/ii, V/vi, etc.

The sequence in figure 6.2 appears (in C major) if we turn all the degrees involved into their secondary dominants (IV is theoretically excluded because of the diminished fifth interval existing between the roots of IV and vii): B7-E7-A7-D7-G7-C. It appears that the two countermelodies formed by the alternating thirds and sevenths become chromatic, whereas they are diatonic in the original version, of course.

This discussion brings back the debate on the structuring or resulting nature of harmony in relation to voice leading. In the present case, it is considered that the possibility to make the voice leading chromatic results in the creation of "secondary dominants."

Harmonic substitution has uses other than secondary dominants. Potentially it can apply to chords of any quality in order to substitute them for chords of any other quality. This is what happens in the real practice of musicians. The pianist Bill Evans, for example, uses major seventh chords in lieu of minor seventh chords or sevenths on a habitual basis, which is a defining trait of his harmonic style.

***Tritone substitution*—**Strangely (one might be tempted to say), this substitution is often presented as the jazz substitution par excellence. It is also associated with modernity, as it was introduced, allegedly, by bebop's advanced harmonic features.[30] This way of presenting it is not only historically dubious but also minimizes the importance of the two previous substitutions, which, in my opinion, have played a greater role in the building process of the system.

Tritone substitution results from the possibility of altering the dominant chord (and its inversion). The thinking process goes as follows:

A dominant chord G7 in a perfect cadence may be:

enriched with a ninth, eleventh, and thirteenth; it then becomes G13 (G-B-D-F-A-C-E);
altered (A becoming A♭ and A♯ and C becoming C♯); the chord becomes G13 (♭9♯9♯11): G-B-D-F-A♭-C♯-E-A♯.

If one accepts the following enharmonic equivalences: C♯ = D♭, B = C♭, D = E-double♭, and A♯ = B♭, the altered chord obtained in the second step may be inversed into a morphologically identical chord located a tritone away:

G-B-D-F-A♭-C♯-E-A♯ = D♭-F-A♭-C♭-E♭-G-B♭-E.
Or G13 (♭9♯9♯11) = D♭13 (♭9♯9♯11).

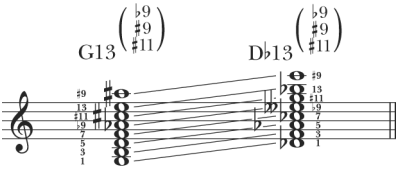


Fig. 6.3. The two chords of the tritone substitution

It is noticeable that within and between these chords, degrees work in pairs:

1–♯11
3–7
5–♭9
♯9–13

Within each pair of chords, the degrees in both are spaced one tritone away and mirror each other, as shown in figure 6.4.

The same process works for a chord limited to six sounds rather than eight [G7(♭9♯11) = D♭7(♭9♯11)] but the symmetry disappears with four sounds (1-3-5-7). However, even when "isolated," the pair 3–7 (decisive for the quality of any four-sound chord), B-F in G7 and F-C♭ in D♭7, is responsible for the generalization of the rule.

The "loose" use of a rule manifests itself blatantly here: in two very particular cases (a seventh chord enriched up to the thirteenth with a doubly altered ninth and altered eleventh, on the one hand, and the seventh with altered ninth and eleventh, on the other hand) the tritone substitution is acceptable because it is a pure inversion with neither removal nor addition of notes (providing enharmony is admitted). A debatable generalization has stemmed from these cases, resulting

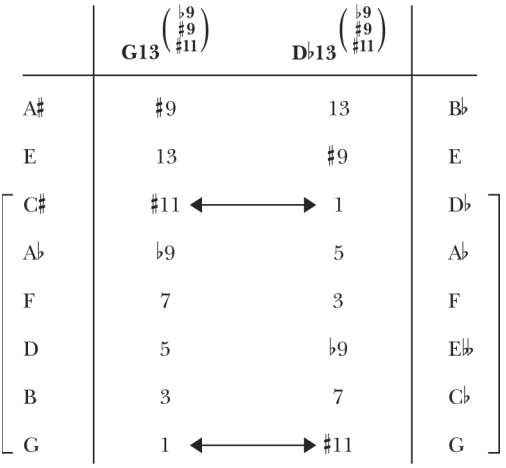


Fig. 6.4. Tritone symmetries

in the application of the rule to the seventh chord in general, whether altered (in whatever way) or not and whether enriched or not. So the rule is expressed as follows: The seventh chord may be replaced by the same chord three tones away. Of course, this rule applies to the fifth degree of the perfect cadence primarily. It produces a version of the perfect cadence in which the descending fifth interval is replaced by a minor second with a descending chromaticism, which is clearly very interesting.

The thought process goes even further, as the next step involves the generalization of the rule to secondary dominants. It was already possible to use the same process to turn progressions by fifths into chords: B7-E7-A7-D7-G7-C (in C major). Now with a tritone substitution on every other chord, one gets either F7-E7-E♭7-D7-D♭7-C or B7-B♭7-A7-A♭7-G7-C, i.e., descending chromatic progressions that involve not only the thirds and sevenths as before but also the bass itself.

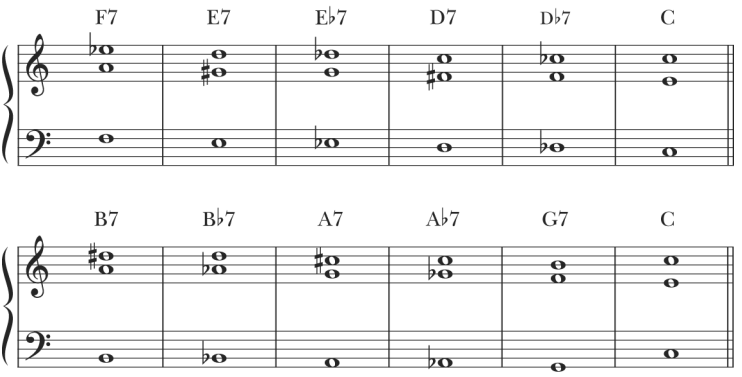


Fig. 6.5. Circle of fifths with tritone substitutions

Tritone substitutions may also be applied to all secondary dominants in order to get F7-B♭7-E♭7-A♭7-D♭7-C, i.e., a displaced circle of fifths (which corresponds to the progression from one secondary dominant to the next in G♭):

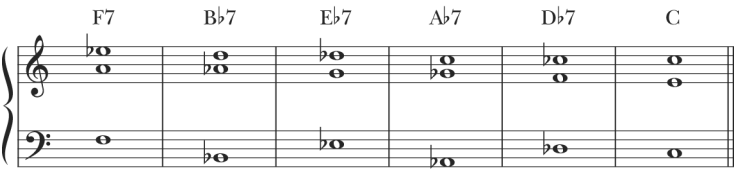


Fig. 6.6. Displaced circle of fifths

In both of these two ways of applying the rule (the substitution of the dominant chord in general, and the substitutions of secondary dominants), it is not a pure inversion that takes place anymore (except in the two very particular cases mentioned before: G13[♭9♯9♯11] and G7[♭9♯11]) but the defining notes of the chord—the third and seventh—remain identical (enharmonically): they are simply reversed. Consequently, the quality of the chord remains unchanged: the "seventh" quality remains despite the chord substitution. However, a third step consists of replacing chords of any quality by another of any other quality whose root is placed three tones away. In this case, everything becomes possible including changing one or two notes that correspond to the third or seventh, which changes chord qualities drastically. This use of the rule allows the transformation of the progression based on I-vi-ii-V, for example (in C major): C-Am7-Dm7-G7-C becomes C-E♭Δ-A♭Δ-D♭Δ-C, which is commonly done by bebop musicians such as Tadd Dameron or post-bop musicians like Bill Evans. Two minor seventh chords and the dominant chord have been replaced by major seventh chords. However, it is worth noting that these uses that stretch the original rule do not necessarily involve an increase in the number of altered notes by comparison with the original chord. The example above shows that new roots have been created but the countermelodies of thirds and sevenths are diatonic. If Am7 and Dm7 had been turned into secondary dominants (A7 and D7) before replacing everything with seventh chords, the result would have generated accidentals in the countermelodies as well as different roots:

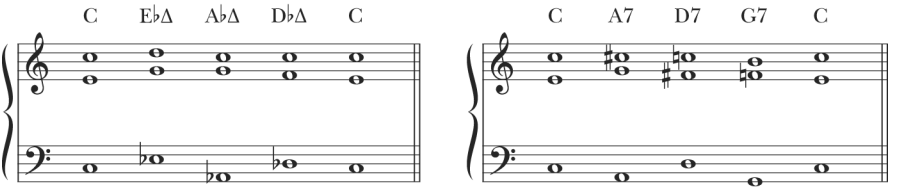


Fig. 6.7. Countermelodies in two modified I-vi-ii-V changes

The observation of the rule of tritone substitution displays a good example of the type of harmonic thought process practiced in jazz, where a "loose" understanding of a rule plays a remarkable part.[31]

All three rules of substitution may now be summed up as follows:

Substitution	Original Chord	Possible Substitutes
Diatonic	C	Em7 • Am7
Harmonic	C	C7 • Cm7 • CØ • C° • CmΔ
Tritonic	G7	D♭7 • D♭Δ • D♭m7 • D♭Ø • D♭° • D♭mΔ

Fig. 6.8. Substitutions

Finally, let us note that substitution rules are not to be confused with addition rules: the substitute replaces the original chord. They do not coexist. However, there are exceptions to this principle in practice.

2.3.4 ADDITIONAL ELEMENTS

There are cases where the introduction of chromaticism induces the addition of new elements to the main structure of the grammar as it has been presented so far, with rules for chord transformation and substitution as well as addition of chords to the models.

Removal of the root in an altered chord—There is a variant in how the rule of diatonic substitution applies when the original chord is already altered. We have seen that the removal of the root is at the heart of this mechanism: the chord on the first degree is enriched with the ninth (Cmaj9). If the root is removed, the chord becomes Em7 (i.e., degree iii). The same mechanism can apply to altered chords, especially the dominant chord of the minor key: G7(♭9), which may be found in the major key (yet another harmonic cliché in jazz). The removal of the root results in B°, which is the seventh degree of the same (harmonic) minor key. It is not appropriate to call this a diatonic substitution as chromaticism occurs. As a consequence, this may be called a substitution by removal of the root in an altered chord. However, it is not appropriate to see it as a separate rule, either; it is merely a variation on diatonic substitution. In particular, it is to be found in a harmonic cliché that modifies the model of progression by seconds.

In the I-ii-iii model, the two chords preceding the two minor chords ii and iii in the circle of fifths are added before ii and iii (anticipation):

I-vi-ii-vii-iii
C-Am7-Dm7-BØ-Em7

The two added chords then become seventh chords (and, as a fact, secondary dominants) following a process of harmonic substitution:

I-VIx-ii-VIIx-iii
C-A7-Dm7-B7-Em7

The same chords are then enriched with the ninth, which is altered (minorized):

I-VIx-ii-VIIx-iii
C-A7(♭9)-Dm7-B7(♭9)-Em7

An ascending chromatic bass line and another harmonic cliché are then obtained by removing the roots of the same two chords:

I-♯i°-ii-♯ii°-iii
C-C♯°-Dm7-D♯°-Em7

Virtual modulation[32]—Having the option of secondary dominants modifies one of the rules concerning the addition of chords. Indeed, according to the rule of progression by circle of fifths, any degree may be preceded by the one that directly precedes it in the circle of fifths so ii may be added before V. If the rule of harmonic substitution then is applied to ii, the result is IIx. Mixing both processes results in the possibility of considering any degree a virtual first degree (I) that is preceded by its dominant, which then earns the status of secondary dominant. This option is mostly used for the fourth degree (IV) and the plagal model I-IV-I, where the chord preceding IV is already the one that precedes it in the circle of fifths, but it is also possible to break the first degree (I) into I-I-IV-I and apply the harmonic substitution to the second I, which becomes V of IV. This leads to one of the most common harmonic clichés:

I-Ix-IV-I
thus
C-C7-F-C

This principle may be extended further still if a degree is added before Ix again, not in the original key (C) but in the "virtual" key (F). This way, Gm7 is added before C7 as "ii of IV"; it would be possible to go on like this with a third, fourth, or more additions, but in practice musicians tend to stop at this stage. The harmonic formula is now this:

I-vm-Ix-IV-I = C-Gm7-C7-F-C

Minorization of the fourth degree and coda form

Both the vertical (harmonic) and horizontal (voice leading) approaches of harmony have been mentioned before. Generally, and according to what seems to be the practice of jazz musicians, I have favored harmonic thought processes so far, while pointing out here and there that the same result can be obtained by focusing on voice leading and then deducing the resultant harmony. However, there are cases when only horizontal thinking operates, for example, when inserting a minor chord between IV and I of a plagal cadence. Indeed, on the fourth degree (F) the pitch A has a tendency to anticipate its resolution process toward the G of the first degree (C) in order to produce an A♭ and thus a transition chord: Fm. I simply do not see how to explain the occurrence of that chord outside of a process of voice leading, where harmony results from melodic motion.

The combination of these two changes to the plagal model produces what Julien Falk has called the *coda form*:[33]

C-C7-F-Fm-C

Here is his description of it, using traditional terminology: "The traditional coda form involves a passing modulation in the key of the fourth degree, which is sometimes followed—if the exercise is in a major key—by a borrowing to the direct minor key." This is sometimes referred to as "Columbus" in jazz jargon, in reference to the theme of Chu Berry's "Christopher Columbus,"[34] which is based on this progression.[35]

Appoggiatura—The appoggiatura rule is the final one to present. It is not related to any particular model and may be applied to any of them, as it mostly involves the first degree. It operates as follows: a given chord may be preceded by a diminished chord on the same degree. The diminished chord has a very special status in jazz harmony. Most of the time it occurs as an altered dominant without its root, as seen in the formula presented above (p. 125). The appoggiatura case is totally different: the affected chord (C° before C) is in no way the dominant (G7) without its root, no matter how the fifth degree has been altered.

So here are the five additional elements to add to the table:

- The removal of the root of an altered chord (variant of the diatonic substitution) is to be added to the rules of chord substitution.
- Virtual modulation allows for chords that are not on first degrees to be considered virtual first degrees and be preceded by V and ii (and possibly other chords further up in the circle of fifths) in the virtual key concerned.
- The minorization of the IVth degree consists of inserting an ivm chord between the IV and I degree of the plagal model.

- The combination of the two previous rules creates a harmonic formula or cliché called coda form.
- The appoggiatura allows use of the diminished chord on the same root as the first degree before the first degree takes place.

2.3.5 RELEVANCE AND INTUITION

The formalization that we have come to involves three models and nineteen rules of transformation grouped in three types. These guidelines for harmonic analysis in tonal jazz are the result of wide personal experience in practical analysis. Of course, other ways of handling this matter would have led to other models and rules. So how are these models and rules to be appraised? Beyond logical consistency, the main criterion has to be effectiveness, as the idea is to provide a tool for analysis. As a result, it has been necessary to limit the number of models and rules to a strict minimum. On the other hand, the risk exists of having created an all-conquering tool, so powerful that it could explain anything and its omnipotence actually compromise its capacity to operate.

This danger manifests itself at two levels. For example, it is possible (and constantly tempting) to reduce any chord progression to a perfect cadence based on a relatively small number of transformational rules. On top of this, some chord progressions may be related to several different models. This may lead to developing two parallel explanations simultaneously, but this is neither necessarily inconsistent nor a sign of the ineffectiveness of a tool. On the contrary, it may reveal how analysis can highlight an ambiguous feature of the harmonic system itself that needs to be taken into account in order to understand the system correctly rather than concealed to preserve the tool's effectiveness.

As it has been presented, this tool can also explain virtually any chord progression, which may not be a good thing.[36] Indeed, even in quite orthodox tonal situations, accidents (as in the occurrence of one or several chords that are not exactly where or what they should be) often (and possibly always) happen. These accidents often reveal the uniqueness of a musician's harmonic style (Thelonious Monk being the obvious case that comes to mind). It is always possible to explain deviations, but good analytic understanding would suggest that it is better not to do so, in order to cast light on various levels of harmonic construction.

How can we overcome this paradox? An indefinable rule based on relevance probably needs to be added to the existing tool. A good explanation gives an account of the reality of a situation even if this situation is perceived as muddy. However effective a tool is, it cannot eventually fully grasp how complex a situation is. Here lies the value of analysis: a tool is at the analyst's disposal, but it can only operate well when guided by intuition. The intuitive capacity of the analyst is the only criterion to which the "rule of relevance" applies. Attention to this rule may help us avoid a pitfall mentioned by Yizhak Sadaï (if we change the word

"theory" for "the effectiveness of a tool" in the following quote): "It has to be said that since the Schenkerian era for example there is a tendency to confuse what the *analysis* of musical work could be—i.e., the description and demonstration of what is specific about this work—and what is merely the *demonstration* of a theory through the 'analysis' of a chosen work."[37]

2.4 Examples

What concrete outcomes can we expect from the use of the grammar suggested here? Here are a few examples (and a counterexample) that can be read from top to bottom (from the example down to the model, which is what the analyst does) or bottom to top (from the model up to the example, which is what the performer or arranger does).

2.4.1. EXAMPLE 1: I-vi-ii-V CHANGES BY BILL EVANS

This first example deals with a variant of the harmonic sequence of reference I-vi-ii-V that Bill Evans was very fond of (shown in fig. 6.9 as vi-ii-V-I).

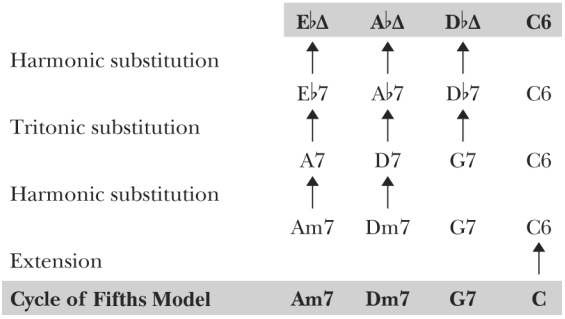


Fig. 6.9. vi-ii-V-I changes by Bill Evans

2.4.2 EXAMPLE 2: "EASY LIVING" (RAINGER-ROBIN), BEGINNING OF A

Two models are used one after the other here: the progression by seconds and the plagal model.

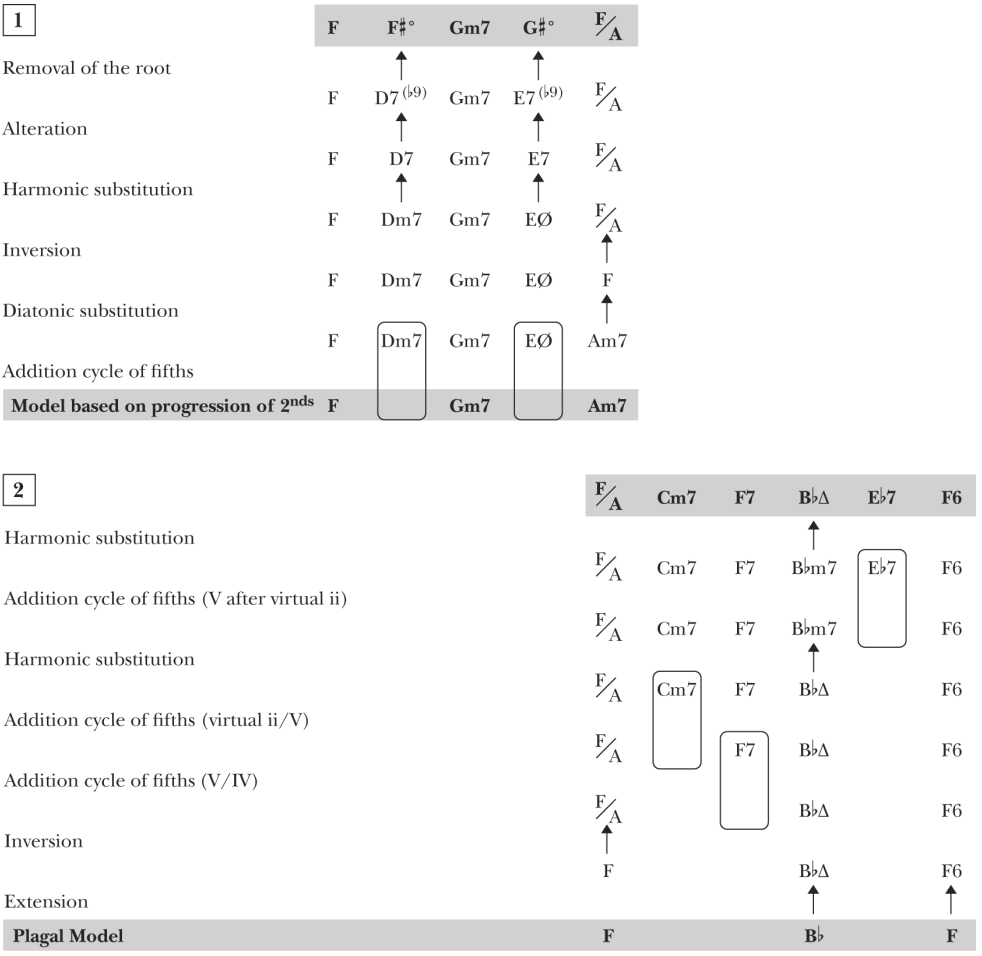


Fig. 6.10. "Easy Living" (Rainger–Robin), beginning of A

2.4.3 EXAMPLE 3: "MY ROMANCE" (RODGERS-HART), BEGINNING OF A

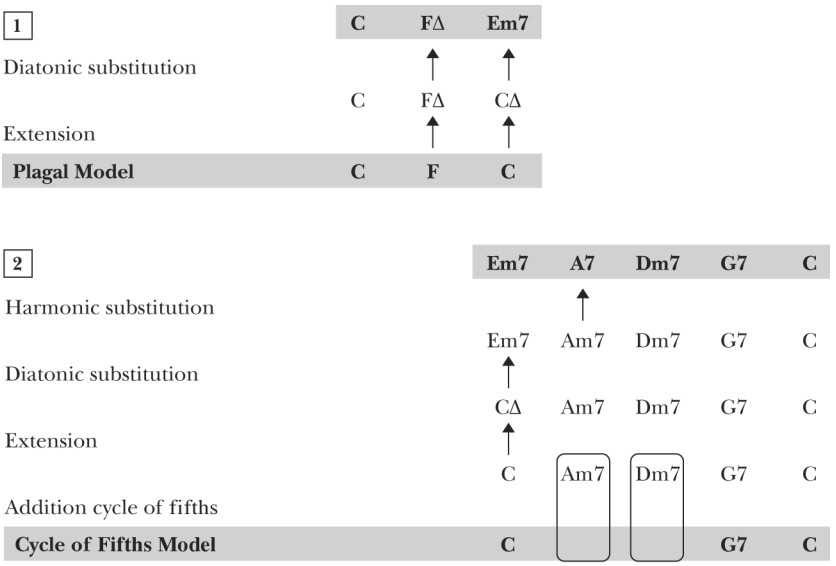


Fig. 6.11. "My Romance" (Rodgers–Hart), beginning of A

2.4.4 COUNTEREXAMPLE 4: "COUNTDOWN" (JOHN COLTRANE)

I think it useful to show an example of the limits to the use of this grammar. Let us look at the famous new harmonization of Miles Davis's "Tune Up," which became "Countdown" after John Coltrane's harmonic transformation.

The original sequence Em7-A7-D (ii-V-I in D major), which is perfectly ordinary, becomes Em7-F7-B♭Δ-D♭7-G♭Δ-A7-D after Coltrane's harmonic treatment.

A long sequence of four chords has been inserted between the first and second terms of the original sequence. With a repeated use of additions and substitutions, one could imagine being able to make the link between the model and the modified sequence—as is always possible—but I believe that it would be wrong because this case displays a true *new harmonization*. Coltrane's system of modulation using ascending and descending major thirds has been widely commented on by others and, of course, this is an example of it. The keys of B♭

and G♭, both expressed in a V-I progression, have been added before the V-I in D, which creates a sequence of three sounds that are a descending major third away from each other.

Identifying a process of reharmonization does not really indicate that the suggested grammar does not work. It is not an effective grammar here because of the nature of reharmonization itself, which involves rewriting the harmonic text while the grammar presented here has been conceived for cases where simple harmonic texts are transformed without changing their elementary architecture. Of course, the line between the two scenarios is a fine one and it can be difficult to appraise when the use of the grammar is appropriate. It is part of an analyst's work to rule on this but normative rules will not be of any help here; the decision is down to an analyst's musical appreciation of the situation and the work as a whole.

2.4.5 EXAMPLE 5: THE I-ivm-♭VIIx-I PROGRESSION

To finish this point, it is worth looking at this very common progression to show how effective the grammar can be at giving an account of ambiguous situations.

In an article published in 1989,[38] Gary Potter focuses on the ♭VIIx chord (B♭7 in C major). He first notes that this chord is a feature of bebop harmony and that it is very rarely found before this style developed. He then notices that this chord appears mostly in the I-ivm-♭VIIx-I progression and wonders about the nature of the chord in this progression. It seems clear that the only reasonable option consists of considering this chord the result of a substitution and then finding which chord it replaces in order to identify its function. Based on a strong intuition, Potter starts from the assumption that this ♭VIIx chord acts like a dominant rather than a subdominant as could be first thought, so he looks for proofs that would fuel this hypothesis. He eventually manages it through a brilliant, though ultimately not totally convincing, thought process.

It seems to me that the analytical possibility exists to not decide one way or the other and, rather, to highlight the strong ambiguity of the chord considered. What solutions can our grammar offer in this case?

The first and most obvious option consists of a variant of the plagal model:

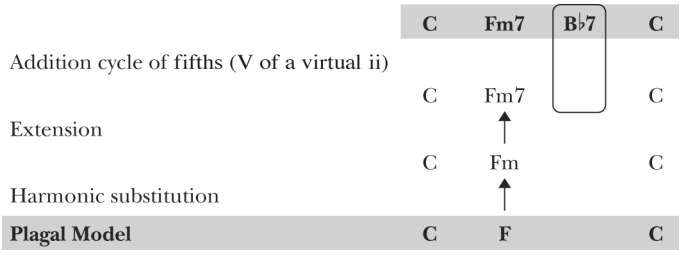


Fig. 6.12. The I-ivm-♭VIIx-I progression

It is also a variant of the minorization of the fourth degree (second part of the coda form,[39] except that the major fourth degree has been removed and only the minor fourth degree remains). My belief is that this progression truly works like a plagal model: B♭7 is inserted and connects the E♭ in Fm7 with the C in the C chord via a D note. However, the intuition that B♭7 could behave as a dominant does not seem unreasonable to me. Of course, Potter notes the symmetry with the real ii-V (Dm7-G7) and even more with its minor equivalent Dm7(♭5)-G7(♭9). Indeed, there are two sequences of substitutions that could give an account of that process.

The first case consists of a transfer from ii-V in C (Dm7-G7) to Fm7-B♭7 in E♭. It is easy to explain for the first chord: Dm7 is turned into FΔ by diatonic substitution and into Fm7 by harmonic substitution, but only the first process works for the second chord: G7 becomes BØ via a diatonic substitution, but it is very difficult to then transfer to B♭7 without resorting to hardly defensible twists. The problem lies in the fact that the tonic of B♭7 is B♭, not a natural B, which makes the transfer from one chord to the other impossible. This B is, of course, the missing leading note in B♭7. This missing note is the reason why I cannot fully subscribe to the idea that we are facing a substitute of the dominant, and I support the argument in favor of the subdominant more.

The second option consists of considering Fm7-B♭7 as a real ii-V progression in a modulation that is not carried out. If the modulation was carried out, Cm would be the diatonic substitute of E♭ in C minor.[40] Cm could then be turned into C by means of a harmonic substitution.

However, this second scenario does not explain the missing leading note any better. I believe that we are faced with the exact situation mentioned above about borrowings and modulations, where it seems best to give a fair account of an ambiguity rather than decide between two options in a simplistic manner. However, Potter prefers one option to the other:

> The aural effect of the three-chord unit, ivm7-♭VII-I can be described: subdominant minor seventh moving down by fifth to a dominant seventh structure which then resolves to I. As such it resembles the ubiquitous iim-V-I so closely that it is heard to do the same job. B♭7 works as a dominant, then, because "his iim7 (Fm7)" is functionally equivalent to *the* iim7 (Dm7).[41]

This statement is problematic in several ways: Potter says that a dominant structure [B♭7] resolves to the first degree, without giving any more details. Yet, a resolution with the leading note missing is a particularly odd one. As for the similarity between the two "iim7," it is clearly there but in itself it does not entail the status of dominant to be granted to the following seventh chord. The resemblance is strong, indeed, but not perfect; and that it is enough reason for me not to jump to the conclusion that it is thus acceptable to assimilate this chord to a

dominant. As a fact, it is not a dominant, and it is best to keep a fair picture of the situation by taking its ambiguity into account.

3. OTHER ISSUES

3.1 Issue with Minor Keys

There are interpretation and figuring issues associated with minor keys. Again, John Mehegan offers a consistent solution:

> The following minor scales are the frame for most "classical" music: 1. Harmonic minor . . . 2. Natural minor . . . 3. Melodic minor. . . . Of course, the most effective "vertical" sounds are derived from the harmonic minor. However, the use of the ♭6 in the bass line destroys familiar patterns such as I-VI-II-V. To avoid this, minor jazz harmony has evolved as follows:
>
> Bass line—ascending melodic;
>
> Inner voices—harmonic minor.
>
> Combining these two elements, we derive the following minor-scale tone chords in C minor.[42]

Following this principle, here are the various qualities that minor chords can have:

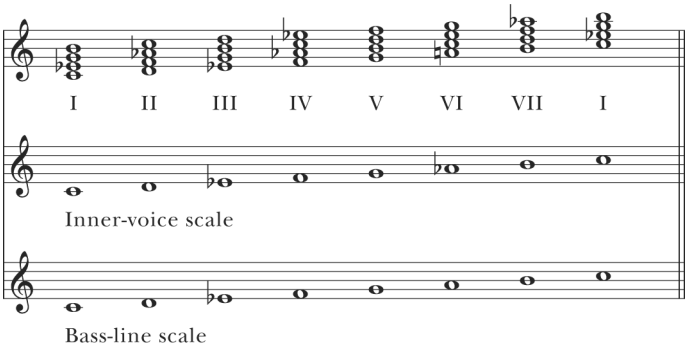


Fig. 6.13. John Mehegan: minor keys

i	Minor major seventh
ii, vi	Half-diminished
III	Major seventh with augmented fifth
iv	Minor seventh
V	Seventh
vii	Diminished

Two additional qualities appear that the major scale does not produce: "minor major seventh" (i) and "major seventh with augmented fifth" (III). Mehegan chooses to see these two qualities as two categories in their own right. He calls the first one "minor large" (notated "mL") while the second quality is granted the "M+" symbol. It would seem logical to add these two qualities to the five previously identified, making it seven in total, but Mehegan does not go back on his list of five and leaves the issue in the dark. I have suggested seeing the first quality as a specific category (notated "mM") to be added to the original five.[43] But it seems to me that the second additional quality is an alteration of the "major seventh" quality. Consequently, this scenario does not create any additional quality to the six that I have already identified.

Because the minor mode is a late addition to the tonal system, it is not realistic to hope to find a simple and consistent solution comparable to the model in major. The solution has to be a compromise and John Mehegan's seems relatively appropriate to me. At least it allows a figuring system to fulfill its purpose, which consists of describing a harmony in a synthetic and yet not simplistic way. This creates a suitable basis for proper analysis. As noted by Mehegan, his system offers a particularly satisfying description for the sixth degree: his argument on the i-vi-ii-V formula is confirmed by experience; it is, indeed, the most common type of chord changes in a minor key.

Some issues remain with regard to equivalences of chord qualities and figuring conventions. The problem is even more complex than in major. For example, the first degree can be expressed in four different ways:[44] Cm, Cm6, Cm7, or CmΔ in C minor. Mehegan chooses a consistent way of using his method: in his opinion, only CmΔ corresponds to the first degree, so only this chord may be notated "I." An additional symbol is needed for the others: Im for Cm7 and Im+6 for Cm6. He does not address the case of three-sound chords, despite the fact that it is one of the most common, especially when they are enriched: Cm(add9) (C-E♭-G-D).

It would seem logical, though, that all four chords are notated "i." Indeed, the idea behind this figuring system is that any addition of a symbol indicates an alteration (an accidental). Yet, all the tones in these chords belong to at least one minor key in all four cases. This is a typical unsolvable case. Either one chooses a systematic way of thinking (a figuring corresponding to one chord only), but some largely arbitrary choices will have to be made (this is Mehegan's option); or one decides that the figuring must reflect the complexity of the situation, the counterpart being that it will have to be polysemic. I prefer the second option. Cm, Cm6, Cm7, or CmΔ may be figured "i." For Cm6, Cm7, or CmΔ *and depending on the situation*, one may choose to add a symbol indicating their quality: CmΔ (imM), Cm7 (im) and Cm6 (im6). So both the "loose" way of ruling and intuition play a part here. As a general rule, consistency guarantees the relevance

of a descriptive system; but when a conflict arises and cannot be solved, I believe that priority must be given to relevance over purity.

3.2 Identifying Tonal Areas

As seen previously, chords are elementary harmonic units that combine in sequences derived from identified models. These sequences then are linked to each other to create syntagmatic units at a superior level. Keys, key changes, borrowings, and modulations allow us to identify where these units start and finish.

In this area, the harmonic analysis of jazz has much in common with classical analysis. The main difficulty tends to take place prior to the analysis itself and consists of identifying the harmonic environment with certainty. Indeed, a tonal environment in jazz is very often "contaminated" by others from time to time, mainly by blues. An error in identifying the situation correctly may lead to harmonic misinterpretation. The type of repertoire that one is dealing with provides useful information on that front. Tin Pan Alley repertoire as well as standards from musicals—which are widely used by jazz musicians—tend to be tonal in a relatively pure and elementary way. However, external influences (especially from jazz and blues) may occur. Compositions produced by jazz musicians tend to be more open harmonically and often display hybrid situations.

Harmonic analysis of standards is usually simple because the material itself is simple. In this repertoire, harmony is generally very linked to form. As seen previously, the two most common forms are AABA and ABAC. It is rare to encounter modulations in the A part of AABA. On the contrary, B is nearly always modulating either to neighboring or very remote keys. Modulation often occurs abruptly and is only prepared for by the dominant chord of the new key. At the end of the B section, the return to the original key is usually more prepared and incremental using a series of pivotal chords. In general, ABAC modulates less often. When they occur, modulations take place in the B and C sections and use neighboring keys.

A basic analysis of tonal areas is usually enough when the analyst's purpose is to understand synthetic chord changes without looking at a specific realization of it. In this case, the work consists of identifying the main key and then appraising all alterations to see whether they are accidental or lasting. *Borrowing* may be the adequate (though not very popular anymore) term to use for the intermediary category between the main key and a modulation. The case of the secondary dominant in a circle of fifths is typical: should a V of V (IIx, i.e., D7 followed by G7 in C major) be considered a borrowing to the neighboring key, presenting one more alteration (here G major with F♯)? It may not be necessary to set up precise criteria to decide between passing and lasting alterations, as

well as borrowings and modulations. Here are the important features to note in the current example: F♯ in D7 is an alteration; it may be produced by a melodic motion; it changes the quality of the chord to a dominant; it turns this chord into a secondary dominant, which can be interpreted as a V of the next chord, which in turn allows one to see a move toward the neighboring key of G major. Main key, borrowing, and modulation make up categories that are not discrete units; they are rather moments in a continuum whose borders are unclear and may overlap.

CHAPTER 7

Harmony 3—Harmonic Situations: Blues, Modality, Non-functionality

A whole chapter is devoted to the tonal situation because it holds a prevailing place in jazz. Also, its principles are the most complex and have been subjected to numerous theoretical constructions.

However, jazz harmony is not limited to tonality, and this chapter is dedicated to the presentation of three alternative systems that may be used separately or in conjunction with each other. Indeed, jazz harmony is rarely "pure" and often mixes several systems: blues, modality, and non-functionality.

1. BLUES

"Blues" can mean lots of different things, which can be confusing. It can apply to:

- A *type of music* that comes in a variety of styles, based on geographical (delta blues, Chicago blues, rural blues, urban blues, etc.) or historical criteria (primitive blues, classical blues, classic blues singers, boogie-woogie, modern blues, etc.).
- A *form* characterized by a metric grid (most of the time, twelve bars in three lines and a given pattern of harmonic progression).
- A *harmonic situation* that involves several features: blue notes, a certain scale, and certain chord qualities.
- A *melodic ethos* that involves a number of melodic turns of phrase in which blue notes play a dominant part.
- A certain *affect* or spirit (*pathos*): Billie Holiday embodies the spirit of blues even when she sings compositions that have nothing to do with it. This spirit is made of specific inflections and accents as well as a specific conception of sound and expression.

"Not that the Blue Devils were just playing the blues. They were not really playing all that much blues that night. But they were still bluesy. But the main thing about that band was that they had their own special way of playing anything."[1]

This chapter will mostly focus on harmonic matters: the blue notes as well as the scale and chord qualities used. However, these are also closely linked to formal matters.

In which order should these matters be addressed? In blues as a type of music (leaving aside the issue of blues within jazz), the system is defined by three elements:

Harmony: a tune accompanied by chords most of the time;
Sound: sound seems to be understood in a "non-Western" way: pitches are bent, degrees are more mobile and, generally, particular attention is paid to the sound quality, which appears less pure or more loaded;
Scale: a specific scale can usually be identified, and it carries a lot of the character associated with blues.

All three elements are heavily intertwined and cannot be treated separately. The usual method of approach consists of identifying a scale associated with blues and from which all the other features stem. This is too simplistic and could lead to vague interpretations.

The harmonic element appears straightaway in the usual tunes sung and accompanied by a harmonic instrument. However, melody and harmony appear to have a conflicting relationship; or, at least, the organic relationship between these two dimensions in tonal music does not exist in blues. Gerhard Kubik, the specialist of African music who has carried out the most in-depth studies on blues and its African roots, says: "There is much to suggest that some of the early blues were based on a continuous bourdon-like tonal center without any notion of change between tonal steps, without any so-called 'root progressions' to use John Blacking's terms."[2]

Also, a different approach to sound with less stable degrees is immediately obvious. It partially resolves the previous issue: "Western categorizations tend to obscure the integrity of the blues singers' pitch resources and patterns. It is therefore necessary to abstract the vocal lines from their accompaniment by instruments tuned to the Western scale, and so look at the vocal lines and their tonal system in isolation."[3]

As a consequence, the identification of the appropriate scale (usually referred to as the "blues scale") is closely related to this approach to sound. Besides, it is important not to try to deduce the scale from a chord system or even to link them together. In order to establish the harmonic system in use, the nature of the blue notes and degrees must be investigated first, before moving on to the scale.

1.1 Blue Notes

The concept of blue note is very old. It is much older than jazz and, so to speak, even blues itself. It is discussed in the form of an interview of an imaginary African American musician in one of the first published texts where the word "jazz" appears (1915):

> "A blue note is a sour note," he explained. "It's a discord—a harmonic discord. The blues are never written into music, but are interpolated by the piano player or other players. They aren't new. They are just reborn into popularity. They started in the south half a century ago and are the interpolations of darkies originally. The trade name for them is 'jazz.'"[4]

The number and status of blue notes are controversial matters. So far, they have been envisaged mostly as part of discussions on the scale (though it seems more promising to proceed the other way around) and have been perceived as defective: it is alleged that some tones are "missing" compared to the Western diatonic scale, and blue notes are the ones that deviate; they are characteristic "inflections" that provide the blues "color." From a methodological point of view, it seems best not to think of the blues scale in reference to any other, whether European or African (this involves genealogical matters that we are not discussing now), but rather to observe how it behaves in blues music itself (before looking at its behavior in jazz).

In all cases, the status of blue notes need to be sorted out before engaging with the scale. The flexibility of tones needs to be addressed first. It is clear that the frequency of pitches varies in blues and that the appreciation of pitch is different or possibly irrelevant. How can flexibility be taken into account and, above all, how can it be integrated in a scalar system?

"Deep South blues singers speak of 'worrying' or 'bending' the notes of the voice or on an instrument such as a guitar. These worried or bent notes are usually the third and seventh (and sometimes the fifth) of the Western diatonic scale. David Evans suggested that blues musicians proceed from an awareness of *flexible pitch areas*."[5]

The notion of flexible pitch areas seems perfectly appropriate. It means that some degrees of the scale do not have a fixed pitch; they can vary within the limits of an identified interval. They may be called "flexible degrees."

The next step involves identifying these degrees. Kubik suggests the third and seventh as well as possibly the fifth. Things prove more complex, for observation reveals that the third degree varies within a semi-tone but the seventh varies a lot less or not at all. As a result, everyone agrees that the third and seventh degrees provide blue notes, but that agreement cannot be based on the notion of flexibility.

The only common point that these degrees share is their difference from other scalar systems, which takes us back to the defective approach we are trying to avoid. Yet, it is hard and in fact inconceivable not to think of the seventh as anything else than a blue note, partly because this idea is deeply rooted in people's minds but also because it is actually greatly associated with the character or *ethos* of blues. So let us set two blue notes for now:

- The third (blue note 3) is undeniably a flexible degree. In C, it navigates between E and E♭.[6] These two pitches, as well as all intermediary ones, express the same note or degree in the situation of blues. The pitch variability of this blue note has often suggested a tonal ambiguity of blues mixing major and minor modes. This view can be argued from the point of view of perception, but less so harmonically. It seems to me that it is a melodic phenomenon that can only subsequently find a harmonic interpretation.
- The seventh (B♭ in C, which may be called "blue note 7"), which is not a flexible degree.

There is a great deal of debate with regard to the qualities or even the existence of a third blue note on the fifth degree.[7] However, it is easy to agree that there is definitely a "flexible pitch area" between F and G, and that seems enough to me to validate the existence of a third blue note (blue note 5) with a flexible pitch area of a semi-tone between G and G♭.

1.2 The Blues Scale

Because the definition of blue notes is not absolutely clear, neither is the definition of the blues scale. It varies a lot from one author to the next. Some consider the blue note 7 a flexible degree like the third. However, based on observation of blues as well as jazz, it seems better to me to present the scale as pentatonic[8] with two flexible degrees (3 and 5, highlighted with a square and the alterations mentioned below them showing the interval of variability of the pitch):

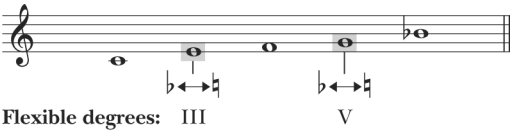


Fig. 7.1. The blues scale

1.3 Chords and Progressions

A chord in original blues has only one quality: the perfect major three-sound chord and the seventh for four-sound chords. In the original progression, only

three degrees are used: I, IV, and V. As long as one is dealing with three-sound chords, it is striking to notice how the mechanisms resemble those of the tonal system. Key chords are the same. Often the first degree becomes a seventh in the fourth bar, which confirms the V of IV function and the resemblance between the two systems. Equally, the tonal direction is pointed at again when V gains a fourth sound. But everything changes when degrees I and IV are treated as sevenths, which is a quality only associated with the fifth degree in tonal harmony. This makes any hypothesis of assimilation impossible.

The link between the function and the quality of a chord, which is organic in a tonal situation, does not exist in blues. Indeed, let us look at the first degree with four sounds: C-E-G-B♭. All four notes belong to the scale as it has been defined. But this is neither true with the fourth degree (F-A-C-E♭), as A does not belong to the scale, nor the fifth (G-B-D-F), which involves a B natural and a D that do not appear in the scale. This lack of organic link between the scale of reference and how chords are built is a fundamental difference between blues and works using the tonal system.

It also seems excessive to talk of a harmonic "system" of blues as it does not seem possible to bring out any consistent set of rules. However, and this is another difference from the tonal system, a single form is associated with the blues situation: an organization, a typical progression that is not a cadence.

This organization comes as follows in what hereafter I will term its "original" presentation:

C	𝄎	𝄎	𝄎
F	𝄎	C	𝄎
G	𝄎	C	𝄎

Fig. 7.2. Elementary chord changes of blues

The addition of a fourth-degree chord in the second bar of the first and third lines produces a model just as common, which can even be used as a first set of reference changes.

C	F	C	𝄎
F	𝄎	C	𝄎
G	F	C	𝄎

Fig. 7.3. Blues reference chord changes

Equally, when the first degree is played with three sounds, the four-sound chord frequently occurs in the fourth bar. Of course, it is very common that all chords are four-sound chords expressed in the single seventh quality.

Before going any further, a formal definition of these reference changes is needed. First, it consists of three lines of four bars each. This organization is responsible for the important articulations. Also, blues is not merely harmonic chord changes with a given metric grid; it is a form in its own right that combines prosodic and musical elements in an intricate manner, and this has to be taken into account. Several structural levels can be observed:

The poetic structure: it is undoubtedly a structure made of three lines of four bars each but its organization differs on the levels of prosody, melody, and harmony.

The prosodic structure: AAB generally. The phrase (either sung or spoken) during the first line is repeated in the second line and a second phrase follows in the third line.[9]

The melodic structure: AAB but often AA'B. The same melodic phrase usually is repeated but may be subject to variation.

The harmonic structure: ABC. As seen above, the three lines have been different from each other right from the most original chord changes. The first line starts with I, the second with IV, and the third with V.

In principle, the material of A in the first line thus is repeated melodically in the second line with identical words but different chords, while the third line is totally new. A structural level below the responsorial mode is constant in all three lines: a typical blues phrase is presented in the first two bars of each line with a usually instrumental response in the next two bars of each line.

These structural levels may be summed up as shown in table 7.

TABLE 7. STRUCTURAL LEVELS OF BLUES REFERENCE CHORD CHANGES

Lines	Bars →	1	2	3	4
↓	**Words**	Phrase A		Instrumental Response	
1	**Melody**	Phrase A			
	Harmony	A			
	Words	Phrase A		Instrumental Response	
2	**Melody**	Phrase A or A'			
	Harmony	B			
	Words	Phrase B		Instrumental Response	
3	**Melody**	Phrase B			
	Harmony	C			

Metric grid: It is surprising to note that the twelve-bar metric grid is always present but does not always take place within a fixed meter. For example, in "Kindhearted Woman Blues" (recorded November 23, 1936) Robert Johnson moves on to the next harmony when he fancies it, which induces constant changes of meter. However, the metric grid remains unchanged. This behavior is frequently observed in bluesmen who sing alone and accompany themselves. It seems to me that this proves the predominance of form over structure and that expression leads the course of the music. Perhaps melody leads harmony, too. Philippe Baudoin argues that the form was crystallized in a metric grid and a fixed meter as soon as the desire to play as an ensemble made it necessary.[10]

These types of organization of the musical course, which can be called original, are to be found nearly unchanged in all variants of blues styles (i.e., those that have been defined as belonging to blues as a type of music). In jazz, however, these models have been greatly altered. Many chords have been added, some have been switched to others, and some have been removed. But, except on rare occasions, an arch has remained between the first degree at the beginning of the first bar and the fourth at the beginning of the fifth bar, which corresponds to the beginning of the first and second lines respectively. All other chords may be modified except those two which make up the universal core, the fundamental harmonic and formal nature, of all blues styles. Besides the first degree (I), IV seems the most important in blues harmony, rather than V. Of course, it is tempting to link the predominance of IV over V to the plagal cadence (known as "amen") in black church music.[11]

1.4 Evolution of the Reference Chord Changes

In jazz, blues harmony first evolved under the influence of elements of tonal harmony, in particular the perfect cadence followed by its by-products from the circle of fifths.[12] The basic chord changes of this hybrid appear as follows:

C	F	C	C7
F7	𝄎	C	Am7
Dm7	G7	C / Am7	Dm7 / G7

Fig. 7.4. Blues chord changes with tonal additions

The first half of the changes remains unchanged, but from bar 8 onward the vi-ii-V-I progression is repeated twice by replacing the original chords. These are the most common changes to be found in bebop blues.

It may be modified in all the ways allowed by tonal transformations of chords described above. The progression known (for reasons that are not clear) as "Swedish blues" is one of the most sophisticated developments. It is heard in Charlie Parker's "Blues for Alice," for example, and can be presented as follows:

C	BØ / E7	Am7 / D7	Gm7 / C7
F7	Fm7 / B♭7	Em7 / A7	E♭m7 / A♭7
Dm7	G7	C / Am7	Dm7 / G7

Fig. 7.5. Swedish blues chord changes

Miles Davis's "Solar" provides another enlightening example of "tonalized" blues:

Cm	𝄎	Gm7	C7
FΔ	𝄎	Fm7	B♭7
E♭Δ	E♭m7 / A♭7	D♭Δ	DØ / G7 (♭9)

Fig. 7.6. Chord changes of "Solar" (Miles Davis)

In this case, only the roots of the chords in the bars 1 (in minor) and 5 of the original changes remain.[13] Very complex changes have been produced in that way, among which the changes of Charles Mingus's "Good Bye Pork Pie Hat" (transposed here in C; the original key is E♭):

C7 / A♭7	D♭Δ / G♭7	B♭7 / A♭7	B♭7 / C7
Fm7 / A♭7	Dm7 / G7	A7 / D7	A♭Δ / D♭Δ
G♭7 / F7	G7 / B♭7	C7 / A♭7	D♭Δ / G♭7

Fig. 7.7. Chord changes of "Good Bye Pork Pie Hat" (Charles Mingus)

It is worth noting that in this version, which is very remote from the original model, the roots of degrees I and IV (bars 1 and 5) just about manage to remain.

Cases where IV does not appear in bar 5 are very rare. Charles Mingus's "Nostalgia in Times Square" (transposed here from F to C) is an example of it:

C7 / B♭7	𝄎	𝄎	𝄎
E♭m7 / A♭7	𝄎	C7 / B♭7	𝄎
Am7 / D7	Gm7 / C7	Fm7 / B♭7	C

Fig. 7.8. Chord changes of "Nostalgia in Times Square" (Charles Mingus)

The fourth degree does not appear in bar 5, but Mingus takes up the original simplicity of the changes again by keeping the same harmony in bars 1, 2, 3, 4, 7, and 8 on the one hand, and 5 and 6 on the other hand.

As for blues in minor, here are the simplest changes to be found:

Cm	𝄎	𝄎	𝄎
Fm	𝄎	Cm	𝄎
G7	𝄎	Cm	𝄎

Fig. 7.9. Elementary chord changes of minor blues

These are the original major changes in which the first and fourth degrees (I and IV) have been minorized, unlike the fifth that remains, even in its four-sound presentation.[14] IV may be added to the second bar in the same way:

Cm	Fm	Cm	𝄎
Fm	𝄎	Cm	𝄎
G7	𝄎	Cm	𝄎

Fig. 7.10. Chord changes of reference of minor blues

Elementary changes for blues in minor are subject to numerous transformations, though not in the same proportions as for blues in major. Bill Evans's changes in "Interplay" (transposed here from F to C) are an example worth mentioning:

Cm	Cm (♭6)	Cm6	C7 (♭9)
Fm7	𝄎	Cm	E♭7 (♯11)
DØ	G7 (♭9)	Cm / E♭Δ	A♭Δ / D♭Δ

Fig. 7.11. Chord changes of "Interplay" (Bill Evans)

1.5 Other Formal Features of Blues

What about blues structures other than in twelve bars and three lines? Blues in 8, 16, 24, and 32 bars exist in principle. Which of these structures belong to original blues and which have been produced by crossings?[15]

1.5.1 EIGHT-BAR BLUES

Eight-bar blues exist in original blues, for example in Leroy Carr's "How Long Blues" as recorded by Carr and Scrapper Blackwell in 1928 (transposed here from E♭ to C):

C	C7	F	𝄎
C	G7	C / G7	C

Fig. 7.12. Chord changes of "How Long Blues" (Leroy Carr)

It is acceptable to see these changes as a summary of the original changes in which the bars 2, 3, 8, and 10 would have been removed.

In "Cherry Red," Pete Johnson and Joe Turner produced a more sophisticated version of the same changes:

C	C7	F	Fm
C / A7	D7 / G7	C / F	C / G7

Fig. 7.13. Chord changes of "Cherry Red" (Pete Johnson–Joe Turner)

1.5.2 SIXTEEN-BAR BLUES

Original bluesmen sometimes double the first line, which ends up made of eight bars on the first-degree chord, before playing the remaining two lines in the normal way. This makes up a complete sixteen-bar structure. This happens in Casey Bill Weldon's "W.P.A. Blues" or Sonny Boy Williamson's "Don't Start Me Talking."

Philippe Baudoin mentions another two cases, Joe Newman's "The Midgets" and Benny Goodman's "Soft Winds," in which the head is played according to the following changes (transposed here to C from their respective original keys, F and A♭):

C	𝄎	𝄎	𝄎
F	𝄎	𝄎	𝄎
C	𝄎	𝄎	𝄎
G7	𝄎	C	𝄎

Fig. 7.14. Chord changes model for "The Midgets" (Joe Newman) and "Soft Winds" (Benny Goodman)

In both cases, solos were performed following the traditional twelve-bar changes in recordings (with Count Basie's orchestra and Benny Goodman's quintet, respectively). What allows us to classify these two compositions as blues despite their sixteen-bar structure? In both cases, IV is present in bar 5. "Soft Winds" displays seventh chords and its head borrows from bluesy melodic turns of phrases. The argument applies less to Count Basie's "The Midgets." However, there is no trace of pathos in Benny Goodman, while it is very jazzy in Count Basie. Also, it is not merely coincidental that the solos are played over a twelve-bar blues structure. Oliver Nelson's "Stolen Moments" and Herbie Hancock's "Watermelon Man" provide two more recent examples. In both cases, the first two lines of traditional blues remain but the third is modified and extended to eight bars. In "Watermelon Man" bars 9 and 10 are repeated three times, while the third line in "Stolen Moments" is made of eight completely original bars. On the recordings, Oliver Nelson's piece is followed by solos taken from the twelve-bar changes while the solos in "Watermelon Man" follow the sixteen-bar structure of the head.

1.5.3 TWENTY-FOUR-BAR BLUES

It seems that all twenty-four bar blues are actually blues where each bar is repeated, which may also be interpreted as a change of bar signature. I do not think that it should be considered a specific form on its own.

1.5.4 THIRTY-TWO-BAR BLUES

Things are more complex with thirty-two-bar blues. Philippe Baudoin thinks that it exists and gives Spencer Williams's "Tishomingo Blues" as an example of it. Here are the changes of the piece:

C / C7	F	C	C7	F	𝄎	C7	𝄎
G7	𝄎	C	C / Cm	G	D7	G	G7
C / C7	F	C	C7	F	𝄎	E7	𝄎
C	E7	Am	𝄎	C	G7	C / G7	C

Fig. 7.15. Chord changes of "Tishomingo Blues" (Spencer Williams)

It is impossible not to notice an underlying classic ABAC form. We are landing on the vast realm of crossings between the forms of popular music (essentially multithematism, AABA, and ABAC) and blues. Following "Tishomingo Blues," composed in 1917, the second head in Nick LaRocca's "Lazy Daddy," recorded in 1918 by the Original Dixieland Jazz Band, is an ABAC form of thirty-two bars where A consists of four bars on the first degree (I), two bars on IV and two bars back on I, which corresponds to the first two lines of blues (and other examples of the same process could certainly be found).

Duke Ellington and Bubber Miley's "Black and Tan Fantasy," recorded in 1927, could be mentioned as well. The piece follows a multithematic form and the first head is a blues in minor. Harold Arlen's "Blues in the Night," published in 1941, is an AABA form where A is a blues. The same applies to John Coltrane's "Locomotion," although in a simpler way.

What conclusion can be drawn from these varying formal features? It seems to me that a distinction must be made between the corpus of original blues (blues played by bluesmen in the 1920s and 1930s, rural blues, classic blues singers, boogie-woogie) and those made of more recent forms of blues or other types of music developed in the United States, especially Broadway standards and jazz.

Based on this distinction, only twelve-bar and a few eight-bar blues belong to the first group. Then (very early in its history) blues became a sort of open territory that mixed with the languages of other musics from the United States, producing hybrids both formally and harmonically. For that reason, I do not think that sixteen- and thirty-two-bar blues should be put on the same level as eight or, of course, twelve-bar blues, which remains the ultimate reference point.

1.6 The Relationship Between Melody and Harmony: Modal or Tonal Features of Blues

Is blues a modal type of music and do its original features include elements of classical tonality? The first blues singers had a message to deliver (even when it was only to themselves), and the musical structure had to adapt to the dramaturgy of that message. This raises several issues we will attempt to discuss based on one example: Robert Johnson's "Kindhearted Woman Blues," recorded November 23, 1936 (particularly the first two choruses), which stands as a convincing example of original blues.

The first observation is that blues always involves a strongly rooted tonal center. This justifies the fact that we commonly say of a blues that it is in a certain key. However, it has been shown above that the blues scale is fundamentally different from the major and minor modes of the tonal system; in particular it involves flexible degrees and does not supply the basic functions needed for tonality to apply in its strict sense. Yet, it would not be appropriate to say that it operates a purely

modal system, either, as it displays some preferred chord progressions, and the melodic and harmonic dimensions are not independent of each other. However, extended pedal points are found in old blues, and some singers (Leadbelly, Charley Patton, John Lee Hooker, etc.) sing blues without changing chords.

How do melody and harmony relate to each other in blues when harmony is present? As seen before, they are structured differently: the melodic structure follows an AA'B pattern, while the harmonic structure follows an ABC model. When four-sound chords are used, the first degree (I) in C is C7 and the fourth is F7. Both renderings of the blue note 3, E and E♭, may be used on C7, but E natural is not an option on F7 as it would clash with the seventh (E♭). This is what happens in reality: blues singers play with the flexibility of the blue note 3 but they use the properly major third on I and tend to avoid it on IV to steer clear of the conflict.[16] This is a first constraint that harmony imposes on melody.

An organic relationship exists between scales and chords in classical tonality. The chords (whether made of three or four sounds) that make up the seven degrees in the major mode are built with tones from the major scale. Each tone of the scale is thus to be found in at least three degrees, and no accidental is to be heard on any degree. As mentioned before, this is not the case with blues. On the fifth degree in C (G7), the third (B) does not belong to any version of the blues scale. Indeed, the blue note 7 is not flexible: it is a B♭ and never B natural. Again, singers generally try to avoid B♭ at the beginning of the third line when V is heard, another constraint that harmony imposes on melody.

In the end, functions (in particular the dominant) create the main issue. Blues degrees have a different morphology from the degrees in classical tonality, and the quality of a chord bears no relation to its function. Does that mean that functions are not a relevant concept for blues? Most of the time, authors use tonal functions spontaneously to describe degrees in blues. Lucien Malson and Christian Bellest use the terms "tonic," "subdominant," and "dominant" to refer to the degrees I, IV, and V in the chapter dedicated to blues in their book *Le Jazz*.[17] Is it the sign of an automated habit to think with tonal tools, or does it reveal that the tonal training of our ears make us perceive functions and degrees simultaneously whether the music heard operates in that way or not? With regard to the first degree (I), it seems relevant to refer to it as a tonic because the tonal center is so strongly expressed, even if the quality of the chord (seventh) differs from that of the chord in classical tonal harmony. As for IV, the concept of subdominant implies the dominant, so the fifth degree needs to be dealt with first. There lies the difficulty. Indeed, it is the only degree on which there is no difference between blues and the tonal system: in both situations the fifth degree (V) is associated with a seventh made up of a major third and a minor seventh. Is it enough to lead to the conclusion that the dominant function truly exists in blues? It seems to me that there are as many arguments in favor of it as against it. In the original

changes V comes before I, and it is hard to imagine that that is random, especially as the prosody reinforces that logic: the lyrics of the first repeated phrase usually build up a tension that the phrase of the third line releases. However, historically, the habit to insert IV between V and I quickly developed producing a V-IV-I progression that is not a fundamental tonal sequence, especially when it occurs in lieu of a perfect cadence. However, I believe that bluesmen always add V, not IV, when they want to add a chord in the twelfth bar so as not to stay on the first degree for two bars before starting again on I in the first bar. So let us not decide one way or the other, but bear in mind that the question can be asked, which is not obvious when reading numerous analysis of blues that do not touch on the issue.

2. MODALITY

What are we talking about when referring to modality in jazz? Starting from a historical viewpoint, modality comes into jazz quite late (at the end of the 1950s), after tonality and blues, which are present from the start. Unlike in the history of Western music, modality in jazz is thus perceived as an element of modernity. In classical music history, modality is perceived as the system from which tonality developed. It is seen as a prehistorical age of tonality, until it played an important role again from the end of the nineteenth century onwards.

2.1 History

Bebop initially developed in the second half of the 1940s and further in the 1950s. In the 1950s, developments followed two main esthetical directions: cool and hard bop. Cool is a softened version of bebop in its sound and general musical features. Formal construction, sound, and arrangement matters, which had been relatively neglected by bebop, came back to the forefront with cool. By contrast, hard bop aimed at preserving the raw energy of original bebop. Arrangements got more sophisticated, but the main idea was to achieve great effectiveness with relatively simple means. Bebop musicians seem to have run out of steam at the end of the 1950s. Some of them began to feel the limits of their esthetical current. Generally, the whole system based on standards and ways to play them since the beginning of jazz—what has been called the common practice—was brought into question. A parallel exists (with the benefit of hindsight) with the erosion of the tonal system in Western music at the end of the nineteenth and beginning of the twentieth centuries, where a prevailing system becomes incredibly sophisticated and comes to be perceived as a final state of development that calls for the setting of new targets. On the harmonic front, jazz has been played on tonal and blues harmonic frameworks since the beginning. These frameworks have gradually

become more and more complex. This process enriched the language of jazz at first, but it eventually became a constraint that held up expression. At least, this is how some musicians felt at the end of the 1950s. They aspired to more freedom from constraining habits regarding tonal progressions and generally wanted to introduce more freedom in structures and improvisation. Certain musicians played a key role in this transition, among them Miles Davis, John Coltrane, Charles Mingus, Bill Evans, Gil Evans, George Russell, and Ornette Coleman.

Two main directions have been explored in order to find solutions to these difficulties. The old system peaked with the recording of "Giant Steps" and "Countdown" by John Coltrane's quartet on May 4, 1959.[18] Both pieces display a dense harmonic framework in extremely fast tempos. This framework is made of simple sequences—perfect cadences V-I or ii-V-I—but in keys very remote from each other and in very close succession. "Countdown" starts from the harmonic framework of Miles Davis's "Tune Up," but Coltrane completely transforms the harmony by substituting and adding a lot of chords. Improvising on something like this was an exercise of virtuosity that possibly only Coltrane was capable of at the time. So a limit was reached: it was not possible to play more chords more rapidly than this. The speed of thought and instrumental performance required reaches the limits of human mental and physical capabilities. The mind is so busy trying to avoid harmonic pitfalls as well as wrong notes and wrong harmonies that it is hard to focus on expression. Coltrane explored it and showed the limits of this type of improvisation.

There was also another side effect to Coltrane's explorations. Each perfect cadence is heard for such a short time that the ear does not have the time to identify it as such. The tonal feel gets muddled up by very fast tempos and a circular effect settles in (especially in "Giant Steps"), challenging one of the foundations of tonality.

Miles Davis's musical personality is very different from John Coltrane's. It does not drive him to play very fast unless he has to. At the time of bebop, he was always a little out of step with the demand of that style for virtuosity, which, by contrast, suited Dizzy Gillespie very well. In his early days especially, Miles Davis could not compete with Dizzy Gillespie's instrumental virtuosity. As for Coltrane, his personality is split: he is inclined to a great softness (his album *Ballads* is a masterpiece of slow jazz) but also to fierce battling against difficulty as expressed in "Countdown" and "Giant Steps," producing streams of notes to be known later as "sheets of sound." Miles Davis had to find something else. In March and April 1959 (exactly when Coltrane was recording the pieces just mentioned), Miles Davis produced *Kind of Blue*, which was to prove a historic album. It is considered to mark the birth of modal jazz and the true beginning of the post-bop era. It is made of five pieces, all in a slow or medium tempo. Rather than creating ever more complex harmonic frameworks that challenge and push

the boundaries of what improvisers can do, Miles Davis does the opposite. He removes chords and goes for lighter and different harmonic frameworks. He, too, tries to free himself from tonal constraints but he does it by exploring the vacuum rather than overfill his material. In "So What,"[19] the traditional structure AABA is reduced to a minimalist harmonic expression: a single chord for the A parts (Dm7) and another one for the B part (E♭m7). These chords neither bear any tonal significance nor do they relate to each other in any simple tonal way.[20] However, there is a strong sense of the presence of a tonal center in both parts (D in A parts and E♭ in the B part). "Flamenco Sketches" and "Blue in Green" are more like "Giant Steps," though. They are made of very simple tonal progressions but they proceed in such a way that no tonal center really emerges over the duration of the piece. The circular feel mentioned before applies here, but unlike Coltrane's, both pieces are in a very slow tempo. As a consequence, chords change at a reasonable pace and improvisers are free to let their expressive imagination wander. "All Blues" and "Freddie Freeloader" are reveries on hardly modified original blues changes. However, Miles Davis and John Coltrane have not been the only ones to raise and explore these questions: the pianist Bill Evans ("Peace Piece" is an improvisation on the first harmony of the standard "Some Other Time"[21]), and arranger Gil Evans in particular took part in the same movement (Miles Davis's solo on "Gone" is very nearly modal despite a likely underlying blues structure).

Free jazz was the alternative option. Some musicians thought that it was not enough to challenge only the harmonic component of the system and that all components ought to be reappraised. This was Ornette Coleman's view. After having played bebop in an unconventional way at the end of the 1950s he carried out a founding and highly symbolic recording: On December 21, 1960, he recorded "Free Jazz" (the unique title track of the eponymous album): "A Collective Improvisation bye the Ornette Coleman Double Quartet."[22] Following a few preliminary and rare ventures in this direction (as soon as 1949, by the pianist Lennie Tristano in particular), this album marks the first real attempt at total improvisation as a group, moving away from pre-established harmonic, rhythmic, or melodic constraints and leading the way for free jazz to be developed by many musicians all through the 1960s and beyond.

2.2 What Does the Term "Mode" Mean in Jazz, and What Types of Modes Are There?

The concepts of mode that prevailed in the Western world before the tonal era do not help explain what mode is in jazz. However, there are historical and idiomatic similarities in how modality appeared in jazz and how harmonic modality appeared in art music.

In jazz, the initial note induced by the mode is crucial. The concept of tonic or, at least, of tonal center, is still needed. All three situations (tonality, blues, and modality) require this concept, which is not the case with non-functionality or free jazz.

It seems to me that the best way to approach the concept of mode in jazz is to define it as a sequence of intervals. Generally, jazz never challenges the chromatic scale, so to speak. We do not know of any experiment that has been made on sound continuum, microtones, or anything that challenges the twelve-sound tempered chromatic scale.[23] Blue notes show that some degrees may be flexible in certain situations but not in a way that challenges the scale.[24] So mode expresses itself as a sequence of intervals. Depending on the initial note, a given mode produces twelve scales. For example, the Dorian mode is a heptatonic mode made of the following sequence (expressed in tones and half-tones): 1-1/2-1-1-1-1/2-1. If C is the tonic, the scale produced is C-D-E♭-F-G-A-B♭-C.

There has been a tendency for heptatonic modes to prevail in jazz modality. This is probably due to the vividness of major and minor modes in tonality. These modes have a name in the modal system of jazz: the Ionian and Aeolian modes (natural minor). Many textbooks stay vague on the origins and theory of modes in jazz. They prefer to highlight the list shown in figure 7.16. Figure 7.17 isolates two other modes that can be found in the repertoire. Some other textbooks delight in producing ever longer lists of "possible" modes. I personally believe that reality is more economical than that. Besides, a momentary alteration of a chord does not necessarily involve the use of a new mode.

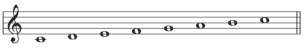
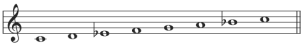
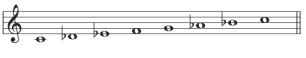
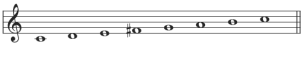
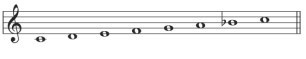
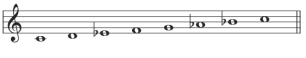
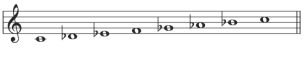
Name	Description	Permutations	Scale (C root)	Involved chord
Ionian	1 1 1/2 1 1 1 1/2	C mode		CΔ
Dorian	1 1/2 1 1 1 1/2 1	D mode		Cm7
Phrygian	1/2 1 1 1 1/2 1 1	E mode		Cm7 (♭9 ♭13)
Lydian	1 1 1 1/2 1 1 1/2	F mode		CΔ (♯11)
Mixolydian	1 1 1/2 1 1 1/2 1	G mode		C7
Aeolian	1 1/2 1 1 1/2 1 1	A mode		Cm7 (♭13)
Locrian	1/2 1 1 1/2 1 1 1	B mode		CØ (♭9 ♭13)

Fig. 7.16. Permutations of the major mode

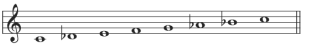
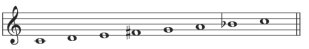
Name	Description	Permutations	Scale (C root)	Involved chord
Spanish Phrygian	1/2 3/2 1/2 1 1/2 1 1	F harmonic minor		C7 (♭9 ♭13)
Bartók	1 1 1 1/2 1 1/2 1			C7 (♯11)

Fig. 7.17. Other modes encountered

Figure 7.16 is misleading in many ways. The information is presented in such a manner that it suggests two things: first, that the system was built like that and, second, that these modes are the most common (if not the only) ones. Both ideas are wrong. In my opinion, the crucial question to ask relates to the relation that exists between the scale produced by a given mode and the chord it involves.

According to our definition, the mode consists of a sequence of intervals and the scale of a sequence of sounds. In the case of heptatonic modes and scales, the scale consists of the sequence of conjunct sounds (laid stepwise). The sounds in a same group may also be laid in superimposed thirds, which creates the seven-sound chord that we need to look at.

Taking things the other way around, i.e., starting from chords and looking at the modes induced by the simple unaltered chords of the final tonal cadence (ii-V-I), the result is as follows:

Degree ii: Dm7 (D-F-A-C-E-G-B) « scale (D-E-F-G-A-B-C-D) « Dorian mode (1-1/2-1-1-1-1/2-1).
Degree V: G7 (G-B-D-F-A-C-E) « scale (G-A-B-C-D-E-F-G) « Mixolydian mode (1-1-1/2-1-1-1/2-1).
Degree I CΔ (C-E-G-B-D-F-A) « scale (C-D-E-F-G-A-B-C) « Ionian mode (1-1-1/2- 1-1-1-1/2).

In my opinion, in early jazz modality the use of modes is linked to the degree of simplicity of the chords induced and is related to the modes already used in tonal and blues situations. Ionian and Aeolian modes are special in that they match up with the natural major and minor tonal modes. Their modal use is thus a bit peculiar as it puts improvisers in a tricky situation: the modal color does not bring anything new and the traditional tonal progressions are theoretically forbidden. However, there are occurrences of the Aeolian mode (more rarely the Ionian mode) in a modal situation. As for the Mixolydian mode, it not only induces an unaltered chord but also reminds us of blues with the presence of the blue note 7.

This allows the drawing of a different map of the seven permutations of the major mode. Based on the simplicity of the chord induced and the link with older situations, the Dorian and Mixolydian modes are theoretically the most likely to be used. The Aeolian mode is common, too; it often occurs on the seventh

minor chord when the improviser chooses to minorize the thirteenth in order to reinforce the minor color of the chord. The Lydian mode has been favored by many improvisers because of its relative simplicity (only one alteration, the augmented eleventh) and original color.[25] Ionian and Phrygian modes are less used, one because it is easily confused with the tonal major mode and the other because it induces a relatively complex chord (two alterations, the minor ninth and minor thirteenth) and, above all, presents the minor third and minor ninth, which do not sound good played simultaneously. At last, the Locrian mode is hardly ever encountered.

Other modes that are not circular permutations of the tonal major mode are found frequently. The "Spanish Phrygian" mode (1/2-3/2-1/2-1-1/2-1-1, i.e., C-D♭-E-F-G-A♭-B♭-C) is an interesting case because it is involved in a double relation. On the one hand, its minor second and the presence of a tone and a half between the second and third degrees is meant to give it a Spanish color. On the other hand, it is a permutation of the harmonic minor scale on a tonic located a fifth below. It is thus a brilliant mode to create an ambiguity: heard "modally" with C as a tonic, it suggests a Spanish color, but if a future resolution on F is suggested, the chord is perceived as a dominant in F minor. This ambiguity is used in "Flamenco Sketches." There is an E♭Δ(♯11)/D chord underlying a whole sequence of this piece without a key before moving on to a sequence on Gm7, which is the final harmony of the cycle. In principle, the Phrygian mode should apply; but musicians are tempted to play the leading note of the following mode (i.e., F♯), which induces this Spanish Phrygian mode, especially near the end of the sequence, of course. Equally, in Juan Tizol's "Caravan" as played by Duke Ellington's orchestra, twelve bars are spent on the Spanish Phrygian C scale. Only with the four last bars of resolution in F minor do we understand in retrospect that it was an extended dominant. This shows that duration is a key factor. The cadential sound of the V-I progression is dissolved here, which is made possible by the piece starting on the dominant (which is thus perceived as the tonic) and then by the duration: the time spent on the dominant is three times longer than that spent on the resolution. As a result, the tendency is to hear the dominant "for itself" rather than as a transitory state that we make sense of as the resolution takes place.

The mode known as "Lydian/Mixolydian" or "Bartók" (with a minor seventh and augmented eleventh) is also commonly used. Its corresponding chord (seventh with augmented eleventh) is a favorite of boppers.[26]

So the table of modes drawn from the various permutations of the major tonal mode has a relative value: it provides information neither on the history of jazz modality nor on the frequency of modes. The order in which they appear in the table, from Ionian to Locrian, is also meaningless. Of course, other modes can appear and have been used, including modes with fewer or more than seven intervals.

Let us also mention the whole-tone scale, the two octatonic diminished scales (1-1/2 and 1/2-1), and the "semi-diminished" scale also known as "altered" scale, which consists of the half-tone–tone scale in its first part and the diminished scale in the second part (= 1/2-1-1/2-1-1-1-1). The first two scales are used on the diminished chord (with limited transposition) and the dominant chord, while the other two are used on the dominant chord, most of the time. The relation between the chord and the scale is what actually matters. Let us take the example of the dominant chord, which can be altered in many ways: musicians learn some combinations of possible alterations, which are perceived as sounding particularly good, in all keys, like they learn scales. In this case, of course, the situation is clearly tonal: the use of scales (or modality) is merely a mnemonic tool or a label. For that reason, I believe that it is inappropriate to talk of modes outside of this mnemonic use when the harmonic situation has been clearly identified as tonal or blues.

2.3 The Relationship to Harmony

As said before, the appearance of modality was the result of a need for new colors and an eagerness to free musicians from chord progressions and consequently imposed duration. The first response to that need consisted of improvising for a long period of time on a limited number of chords and modes. Miles Davis's founding album *Kind of Blue* gives an example of it. However, all too often "modal jazz" has been seen as jazz "played on a single chord," i.e., on a slow if not motionless harmonic rhythm. Indeed, it is perfectly possible to play a single mode on a series of different tonics, i.e., to use various scales produced by the same mode. Equally, one may use various modes and scales in turn, in a fast-changing harmonic rhythm if one wishes to do so. These options have been widely used by the musicians of the "second modal period" starting in the 1970s, like Steve Swallow,[27] Chick Corea, or Pat Metheny. It is thus wrong—or at least questionable—to generalize and associate jazz modality with a slow-moving harmonic rhythm.

It is even conceivable to go further and suggest that "modal jazz," strictly speaking, does not exist outside of a very limited corpus of compositions ("Flèche d'or," "Milestones," "So What," Flamenco Sketches," "Impressions" and a few others). At least, its influence on posterity is more problematic that one usually thinks. Miles Davis did not play his modal compositions much again, except for "Milestones" and "So What" ("All Blues" may be seen as a real blues). Of course, "Impressions" was a key piece for John Coltrane and a favorite of his, and he "modalized" "My Favorite Things," but both Davis and Coltrane returned to the standard repertoire before moving on to yet other types of compositions, with the classic quartet for one and the "second quintet" for the other. In the end, modality seems to have played a role as a historical step rather than creating

a new harmony that had a real potential for development. Undoubtedly, it has been a way of widening choices beyond the tonality-blues environment. It has freed musicians from constraints, particularly in the field of chord progressions, but it was rapidly absorbed by a fourth situation that proved a lot more fruitful, that of non-functionality.

2.4 The Pedagogical Issue

Before moving on to non-functionality, it seems important at this point to make an important digression with regard to pedagogy. In an article published in 2000 titled "What is Modal Jazz?" Keith Waters highlights how this labelling, which developed through the grapevine and has never been clearly defined, is problematic and deeply inadequate to describe its object:

> General discussions of modal jazz rely on descriptive terms such as static harmony, ambiguous harmony, the use of "sus" chords or chords built in fourths. More analytical presentations typically call attention to roughly four related characteristics: 1) the use of extended pedal points; 2) the suppression or absence of standard functional harmonic progressions; 3) slow harmonic rhythm, in which 4 , 8, 12, 16, 32 or more measures may consist of a single harmony; and—significant for the use of the term "modal"—4) the association of a seven-note scalar collection (the mode) for each harmony, providing a source of pitches for improvisation or accompaniment.[28]

Barry Kernfeld words the same difficulty differently:

> The label [modal jazz] can be rather misleading, because modal jazz has much more to do with harmony—specifically the slowing of harmonic rhythm and the weakening of chordal interrelationships—than with scales construed as representing a jazz version of ethnic or ecclesiastical modes. For modal improvisation, additional cautions are in order: this label can be misleading because modal improvisation often unfolds in a flexible and unsystematic way that undermines the identity of specific ethnic or ecclesiastical modes and because normally the modal quality of a piece will center around a static accompaniment that allows only limited opportunity for improvisation. . . . Hence in "modal improvisation" it is often the accompaniment, not the improvisation, that is modal.[29]

This is noted by Waters as well, who observes that we never know whether the modal quality is down to the soloists' improvisation, the accompaniment, or the composition. His conclusion is telling:

> Even this brief examination of modal jazz reveals some of the difficulties, inconsistencies, and problems of the term and its use. For one thing, some of the characteristics associated with modal jazz do not have to do with the use of modal scales. In addition, some writers are not always clear in indicating whether the significant features of modal jazz are based upon improvisation, accompaniment, or composition. Barry Kernfeld has suggested that the term "modal" is such a misnomer that it be replaced by the term "vamp"[30] style.[31]

Waters then points out a related problem that I find very important:

> As jazz pedagogy has developed and crystallized in the past three decades, scale-chord relationships have formed its core. For most improvisational textbooks, all chords have an associated scale, so to most aspiring jazz players, all jazz is to some extent modal, since chords and scales are considered equivalent. This dominant chord/scale pedagogy shows how powerful some of the innovations of modal jazz were. On the other hand, because of this pedagogical approach, it is probably now impossible for us to fully appreciate the dramatic shifts that took place in the late 1950s and 1960s. The improvisational, accompanimental, and compositional solutions that took root—departing in fundamental ways from what had occurred before—remain at the core of jazz practice and pedagogy today.[32]

This observation is both important and adequate. Indeed, scales and chords have generally been brought together (and to a point that was totally unpredictable) following what has been discussed here as modal jazz. I could not say when exactly but my impression is that this idea developed in pedagogy around the time that pedagogy itself took off, i.e., in the 1970s (which coincides with Keith Waters's opinion).

What is this all about? It deals with an alleged chord-scale theory according to which a scale corresponds to each chord and that scale is presented as the product of a mode most of the time. In this situation, improvising means playing the right scale on the chord that is occurring. This point of view induces many problems, only some of which will be reviewed here.

Correspondence—The main problem involves the nature of the alleged correspondence. Does it allow us to list the correspondences and show them in a table with chords (chord qualities?) in a left column corresponding to one or several scales in the right column?

***Definition of the scale(s)*—**Generally, the norm of four-sound chords is applied. In a tempered twelve-sound system, the selection of four sounds allows for a very large number of possible scales, as there are still eight eligible sounds for each chord. How many pitches of a scale are to be kept in the chord? Seven? Eight? More? Less? Let us go for seven randomly: how are the three missing sounds going to be selected? What is the status of the sounds that are left out?

***Harmonic situation*—**If the list is established in the absolute, by definition it cannot take the situation into account. Yet, a chord never occurs outside of a situation. Is it tonality, blues, modal jazz, or something else? How does the situation affect the choices?

***Horizontal situation*—**Is the choice of scale influenced by what comes before and after in the continuum of the piece? Are we faced with disconnected chords that do not owe anything to the horizontal (especially contrapuntal) dynamics of the piece?

***Alterations*—**How do correspondences deal with notes that do not belong to the selected scale? Do such notes have to be forbidden? If so, what is the justification for such ruling?

***The supremacy of harmony*—**Are notes chosen on purely harmonic grounds? Does the melodic process only apply to organizing notes in units, knowing that the predetermined chord-scale correspondence alone has determined the notes anyway?

Each of these questions (and there could be many more) deserves a specific and adequate answer. Yet, many textbooks do not even ask them. On this subject we usually find something along the lines of: "On a chord A the *x* scale can be played and, possibly, the *y* and *z* scales too." This logic induces thought processes such as this: "On the Dm7-G7-C sequence one can (must?) play successively D Dorian, G Mixolydian, and C Ionian." This is clearly absurd for several reasons. First, one is clearly dealing with a tonal progression (ii-V-I in C major). Perhaps C major is not the main key of the piece. Perhaps this is only a momentary tonal episode in a piece that is not tonal. It may also be one of many possibilities that each situation and their mixing can produce. However, under no circumstances is it possible to consider these chords just for themselves. Second, a related problem arises: this thought process puts forth three tonics (one per chord), which makes things more complex to process and may, as a consequence, restrict the musical discourse. Indeed, it is harder to think of three tonics rather than one. Third, it neglects a crucial dynamic tool: the chord progression aims at the final chord. It

is very likely that the melodic line would reflect this direction. Finally, the choice of accidentals becomes random if the nature of the progression is not taken into account. Yet, such thought processes are fairly common in textbooks.

This brief and incomplete commentary is not to condemn certain pedagogical trends but rather to understand why and how they developed and have been so successful (to the point that they have probably influenced what is played and how it is played). It is not the purpose of this book to investigate this matter further, but this is clearly an important debate, especially for all those involved in teaching and learning.

To conclude, jazz modality is one of the most confused areas of jazz from a historical, theoretical, or pedagogical point of view. I believe that the confusion often made between the scale (or mode)—which becomes the harmonic reference instead of the chord—and the process of giving up tonal functionality or blues either partially or totally is a key element in explaining this mess. Sometimes, a sequence that is originally tonal may even be concealed by long pedals (on V, for example) and thus be considered modal.[33]

Before attempting to reset the foundations for a renewed theoretical investigation of jazz modality, it is advisable to turn to non-functionality, a common situation in jazz after 1960.

3. NON-FUNCTIONALITY

A fourth harmonic category is needed to embrace all the cases that do not fit in any of the situations previously described. Indeed, the addition of privative prefixes such as "atonal," "non-tonal," "a-blues," "non-blues," "a-modal," or "non-modal" are hardly defining.

The idea is not to assimilate this fourth category to "non-harmony," either, nor to see it as resulting from freer types of improvisation (as has sometimes been done in free jazz). It is important to repeat that jazz hardly explored some of the paths opened in Western art music when it was making its way out of tonality. The notion of tonal center was preserved in the transition to the first modal phase. When it was eventually challenged, the purpose was not to change it for a new harmonic system or to brave the tempered scale. Rather, it was fueled by a desire to give more importance to improvisation and have it incorporate the harmonic component. To the best of my knowledge, there is no such thing (or at least only marginally) as a "dodecaphonic" type of jazz or "serial jazz." Cecil Taylor improvised on a "normal" piano (though other jazz musicians have used prepared pianos), the ultimate example of a tempered instrument integrating the chromatic scale. Taylor was not interested in creating an alternative harmonic system; he wanted to find freedom from the usual constraining codes.

When free jazz emerged at the start of the 1960s, it involved jazz musicians who, as the name indicates, wanted to free jazz from all the codes (especially harmonic ones) that confined it. The subtitle to Ornette Coleman's founding album *Free Jazz* makes it clear: "A Collective Improvisation by the Ornette Coleman Double Quartet." It is an attempt to challenge some of the usual codes (the predetermined unwinding of harmonic sequences, a single tempo, etc.) and, above all, certain habits that convey assumptions about the way this music is produced. Whether one uses codes or not is not really important; the key principle is to select a specific code (improvisation) that makes all the others incidental and redefine how they are used. Several usual codes are still used in "Free Jazz." Ornette Coleman himself uses many melodic turns of phrase that come from bebop, and drummers use familiar rhythms; but the saxophonist plays without the harmonic background that used to give sense to the phrases, and the members of the rhythmic section do not all play at the same tempo. In the end, codes are not really challenged individually but how they operate together is. There is a kind of superior code (improvisation) that controls how all the others work together.

Is it possible to sum up all the different kinds of situations that may occur and that do not fit any of the previous categories? The first cases to mention are the ones that take the system that they come from to its limits. "Giant Steps" is on the boundary of the tonal situation. If one considers it "out," does that mean that it is necessarily modal? Of course not. "Non-functional harmony" could seem just as adequate a label except that each chord of "Giant Steps" has a very clear function (ii, V, or I) in keys that change in an extremely fast-moving tempo. Again, is it still adequate to talk of a modal situation when a piece uses a large number of modes on different scales and with a fast harmonic rhythm? Both cases are extreme and lead to the disappearance of the feel associated with the system involved (the same situation that occurred in art music at the beginning of the twentieth century).

Non-functionality may also involve cases where harmony itself is improvised whether instructions regarding a code have been given or not. In "Free Jazz," the general instruction (except for a few prepared transitions) consisted of improvising a large number of parameters (to include harmony) with no apparent preference given to any. A harmonic analysis of the result is possible. There cannot be analysis of the pre-performance stage (or it would prove a lot more difficult than usual), as harmony results from the performance stage. This has been practiced widely since free jazz in what is known as European improvised musics.[34]

The larger body of works is made of musics where harmony is neither rejected nor improvised but is free from functional constraints: any chord may be followed by any chord according to the composer's desires. The concept of function may not have necessarily disappeared (i.e., a chord may be perceived as a degree in a virtual system, whether tonal or blues), but the constraints associated with

functions are partially or totally ignored. The original feature of this aesthetics is that it does not require a clean slate and is open to the use of past systems. Sequences of tonal, blues, or modal chords may occur in turn or be inserted between non-functional sequences. In short, everything is allowed including, "past" harmonic situations.

This situation develops progressively from the 1950s onward, with arrangers like Gil Evans, George Russell, Charles Mingus, and Duke Ellington[35] (who comes across as a forerunner before the 1950s). Musicians such as Herbie Hancock,[36] Wayne Shorter, and Freddie Hubbard—who are perceived (wrongly, in my opinion) as representing the "second modal age"—have reinforced the new freedom set by their predecessors while accepting tonal, blues, or modal constraints when they want to use components of these systems.

So non-functionality is not a situation in itself. A chord on its own may be non-functional in a completely tonal situation; it is a matter of proportion. It may be appropriate to consider a situation non-functional when non-functional chords outnumber functional chords in a piece. Whatever threshold is chosen, the important action is to distinguish between situations and find the appropriate tool through which to read the harmony.

CHAPTER 8

Rhythm

There is a vast literature on the characteristic features of rhythm in jazz. The purpose here is not to sum it up but to equip the reader with the tools to analyze the rhythmic events in a work.

There is a need to discuss briefly the highly symbolic subject of swing. What is it? Can jazz exist without swing? First of all, we are not dealing with the meaning of "swing" that refers to a style developed in the 1930s and 1940s mostly by big bands.

At an analytical level, the notion of swing can be approached in three ways. The most general refers to a feel of the rhythm that can be found in other types of music than jazz. For example, it is sometimes said that Johann Sebastian Bach or Edith Piaf have swing. This meaning of the word may point at some deep symbolic, cultural, religious, physiological, or other implications of a certain rhythm; but this leads into a dangerous postmodernist zone where relativism, ecumenism, or even mysticism have their pitfalls. A swing feeling undeniably exists and cannot be reduced only to observable musical facts. However, it still is a relatively specific phenomenon, and, in any case, it is not universal.

The second approach is descriptive but not associated with musical events that can be identified precisely. Swing is seen as a forward rocking motion here. According to André Hodeir: "It acts like a sort of subatomic particle that would seem to influence the psychology of listeners in such a way that, if it was missing, they could not enjoy what they are listening to. If necessary, that can be seen—allegedly—as a proof of the existence of swing in the negative."[1] Hodeir has associated swing with the notion of pulse, as opposed to the scanning of beats in the binary system.[2] This is already more precise than the first approach mentioned above, but it still is impressionistic and not based on objectively defined criteria. The third type of approach, though, looks for observable and quantifiable components, starting with the ternary division of time.

1. TERNARY DIVISION OF TIME[3]

According to André Hodeir, the characteristic feature of rhythm in jazz lies in an unequal division of time that materializes in playing eighth notes unequally: two eighth notes are actually played as a quarter note and an eighth note in a triplet (long-short triplet pair). Time is thus divided in a ternary manner (triplet subdivision).[4]

This "ternarization" developed gradually through the 1910s and 1920s. A kind of rhythmic stiffness observed in ragtime and band music at the turn of the century became more supple gradually and produced the sense of relaxation associated with jazz. Jazz musicians of the time were responsible for that, like Joe "King" Oliver, Sidney Bechet, and Louis Armstrong. Once established, this process was not practiced universally, however. Binary rhythms were used in the early days of jazz and, most of all, since bebop. The ternary way of playing depends mostly on the context and on tempo. Generally, one does not play in ternary style when the tempo is very slow, and the difference between duple and triple also becomes less marked as the tempo gets very fast.

What can be said about the need for a ternary (or swing) way of playing that has gradually grown stronger in jazz? It is likely that the purpose (assuming that there was one) was not to introduce an element of irregularity in a regular pattern. Indeed, if the offbeat is pushed toward the next beat too much, the "quaternary" division that is induced ("dotted eighth note-sixteenth note") becomes more rigid than the regular eighth notes. So the desired effect is not created by the irregular division of time in itself. There is something else involved in the triple subdivision that is peculiar. Does it lie in the compound rather than simple meter? Indeed, the ternary division of time implies changing 4/4 to 12/8, 3/4 to 9/8 etc. effectively. But this different way of describing the phenomenon does not explain any better the need for it to happen.

Swing is a feeling, a certain rhythmic suppleness, that has been looked for intuitively. A particular articulation rather than a specific division of time is noteworthy in the triple transformation. This transformation follows a progression in three phases that goes from and back to rhythm via articulation. The first phase is an expression of the general feeling of rhythm in jazz, which consists of highlighting parts that are structurally weak, i.e., the offbeats. The emphasis on the offbeat has consequences in the field of articulation: it stresses the weak parts. Stressing offbeat eighth notes moves them forward toward the next beat. This movement shifts the sound played away from the second toward the third part of the beat. This takes us back to the mechanism behind the ternary division of time. If the shift is pushed too far forward, the division becomes quaternary and the suppleness gets lost (things are obviously different for binary rhythms in jazz). Eighth-note phrases in very fast tempos—like Charlie Parker's solo in

"Koko"—display a ternary way of playing, even if the transformation of two eighth notes into the quarter-note and eighth-note pattern of a triplet is impossible to perceive at such a speed. Moreover, it is possible to swing in duple meters, as demonstrated by the musicians of Weather Report or Charlie Parker with Afro-Cuban rhythms. The swing quality of the solos lies in the articulation, not the meter.

Is it possible to conceive jazz without swing? In any case, binary rhythms have always existed. It is a bit pointless to say that ragtime is binary, considering that the ternary way of playing was not yet developed at the time of ragtime. However, there seemed to have been no turning back once it eventually developed in the 1920s. Most of jazz in the 1930s is played in a triple rhythm: this is the aptly named Swing Era. Binary rhythms did not disappear completely, but their use usually indicates a borrowing or relic from other musical cultures (including imaginary ones like in the case of the "Jungle" style). Bear in mind that jazz has strong Spanish and Creole roots in its New Orleans cradle (via the whole Caribbean area). Jelly Roll Morton talks of the "Spanish tinge" and sees it as an indispensable rhythmic touch. These roots have also been maintained through a few pieces of the repertoire. Louis Armstrong played "La Cucaracha" in the 1930s, a Mexican tune that Charlie Parker also played later. The Puerto Rican trombonist Juan Tizol brought in some duple rhythms such as that heard in "Caravan" in 1937. But these are exceptions. Duple rhythms came back with bebop but they were still perceived as exotic. When Dizzy Gillespie brought in some Cuban musicians in 1948, the duple rhythms they used came from so-called Afro-Cuban music. The rhythms used by Gil Evans in *Sketches of Spain* explicitly refer to Spain. Of course, the emergence of bossa nova introduced a specific rhythm that is well settled into the jazz landscape. However, jazz only started to use binary rhythms with no reference to other musical cultures during the middle of the 1960s, as illustrated by Lee Morgan's "Sidewinder," "Watermelon Man" or "Succotash" by Herbie Hancock," "Eighty-One" by Ron Carter and Miles Davis, or "Side Car" by Miles Davis. In the 1970s, what has been called "jazz-rock" or "jazz fusion" used a large stock of binary rhythms, many of which are not taken from rock.

So there is at least one obvious observation to be made: rhythms (as well as meters) were very limited in number until the mid-1940s. They became so diverse afterward that it would be absurd to limit jazz to what is played in a triple subdivision.[5] As a consequence, "swing" may only be applied to duple rhythms within a wider sense of the word: the meaning that refers to an idiomatic manner or feeling.

It is possible to play binary rhythms in a ternary way and vice versa. "Caravan" is a good example: duple and triple components are completely ambiguous. "A Night in Tunisia" is another example, with alternation of duple and triple components (duple in A and triple in the bridge) but also within the A section.[6]

Also, equivalences allow for several ways to play in ternary fashion. In "Flamenco Sketches" by Miles Davis, musicians constantly jump from playing in duple division on the ground beat of the piece and triple in double-time.[7]

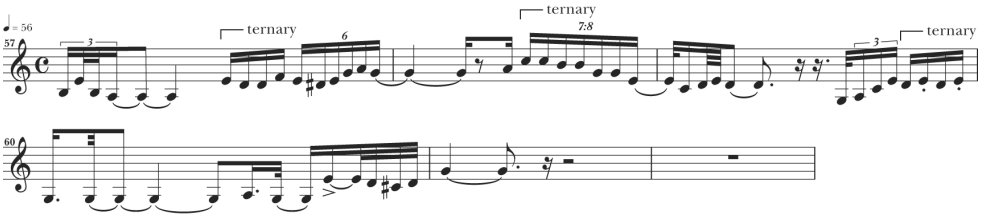


Fig. 8.1. "Flamenco Sketches" (Miles Davis, April 22, 1959), alto saxophone solo (concert key)

Generally, analysis must take into account the "surface" of the rhythm as well as its nature: once a type of rhythm has been identified, one should try to perceive how it is being played (in particular, do musicians follow the same pulse? Do some of them play "behind" or "ahead" of the beat?), and try to appreciate all the rhythmic subtleties of which jazz musicians have proved capable over time.

2. METER: IDENTIFYING THE PULSE

Identifying the meter is usually fairly easy, but things can prove much harder for the pulse. Most jazz is based on a regular pulse organized in cycles. The meter, which is expressed by a time signature, consists of the first of the cycles. This process is made possible by the identification of a time unit, that is to say the relevant (perceived?) pulse. We are then presented with two levels, particularly when transcribing.

The choice of time signature depends on the time unit chosen. Let us take the example of a 4/4 meter (or common time) based on a time unit of a quarter note with a tempo of 120 to the quarter note. If we decide that a pulse that is twice slower seems more appropriate, the time signature would then be 2/2 with a tempo of 60 to the half note.[8] If one thinks that the slow pulse reflects the real perception better in the end but that the pulse is in triple division, the choice should be a 12/8 time signature on a tempo of 60 to a dotted quarter note, with a bar length twice as long (and thus half the number of bars for the whole piece). The time signature is the creators' decision; even if it is not written, musicians normally agree on the time signature. From an analyst's point of view, and considering that written information is hardly available, the choice is down to one's own perception of the rhythm. Transcribers should always choose the time signature that reflects the appropriate pulse best, which is not always easily done. Simplicity and readability of the notation are also criteria to take into account.

For that reason, one tries to avoid compound meters for triple rhythms—though they are the most suitable in theory—and prefers their equivalent in duple meter while indicating that the division of time must be understood as ternary even if it is notated in a binary way.

Even after a choice of time signature has been made, the way musicians play the pulse can be ambiguous and change over the course of a piece. Also, all musicians may not play the same pulse. Analysts must pay attention to these things and not consider that everything to do with pulse and time unit is sorted out once the choice of time signature has been made.

Identifying when the down beat happens is our final problem. Most of the time it is obvious, but some complex rhythms can be heard in several ways, which involves several possible locations for the down beat. Bojan Zulfikarpašić's "Multi Don Kulti" gives an emphatic example of it: it can be heard in two different time signatures (12/8 and 3/4) with a different time unit and a first beat occurring in different places (see chapter 11, pp. 252–53).[9]

3. POLYRHYTHM

The following amazing text by Don Knowlton dates back to 1926:

> The real jazz tune goes *um*-pa-*tee*-dle to each measure—four dotted eights on the accented syllables and four sixteenths on the alternate syllables, to a basic one, two, three, four. Upon this foundation are superimposed certain alterations of rhythm which are the true components of jazz. First comes what I term "anticipation" which consists of a sort of hurrying of the melody, whereby the latter beats the bass to the stroke of the rhythm by a fraction of a second. Second, is true syncopation. This, as I have said before, is a well-established musical device and is merely exaggerated in ragtime. Of itself it does not make ragtime, popular and musical opinion to the contrary notwithstanding. . . . Syncopation is of value not intrinsically, but merely in its variance. Alone, it is meaningless. The irresistible sweep of the fundamental rhythm makes syncopation stand out violently against the background. This is the reason why a jazz tune is so flat and unconvincing in the absence of piano or orchestral accompaniment. The contrast upon which syncopation depends for its startling effect is lacking when only one of the two necessary rhythmic elements is expressed. Thirdly, there is the imposition of a one, two, three element in rhythm upon the one, two, three, four fundamental. This, I believe, is the only characteristic of jazz which is truly of American—or rather, of Afro-American origin.

> A Negro guitar-player once asked me, "You know the difference between primary rag and secondary rag?" His primary rag was syncopation; his secondary rag was this superimposition of one, two, three upon the basic one, two, three, four.
>
> Graphically, it may be expressed thus:
>
> 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3 1
>
> 1 2 3 4 1 2 3 4[10]

This lengthy extract shows emphatically not only that rhythm and polyrhythm have been at the heart of jazz since the beginning but also that commentators have been aware of it all along, even if, as is the case here, they are talking about compositions, not improvisation, and dealing with ragtime rather than jazz proper.

Polyrhythm is thus an essential component of jazz. However, the concept can be understood in a sense that is more or less broad. To even begin to grasp this difficult issue, definitions of more general concepts are needed.

3.1 Definitions

General questions regarding rhythm cannot be discussed in detail here. Our very limited purpose is to comment on some features of polyrhythm within the jazz framework. This involves reviewing the definitions of some basic notions, which we will do based on the work of two authoritative authors (or group of authors): Simha Arom, on the one hand, and Fred Lerdahl and Ray Jackendoff, on the other hand.

First, one needs to distinguish between pulsed and unpulsed musics. In the field of pulsed music, one must separate between pulses that occur at regular intervals of time (isochronous pulse) and those that do not (non-isochronous pulse). The following discussion only focuses on music with isochronous pulse, but this is not the only situation one can find in jazz. Equally, as seen before, situations can be ambiguous and mixed up within one piece.

This discussion is based on the metronomic kind of pulse: unvaryingly regular and devoid of accents that could create a relief within that pulse. Arom prefers to call this notion "pulse" rather than "tactus" or "beat": "The term 'tactus' . . . is strongly associated with the Western practice of music in Medieval and Renaissance polyphony. This is why it seems best to dismiss it."[11] Lerdahl and Jackendoff prefer "tactus," however: "The listener tends to focus primarily on one (or two) intermediate level(s) in which the beats pass by at a moderate rate. This is the level at which the conductor waves his baton, the listener taps his foot, and the dancer completes a shift in weight. Adapting the Renaissance term, we call such a level the tactus."[12] Unlike Simha Arom, Lerdahl and Jackendoff do not mind using a word taken out of its historical context of use.

Any variation from this reference is a rhythmic event that can be seen as generating a conflict with the basic pulse. Is the concept of polyrhythm linked to the notion of conflict,[13] and should the line be drawn between rhythm and polyrhythm?

Essentially, Arom's pulse is the same as Lerdahl and Jackendoff's tactus. The American pair add two notions that are linked to the tactus, the beat and the time span:

> The elements that make up a metrical pattern are *beats*. It must be emphasized at the outset that beats, as such, do not have duration. Players respond to a hypothetically infinitesimal point in the conductor's beat; a metronome gives clicks, not sustained sounds. Beats are idealizations, utilized by the performer and inferred by the listener from the musical signal. To use a spatial analogy: beats correspond to geometric points rather than to the lines drawn between them; but, of course, beats occur in time; therefore an interval of time—a duration—takes place between successive beats. For such intervals we use the term *time-span*. In the spatial analogy, time-spans correspond to the spaces between geometric points. Time-spans have duration, then, and beats do not.[14]

An important point has to be made clear: the tactus may differ from the basic time unit of the time signature. Piano ragtime provides the most emphatic example of this: It is written in 2/4 most of the time. The time unit of reference is thus the quarter note. However, the oom-pah oom-pah action of alternating a bass and striking chords in the left hand is eighth notes. Because it is a regular pattern the eighth note becomes an alternative time unit of reference. It is then acceptable to say that the quarter note is the time unit of reference but the eighth note makes the tactus. Lerdahl and Jackendoff's definition seems perfectly appropriate to me because it is based on perception. Time signature comes from the need to write the music, while tactus is the product of perception. As a result, tactus is not set in stone: it can differ from one listener to the other and, most importantly, several tactus may be perceived one after the other or simultaneously. As an obvious example, the music in a simple meter may be heard in reference to the quarter note, the eighth note, the half note, or even a whole note. Jazz musicians make the most of this ambiguity, especially in slow tempos.

Simha Arom then suggests: "The pulse, as it has just been defined, is not rhythm. Rhythm is created by a succession of sound events with contrasting features. This contrast may be generated by accents, timbres and durations."[15]

This is how these three components operate:

> *Accents*: Contrast is created by means of highlighting certain elements of the music, either regularly or irregularly. When timbre or duration are not at play, accents are the only rhythmic criteria.
>
> *Timbre*: Contrast is produced by hearing/playing different tone colors in turn, either regularly or irregularly. When accents or duration are not at play, timbre is the only rhythmic criterion.
>
> *Duration*: Contrast is produced by the succession of unequal time values. When accents or timbre are not at play, durations are the only rhythmic criteria.[16]

As for meter, Arom adds that "it is in fact the most elementary manifestation of rhythm,"[17] made of identical durations with regular stress patterns.

Fred Lerdahl and Ray Jackendoff suggest other definitions of the accent, of which they see three types:

> In our judgment it is essential to distinguish three kinds of accent: phenomenal, structural, and metrical. By *phenomenal accent* we mean any event at the musical surface that gives emphasis or stress to a moment in the musical flow. Included in this category are attack points of pitch-events, local stresses such as sforzandi, sudden changes in dynamics or timbre, long notes, leaps to relatively high or low notes, harmonic changes, and so forth. By *structural accent* we mean an accent caused by the melodic/harmonic points of gravity in a phrase or section—especially by the cadence, the goal of tonal motion. By *metrical accent* we mean any beat that is relatively strong in its metrical context.[18]

These authors also fundamentally distinguish between metrical structure and grouping structure. The former organizes beats and offbeats in relation to metrics, while the latter does so in relation to melodic units that are superimposed on metrics.

Arom and Lerdahl and Jackendoff differ here. It is possible to consider that the category of phenomenal accents of the latter encompasses Arom's three factors of contrast (accent, timbre, and duration). Lerdahl and Jackendoff's structural accents (which are induced by tonal movements) as well as metrical accents (induced by metrics) are not taken into account by Arom. The fact that Lerdahl and Jackendoff worked on tonal art music and Arom on African polyphonies certainly explains that difference.

Finally, Arom distinguishes between what is heterometric and polymetric as well as between heterorhythm and polyrhythm, the prefix "hetero" meaning successively in time whereas "poly" implies simultaneity: "*Polymeter* should apply to different accentuation patterns that operate *simultaneously* in the different parts

of a polyphonic piece. . . . *Heterometer* would apply to a change of time signature in a monody and the same phenomenon *in all parts* of a polyphony."[19]

3.2 Typology of Polyrhythm

Here are a few inventories of polyrhythms suggested.

Jacques Siron identifies seven "types of polyrhythm" in his *Dictionnaire des mots de la musique*:

> Rhythmic counterpoint . . . : superimposition of different parts made of independent rhythms.
>
> Rhythmic canon . . . : superimposition of parts made of identical or nearly identical rhythms but starting at different points in time.
>
> Superimposition of different time divisions. A frequent example is the superimposition of duple and triple time divisions.
>
> Superimposition of different patterns of bar accentuation (periodicity at the bar level). For example: superimposition of 3/4 (accented as "1-2 / 3-4 / 5-6") and 6/8 ("1-2-3 / 4-5-6") . . . . 4/4 accented asymmetrically "1-2-3 / 4-5-6 / 7-8" (superimposed on the usual accentuation "1-2-3-4 / 5-6-7-8"). . . .
>
> Superimposition of different bar groups. For example: 3 bars in 4/4 superimposed on 4 bars in 3/4 (periodicity of 12 bars).
>
> Polymeter . . . : superimposition of different tempos or different times signatures.
>
> Free polymeter / aperiodical polymeter . . . : superimposition of accents and / or irregular meters with no periodicity outside of the pulse.[20]

The problem with this list lies in the fact that the author does not clarify the nature of the elements that are superimposed on top of each other. Are they distinctive parts that are heard or a part in relation to a pulse (which may be more or less explicit itself)? This is a decisive point in the appraisal of polyrhythm, or even in deciding whether one is dealing with polyrhythm itself or a more or less complex rhythm.

Cynthia Folio suggests an extension of a distinction first made by Harald Krebs:[21]

> In order to define polyrhythm, it is important to understand that it can be of three types and a general definition must encompass these three types of rhythmic dissonance between quantifiable meters and/or tempos.
>
> *Type A*: Interaction between two or more rhythmic sequences in which the grouping of regularly recurring attacks of each sequence is in a non-whole ratio (or a ratio that cannot be reduced to a whole number); a

duration divided in two or more regular divisions produces a particular case (for example a bar in common time divided in three several times);

Type B: A rhythmic shift in which two or more rhythmic sequences display the same meter and tempo but a time-lag of a fixed duration exists between the sequences; As a result, the sequences are not in phase with each other;

Type C: A fluctuation of tempo against a fixed tempo (or a tempo fluctuating differently); This could also be called a "polytempo" and be seen as a particular case of polyrhythm.[22]

These types clarify Siron's inventory. Folio specifies that quantifiable "meters" and "tempos" are the two levels concerned. The quantifiable tempo seems to overlap with the notion of tactus, whether it is explicit or not. Meter is normally in relation to the bar signature, but the author includes all the identifiable rhythmic groupings in it. Folio reaches a definition by adding three types. Type A seems to cover the usual concept of polyrhythm. The two additional types describe events produced by a shift or fluctuation of tempo.

Besides, unlike Siron, Folio builds this definition with a study of jazz musicians (Thelonious Monk, Ornette Coleman, and Eric Dolphy). This is also the case with Keith Waters, who suggests a catalogue with a view to then study solos by Herbie Hancock. He starts by giving a list of different accents drawn from Joel Lester:[23] "Durational accent accrues to a pitch which is longer in duration than other surrounding pitches; contour accent refers to pitches which occur at the upper or lower registral extreme of a melodic gesture. Pattern beginning attracts accent at the initiation of a repeated motivic pattern and, finally, louder volume effects dynamic accent."[24]

In the following examples all accents are on offbeats in 4/4 time, "in conflict with the stronger metric beats."

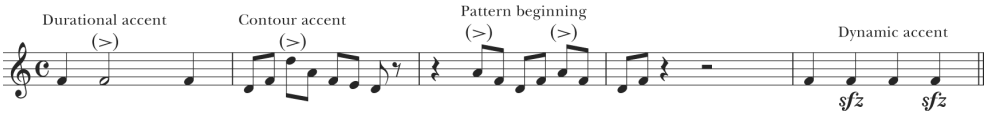


Fig. 8.2. Keith Waters: types of accents

Keith Waters also insists on the concepts of "hypermeter," "hypermeasure," and "hyperbeat." They are longer units than the bar in the meter of reference and produce a metric structure of a higher level. Waters gives the example of a structure organized in eight bars. The hypermeasure is thus made of eight bars and the hyperbeat corresponds to two bars. This concept is well suited to AABA structures of thirty-two bars consisting of four sections of eight bars in which

harmony and melody often operate in groups of two bars, i.e., four hypermeasures of four hyperbeats each.

In our view, four levels of rhythm may be identified in pulsed musics. The next step is to identify the features of each of these levels (but mostly the last two) and where the boundaries are between them.

Tactus: the regular, isochronous and unstressed pulse, explicitly expressed or not (all beats are played, or only some or none at all).

Meter, involving the time signature: a single and regular pattern of accentuation. The time signature may be expressed in various ways.

Rhythm: involves all sorts of patterns of accentuation.

Polyrhythm: This is clearly the most difficult to define. I tend to see it as the superimposition of several periodic rhythmic groups. Periodicity seems to me to ground the difference between polyrhythm and rhythm. The impression of polyrhythm arises as soon as a reoccurring element is perceived in a different way from the tactus and/or the meter. It creates a feeling—potentially experienced by listeners—that a new tactus and/or meter are competing with the original ones and could eventually replace them. With this approach, the difference between rhythm and polyrhythm is not quantitative (a bigger number of rhythmic layers or non-whole ratios between rhythms) but qualitative. Polyrhythm then functions as a sub-category of rhythm. Rhythm can be identified in both of the following examples, but only the second displays polyrhythm.

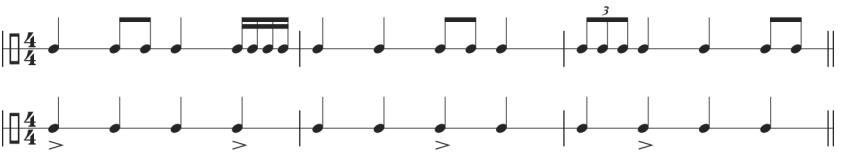


Fig. 8.3. Rhythm and polyrhythm

This non-quantitative definition allows us to compare a rhythmic part with, for example, the meter (not necessarily with another rhythmic part of the same level). Also, a complex ratio (like Folio's non-whole ratio) is not necessary for polyrhythm to happen. In my opinion, a simple ratio (like 3:4 in our example) is enough to create the double feeling that characterizes polyrhythm. We side with Arom more than Folio. Yet, unlike Arom, who builds his definition of strict polyrhythm with the African polyphonies that he studies in mind, we believe that melody can be taken into account in a broader definition of polyrhythm, as the following example shows.

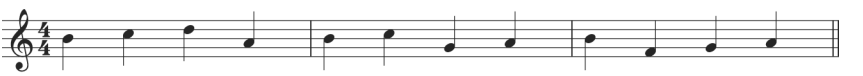


Fig. 8.4. Melodic polyrhythm

This example implies that the 4/4 time is expressed one way or another. If the line is heard as it is written, one would only perceive a repetition of groups of three notes starting a tone below each time, i.e., implicitly a 3/4 time. An accent of some sort must take place for the 4/4 time signature to be justified.

In my opinion, the fundamental difference between rhythm and polyrhythm lies in the regularity created by repeated occurrences of a rhythmic group in contrast to the tactus or meter. As early as 1938, Winthrop Sargeant suggests this idea about jazz:

> A concluding glance at the material presented will show that all of these patterns depend for their effect upon a single rhythmic principle: the interruption of an established regular alternation of strong and weak rhythmic pulses. The interruption is accomplished by the shifting of recognizable repeated melodic elements from strong to weak positions and vice versa. The elements so shifted in repetition may be dynamic accents, notes, groups of notes, phrases, rhythmic patterns, patterns of melodic movement, particular types of harmonic ornamentation, even tone-colors. The shiftings may be apparent in distorted phrases, in what is known as simple anticipative or retardative syncopation, and in other sorts of melodic behavior. When the shifting occurs at regular intervals setting up repeated metrical cycles different from those of the established pulse, the result is polyrhythm.[25]

Sargeant goes even further considering that polyrhythm is in the nature of jazz while European art music uses it only as an ornament. He also believes that the 3:4 ratio is a specific feature of jazz while the 2:3 ratio is more common in art music:

> There can be no doubt, then, that certain forms of polyrhythm are found in European folk and concert music, and that even the three-over-four superimposition characteristic of jazz is not unknown in the works of the masters. But the commonest of the European superimpositions (that of two-over-three) is *never* found in jazz, and, for that matter, occupies only the position of an exceptional ornamental device even in the works of European composers. And the three-over-four jazz superimposition is, after all, a rarity in concert music. As in the case of simple syncopation, the European composer uses merely as an occasional embellishment a rhythmic device that forms a basic structural element in Afro-American music. The relation between the characteristic rhythms of jazz and those of European concert music is, then, so slight as to be negligible.[26]

Here is not the place to discuss the specific features of polyrhythm in jazz, nor to enter the debates over its European or African origins. However, the issue

clearly deserves further study based on a proper historical investigation focused on the musical language.

Polyrhythms may be further differentiated into two subcategories based on a first criterion:

- There are polyrhythms in relation to the meter: a periodic group contrasts with the time signature expressed ("expressed" in the sense that it can be heard; it is not merely a written fact);
- There are polyrhythms between two or more periodic groups: two groups display different, contrasting and regular patterns. One of them may be in phase with the meter.

The same problem that was mentioned before reappears: in the first case, the meter must be expressed by one of the periodic groups. I still believe, though, that it is worthwhile to keep making a distinction between simple expressions of the meter (the tune clearly in line with the time signature, a light stress, an unobtrusive ching-a-ding by the drums, a simple afterbeat played by a hi-hat pedal, etc.) and groups that are in line with the meter but more in the foreground.

Polyrhythms may also be differentiated into two subcategories based on a second criterion:

- Groups contrasting with the meter but not the tactus: implies that there is no note between the beats of the tactus, so only quarter notes, half notes, dotted half notes, whole notes, or square notes.
- Groups contrasting with the meter and tactus: implies notes occurring between the beats of the tactus.

Finally, is it necessary to define a ratio between superimposed groups in order for them to qualify as polyrhythm? I believe so, but in a broad manner. In my opinion, only ratios starting with 1 (1:2, 1:3, etc.) and multiples of 2 (2:4, 3:6, etc.) should be excluded. With this criterion, 2:3 and 3:4 ratios already belong to polyrhythm, as long as the periodicity of the two groups is clear enough to be perceived and to produce a feeling of superimposition and contrast.

3.3 Specification

There are three main features to take into account to specify the various occurrences of polyrhythm:

The time signature(s)—As it is written or perceived as meter of reference.

The nature of the periodic group(s)—

- *Period definition*: What is the rhythm of the repeated group? Here is the agreement on the definition of periods: rhythms are defined by a sequence of note values using the quarter note as reference "1" (whatever the time signature, in single or compound meter). For example, a "quarter note-half note-quarter note" sequence may be notated [1-2-1], a "quarter note-quarter note-eighth note-eighth note" sequence [1-1-0.5-0.5], etc. How are rests counted? Should an "eighth note-eighth note-eighth note rest" sequence be notated [0.5-0.5-0.5] or [0.5-1]? We prefer the first option using italics to indicate rests: [0.5-0.5-*0.5*].
- *Period duration*: The total duration of the periodic group (the addition of what is in square brackets).
- *Regularity*: Is the group made of one or several types of note value? The same values mixing notes and rests make up an intermediary case: "quarter note-eighth note-eighth note" = [1-0.5-0.5] (irregular); "eighth note-eighth note-eighth note" = [0.5-0.5-0.5] (regular); "eighth note-eighth note-eighth rest" = [0.5-0.5-*0.5*] (average regularity).
- *Note values of the group in relation to the tactus*: According to our second criterion to differentiate between polyrhythms, one needs to separate the groups in which all the notes and rests correspond to a beat of the tactus (in theory, a group made only of whole values, e.g., quarter notes, half notes, dotted half notes, quarter rests, half rests, dotted half rests) from those that display notes and rests between the beats (values including eighth notes, sixteenth notes, dotted eighth notes, triplets of eighth notes, but also triplets of quarter notes or of half notes, etc.). Indeed, the first group (named "*supra*") is in contrast with the meter but not the tactus whereas both conflicts exist in the second group (named "*infra*").
- *Occurrences*: the number of complete occurrences of the group.
- *Location of the first occurrence in relation to the meter*: as a general rule, the figure corresponding to the appearance of the first value of the group is given using subdivisions. For example, "1.25" means that the group starts on the second sixteenth note of the first beat.

Ratio—The numerator consists of the addition of the units in the periodic group. The denominator indicates the number of units in the group of reference. For both, the unit chosen must be the most relevant, which means that the denominator is not necessarily the same as the time unit that the meter is based on. Ratios are reduced to fractions of whole numbers (1.5:2 is notated 3:4).

One must bear in mind that most of the time polyrhythms are scripted via a transcription, not read from a prescriptive score (except for ragtime). This is why the definition of the meter can be argued: it is a choice made by the transcriptor.

Finally, it is necessary to take the *possible* tactus into account in order to compare and classify the groups in a polyrhythm. Take the two groups "eighth note-eighth note-eighth rest" [0.5-0.5-*0.5*] and "quarter note-quarter note-quarter rest" [1-1-*1*]: the total is different for both (1.5 and 3), but it is clear that they are comparable, especially if the first group is taken from a ragtime, for example, where the eighth note–based tactus is easily perceived. On the contrary, a "half note-quarter note" sequence also produces a total of 3, but it is less similar.

We can work with a momentary classification of polyrhythms in three categories: polyrhythms with a ratio below 1, polyrhythms with a ratio above 1, and polymeters. The third case involves an extended superimposition of two identifiable contrasting bars.

3.4 Examples

3.4.1 RATIO < 1

• ***3:4 "Weather Bird Rag"***

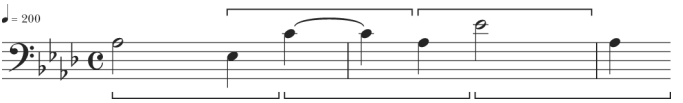


Fig. 8.5. "Weather Bird Rag" (King Oliver, April 6, 1923), trombone break

This example is interesting in many respects. For one thing, the recording is very old. For another, the grouping process may be done in two different ways (2-1 or 1-2). Last but not least, this is a break, which means that the tactus is not expressed during these two bars. However, the tactus as well as the 4/4 time remain in the memory of listeners for whom it is undeniably a point of reference. This is why it can be seen as a case of polyrhythm, according to the criteria established above.

Here is a possible "identification sheet" of this polyrhythm (the group starting from the half note):

Time signature: 4/4
Periodic Group:
- Rhythm : [2-1]
- Duration : 3
- Regularity : No
- Values / tactus : *supra*
- Occurrences : 3
- Start : 1

Ratio: 3:4 (quarter notes-quarter notes)

• ***3:4 "Maple Leaf Rag"***

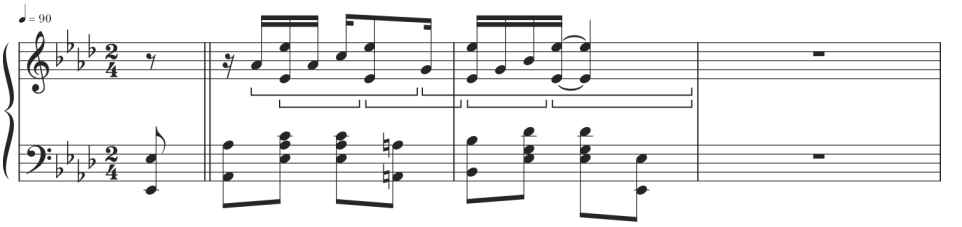


Fig. 8.6. "Maple Leaf Rag" (Scott Joplin), © 1899

Time signature: 2/4
Periodic Group:
- Rhythm : [0.25-0.25-0.25-0.25-0.5]
- Duration : 1.5
- Regularity : No (or average if the last eighth note is divided into a sixteenth note and quarter rest)
- Values / tactus : *infra*
- Occurrences : 2
- Start : 1.25

Ratio: 3:4 (eighth notes-eighth notes)

This is one of the most famous ragtimes and it starts with polyrhythm. It is a perfect example of the superimposition of primary rag and secondary rag mentioned by Don Knowlton in 1926. It is also possible to consider that a second group is superimposed with the E♭s laid in octaves (which performers have a natural tendency to stress): a group of average regularity [0.25–*0.25–0.25*] with four occurrences starting on 1.5.

• ***3:4 "The Pearls"***

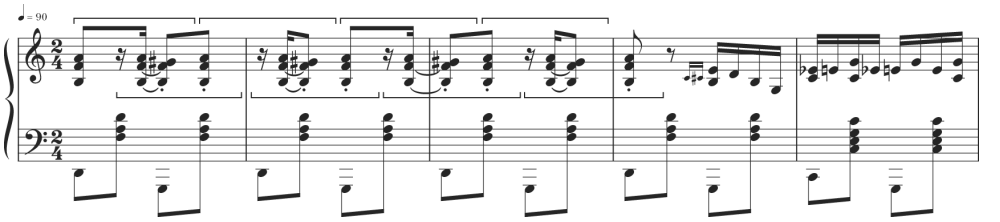


Fig. 8.7. "The Pearls" (Jelly Roll Morton, April 20, 1926), keyboard

Time signature: 2/4
Periodic Group:
- Rhythm : [0.5-*0.25*-0.25-0.5]
- Duration : 1.5
- Regularity : No
- Values / tactus : *infra*
- Occurrences : 4
- Start : 1

Ratio: 3:4 (eighth notes-eighth notes)

If necessary, this example shows how ragtime pianists had integrated polyrhythm and mastered the independence of the hands that it requires. Again, the group may be heard in two different ways.

• ***3:4 "Ogo Pogo"***

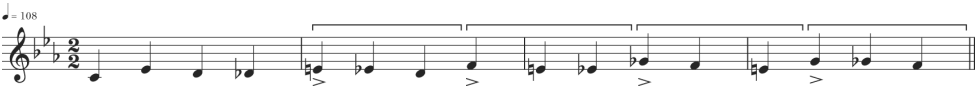


Fig. 8.8. "Ogo Pogo" (Paul Whiteman, July 2, 1925), strings

Time signature: 2/2
Periodic Group:
- Rhythm : [1-1-1]
- Duration : 3
- Regularity : Yes
- Values / tactus : *infra* in 2/2, *supra* in 4/4
- Occurrences : 4
- Start : 1

Ratio: 3:4 (quarter notes-quarter notes)

In this example, the line played by some strings follows the quarter-note tactus exactly. A three-beat melodic pattern is repeated each time half a tone higher, stressed on the first note, and starts on the first beat. Accentuation only starts in the second bar. As a result, the first occurrence starting on the second beat of the first bar is unstressed and may go unnoticed. The ratio is 3:2 if the time signature is 2/2. In my opinion, a 3:4 ratio with a quarter-note (rather than half-note) tactus seems more appropriate, though.

The result is a very pure type of polyrhythm with a 3:4 ratio and a regular pattern (three quarter notes): the whole line coincides with the quarter-note tactus.

• ***3:4 "Shanghai Shuffle"***

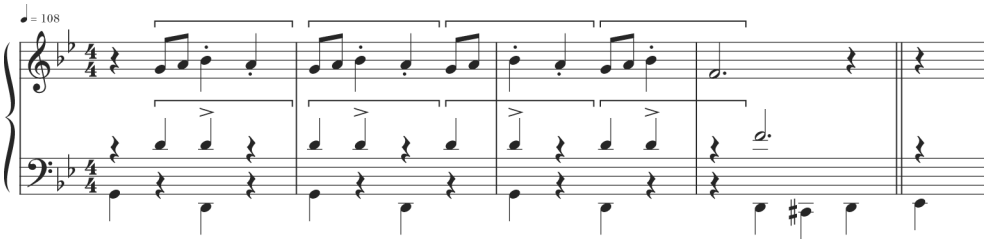


Fig. 8.9. "Shanghai Shuffle" (Fletcher Henderson, 1924), orchestra

Time signature: 4/4
Periodic Group:
- Rhythm : [0.5-0.5-1-1]
- Duration : 3
- Regularity : No
- Values / tactus : *infra*
- Occurrences : 4
- Start : 2

Ratio: 3:4 (quarter notes-quarter notes)

Four layers are superimposed here. The meter is given by the tuba (the lowest register).[27] Trumpets (higher voice) clearly play a three-beat phrase that is repeated four times, starting from the second beat. Saxophones (middle register) play a "quarter note-quarter note-quarter rest" sequence of the same duration and starting in the same place as the main pattern. Last, a percussion instrument strikes accents every third beat in *forte* dynamics, starting on the third beat (written as an accent). It is possible to consider that the three higher lines are intertwined and produce a single three-beat pattern opposing the lower line, which is clearly articulated on the 4/4 time.

• ***3:4 "Billie's Bounce" (Head)***

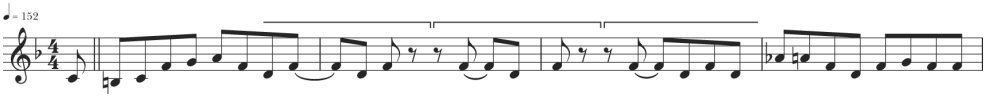


Fig. 8.10. "Billie's Bounce" (Charlie Parker, November 26, 1945), head

Time signature: 4/4
Periodic Group:
- Rhythm : [*0.5*-1-0.5-0.5-*0.5*]
- Duration : 3
- Regularity : No
- Values / tactus : *infra*
- Occurrences : ± 3
- Start : 4

Ratio: 3:4 (quarter notes-quarter notes)

In this famous head, Charlie Parker plays a three-beat pattern from the second bar onwards and repeats it three times. Due to the progression, the first and third occurrences differ slightly, at the beginning and the end respectively.

• ***3:4 "Billie's Bounce" (Alto saxophone solo)***

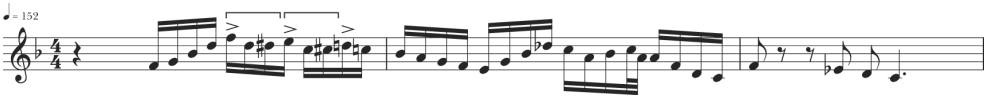


Fig. 8.11. "Billie's Bounce" (Charlie Parker, November 26, 1945), alto saxophone solo (concert key)

Time signature: 4/4
Periodic Group:
- Rhythm : [0.25-0.25-0.25]
- Duration : 0.75
- Regularity : Yes
- Values / tactus : *infra*
- Occurrences : 2
- Start : 3

Ratio: 3:4 (sixteenth notes-sixteenth notes)

This polyrhythm is based on shape and accent. There are two occurrences if one takes into account only the shape, or three if one pays attention to accentuation. It is also possible to hear four occurrences up to the second beat of the second bar if one continues to group the sixteenth notes in threes mentally.

• ***3:8 "Charleston"***

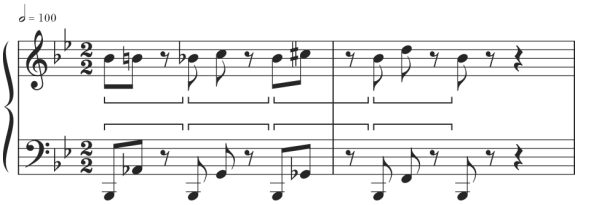


Fig. 8.12. "Charleston" (Paul Whiteman, May 7, 1925), orchestra

Time signature: 2/2
Periodic Group:
- Rhythm : [0.5-0.5-*0.5*]
- Duration : 1.5
- Regularity : Average
- Values / tactus : *infra*
- Occurrences : 4
- Start : 1

Ratio: 3:8 (eighth notes-eighth notes)

Again, this is a rhythmic unison of the whole orchestra. So no clear expression of the tactus or meter is given though their presence is strongly felt. This "eighth note-eighth note-eighth rest" is one of the most common in jazz. In particular, it can be heard at the end of the A part of Duke Ellington's "It Don't Mean a Thing."

• ***3:8 "That's No Bargain"***

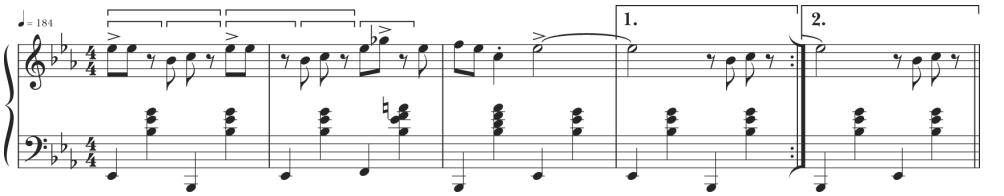


Fig. 8.13. "That's No Bargain" (Red Nichols–Miff Mole, January 24, 1927), orchestra

Time signature: 4/4		
Periodic Groups	(1)	(2)
- Rhythm	: [0.5-0.5-*0.5*]	[0.5-0.5-*0.5*-0.5-0.5-*0.5*]
- Duration	: 1.5	3
- Regularity	: Average	Average
- Values / tactus	: *infra*	*infra*
- Occurrences	: 5	2
- Start	: 1	1
Ratio: 3:8 (eighth notes-eighth notes)		3:4 (quarter notes-quarter notes)

This example is particularly interesting. It superimposes three layers of rhythm and one of the layers may be heard on two levels. The keyboard (lower stave) plays the oom-pah-oom-pahs which express the quarter-note tactus in 4/4 time. Wind instruments play the "eighth note-eighth note-eighth rest" pattern noted above (and which becomes so popular in the 1920s) five times. If the wind instruments are grouped in pairs, an "eighth note-eighth note-eighth rest-eighth note-eighth note-eighth rest" pattern appears and is repeated twice at a level above and with identical notes. Finally, four accents occur irregularly. The first two coincide with the starting points of the two occurrences of the second group while the third and fourth accents are shifted along by an eighth note, which produces a 6-7-7 period (in eighth notes).

Finally and perhaps most importantly, this polyrhythm begins at the start of the piece, which sets up an ambiguity straightaway: is the keyboard's 4/4 the main time signature or is it the winds' 3/4? The 4/4 time rapidly prevails, as the three-beat period is played only twice. The third pattern (starting on the third beat of the second bar) is made of four beats but it finishes on a third beat (third bar). It disturbs the bar structure in the process: it is perfectly possible to hear this third beat as a first, for the piano (which we thought provided the point of reference) has shifted, too, attacking the third beat on an (altered) second degree in order to get back to the first degree on the next third beat. As a consequence, Lerdahl and Jackendoff's structural accent, which is produced by cadences, is displaced. In order to be in sync again, the keyboard must repeat the first degree so that it ends up on the first beat again. This adjustment does not occur in the repeat (it occurs on the first beat of the following bar).

In these (fully written) four bars at least five different levels of rhythm are thus to be found.

• ***3:8 "Hotter Than That"***

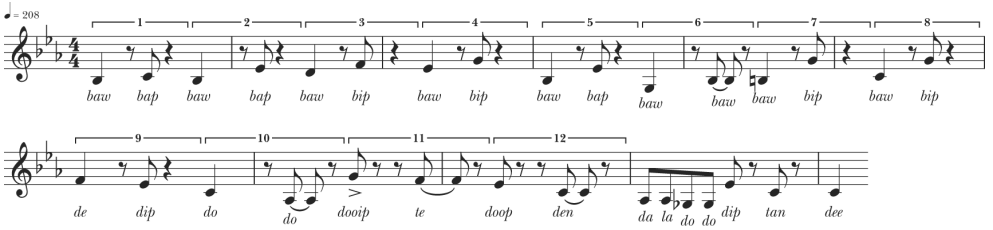


Fig. 8.14. "Hotter Than That" (Louis Armstrong, December 13, 1927), vocal solo

Time signature: 4/4		
Periodic Groups	(1)	(2)
- Rhythm	: [1-*0.5*] or [0.5-*1*]	[1-*0.5*-0.5-*1*]
- Duration	: 1.5	3
- Regularity	: Average	Average
- Values / tactus	: *infra*	*infra*
- Occurrences	: 24	12
- Start	: 1	1
Ratio: 3:8 (eighth notes-eighth notes)		3:4 (quarter notes-quarter notes)

The amazing series of twenty-four notes spaced a beat and a half away from each other is clearly the striking feature of this famous solo by Louis Armstrong, one of his first using scat singing. This is the first level of polyrhythm, with a ratio of 3:8. However, careful listening reveals that odd notes last longer than the others and are granted onomatopoeia accordingly. This brings a new "quarter note-eighth rest-eighth note-quarter rest" group to the surface; it lasts three beats and occurs twelve times with a ratio of 3:4. When the group occurs for the sixth time, it is noticeable that the second note, which used to be short, is now long. But the "long-short" cadence settles again (occurrence 7). This event happens again on the tenth occurrence and the group is reversed this time ("short-long") for the last two occurrences (11 and 12). This case of polyrhythm is like Russian dolls. The first level, which is also likely to be the first to be picked up by listeners, is made of the twenty-four regular notes. Another more internal level is then created within the first one and is reversed at the end.[28]

3.4.2 RATIO >1

• *4:3 "Re: Person I Knew"*

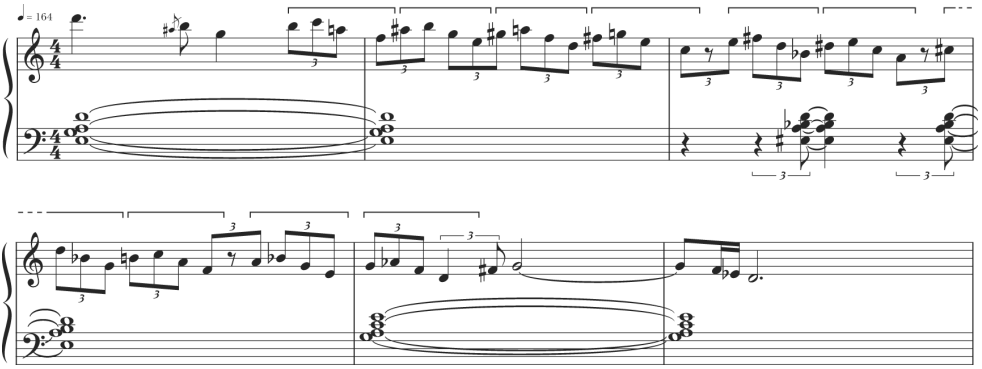


Fig. 8.15. "Re: Person I Knew" (Bill Evans, May 29, 1962), piano solo

Time signature: 4/4
Periodic Groups:
- Rhythm : [0.33-0.33-0.33-0.33]
- Duration : 1.33
- Regularity : Yes
- Values / tactus : *infra*
- Occurrences : 4+2+2+2
- Start : 4

Ratio: 4:3 (eighth notes in triplet subdivision-eighth notes in triplet subdivision)

This is a typical example of shape-based polyrhythm. A four-note melodic pattern is repeated on triplets of eighth notes. This group is repeated four times and then twice three times with a gap of a triplet's eighth note.

• *5:4 "Five"*

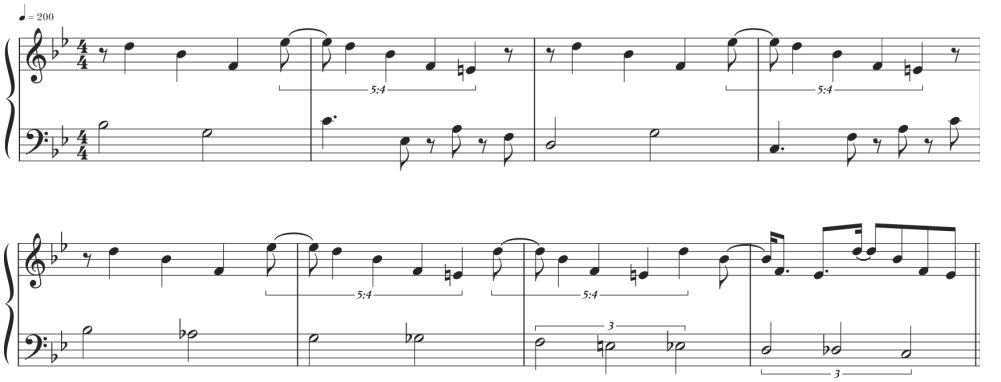


Fig. 8.16. "Five" (Bill Evans, September 27, 1956), head and bass

Time signature: 4/4
Periodic Groups:
- Rhythm : [0.8-0.8-0.8-0.8-0.8]
- Duration : 4
- Regularity : Yes
- Values / tactus : *infra*
- Occurrences : 1+1+2
- Start : 4.5

Ratio: 5:4 (quarter notes in quintuplet subdivision-quarter notes)

This is a complex polyrhythm: the ratio is 5:4 and the pattern starts with a gap from the first beat. Yet, for two reasons, this is a borderline case according to our definition. For one thing, the group is not immediately repeated at the beginning. For another, the denominator in the ratio is 4 in a 4/4 time signature, which means that the pattern does not shift in relation to the time signature. When the pattern is repeated in bars 6 and 7, it starts from the same point (the eighth note anticipates the first beat). Two other events happen. The five-note period is reduced to four from bar 7, and the rhythm speeds up slightly. The ratio becomes 4:3 (dotted eighth notes) and 2:1 (eighth notes). In my opinion, Bill Evans is after an unsettling atmosphere rather polyrhythm. The shortening of the melodic pattern (four notes instead of five) as well as the combined acceleration of the patterns and bass produce a rushing effect. Only the drums remain stable.

3.4.3 POLYMETERS

Polymeter could be seen as the most extreme case of polyrhythm: two meters coexist and there is no need for one to be in the foreground and the other in the background.

• *4/4 and 12/8 "A Night in Tunisia"*

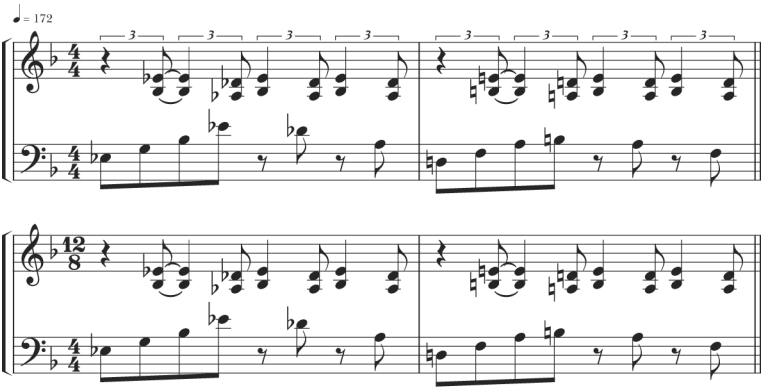


Fig. 8.17. "A Night in Tunisia" (Dizzy Gillespie, March 28, 1946), saxophones (upper stave, concert key) and piano/double bass (lower stave)

The two superimposed different time divisions mentioned by Cynthia Folio can be seen as a case of polymeter involving a simple meter and its corresponding compound meter, 4/4 and 12/8 here.
Polymeter:
Time signature 1: 12/8 (saxophones)
Time signature 2: 4/4 (piano-guitar-double bass)
Equivalence: a dotted quarter note (time signature 1) = a quarter note (time signature 2)

• *3/4 and 4/4 "The Most Beautiful Girl in the World"*

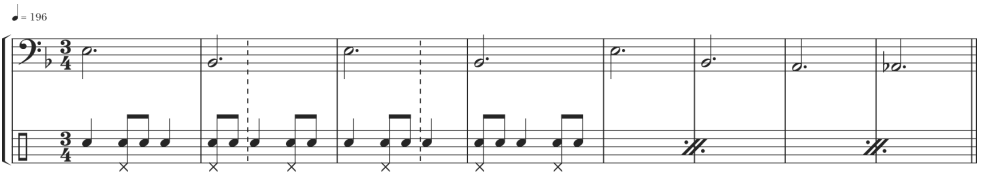


Fig. 8.18. "The Most Beautiful Girl in the World" (Dave Brubeck, May 29, 1962), bass and drums

In this three-beat piece the drums play a ching-a-ding in four beats while the whole orchestra plays in the time signature of reference (the dotted bar line indicates the 4/4 of the drums).
Polymeter:
Time signature 1: 3/4 (saxophone-piano-double bass)
Time signature 2: 4/4 (drums)
Equivalence: a quarter note (time signature 2) = a quarter note (time signature 1)

• 4/4 and 6/4 "I'm Thrilled"

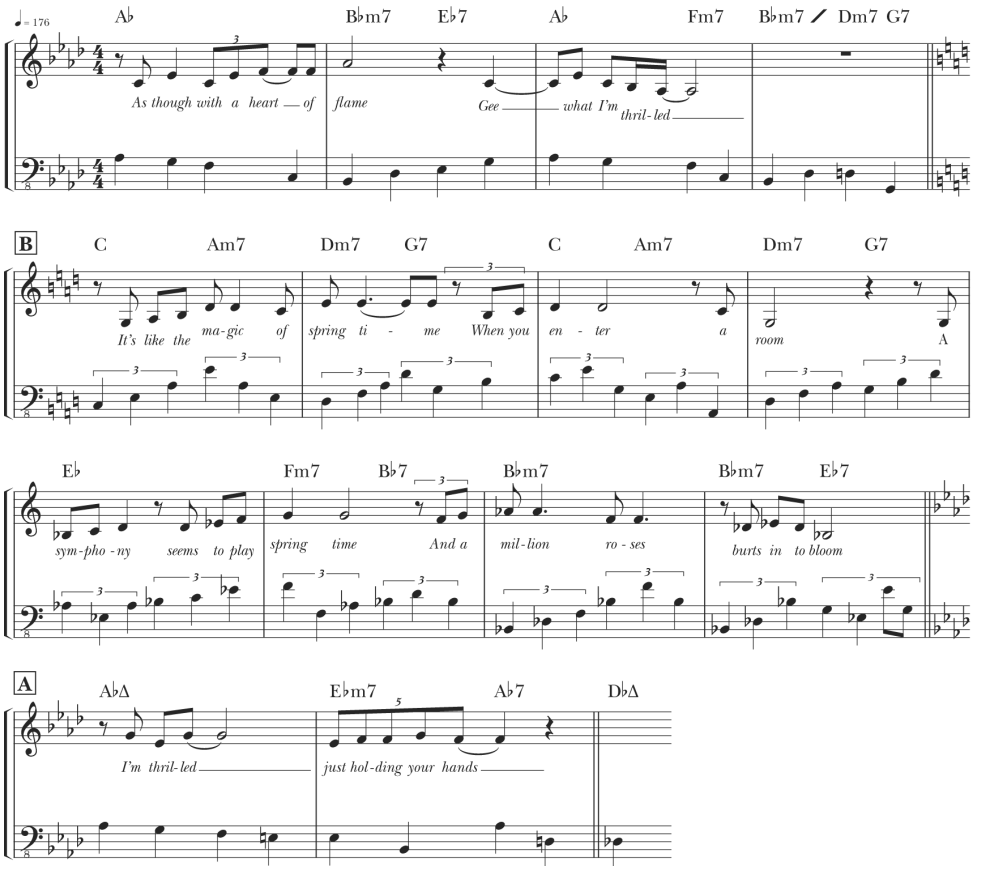


Fig. 8.19. "I'm Thrilled" (June Christy, 1946), voice and bass

In this ballad of AABA form, the bass plays the traditional walking bass in the A sections at a tempo of 66 quarter notes per minute. It starts triplets of quarter notes on the bridge, soon followed by the piano and the drums. This bridge is thus totally devoid of the original tactus, which is replaced by another one of a 3:2 ratio. As a result, the whole rhythm section finds itself opposing the tactus, the time signature, and the singer, who is the only one referring to the original pulse. However, the feel of it may be anchored enough for the memory to retain it through the expression of the vocalist alone. If this is the case, there are indeed two superimposed meters and not just a change of time signature.

Polymeter:

Time signature 1: 4/4 (voice)

Time signature 2: 6/4 (piano-bass-drums)

Equivalence: a quarter note (time signature 2) = 2 eighth notes in triplet division (time signature 1)

• *10/4 and 20/8 "Dance of Maya"*

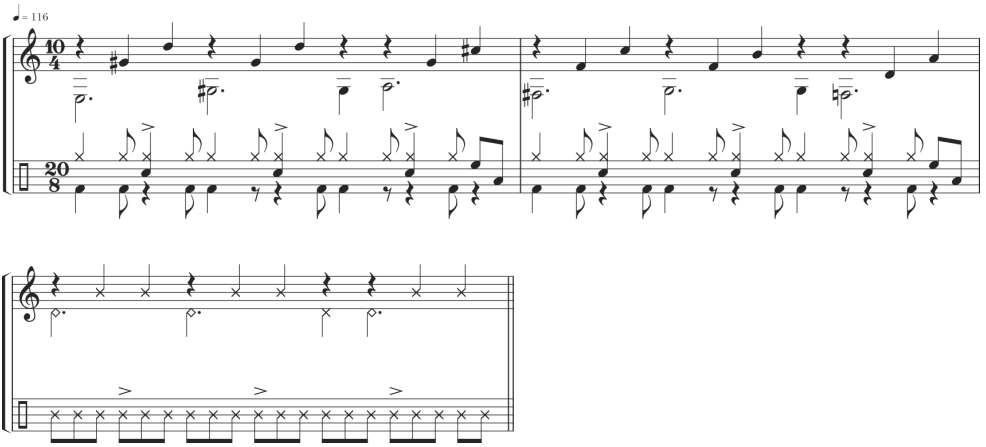


Fig. 8.20. "Dance of Maya" (John McLaughlin, 1971), guitar (upper stave) and drums (lower stave)

This case is a complex polymeter. The guitar plays a pattern of quarter notes in 10/4 time but the melodic pattern made of arpeggios involves a "dotted half note-dotted half note-quarter note-dotted half note" [3-3-1-3] subgroup, which is given by the bass. The drums come in following a complex compound meter (20/8) in which a quarter note equates a quarter note of the other meter. The time value in this new meter is, indeed, the dotted quarter note of the normal compound meter but, as the total number of eighth notes imposed by the 10/4 time is twenty, not twenty-one, an eighth note is removed from the last beat.

At the beginning of the piece, guitar and electric keyboard present the pattern in 10/4 in unison while electric bass plays the subpattern [3-3-1-3] (the bass of the arpeggios). The drums then come in with the pattern in 20/8. In a third phase the whole orchestra goes along with the 20/8 time until some of them eventually go back to the 10/4 time, which in a way re-creates the polyrhythm in reverse.
Polymeter:
Time signature 1: 10/4 (guitar-bass)
Time signature 2: 20/8 (drums)
Equivalence: a dotted quarter note (time signature 2) = a dotted quarter note (time signature 1)

• *4/4 and 21/16 "You Don't Know What Love Is"*

Cynthia Folio gives a very interesting example in her article on polyrhythm published in 1995:[29] Eric Dolphy's flute solo on "You Don't Know What Love Is," in his last recording dated June 2, 1964. He plays at a ballad's tempo (quarter note = 53) but with a very fast flow compared to the normal rhythm of a ballad, which is based on the walking bass. Folio shows that Dolphy plays forty-two eighth notes in groups of three in a four-beat bar at the end of the solo, which corresponds to

42/8 or 14/4 in triple division or 21/8 in the meter based on an eighth note. This is how Folio transcribes this fragment of the solo. The quarter note of the lower stave corresponds to the eighth note at the tempo of 53.

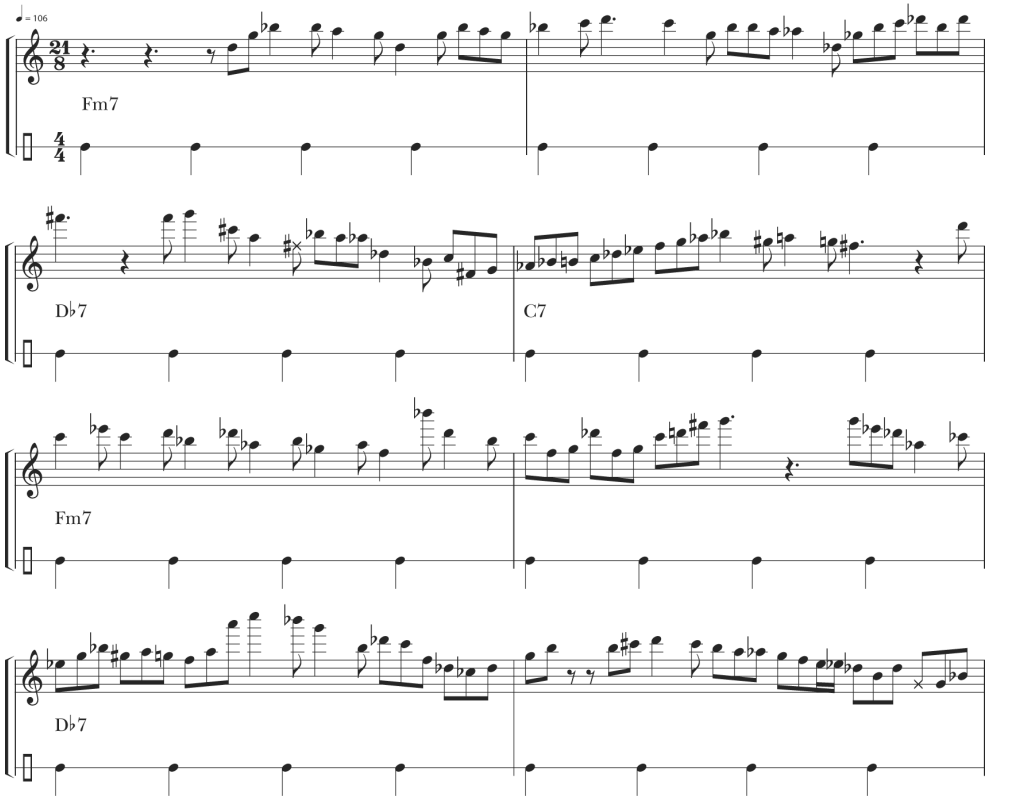


Fig. 8.21. "You Don't Know What Love Is" (Eric Dolphy, June 2, 1964), transcribed by C. Folio

Polymeter:
Time signature 1: 4/4 (piano-double bass-drums)
Time signature 2: 42/16 (flute)
Equivalence: twenty-one sixteenth notes in triplet division = a dotted half note + a dotted eighth note in triplet division (time signature 2) = a quarter note (time signature 1)

Of course, it is hard to imagine that a musician could improvise on such a complex equivalence. I see two possible ways in which he could be doing it. Either Dolphy thinks in a totally independent tempo (a quarter note = 186 instead of 53 for the rhythm) or he follows the rhythm while regularly playing at a different pulse but without thinking about it or counting it as such. Perhaps both explanations correspond to the same process seen from two different sides.

The two rhythm sections of Ornette Coleman's "Free Jazz," which play in two different tempos, could also be mentioned. These are cases of polymeter, too, but the effect produced is very different. It involves six musicians operating in two different groups. Personally, I hear it as two completely separate rhythmic groups playing independently rather than superimposed meters.

As for identical rhythms played out of sync (Siron's "rhythmic canon" or Folio's "Type B"), I am not convinced they should be classified as polyrhythms. "Concorde" by John Lewis is one of the rare fugues ever composed for jazz, and it is based on numerous imitations of patterns, of course. However, it does not seem to me that it produces the characteristic effect of polyrhythm because the rhythms are similar and the meter never gets challenged.

◊ ◊ ◊

This chapter has been dedicated to reviewing the organization of rhythmic elements in jazz. Many authors, however, believe that "what matters is not what is played but how it is played" and insist on what goes on under this organization (sometimes referred to as "subsyntax"), i.e., the ways in which the rhythm is felt and played. Let us review some traits of this approach that relate to "agonism."

4. AGONISM

The jazz take on agonism involves the study of the ways in which each musician behaves toward the pulse as well as how it settles and develops. A whole branch of jazz analysis focuses on this. The general discussion of the subject was probably started by an article by Charles Keil published in 1966, "Motion and Feeling through Music,"[30] in which he lays down that the feeling generated by rhythm ("engendered feeling") does not come from the syntactic but the "subsyntactical" level, defined as the way of playing rather than the content played. In a later article (1987)[31] Keil suggests the concept of "participatory discrepancies": The power of music is in its participatory discrepancies, of which there are basically two kinds: processual and textural. Music, to be personally involving and socially valuable, must be "out of time" and "out of tune."[32]

J. A. Prögler added that such participatory discrepancies need to be measured in order to be discussed, which is something that Charles Keil did not do in his time: "In this article I will explore the concept of 'participatory discrepancies' (Keil 1987), focusing on the jazz rhythm section, and present some preliminary research findings in the hope of encouraging continuing work in this area. Briefly, what I found is that participatory discrepancies are observable at the subsyntax level

and they can be precisely measured. This allows us to say something concrete about swing or groove as crucial elements of musical style."[33]

This subject matter has been widely explored since then. Among many studies, three that stand out are by Steve Larson,[34] Matthew W. Butterfield,[35] and Fernando Benadon.[36]

◊ ◊ ◊

I shall finish this chapter by stating the obvious: rhythmic phenomena are extremely complex in jazz as in other areas. In the very early days, people felt that the novelty and specificity of jazz lay in its rhythm. What is specific about rhythm in jazz certainly exists and there is still much to explore. However, in its own way jazz contributes to a common musical structure. The question is often asked whether there is something radically specific to jazz rhythmwise. I would be tempted to lean toward a negative answer, or, at least, I would very much keep things in perspective. Besides, I believe that the undeniably specific contribution of jazz to rhythm needs to be reconsidered not just as ways of playing rhythm but also as an approach to jazz writing, which I have been trying to define here. In the case of polyrhythms discussed above, I do not know whether Winthrop Sargeant was right to think that they are specific to jazz. A vast study would be needed to answer that question. But I am convinced that polyrhythms are part of the jazz heritage (sometimes called the vocabulary of jazz) and that the sum of what this heritage is made of can lead to a definition of this music's identity. Jazz is not just about how things are done in jazz; it is also about what jazz is and does.

CHAPTER 9

Form, Sound, Melody

1. FORM

The question of form seems less important in jazz than in art music, where it has been a major element for a long time. It seems to me that jazz musicians care less about form, especially "large forms." The pieces are often short due to non-musical constraints: the requirements of show business or dance or the technical limitations of mechanical recording. It is also essentially linked to the practice of improvisation, which involves memorizing all the elements of the improvisation framework. Consequently, the latter cannot be overly complex, otherwise it would utilize all of one's mental resources and, as a result, hamper one's capacity to improvise. However, these are not the only factors. Jazz may be a "small form" type of music with a "miniature" aesthetic at its core. True, sizeable pieces certainly exist (especially in the work of John Coltrane, Miles Davis, Charles Mingus). Very early on, Duke Ellington started to compose formally unified multi-movement suites. However, when he composed a "Concerto for Cootie," it lasted 3:21, which corresponds to the duration of one side of a 78 rpm.[1]

But clearly we have so far only questioned form in jazz applied to compositions. What about the forms of performance? This is the next question to ask in order to encompass the full scope of the matter, for this is where the real formal stakes of jazz lie. It is clear that the twenty minutes of some versions of John Coltrane's "Impressions" are formally more significant than the thirty-two bars of the composition and the less than thirty seconds needed to play them.

What can we try to say about the first pair, form and structure? André Hodeir quotes Boris de Schlœzer on this matter: "Structure is the layout of diverse parts in order to create a whole whereas form is precisely that whole as such, considered in its unity."[2] Hodeir adds: "The concept of form is infinitely broader than the concept of structure. . . . It is linked to the profound necessity of a work, to its essence, more than its structure. . . . Form is the way that a work tries to reach

its unity."[3] Let us keep in mind this first definition: form is the most general concept. It encompasses structure, which itself involves the layout of a piece, but goes beyond the mere structural components of a work to consider it as a unified whole.

Before addressing problems of definition, it is necessary to distinguish between the pre-performance stage and the performance stage. At the latter, the questions could be asked: Can the concept of form be applied to improvised music? At which point is form the consequence of a musical decision or the result of the contingencies of an improvised development? Could there be such a thing as a resulting form? Does the concept of form assume premeditation? When John Coltrane improvises thirty choruses on the AABA form of "Impressions," should we consider the final result, lasting 14:40, from the perspective of general form when it is clear that the decision to finish the piece at the chosen time is not the result of chance but of some intuition, some unpremeditated feeling?

At the pre-performance stage, data such as composition or codes or instructions can be investigated to see whether formal elements stand out. Composition, for example, is most commonly built on a form such as AABA. Afterward, at the performance stage, the formal data is to be appraised differently. If a head has been stated following an introduction, and then several solos have been improvised before the repeat of the head and then a coda, a specific structure can be described from which we may possibly draw conclusions as to the form at work, in this case a head-solos-head form. Clearly an AABA form identifiable in the pre-performance stage and a head-solos-head form in the performance are two completely different formal contents of the same performance. Thus, the discussion of form must be clearly distinguished from the discussion of structure and be considered in two stages: the pre-performance stage and the performance stage (and possibly post-performance, too).

So one must first consider the pre-performance stage, the formal framework used as a starting point for the development of the work as it will be appraised through recording. How to characterize a form at the pre-performance stage? We have defined form as a general overarching architecture that can incorporate a large number of various structures. A general AABA exists that will never be expressed twice in the same way but will remain identifiable in each of those ways. As mentioned before, I do not see any "large form" in jazz. However, small forms do exist. Until the 1950s, four of them prevailed: multithematism, the song form with its two main variants AABA and ABAC, and the blues form.[4]

The first criterion to take into account when identifying forms is a first level of structure, the identification of repeated elements versus differing elements. As previously noted, we see form as a resulting parameter. Structures, and hence forms, are to be determined through the investigation of the other parameters: melody and harmony mostly, rhythm less often, and sometimes sound. Most

of the time, though not always, melody and rhythm reflect each other, melodic repetition coinciding with harmonic repetition. Metric grid would be the second criterion, that is to say either a specific number of bars or some proportion between the parts. Finally, form can be associated with a specific harmonic progression. AABA and ABAC only involve the level of structure, while the blues form involves structure, metric grid, and a harmonic progression.

Multithematism offers a looser framework. The term designates all forms using more than two themes. Stemming from European dance music that has contributed to some of the jazz repertoire, these forms are particularly common in ragtime and stride, and tend to become rarer from the 1920s.

The song form AABA, if we stick to only its name, displays an element A, repeats it, exposes a second one (B), and returns to the first.

In most instances, this form follows a structure of thirty-two bars organized in four parts of eight bars each. However, there are some AABA structures of sixteen or sixty-four bars (4 x 4 or 4 x 16), as well as cases where part A does not last as long as part B. This is why one cannot speak of a specific metric grid of AABA despite the prominence of the thirty-two-bar structure of four parts of eight bars. Finally, the repeat does not have to be strict and all variants among the AA'BA" type can be found, in which A, A', and A" can differ melodically, harmonically, as well as in duration. No harmonic progression is specific to this form. At the very most, we can notice that, in the (very common) case of tonal harmony, the B part nearly always modulates; but this is more an attribute than an essential property. Only the first level of structure is a determining criterion: a specific order of repeated and differing elements characterizes this form. Up to what point does the repeat need to be identical, and to what extent is the second part different from the first? These questions remain open. The form, as understood here, reveals its general nature; the fact that its boundaries cannot be identified precisely does not make form irrelevant.

The song form ABAC is of the same kind as AABA but ordered differently: we start with two distinct elements (A and B) before returning to the first and then finish with a third (C). Sometimes the third element is a variant of the second, so that ABAC could become ABAB' and thus be categorized as a binary form XX' (where X = AB). The same comments that have been made about the possible variants of AABA apply here, too. No other specific criterion characterizes this form. However, it should be noted that, when tonal, ABAC generally modulates less than AABA.

The blues form consists of a metric grid (twelve bars), a harmonic progression, and a first level of structure in three lines. But blues pieces of eight or sixteen bars exist,[5] and the harmonic progression can be altered drastically. As for the first-level structure, it is intangible in principle except if the framework is different from twelve bars. The discrepancy between prosody, melody, and harmony has

already been pointed out, with the prosody following a course of AAB type, the melody a course of AAB or AA'B, while the harmony produces three different lines ABC. It is worth noting that the blues harmony, the "blue notes," as well as what we have referred to as the pathos of blues, have nothing to do with the definition of the blues form. They are stylistic attributes that may or may not be present in this form but can be seen in pieces built on other forms. Again, it is worth distinguishing between blues form and blues music. The blues form is present in many types of music (jazz, rock, and pop, for example) that are not blues in the sense of a musical idiom.

Not everyone accepts this fourfold classification. Jacques Siron distinguishes between a "blues form" on the one hand and a "song form" seen as AABA on the other. But he sees ABAC as a variant of AABA.[6] It seems a mistake to me to consider ABAC within the same formal matrix as AABA. They are clearly two independent forms requiring two essential and distinct terms. It is possible to accept the idea of a "song form," as there are indeed some common features, but we need to know which type of form we are talking about. It seems to me that it is a matter of style rather than form. There could be a "song style" with some specific melodic, harmonic, and (among others) formal features. But that is no reason, in my opinion, to conflate AABA with ABAC.

Siron mentions "other classical forms," among them "the asymmetrical forms," "asymmetrical variants of the bar structure," and "multimeters."[7] Of course, there are numerous observable structures that cannot fit within any of the four forms described. By 1950, alternatives appear. The compositions of Cole Porter, for example, are famous for their deviation from the norms. From the 1950s, the relative formal uniformity has gradually dissolved and a myriad of forms have appeared. But can we still speak of form if an outline does not emerge that can be drawn from many different cases? If form has disintegrated, it has been replaced by an infinite number of *structures* that cannot be categorized based on similarities. If no links can be found between some of these structures, then no new formal types have emerged. So it seems more appropriate to speak of a decline rather than of diversification of form.

Four expressions will be used as a framework of reference:

Form of composition: at the pre-performance stage, this is the outline that the composition follows (multithematic, AABA, ABAC, or blues);

Structure of composition: at the pre-performance stage, this is how the different parts of the composition are organized (for "All the Things You Are," for example, thirty-six bars AA'BA", 8-8-8-12);

Form of performance: at the performance stage, this is the outline that the performance follows as it unfolds, where it can be drawn to the only plan identified, that is to say "head-solos-head";

Structure of performance: at the performance stage,[8] this is the layout of a specific performance (which will link together elements such as an introduction, presentation of a head, interlude, unique or multiple solo[s] of one chorus or several, repeat of the head, coda, etc.).

2. SOUND

As suggested before, sound may well be the most important parameter in listening to jazz; it is "what we hear first" and, perhaps, what remains when a work or jazz musician has been completely forgotten. How can we approach this matter (which mainly involves the performance and post-performance stages)? There are two elements to consider: orchestration and the features of the sound. Orchestration is involved in setting the premeditated elements of the music (even when there is no score). The more instruments that are involved, the more likely it becomes that the interaction between them is going to be planned. Thus it becomes more important to analyze orchestration as the number of instruments increases. What we call "the features of the sound" involve the timbre produced by each musician as well as everything done to produce a certain sound individually or as a group at the performance or post-performance stages. The appraisal of orchestration and the features of the sound requires a preliminary review of orchestral settings and instrumental functions. The choice of instruments, who will be playing them, and what role they will be given are the first decisions to be made when arranging a piece. These are essential in every way, but particularly with regard to sound.

2.1 Orchestral Settings and Instrumental Functions

What instruments are being used and how? Answers to the second part of the question will be essential in appraising stylistic issues, especially with regard to rhythm. Who in the orchestra is in charge of expressing the pulse and how? Such matters have evolved a lot throughout history and contribute hugely in establishing what style is being dealt with. Improvisation also needs to be taken into account: which instruments improvise and how? Historically, improvisation has evolved toward an individualization of the process. It was first practiced as a group until the age of soloists came about. Then instruments in charge of rhythmical parts gradually gained more freedom and independence. Though some musicians tried to free themselves from them, roles were originally strictly allocated. However, their scope gradually broadened until boundaries finally dissolved. Though such information is essential to analysis in general and, as said before, is primarily involved in the analysis of style, it is also relevant to the analysis of interactions.

2.2 Orchestration

Orchestration is often used interchangeably with the concepts of arrangement and music writing. However, the three notions should not be conflated. The process during which a number of elements are being preset—the "fixing process"—(including elements that are written) involves everything that is predetermined. It is the most general notion. Arrangement involves all the choices made with regard to the general layout. It incorporates the whole treatment of the starting material and involves every parameter (harmony, rhythm, melody, and structure), not just orchestration and sound. So arrangement is also at work in the performance of a soloist playing a monophonic instrument and not just in performances of big ensembles. Orchestration deals with the voicings of chords, the timbral layout, and orchestral colors in general. Voicing issues overlap with the realm of harmony. One needs to know which harmonic context one is dealing with, which chords and which progressions are being used. However, chord voicings may well have more to do with orchestration than harmony. It has been established earlier that matters of chord realization in jazz cannot be addressed in the same way as in the analysis of classical music. The choice is at the discretion of the improviser (or arranger, when the music is being set). Chord realization depends a lot on each musician's style and is one of the key elements used to spot which musicians are playing chordal instruments, as well as to identify arrangers. This is why this area tends to be kept outside of the realm of harmonic analysis. In jazz education, this matter is more often dealt with in arrangement classes rather than those on harmony. In the case of the keyboard, whose tradition covers the whole history of jazz, ways of laying out chords (or voicings) contribute to the identification of a musician's style or a style of jazz in general. In the case of jazz practiced by large ensembles and especially in composed jazz, this matter can be an object of analysis in itself. The composing styles of arrangers such as Duke Ellington, Count Basie, Gil Evans, or Stan Kenton have been the focus of numerous analyses.

2.3 Features of the Sound

Sound is something difficult to address. Given that a work of jazz only exists once sound has been produced, and that the object of its analysis can only be a recording of it, it must be that some essential element of this work is expressed through sound. In theory, it is possible to identify a jazz musician (at least the greatest) just by listening to a sample of his or her sound. What is that sound, then? The concept can be more broad or less. Considering instrumentalists and vocalists first—leaving aside arrangers and conductors for the time being—the sound is primarily made of the sound wave that comes out of the instrument or the throat, ignoring other matters such as pitch, rhythm, and the organization of

sounds. In the context of composed music, the sound is the last link in the chain of processes involved in carrying out a work, but the work exists prior to this final stage. In music based on oral or phonographic tradition, the sound is an integral part of the work itself and is involved in the making of a piece. The concept of sound can then be broadened to incorporate everything the instrumentalist plays: phrases, rhythms, articulations, turns of style, etc. All these elements form part of the sound of an individual performer but at a less basic level. Next comes the relationship with other musicians: the way of playing with others, the capacity to interact with them, and, where applicable, the behavior of the conductor (his or her choices with regard to the size of the orchestra, instrumentation, sidemen, repertoire and arrangements played). Last, the entire work can be considered: how it develops and how the language evolves. But this and much of what has gone before belongs in the realm of style. Where is the line to be drawn between what belongs to sound on the one hand and to style on the other? The question remains open.

The issue with regard to arrangers and conductors is not very different. For those who are not instrumentalists, the primary level of sound obviously does not exist, so analysis focuses on the other levels. We can talk of the sound of Duke Ellington as a pianist but the sound of Duke Ellington as an arranger is his orchestra's as he maintained it throughout his long career. The orchestra itself and its personnel changed, its tone evolved; but its sound remained the same throughout and was an essential defining element of Duke Ellington as a musician. The same applies to Gil Evans or George Russell.

What concept do we have in our heads when we speak of the sound of musicians such as Louis Armstrong, Duke Ellington, Thelonious Monk, John Coltrane, or Miles Davis? Probably something very abstract, a mental image different from what we can hear in any particular recording by one of those musicians—but also something very simple, concrete, like the voice of a relative or the memory of a familiar fragrance. This is probably a feature not specific to jazz; the same could likely be said about Josquin des Prez, Bach, Debussy, Maria Callas, the Beatles, or Edith Piaf. However, there is no denying that sound holds a particular status in jazz that needs special consideration. The sound ambiance in which all recordings in Miles Davis's album *Kind of Blue* are bathed is vital to understanding this music, along with harmony, rhythm, melody, and the rest. The same applies to the violence of some recordings by Albert Ayler or Cecil Taylor, or likewise to the harshness of tone of a group like the Tony Williams Lifetime. The sound element of John Coltrane's "sheets of sound" technique, as heard in some of his live recordings of "Impressions," is the first thing that the listener picks out. Of course it is difficult to tackle this feature in analytical terms, moving away from some limited impressionism in the description. This, in my opinion, is one of the great challenges of jazz analysis, closely followed by the more general question

of how relevant an activity it is. Our analyzing capacities may be challenged by an element that is nonetheless essential. Some degree of modesty is therefore necessary in the analytical process.

The more traditional aspects that can be dealt with in analyzing sound should not, however, be forgotten, particularly dynamics: variations in volume but also a broader notion of intensity. Sound intensity obviously involves variations in volume but can also incorporate other elements of tension, for example in the individual sound produced by instruments. There is no doubt that an extreme use of instruments' capacities (especially in terms of range) produces intensity beyond variations of volume as, for example, in the use of stratospheric pitches on the trumpet, most famously by Cat Anderson in Duke Ellington's orchestra or, within a very different type of aesthetics, the harmonics of Steve Lacy's soprano saxophone. Generally, the ways of dealing with intensities (particularly through contrast) grew more important as works started to last longer, from the 1950s onward.

Denis-Constant Martin and Didier Levallet take intensity as one of their criteria for studying the various versions of Charles Mingus's "Fables of Faubus." The idea is to see how various parameters (including structure, rhythmical movement, and harmonic evolution) behave within a series of versions of the same composition. The authors have identified fourteen sections and produced a table with three columns: "Structure," "Rhythmical Movement," and "Harmonic Evolution." From it the authors draw what they call "intensity curves." They then look more closely at some of the fragments, for which they produce new curves incorporating what they call "points of maximum tension." They first identify a "typical structure," which is the one that comes up the most often, and then variations. This is a type of analysis generally based only on sound and intensities.

Finally, the sound of the actual recording studied must be taken into account, that is to say the post-performance stage. The technical aspects of the recording process are largely responsible for the eventual overall result, particularly with regards to spatialization choices: how closely to the instruments is the sound recorded? Are reverberation effects used? Etc. There are many examples of remastered recordings in which very different choices have been made with regard to sound treatment.[9] They show how strongly changes in presentation can affect how we hear the music.

3. MELODY

The distinction to be made in melodic analysis of jazz is between composed melodic lines and improvised ones. Can they be considered to behave in the same way? Certainly not, at least insofar as they have been produced through

two different processes: composition or improvisation. However, once a melodic line has been played and recorded, should a distinction be made in the way we address both cases in analysis? That is less sure. On the one hand, we do not always know which case we are facing nor whether it is not a blend of the two. On the other hand, though it is highly probable that the melodic line will bear signs indicating how it has been produced, this does not mean that we will always be able to spot those signs when listening to the music or analyzing it, nor that it will be possible to isolate them in melody alone, without involving other parameters as well. A theoretical choice can also be made to consider what one is listening to as a sole entity that exists, without caring about how it came into existence. In this case, it is considered that meaning is carried by the resulting object alone, independent of the conditions in which it has been produced.

When analysts have confronted improvised solos, they have spontaneously approached the subject from the standpoint of how they are produced, asking the question: what methods do improvisers use to improvise their solos?[10] Further investigation shows that this question alone is not enough, and that it is necessary to engage with it at a neutral level, and possibly at the level of the listener's perception, too. The question then becomes: what features does this solo show? How can we identify and distinguish between them? How do they combine? Some of these features result from a strategy, a modus operandi, but it therefore seems to me preferable not to distinguish between composed and improvised melodic lines when analyzing melody in jazz. But it is also clear that the distinction will be needed in order to bring into focus some features or explain some mechanisms.

Another question arises: does melodic analysis in jazz need to differ from the way such analysis is practiced in the classical tradition or ethnomusicology? Again, this does not seem necessary. In the absence of a more precise system within which to operate, it seems wiser not to assume that there would be an absolutely unique way of analyzing melody in jazz—not to ignore the thinking that has been carried out with regard to other types of music.

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Jean-Jacques Nattiez suggests a classification of melodic theories in three main groups, each based on a musical component: phraseology, contour, and progression.[11]

Our aim here is not to try to propose a melodic theory applicable to jazz, but rather to merely suggest possible ways to address this specific objective with three points of focus:

1. Identification of significant melodic units
2. Relation to other parameters

3. Distinction between "static" and "dynamic" approaches as described by Jean-Jacques Nattiez

As for the first point, no new classification is being suggested here but we recommend some degree of empiricism. Jean-Jacques Nattiez has showed how the notions of cell, motive, figure, phrase, theme, and period have been and still are defined in hugely different and vague ways depending on eras and authors. It is worth remembering that the nature of the process behind unit segmentation can be critical.

The second point of focus helps us separate between "purely" melodic features and those that can only be addressed in relation to another parameter (rhythm, harmony, or structure).

The third point is by far the hardest. The static approach is descriptive by nature: it consists of identifying features at the surface of the object and observing them for themselves. As for dynamic approaches, it seems to me that they are of two different kinds. One attempts to compare superficial melodic features with one another to then identify what kind of relationship may exist between them. This becomes a motivic analysis: we look for motives and their possible varied repetitions.

The second kind of dynamic approach is of Schenkerian inspiration and consists of looking for the link between a melodic fragment and another, which does not exist at the same level but at a deeper, concealed one. It is based on the postulate that a hierarchy exists between the notes at the surface. Some of those notes are given a value that grants them more or less structural importance. Those notes that have been granted a value form units that are not visible as such on the surface but that can be identified at various deeper levels. The higher the value, the more structural importance the notes have and the deeper, more fundamental levels the units that they form are at.

The way to determine the type of value and its strength may vary. Heinrich Schenker's fundamental structure, which consists of a fundamental line and the arpeggiation of the bass line, is one solution, but not the only one. It is possible to keep the idea of the Schenkerian construction without necessarily applying it to the letter. Also, it is common practice in jazz that a melodic line is improvised or composed after a theme has been exposed, which is then used as a point of reference and which provides the chord changes used as a basis for repetition. The theme acts as intermediary background. It is not concealed, for it is present at the surface; but it is not visible when the melodic line in question is being created, because it has been played before (and will be played again if it is re-exposed). So it can be used as a point of reference or fundamental structure. That is thematicism in the strict jazz sense of the word (and, what's more, corresponds to common practice).

It is worth noting that this process links melodic and harmonic analysis together. This is how Nicolas Meeùs comments upon it: "Schenker can take the credit for restoring the importance of counterpoint which had been undervalued previously; but his greatest merit lies in the fact that he based counterpoint itself on a harmonic theory or, in other words, that he elaborated a theory that is both harmonic and contrapuntal at the same time."[12]

About an analysis in the style of Schenker made of Charlie Parker's improvised line, Henry Martin observes this: "Thus, voice-leading analysis charts the linear progress of a solo as it relates to harmonic function. To that extent, the voice-leading sketch, while partially 'athematic' in its higher levels, relegates melodic function to a lesser position in order to clarify the harmonic. But insofar as harmonic progress can itself be thematic, or there may be thematic qualities independent of foreground rhythm, voice-leading analysis can be a useful tool for discovering them."[13]

The use of any of the three approaches described (which can be qualified roughly as descriptive, motivic, or Schenkerian) does not preclude the use of the others. On the contrary, any attempt at a comprehensive analysis of melody should involve them all, but with the awareness that a very different type of analysis underlies them.

There is a final remark to be made. Melodic analysis in the style of Schenker differs from the other types of analysis in the sense that it does not isolate melodic features one by one. It reveals "processes of prolongation,"[14] but its aim is to provide a global overview of the work and not to identify melodic features.[15] For that reason, the inventory of melodic features presented below merely offers (1) a descriptive approach for the ones grouped under the rubric "morphology" and (2) a motivic approach for the ones dealt with under the rubric "variation."

The classification is based on the principle described above and is drawn from several authors, including Jean-Jacques Nattiez (who himself has presented an inventory drawn from various authors),[16] Henry Martin (who has produced a list based on his study of Charlie Parker),[17] and Barry Kernfeld (who has drawn types of motivic variations applied to jazz).

3.1 Morphology

3.1.1 WITH NO REFERENCE TO OTHER PARAMETERS

***Range*—**The interval between the lowest and highest pitches of a melodic line is worth noting, as such data is revealing from a stylistic standpoint. The average range of compositions has tended to broaden over the course of history. "Azure" by Duke Ellington does not extend beyond an octave, whereas "Donna

Lee" (Miles Davis[18]) covers nearly two. This phenomenon can be explained by the more instrumental approach of compositions from bebop onward, whereas older jazz had a more vocal approach to melody. However, these features are obviously very general and require systematic investigation. "Oleo" by Sonny Rollins is a composition of the second wave of bebop and spans over a minor seventh; "Thelonious" by Thelonious Monk covers a fourth.

As for improvised parts, range is obviously one of the stylistic features of a solo musician. The morphology of the instrument clearly plays a major role; pianists and guitarists tend to use a wider range than do wind instrumentalists.

***Density*—**Density deals with the amount of notes in a melodic section. It has two facets: rhythmic and melodic. Rhythmic density consists of the number of notes that occur in the course of a definite amount of time. To take examples that have been previously mentioned, the rhythmic density of "I Got Rhythm" is lower than in "Donna Lee," the melodic line of which is nearly entirely in eighth notes and at a fast tempo. Bossa nova compositions often show a low density ("Insensatez" and "Meditação," both by Antônio Carlos Jobim). "De Pois de Amor o Vazio" by Wayne Shorter is essentially made of a succession of groups of four slurred whole notes.

Melodic density is identified through the number of different pitches. This concept is of the same kind as range but, besides looking at extremes, it also takes frequency into account. The most telling example is "Samba de Uma Nota Só" which in the A sections almost only uses one note (two, actually). The contrast is all the more striking when melodic density suddenly increases in the B section.

The same very low melodic density is to be found in Thelonious Monk's "Thelonious" as well as in so-called riff-themes ("C Jam Blues" by Duke Ellington).

***Intervals*—**Intervals can be observed from two angles:

1. It is possible to look at the average size of intervals between the notes of a melodic line, that is to say how notes are distributed. Intervals are small most of the time, and stepwise motion prevails in the lines of classical jazz, which are supposed to be based on the voice. Such distribution was subject to change as styles evolved. For example, "Loose Bloose" by Bill Evans uses large and unusual intervals.

2. The investigation of intervals may reveal specific features when one or several intervals keep occurring, like in "Misterioso" by Thelonious Monk, which is built entirely on sixths, or "Freedom Jazz Dance" by Eddie Harris and "Witch Hunt" by Wayne Shorter, both of which are based on fourths.

***Shape*—**It is always necessary to observe the shape of melodic lines, especially when it shows clear features. Whether dealing with composed or improvised

melodic lines, analyzing the shape provides worthwhile indications of the style involved. For example, Henry Martin points out the "open and closed space" created by the melody of "Over the Rainbow," where a large interval (an octave) "opens" a space that is progressively "filled in" through a gradual descent following a stepwise motion.[19] Martin underlines that the mere positioning of a note outside of the range of the rest of a melodic section casts light on that note and is likely to give it more structural weight.

***Articulation*—**This concept may be harder to address but may prove of real importance. *Legato* or *staccato* articulation, as well as the frequency and strength of accents, may change the sound but also the purpose of a passage, and can have an impact on its structure. The same applies to blue notes and ghost notes. In some cases, when specific effects are being used, for example, we find ourselves touching on the realm of sound. In "Stratusphunk" (George Russell), recorded by Gil Evans and his orchestra,[20] the melodic line is stated on one occasion using the technique of slap tonguing, slapping the tongue on the reed of the saxophones. Equally, in "Blues in Orbit" (George Russell), again by Gil Evans,[21] the melodic line is stated once by saxophonists flapping the keys using the actual fingering but without blowing. When such effects appear they must obviously be taken into account. Even if such occurrences are relatively rare, their importance should not be underestimated. As soon as the creation of sound is affected or something is added to the purity of a note, then something is expressed that can alter the meaning of the object affected. Effects such as those described above gained in diversity when electric instruments came along with the numerous possible distortions of sound that they allow. Again, this matter stands at the intersection between articulation and sound: the articulation and sound of guitarists such as John Abercrombie or Bill Frisell often smothers the attack of the sound by using the so-called expression pedal in order to allow the note to develop more incrementally. Whole parts of the melodic and rhythmic processes are then subject to such an effect combining articulation and sound.

***Readability*—**Readability is concerned with how clearly determined the features of the pitches are. Variations caused by the blue note and, more generally, inflections of notes that sometimes go beyond embellishments have already been mentioned as well as clearly identified phenomena such as vibrato. The solo that John Coltrane played on "Impressions" at the Village Vanguard on November 2, 1961, started with perfectly identified pitches until a slow process gradually dissolved them to the point that the listener could not recognize them anymore, creating Coltrane's famous "sheets of sound." This is ultimately a matter of melody as much as sound.

3.1.2 WITH REFERENCE TO ANOTHER PARAMETER

Harmony—*Implicit harmony—arpeggiation*: is it possible to identify harmonic zones simply by looking at the melodic line without knowing anything about the harmonization of the passage? Melodic lines can be more or less explicit on the subject. The possible presence of arpeggios is clearly an important harmonic cue. Generally, which element of the chord in process is represented by each note of the melodic line? The following famous quote from Charlie Parker talks of harmonic intuition but it clearly has melodic implications, too:

> I remember one night before Monroe's I was jamming in a chili house on Seventh Avenue between 139th and 140th. It was December, 1939. Now I'd been getting bored with the stereotyped changes that were being used all the time at the time, and I kept thinking there's bound to be something else. I could hear it sometimes but I couldn't play it. Well that night, I was working over "Cherokee," and, as I did, I found that by using the higher intervals of a chord as a melody line and backing them with appropriately related changes, I could play the thing I'd been hearing. I came alive.[22]

Scales: Are the scales observed the result of what harmony suggests on a small, medium, and large scale?

Diatonicity: In a tonal context, it is interesting to spot the notes that do not belong to the key, non-chord tones in the melody outside of chord progressions, cadences, or even keys in use. "When I Fall in Love" by Victor Young, for example, is in E♭ major and does not have any note not belonging to this key even in passages modulating to F Minor, which means that the characteristic notes of F minor in relation to the main key of the piece (D♭ and E natural) have been carefully avoided in this passage in order to emphasize the common notes in the two keys.

Rhythm—In the same way that interval distribution could be surveyed, implications of rhythmical features on melody can be observed. Examples of it were seen when talking of melodic density. A rhythmic figure recurring in a melodic line is obviously a melodic phenomenon as well as a rhythmic one.

3.2 Variability

In Jean-Jacques Nattiez's terms, all the features presented so far are part of a static, mostly descriptive analysis of melody. So what could a dynamic analysis be and how would it take into account the capacity of a melodic line to develop? This is something that has gradually been studied more by authors interested in improvised jazz solos.[23]

Two methods are available that could be qualified as "motivic" and "structural" respectively. The first method looks at units that are melodic and rhythmic at the same time, which we call motives. They are visible at a superficial level and investigation focuses on the way those motives are repeated and varied, with enough differences that the process at work is not some kind of repetition but also with enough common features that the model remains identifiable. The second method has been described earlier when mentioning Schenkerian theory. It is worth noting that the motivic approach can soon develop into the structural one. Indeed, the variation of a motive often reveals that some of the notes that it contains remain through variations. These notes help identify the motive in general. It is then tempting to charge these notes with more structural weight or to assume that such a weight or importance makes them remain from one variation to the other.

Barry Kernfeld suggests a typology of motivic variations that can be taken up: "In motivic improvisation one or more motives (but never more than a few) form the basis for a section of a piece. The performer varies—in musical parlance, develops—a motive through [a number of] processes."[24]

The inventory consists of eight processes of variation. One of them, transposition, deserves particular attention.

Transposition: the restatement of a motive at a higher or lower pitch. Understood in its broader definition,[25] this process is the one most utilized in the compositions of Tin Pan Alley. Henry Martin describes this process as a "scalar prolongational path," which he sees as a process of prolongation and illustrates with "Autumn Leaves" and "All the Things You Are," but there is a myriad more possible examples ("Lover Man," "A Foggy Day," "Everything Happens to You," etc.).

In compositions at least, the seven other processes occur much more rarely (and it would be interesting to carry out a survey of repertoires from that perspective). These are defined as follows:

Ornamentation: adding notes to a motive (within and/or around it).

Rhythmic displacement: beginning a motive at a different point in the bar. Example: in "Blue Monk" the motive starting on the first beat of the ninth bar is repeated starting on the second beat of the tenth bar. The same thing happens in "Rhythm-a-Ning," also by Thelonious Monk: the motive beginning on the first beat of the fifth bar is repeated starting on the third beat of the sixth bar.[26]

Expansion: stretching out the contour of the motive with larger leaps between notes.

Compression: Flattening the contour of the motive with smaller leaps.

Augmentation: Slowing down the speed of the individual notes of the motive.

Diminution: Speeding up these notes.

Inversion: Turning the contour of the motive upside down.

It has become clear that this presentation of melodic analysis does not look at jazz in a special or unique way. If melody differs in jazz, the differences probably lie in its turns and ways of expression. However, these distinctive features do not necessarily require a different mode of investigation. Nevertheless, there is no reason not to use specific approaches, such as the "implication-realization" model that Eugene Narmour has suggested based on the theoretical developments of Leonard Meyer. Equally, it could be worthwhile to explore the resources of rhetorics: for example, the Brazilian academic Acácio Piedade has sought to adapt Leonard G. Ratner's topic theory to Brazilian popular musics.[27] It is easy to imagine that a model of this type could be applied to all kinds of jazz.

Part Three

ANALYSIS

In the first and second parts of the book we have looked at the general questions raised by the concept of work (part I) and the parameters to be considered (part II). The next part focuses on the ways to carry out an analysis concretely and to interpret the results that it produces. A brief history of the analysis of jazz works is presented in chapter 10. Transcription, which is a necessary tool, and its uses are discussed in chapter 11, followed by a review of analytical processes and procedures (chapters 12 and 13). The final chapter (14) is dedicated to the interpretation of results.

CHAPTER 10

History—Theory

1. ANALYZING WORKS—A HISTORY

Before moving on, let us take a look at the history of the analysis of works of jazz. This means tracking the history of commentaries on the subject, as all texts focusing on this music refer to works in some shape or form. However, we mean the history of the analysis of works of jazz in the strictest sense of the word, i.e., excluding historical, biographical, stylistic, sociological, and literary writings, as well as texts intended to make academia accessible to the general public or texts focusing on comparing jazz to other art forms. In practical terms, this overview favors commentaries that include fragments of scores or transcriptions.

This history can be divided in two phases, which—unsurprisingly—correspond to what happened in the music itself. The first phase involves the pioneers who laid the basis of analysis by looking at three types of music present in the melting-pot out of which jazz developed: negro spiritual, ragtime, and blues. The second phase, which starts approximately when the history of jazz enters its recorded age, corresponds to the time when the analysis of works of jazz started to expand rapidly.

1.1 Negro Spiritual, Ragtime, Blues

An interest in the music of slaves in North America appeared relatively early, even if it was uncommon and dispersed. Dena Epstein pointed out that the first descriptions relate to the West Indies rather than the continent proper. She mentioned testimonies dating from around 1650 ("On the Leisure Activities of Negros" by the Dominican Jean-Baptiste du Tertre, who was sent to the Caribbean around 1640 and found the songs of black people "very unpleasant"[1]), 1653 (by the Englishman Richard Ligon[2]), 1694 (description of the West Indian calenda by father Jean-Baptiste Labat), and 1708 (John Oldmixon[3]).

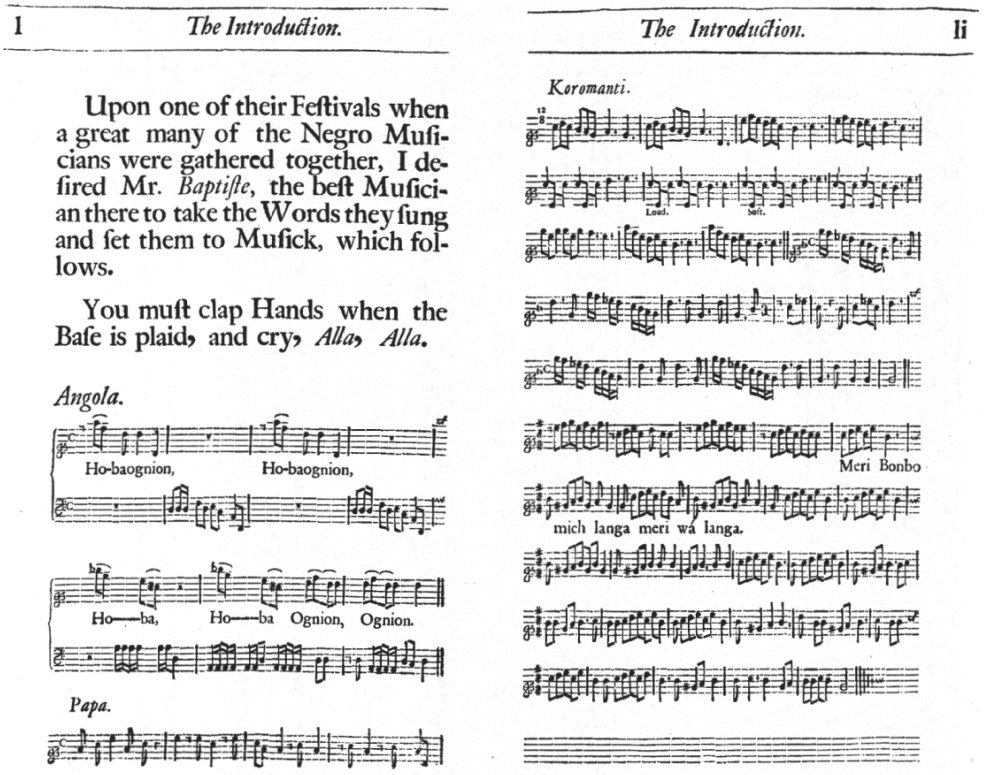

Fig. 10.1. *A Voyage to the Islands* (Hans Sloane, 1707), extract

Most of the time, these texts described instruments or dances rather than the music itself. It would seem that one of the oldest transcriptions of songs sung by black people in America comes from the book that Hans Sloane, an Irish doctor and naturalist, wrote when he came back from Jamaica where he traveled between 1687 and 1689 (see fig. 10.1).[4]

Besides, hymn books started being published as early as 1640 in the British colonies (*The Bay Psalm Book*, Boston, 1640; followed by *Hymns and Spiritual Songs* by Isaac Watts, London, 1707; *A Collection of Hymns and Spiritual Songs from Various Authors, By Richard Allen, Minister of the African Methodist Episcopal Church*, 1801).

The description and analysis of slaves' songs developed rapidly again after Emancipation. In August 1863 the *Continental Monthly* published an article entitled "Under the Palmetto" by Henry George Spaulding,[5] a section of which focused on music and displayed transcriptions. However, the publication of a series of compiled spirituals was the most significant event. Henry Edward Krehbiel gave a list of five in his 1914 book:[6]

1867: *Slave Songs of the United States*, compiled by three authors, William Francis Allen, Charles Pickard Ware, and Lucy McKim[7]
1874: *Cabin and Plantation Songs as Sung by the Hampton Students*[8]
1880 (1/1872): *The Story of the Jubilee Singers, with their Songs*[9]
1895: *Bahama Songs and Stories. A Contribution to Folk-Lore*[10]
1901: *Calhoun Plantation Songs*[11]

A compilation carried out by James Weldon Johnson and J. Rosamond Johnson,[12] *The Books of American Negro Spirituals*, published in two volumes in 1925 and 1926, needs to be added.

Articles followed by Johann Tonsor[13] in 1892,[14] Marion Alexander Haskell in 1899,[15] and Jeannette Robinson Murphy[16] in 1899. William E. Barton provided the *New England Magazine* with a series of three articles published one after the other between December 1898 and February 1899.[17] In 1903, Harvard anthropologist Charles Peabody released his "Notes on Negro Music,[18] and Nicholas Ballanta-Taylor published a study of the repertoire of a vocal group from South Carolina in 1925.[19]

In my opinion, Krehbiel stands out of this list as one of the pioneers of jazz analysis. He was an influential musical critic at the end of the nineteenth century and the author of *How to Listen to Music?* (1897). In 1914 he published *Afro-American Folksongs*, subtitled *A Study in Racial and National Music*,[20] in which he studies a body of 527 African American songs from the time of slavery. In the foreword, Krehbiel presents his method in six bullet points,[21] which constitute a program of analysis including idiomatic description, questioning of the origins, and the comparative method. It produced substantial results, especially in the field of rhythms and modes.

For example, referring to what had not yet been called blue notes, he made a list of the difficulties encountered by transcriptors in writing down some of the pitches[22] and came to the following conclusion:

> This is a common phenomenon in folk-music. It was the observation of the composer Spohr[23] that rural people intone the third rather sharp, the fourth still sharper, and the seventh rather flat. Vagaries of this kind emphasize the fact that the diatonic scale—the tempered scale, at any rate—as used in artistic music is a scientific evolution, and not altogether a product of nature, as some persons assume, whom in consequence attribute the slightest fractional variation from its tones to exquisite appreciation of tonal differencies.[24]

Everyone got interested in ragtime at the turn of the century, though the debates were far more ideological than analytical. The few articles that engaged with analysis ended up in a sort of false position as they tried to show that

syncopation—which seems to have been perceived as the only feature of this new music—was not actually new at all. Three articles were published in quick succession between 1899 and 1901, all of which criticized ragtime on the ground that it had not invented syncopation, which could be found in the music of Mozart, Haydn, or Beethoven. In support of that view and using analysis as a way of *reductio ad absurdum*, these articles quoted a variety of examples taken from the old great masters.[25] In 1903, the journal *Metronome* published an article by Gustav Kuhl, translated from the original German, which promoted a more positive attitude.[26] However, even he eventually quoted . . . Franz Schubert. It is clear that the music itself and how it worked was not being discussed. The focus was on what it represented. Seen as either a cause or a consequence, the object itself remained very vague. For still a long time, ragtime was not discussed in an analytical manner. Again, Winthrop Sargeant appears as a pioneer with his *Jazz: Hot and Hybrid*, published in 1938.[27] Pages 131–46 of the book are entirely dedicated to rhythm in ragtime. Roy Carew and Don Fowler walked in his footsteps in 1944,[28] followed by Rudi Blesh and Harriet Janis in 1950.[29]

As for analysis of the blues, a few analytical elements appeared in the newspaper article of 1915 mentioned before (see p. 139).[30] A comprehensive article was published by the *Journal of the Folklore Society of Texas* in 1916, with the title "The 'Blues' as Folk-Songs."[31] This is actually an interview with William Christopher Handy. A true study of blues came from Abbe Niles in his foreword to an anthology of pieces either composed or arranged by the same W. C. Handy and published in 1926.[32] This foreword tackled literary as well as musical aspects, and a true technical study of structural matters and blue notes was carried out. This text has a limited impact because it is entirely focused on W. C. Handy, seen as the man who discovered and spread the blues.[33] Nevertheless, this article stands as a proper attempt at a musical analysis.

1.2 Analysis of Works of Jazz

Moving on to texts dealing directly with jazz, attention should first be drawn to transcriptions. The first ones were certainly provided by musicians themselves, for copyright purposes especially. Jelly Roll Morton registered his "Jelly Roll Blues" as a score as early as 1915. In an article focusing on Louis Armstrong, Lawrence Gushee included reproductions of some original transcriptions registered by the trumpeter-composer,[34] which are very informative about the ways in which their creator thought of his works. There is ground to see them as early attempts to analyze a work of jazz.

The early commentaries on jazz in the 1910s and 1920s generally do not very well define jazz as an object. One of the main tasks for readers of these texts

involves identifying the type of music the authors are talking about and understanding their conception of it (which most of the time implies deciphering implicit views).[35] Ernest J. Hopkins (1913),[36] Gordon Seagrove (1915),[37] Vernon Grenville taking up again the sayings of James Reese Europe (1919),[38] and Ernest Ansermet's famous article the same year[39] are among the first texts known on the subject. These texts offer amazingly pertinent views of the new phenomenon, but none goes into any detailed analysis of works.[40] These texts inform the reader of a new phenomenon or share impressions of concerts.[41]

Five important texts of 1926–27 approach the subject in various ways. Henry Osgood's book (*So This Is Jazz*[42]) is conceived as a history of jazz. André Schaeffner (*Le Jazz*[43]) and Paul Whiteman and Margaret McBride (*Jazz*[44]), like the others, present a kind of analysis of music in general but not of specific works. The two editions of Alfred Baresel's book (*Das Jazzbuch*[45] and *Das Neue Jazzbuch*) as well as Arthur Hoérée's (*Le Jazz*[46]) are different: they present fragments from scores and proper analyses. However, they are fueled by an underlying view of jazz shared by some observers of the 1920s, which led them to focus on fox-trot and shimmy, i.e., a different object from today's point of view. In the same way that Henry Osgood analyzed the orchestration of Ferde Grofé, composer and arranger for Paul Whiteman,[47] Alfred Baresel focused on the famous *Jonny spielt auf*, Ernst Krenek's opera that, against the view of his creator,[48] was perceived as the first "jazz opera." Also, the vast majority of these analyses are based on scores, not recordings. Nevertheless, Baresel provided a detailed parametric analysis, reviewing rhythm, harmony, melody, and sound, but also investigated forms, improvisation, and the esthetics of what he thought was a jazz object (which, by our standards, is not jazz, or only very marginally). Despite these limitations, *Das Jazzbuch* still gives an idea of what the musicological analysis of jazz would become.

The views of classical composers have not necessarily been any shrewder (Darius Milhaud: "One must hear a serious jazz orchestra like Billy Arnold's or Paul Whiteman's. Nothing is random with them. Everything is balanced and in proportion, which is the sign of true musicianship, when all the possibilities of each instrument are mastered"[49]). However, they sometimes drew the attention of their readers to the need for analysis, as did Aaron Copland:

> I had rather not let jazz pass too easily as indefinable without first inspecting its structure. There may be some connection between Mr Osgood's attitude and that of most Americans, who believe too confidently that they can tell jazz from what isn't jazz and let it go at that. Such vagueness will do nothing toward a real understanding of it; on the other hand the very first move toward understanding requires precisely what Mr Osgood by implication advises against, a study of the mechanics of its frame.[50]

Besides, Paul Berliner reminds us that transcriptions of solos and arrangements were published very early on with the compilations of Louis Armstrong's improvisations by the Melrose Brothers, *50 Hot Choruses for Cornet* and *125 Jazz Breaks for Cornet*. Orchestra scores also become available: Duke Ellington's "The Creeper" and "Birmingham Breakdown" were published by Gotham Music Service in 1927.[51]

Then a major protagonist in this story comes in: Roger Pryor Dodge. He is a dancer, not a musician. Born in 1898, he started his career as a dancer in fashionable circles before he met Nijinsky and Les Ballets Russes in 1916. This encounter made him decide to go to Paris to study classical dancing. He returned to New York in 1921 and found a place in the ballet of the Metropolitan Opera. In 1924, he attended the second performance of George Gershwin's *Rhapsody in Blue* by Paul Whiteman's orchestra. He was shocked by the critiques that he read in the press and considered that there was a misunderstanding about the true identity of jazz. That triggered his article "Jazz Contra Whiteman" (1925), which was actually published in London only in 1929 under the title "Negro Jazz."[52] Whenever the article was actually written, it is a visionary piece of writing in many ways; he restored the truth about jazz at that time (at least in today's view):

> To my mind the creative playing found in *low-down* jazz is establishing a stronger form than any that has arisen for centuries. . . . It is disliked by those who know it only in its diluted form and who, often under the impression that they are defending it, desire to bring about its fusion or confusion with the windbag symphony or the trick programme closing rhapsody. There is no important similarity between the orchestras of Paul Whiteman, Jack Hylton, etc., and such organizations as Ted Lewis and His Band, Fletcher Henderson, and His Orchestra, Mound City Blue Blowers, King Oliver's Jazz Band, Thomas Morris and His Seven Hot Babies, Red Nichols and His five Pennies, Duke Ellington and His Orchestra, Louis Armstrong and His Hot Five, and Jimmy O'Bryant's Famous Original Washboard Band.[53]

Beyond the statement made at the beginning of this quote, the list of musicians mentioned is interesting. It shows a more insightful perception of the people who mattered in jazz at the time. This (in my opinion, crucial) article was followed by another important one by Dodge in 1934 titled "Harpsichords and Jazz Trumpets," which includes a transcription of several solos on various versions of Duke Ellington and Bubber Miley's "Black and Tan Fantasy" by Duke Ellington's orchestra (see fig. 10.2). The transcription is followed by a proper musical analysis, probably the first of its kind.

In Europe, Robert Goffin[54] and Hugues Panassié,[55] who also brought the hot jazz style into the limelight, do not claim any competence as musicians. Their

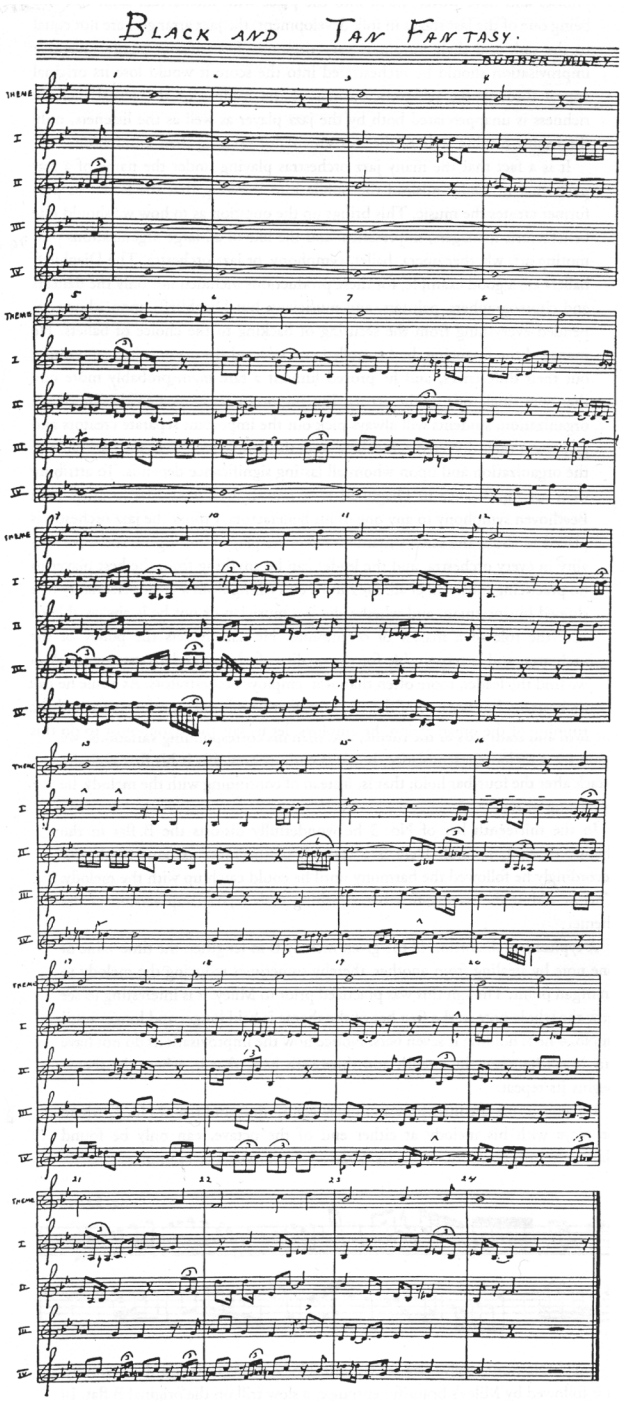

Fig. 10.2. Four superimposed versions of "Black and Tan Fantasy" (Duke Ellington, 1927), transcribed by Roger Pryor Dodge

contribution to the foundation of a musicology of jazz may be argued. However, it is clear that such a contribution is not to be found on the analytical front. It seems to me that the first book of analytical musicology on jazz appeared in 1938 with Winthrop Sargeant's first version of *Jazz: Hot and Hybrid*.[56] It contains numerous musical examples taken from Louis Armstrong, Benny Goodman, Benny Carter, Fletcher Henderson, Duke Ellington, the Mound City Blue Blowers, the Mitchell Christian's Singers, Frankie Trumbauer and Bix Beiderbecke, or Bessie Smith.[57] Here is how Sargeant describes his project in the foreword to the 1946 edition:

> The particular field that *Jazz: Hot and Hybrid* sets out to explore however, has, as far as I am aware, remained almost exclusively its own. It is not primarily a critical or a biographical or a historical book. Its purpose is descriptive. What evaluation it contains is limited mainly to the consideration of jazz as a type of art compared with other types of art. Its task has been to define jazz, to analyse its musical anatomy, to trace its origins and influences, to indicate the features that distinguish it from other kinds of music and that give it its unique place in the music of the world.[58]

A year later, Wilder Hobson published his *American Jazz Music*, which, despite being presented as a history of jazz, made significant contributions to the field of analysis, as could be expected from the position expressed in the introduction: "The reason why jazz cannot be defined is the fact that it *is* a language. It is not a collection of rhythmic tricks or tonal gags, but a distinctive rhythmic-melodic-tonal idiom—as is, say, Japanese *gaga-ku* or Balinese gong music. And a language of course cannot be defined."[59] In fact, a chapter of the book, "The Language of Jazz," focuses on the description of a few basic notions and includes an orchestral transcription of "Yellow Dog Blues," recorded by a group that did some studio work together under the name of Rhythmakers.[60]

The first jazz reviews appeared at the same time: the five issues of *La Revue de Jazz*, published in Paris in 1929 and 1930, some of which presented solos that had been noted down. The first lasting reviews started in 1934 with *Down Beat* (USA) and 1935 for *Jazz Hot* (France) and *Orkester Journalen* (Sweden). Very early on, these reviews offered solo transcriptions to their readers: in September 1936, *Down Beat* published a notated version of Louis Armstrong's solo on "West End Blues," followed by "Dicty Glide" by Johnny Hodges (January 1937), "Moon Glow" by Lionel Hampton (February 1937), etc.[61] In *Jazz Hot*, Preston Jackson analyzes the "Louisiana" style (first issue, March 1935) and the style of the "Trombones of the past and present" (issue 3, May–June 1935). The second issue (April) presents the handwritten score of "Here Comes the Duke" by Spencer Williams; the fifth issue has (September–October) Louis Armstrong's solo on "No One Else But You" written out by Léo Vauchant and Serge Glykzon. These

started a tradition that continues. It has become impossible to establish a comprehensive list of all the solos transcribed either partially or in their entirety, whether in jazz magazines or reviews focusing on specific instruments (guitar, bass guitar, keyboards, saxophone, etc.), not to mention the flow of transcriptions available on the internet.

André Hodeir was appointed by Charles Delaunay as chief editor of *Jazz Hot* in 1947. During his four-year leadership (from issue 17 of November 1947 to issue 59 of October 1941),[62] the review took a more musicological turn. He initiated analytical studies on specific musicians (Erroll Garner, Coleman Hawkins, Roy Eldridge, Teddy Wilson). He published four studies in 1953 and 1954 that would appear in his book *Jazzistiques*:[63] "Charlie Parker's solo on 'Ornithology'" (issue 73, January 1953), "Dizzie Gillespie's solo on 'I Can't Get Started'" (75, March 1953), "Django Reinhardt's solo in 'Solid Old Man'" (88, May 1954) and "Sarah Vaughan's solo on 'Mean to Me'" (92, October 1954). These articles are sometimes considered the first real analyses of works of jazz. The famous *Hommes et problèmes du Jazz*, where the analyses of eight works by Louis Armstrong and a detailed study of Duke Ellington's "Concerto for Cootie" appear, was published in 1954. Many articles with a varying degree of analytical focus followed, in particular studies on Gil Evans, Thelonious Monk, and Milt Jackson, which have been gathered in *Jazzistiques*. In *Les Cahiers du Jazz*, André Hodeir also practiced the rare exercise consisting of a jazz composer analyzing his own works.[64]

These reviews paved the way for academic journals dedicated to jazz, which were destined to be at least partially focused on analytical content. The references in the field are *Jazzforschung* [*Jazz Research*] in Austria (since 1969, with *Jazz Research News* complementing it) and the *Annual Review of Jazz Studies* in the United States (since 1982). The French *Cahiers du Jazz* (since 1959), the oldest representative of the genre, rarely focuses on musicological analysis of works.

The pedagogical literature probably started with the *Jazz Trombonist for Slide Trombone, Bass Clef* published by Henry Fillmore in 1919.[65] The list increased mostly after World War II and especially in the 1970s with the creation and development of jazz schools and other teaching institutions. Most publications in the field offer analyses of works (mostly solos) of varying thoroughness. Among hundreds of publications, one may point out John Mehegan, *Jazz Improvisation* (in four volumes);[66] Mark Levine, *The Jazz Piano Book*;[67] Fred Sturm, *Changes over Time: The Evolution of Jazz Arranging*;[68] and the *Jazz Education Journal* published by the International Association for Jazz Education.

It seems to me that the next milestone was Gunther Schuller's 1958 article on Sonny Rollins, with an analysis of his improvisations on "Blue Seven." His history of jazz[69] in two volumes, published in 1968 and 1989 respectively, does not serve a direct analytical purpose, of course, but it was the first time that a historical vision was based on prior analysis. The author indicated this in his foreword:

> In fact, this volume has been written on the assumption that virtually every record made, from the advent of jazz recordings through the early 1930s, has been listened to, analyzed, and if necessary discussed. A true assessment of an artist (or a particular musical development) cannot be made without reference to the totality of his work and its relation to his contemporaries.[70]

Schuller's radical view may be debated but, as a fact, the usefulness of analysis (not to say the need for it) in the development of a discourse on jazz has been established since around that time (the end of the 1960s).[71] From then on, it is impossible to comprehensively list analytical writings. There certainly are thousands of them, ranging from the simple transcription of an extract from a solo to the detailed analysis of works or groups of works.

At this stage, Andre Asriel's amazing book *Jazz—Analysen und Aspekte*, published in Berlin in 1966, must be mentioned; it is full of musical examples drawn from jazz, as well as from classical music for comparison. Alfons M. Dauer's article "Improvisation—Zur Technik der spontanen Gestaltung im Jazz," published in 1969 in the first issue of *Jazzforschung*, is also a general reflection on the analysis of jazz and an important Germanic contribution to the subject. Frank Tirro's "Constructive Elements in Jazz Improvisation," published in 1974 in the *Journal of the American Musicological Society*, is a significant addition to the literature produced up to that time.

A crucial milestone is passed with the monumental PhD thesis of Thomas Owens at the University of California at Los Angeles (1974), entitled "Charlie Parker: Techniques of Improvisation," in which the author carries out a minute analysis of 250 self-made transcriptions of solos by Charlie Parker.[72] I believe that it was the first time since Gunther Schuller's history of jazz that a study was carried out on a large-scale—if not comprehensive—corpus. The scale of this study, as well as the quality of the thought process developed in it, has made it a major milestone for the study of analysis of jazz works. Owens developed his thoughts further in a more general book, *Bebop: The Music and Its Players* (1995), in which many analyses may also be found.[73]

Lawrence Gushee's article focusing on several versions of "Shoe Shine Boy" by Lester Young, published in 1981 under the title "Lester Young's 'Shoe Shine Boy,'" is another key text. Not only is the analysis itself of the greatest interest but the author also proposes a complete theory of the analysis of improvised solos. It is also the first attempt at taking into account and summarizing the writings of predecessors on the subject.

In 1987, Steve Larson completed an important PhD thesis at the University of Oregon on *Schenkerian Analysis of Modern Jazz*. As the title clearly indicates, it extensively discusses the conditions of application of the Schenkerian theory to

jazz. Larson has kept exploring this path since then, which has led to the publication of *Analyzing Jazz*.[74]

There was a significant multiplication of analyses in the 1990s. In 1990, Steve Block published an important article setting the basis for the use of Allen Forte's set-theory in analyzing free jazz,[75] followed by a complementary article in 1997.[76]

Many notable books were published, including a large-scale study of Duke Ellington's oeuvre by Ken Rattenbury (*Duke Ellington Jazz Composer*[77]), which includes many analyses of works. Denis-Constant Martin and Didier Levallet published *L'Amérique de Mingus*[78] in 1991: a very detailed study of Charles Mingus's "Fables of Faubus" backed up by a theory inspired by the semiological approach. They link together various recorded versions of the work, the historical event that triggered it, as well as the sociopolitical context of the time. In addition, I have had two analytical monographs published myself, one on Gil Evans in 1989 and the other on the first electric period of Miles Davis in 1993.[79]

Again, as the title of the book indicates clearly enough, Barry Kernfeld's *What to Listen For in Jazz*[80] aims to provide listening guidelines for jazz. It includes many analyses as well as more general thoughts. The following year (1996), Henry Martin published *Charlie Parker and Thematic Improvisation*,[81] which complements the work of Steve Larson. The book provides very thorough analyses of Charlie Parker's solos as well as crucial developments about taking different levels of analysis into account. Lewis Porter's monograph, *John Coltrane: His Life and Music*,[82] which could be described as analytical, was published in 1998.

Two PhD theses on Miles Davis were completed near the end of the 1990s. "The Miles Davis Quintet of the Mid-1960s: Synthesis of Improvisational and Compositional Elements" (1984),[83] by double bass player Todd Coleman at New York University, made an important foray in the field of interactional analysis. "An Analysis of Selected 1957 to 1962 Works by Gil Evans Recorded by Miles Davis" (1999),[84] by Steve Lajoie also at New York University, offered four detailed analyses and an approach inspired by Jan La Rue's ideas,[85] and led to the 2003 publication of Lajoie's *Gil Evans & Miles Davis: Historic Collaborations 1957–1962—An Analysis of Selected Gil Evans Works*.[86] Lajoie was preceded by Robin Dewhurst's thesis on the writing style of Gil Evans (Montfort University, 1994).[87]

Finally, the history of drums in three volumes by drummer Georges Paczynski, published between 1997 and 2005, must be mentioned.[88] It is full of analyses envisaged from the original point of view of the evolution of an instrument that has played a major role in the development of the language of jazz itself.

The purpose of this summary is merely to offer a brief selected overview of the analytical jazz literature. A comprehensive list would be difficult to achieve nowadays, considering the amount of literature available. As always with this sort of task, lack of knowledge, linguistic limitations, and personal choices lead to the omission of significant writings, for which I apologize.

2. PRELIMINARIES

The investigation of applying analytical processes to jazz requires a prior review of the foundations of analysis, which is not a consensual subject. The main factor of debate revolves around the possible specificity of an analysis focused on an object that is specific itself. Is it possible for such a practice to take place within the conceptual framework of traditional musicology? Two articles, published in 1966 and 1991 respectively, sum up the main stakes of the debate.

2.1 "Embodied Meaning" versus "Engendered Feeling"

The debate between these two concepts has been crucial both historically and intellectually, because it has opened a whole new field in jazz musicology and has radically transformed jazz studies. It started with the publication of the article "Motion and Feeling Through Music" by ethnomusicologist (and double bass player) Charles Keil in 1966, the title of which echoes that of Leonard Meyer's book *Emotion and Meaning in Music*.[89] Importantly, this article was published at a key moment in the history of jazz: "modal" jazz and free jazz had appeared, and John Coltrane's music was in the process of turning to "the incantatory aesthetic of groove,"[90] as Henry Martin put it. In other words, it was at the end of the domination of common practice.

Charles Keil aims to show that Leonard Meyer's theoretical construction about the way meaning emerges in music is relevant within the framework of the Western classical tradition but possibly not for other types of music, in particular musics from Africa or those, like jazz, related to that continent. The starting point is the concept of "embodied meaning" as defined by Leonard Meyer in *Emotion and Meaning in Music*, which Keil brings into conflict with that of "engendered feeling":

> All music has syntax or embodied meaning and indeed perhaps the analyst's primary obligation is to elucidate the syntax or grammatical rules of the musical system or style with which he is dealing. Consider, however, the system or style in action, music as a creative act rather than as an object, and remember that outside the West musical traditions are almost exclusively performance traditions. In some music, and I am thinking specifically at present African and African-derived genres, an illumination of syntactic relationships or of form as such will not go very far in accounting for expression. The one-to-one relationship postulated by Meyer will not hold; syntactic analysis is a necessary condition for understanding such music but not sufficient in itself. In addition to embodied meanings we must talk about aspects of the on-going musical progress that can be subsumed under the general heading of "engendered feeling."[91]

Keil goes on to build a bundle of arguments that eventually produce an alternative critical model to Leonard Meyer's view. It matters to take a closer look at Keil's system, as it was one of the first times it was expressed, and it went on to be very successful, establishing a critical paradigm that was taken up again and developed during the following years and up until today (as this book will show later on, with the discussion of the work of some authors whose views in jazz musicology are directly in line with Keil's article).

Here is a summary of the points of the musicological practice criticized by Keil:

- Too much attention is paid to syntax; non-musical content is underrated, which shows that the musicological practice is self-centered.
- Such a practice is not adaptable to different objects (non-Western musics); it is also not designed to take the manifestations (i.e., the performing side) of its own object into account (even Western music is only considered from the point of view of its content: the composition).
- As a consequence, this practice focuses on fixed ("frozen") musical materials (scores or recordings), not on music as a live organism (performances).
- Only the product (not the process) is taken into account.

The term "ethnocentrism" is not used in the article but it is definitely the main criticism . . . to a Western format of musicological practice.

Keil proposes to replace a system of "embodied meaning" (that of Meyer, in his opinion) by a system of "engendered feeling." He formalized his criticism in a table (see table 8) highlighting ten areas of contrast between the two systems in two columns side by side.

TABLE 8. CHARLES KEIL'S "TABLE OF CONTRASTS"

	Embodied Meaning	**Engendered Feeling**
1. Mode of Construction	composed	improvised
2. Mode of Presentation	repeated performance	single performance
3. Mode of Understanding	syntactic	processual
4. Mode of Response	mental	motor
5. Guiding Principles	architectonic (retentive)	"vital drive" (cumulative)
6. Technical Emphases	harmony/melody/ embellishment (vertical)	pulse/meter/rhythm (horizontal)
7. Basic Unit	"sound term" (phrase)	gesture (phrasing)
8. Communication Analogues	linguistic	paralinguistic (kinesics, proxemics, etc.)
9. Gratifications	deferred	immediate
10. Relevant Criteria	coherence	spontaneity

This reveals two completely antinomic (though equally pertinent) visions of the ways in which meaning is produced and received. It also raises questions: What are we comparing? Musical or musicological systems? Are we setting against each other two ways of making music or two ways of analyzing it? It seems to me that the points 6, 8, and 10 involve the way that music is approached while the others concern music itself. Also, if we are talking of different types of music (or musics), is it possible to discuss the features of the systems of each type of music without taking into account the features of each of these musics themselves? It is clear that the first system is modeled on art music, but what about the second one? Keil mentioned that he particularly had the contemporary African genres and those derived from them in mind, and he talks explicitly about jazz (which is already a different matter) later on in the article. So what relationship exists between a system and specific musics? These issues are hardly addressed.

Keil was opposed to Meyer as an ethnomusicologist against a "classical" musicologist. For him, music is not just about language and content but also about processes and gestures. This view was often to be echoed later by authors saying that it is the way that a music is played—not the actual music played—that matters: some aspects of a process may not necessarily appear significant at the level of the language (or "syntax," the term used in Keil's text) but may be of great importance for the definition of the meaning, and this may be particularly true for musics based on performance.[92]

Charles Keil's article is particularly interesting not only because it started the discussion but also because it mentioned musics using different systems. His article was published in 1966, which is relevant for the discussion. Keil must be given credit for opening up this can of worms relatively early. However, looking back on his article several decades later, it can be seen in a different light.

The article was published at a time when free jazz was the prominent new style and when it was clear that it was carrying out a revolution comparable to and as irreversible as that of bebop fifteen years earlier. At the time, few people thought that what is referred to as "modal" jazz would prove to be an equally fruitful option. I believe that, probably for the first time in its history, jazz divided into two main paradigms (which include a variety of intermediary, deviant, and hybrid cases). The first, resulting from the breakup triggered by free jazz, allows jazz musics that are not necessarily based on isochronous pulse or the current system of harmonicity. The second paradigm, on the contrary, globally maintains these two features but extends the field of traditional parameters; in the field of rhythm, in particular, the pulse became more and more implicit and complex, which opened up the way to new interactions. The founders of free jazz (Ornette Coleman, Cecil Taylor, John Coltrane, Albert Ayler[93]) are responsible for the first paradigm, which continues in what could be called post–free jazz (Art Ensemble of Chicago, Anthony Braxton, Henry Threadgill) as well as

in all kinds of improvised musics (some claiming not to be affiliated to jazz), particularly in Europe (Fred van Hove, Gunter Sommer, Derek Bailey, Marc Ducret). The founders of modal jazz are at the roots of the second paradigm (Miles Davis, Gil Evans, Bill Evans, George Russell). What has sometimes been called the "second modality" stemmed from it (Herbie Hancock, Wayne Shorter, Freddie Hubbard), as well as jazz-rock or fusion jazz and numerous musics and musicians. In particular, I have in mind guitar players—a paradigm in itself—with John McLaughlin followed by Pat Metheny, John Scofield, Bill Frisell, John Abercrombie, and many more.

However, it marked the end of thirty years of common practice that had been based on a stable syntax and a bedrock of processes, to use the terminology of the discussion. With hindsight, one has to admit that Charles Keil had foreseen this divide and drawn the main consequence from it: "If the primitive theory that I have attempted to evolve here has any validity, it follows that we must be willing to employ two sets of criteria in evaluating music, depending upon whether the processual or syntactic aspect is dominant."[94]

This new way of looking at things affects the way they are appraised as well as analyzed, which is our main concern. The "sets of criteria" as well as analytical methods suddenly look less universal. The end of the common practice possibly induces the end of a "common method" of analysis.

A new attitude has developed that bears similarities with the "field" of ethnomusicologists. It consists of being wary about recordings and transcriptions, going and speaking to the protagonists, possibly asking them to take part in experiments in order to reveal, while listening to or watching them, some gestural or bodily features that one may have had the intuition of. The work of Charles Keil, who was based in the city where the "Chicago School" developed, was brilliantly continued by Paul Berliner and Ingrid Monson, for example.

From Keil on, there was a risk of seeing the development of two contrasting analytical worlds based on two different and irreconcilable views. As a consequence, jazz—which would seem to fit in the "engendered feeling" category—should not be analyzed in the traditional way that focuses on syntax and thus appears obsolete in this new light.[95] I believe that this position is hard to defend and would like to discuss it in the light of an article by John Brownell published in 1994 in *Jazzforschung* [*Jazz Research*],[96] which gives an example of the misunderstandings that stemmed from the otherwise beneficial development of the field. It is also typical of a reluctant attitude, seen as critical, that is felt by some academics toward "syntaxic" analysis. I will discuss this article and, in particular, comment on four points that echo Charles Keil's suggestions:

Validity of transcription
Relationship between process and product

Validity of models
Meaning

I will continue with a summary, presenting some ideas that will make clearer the choices made later, and will finish with some thoughts based on a few examples.

2.2 The Foundations of Analysis

John Brownell's article focuses on the different models used for the analysis of jazz improvisation. It is based on his statement: "As well as having different goals, all analytical models of jazz improvisation have taken varying attitudes toward the object of analysis. The most common approach has been to treat the analysis of improvisation as a subset of the analysis of composed music, and the transcribed solo as the equivalent of the score."[97] This is the core idea: the most common drawback found in analytical models lies in their treatment of improvisation as if it was composed music. This is visible in the status given to transcriptions, which is the same as that of a score for composed music. According to John Brownell, this is a fundamental mistake.

However, he sees an attempt to make up for it in two particular approaches: one comes from the literary analysis of works of oral tradition (oral-formulaic improvisation) and the other is borrowed from structuralist linguistics (generative grammars).

The description coincides with the features in Charles Keil's table. However, Brownell introduces an important shift in terminology, talking of process and product. In his view, the classification of the ways to approach improvisation should be based on this fundamental distinction: on the one hand, the "reducing" models that treat improvisation as a product and, on the other hand, the "process-based" models that envisage it as a dynamic process.

It is clear that the author is skeptical about the first category on the grounds that focusing on the product might be the sign of an incapability to stay away from the tools provided by the musicology of art music and, consequently, its thought processes that may not be relevant for jazz improvisation.

Within this context, the use that is made of transcriptions is the first target of Brownell's criticism.

2.2.1 CRITICISM OF TRANSCRIPTIONS

According to Brownell, the use of transcriptions confused with the product of improvisation itself results from unconscious and unquestioned thinking habits. Also, the specific difficulties involved in transcribing music affect analysis; in particular, it encourages the analysis of melody and harmony over rhythm and tone color.

One may object that rhythm is fairly easy to write down when an isochronous pulse is perceptible, which is the case with almost all jazz until 1960 (and still a significant part of it past that date). Also, it does not look like analysts have neglected rhythm. The first observation ever made about jazz was about syncopation. Commentators of the 1920s like André Schaeffner, Arthur Hoérée, and Alfred Baresel started to discuss rhythm in a musicological way (even if the corpus they comment on is dubious). Winthrop Sargeant's book, published in 1938, offers something resembling a draft of a theory of rhythm in jazz. André Hodeir and Gunther Schuller followed in these authors' footsteps. Like in the case of harmony and melody, transcriptions are a useful and possibly necessary tool for rhythmic analysis. Perhaps Brownell had the issues related to the location of rhythm in relation to the pulse in mind and, more generally, the problems raised by what is commonly called "microrhythms," which, traditional transcription indeed cannot reflect (this is a problem partly solved by information technology).

How about form and sound? It is clear that the latter cannot be represented graphically with the resources of a simple transcription alone. However, sonograms (spectral analysis) as well as various tools of digital sound representation may be considered transcriptions of a different sort. As for form, the discussion of it is also made a lot easier with the use of transcription as tools.

Nevertheless, we can agree with Brownell that elements involved in processes rather than syntax are not taken care of by traditional notation. This was mentioned as early as 1934 by Roger Pryor Dodge, one of the first transcribers of hot jazz (who was also one of the first advocates of transcriptions), followed by Wilder Hobson (1939) and Steven Block when he worked on Thelonious Monk and Cecil Taylor.[98]

There may be a misunderstanding on the nature and function of transcriptions. A transcription is first a way to formalize a material. Its purpose is not to translate but to represent a musical reality in a schematic way, which is a necessary first step for the development of a commentary, as Simha Arom explains:

> All graphic reductions have limitations which cannot be ignored, so let us make clear straightaway that transcribing a musical event is not the same as "taking a picture" of it. Rather, it consists in highlighting relevant and defining features with which the event can then be identified. In this context, a transcription is equivalent to a sketch but applied to a sound document rather than a visual one, i.e., a working drawing that only retains the essential features of the original. Experience proves that it is much easier to grasp the shape and contours of an object based on a sketch rather than a photograph. This probably explains why, still nowadays, most technical books are illustrated with sketches and not photographs: indeed, a sketch only retains the relevant features of an object and nothing else.[99]

Transcriptions, thus, cannot retain all the features of a musical event and, indeed must not. Charles Keil would probably argue back that it all depends on the hypotheses developed from the "relevant features of the object" and the "general form." In all cases, transcriptions provide a large amount of information that is needed and an overview of the object. Besides, alternative transcriptions such as those produced by various machines (graphs of all sorts, etc.) are not excluded.[100]

Also, the use of transcriptions does not exclude the use of sound itself when it appears that a non-sonic formalization does not seem capable of doing justice to a phenomenon that can be heard, though, when attention is focused on it. Sound aids/media (tapes, CDs) have been provided with analytical texts for a long time, and nowadays many analyses produced in digital format mix text and sound media.[101]

Finally, the use of notated aids does not mean we reduce the music to that.[102] Transcriptions result from very focused listening, which brings forward elements that conscience and memory cannot access through less focused listening, however attentive one may be. Of course, everything that is perceived will not be retained because it is impossible to write everything down, but in fact that is not the purpose of transcription anyway. Transcribing gives access to a certain layer of the music and is not limited to the graphic result. Besides, I believe that Brownell's fundamental mistake is to assume that the use of transcriptions means that we see them as the vehicles of works or, worse, that we confuse them with works. Of course, this is not the case, transcription is the first step of an analytical process (after listening to a work and making the decision to analyze it, which is the primary step by which a work becomes an object of analysis). In all cases, transcription relates to analysis, not to neutral reproduction. The manifestation of a work is embodied in the recording of it, and a recording, unlike a transcription, has hardly anything to do with analysis.

Given the fact that we are dealing with musics that do not exist in graphic form, and considering that we make a difference between an analysis and a literary or impressionistic commentary, is it possible to envisage an analytical process that would not use a written transcription? Possibly not—in fact, certainly not in cases where an isochronous pulse is at work (whether or not it is linked to a common system of harmonicity). Undoubtedly, the disadvantages of not using a transcription would massively outweigh the unavoidable inconvenience of using it, especially as it is easy to be aware of the downsides and take them into account in order to handle transcriptions correctly. As long as one is aware of their limitations and does not confuse them with the work itself (or a vehicle of it), there seems to be no reason not to use them, as it would only impede the analytical process or make it virtually impossible.

2.2.2 PROCESS–PRODUCT

Brownell also sees the focus on the melodic structuring of improvised solos as another symptom of the classical way of thinking that—as well as (allegedly) being responsible for the prominence of transcriptions as aids for analysis—enhances the status of features that prove valuable for the appreciation of composed music but may not be relevant in areas that refer to different ways of thinking, different tools, and different scales of values. In this context, André Hodeir provides a matrix in *Hommes et Problèmes du Jazz* that Brownell would see as a way of thinking not adequate to the object. He raises the same objection (and accusation of "notism") with regard to Gunther Schuller with one specific analysis of Schuller's in mind, published in 1958, of a solo by Sonny Rollins. Once again, the problem comes from focusing on the product rather than the process.[103]

There are two things to mention here. Firstly, Hodeir's as well as Schuller's analyses serve the purpose of grounding esthetic judgments, which is questionable in my opinion. Their analyses are meant to provide proof of the value or lack of value of works, the value being seen as proportional to the complexity, consistency, and originality displayed by the works.[104] If this is what Brownell means by "notism," which I would rather describe as a sort of positivism, one could agree with him. Also, if it involves focusing on syntax rather than processes, one may say that it all depends on the targets set by the analyst. On the other hand, if the idea is to doubt the validity of the musical product as an object for analysis, that is a different kettle of fish.

Brownell's hints at notes (described as "going out into the air") seem to me the crucial and most arguable point. He seems to be saying that as soon as a note is played it disappears and can be discarded; it seems to be absorbed in the dynamic movement of the music. It is hard to agree with that, especially in the context of a recording studio. The "frozen record of a process" is the material that a disc offers, and discs are made precisely to be played over and over again, in order to "retain" notes. Does it mean that what is played does not count on the grounds that the "process" is—allegedly—the only thing that matters? Is it not rather the process that is ephemeral, and how can we access it if it is not via the "product"? Is it not fruitless to oppose process and product while they are closely linked together? A product is the result of a process that only makes sense in relation to that product. Does one count more than the other? Is there any sense in valuing one over the other? This is a very different position from Charles Keil, who distinguishes between syntax and process within the product.

Secondly, is that situation not similar in composition? A score is the "frozen record of a process" too, i.e., some musical thinking unfolding during a process and being eventually embodied in sound (even if a score is used as a medium), except that in the case of composition it is possible to go back during the process and the production of sound is different.[105]

Other authors, like John Gennari, agree that the process must have a prominent status.[106] In jazz, two distinct performances make up two distinct works. Besides, improvisation is a process. However, it is difficult to see how these rather obvious statements actually prove the primacy of the process. Also, everything that has been said here about improvisation, improvisers, and performance seems applicable, *mutatis mutandis*, to the performance of art music, composition, and scores.

Brownell continues with a critique of Milton Stewart, who provides a minute description of a work (a solo by Clifford Brown) using a number of parameters and inventing some of his codes of notation.[107] Stewart talks of "subconscious responses to stimuli" and "conscious, rational thought processes" occurring simultaneously in the activity of improvisers. Brownell argues that Stewart uses a "circular argument" as the unveiling of a structure proves—allegedly—the existence of a project as well as the idea of formulaic improvisation. Brownell asserts that a formula is not "a specific arrangement of elements" but a "mold, a shape, or a model." Indeed, Milton Stewart's conception of formulas as preconceived, thought-out blocks that sneak in improvised lines, may be problematic. Nevertheless, any aficionado can recognize licks or clichés associated with Charlie Parker, Clifford Brown, Miles Davis, or Wayne Shorter, as all musicians including the greatest use them. It would not be fair to reduce these formulas to some kind of crutches used as aids to support a lack of imagination. On the contrary, they can be seen as dynamic elements in the vocabulary of improvisers.[108] Most importantly, even if we agree with Brownell's idea of mold or shape, we are talking of pre-improvisational material. Consequently, where does the "fundamental difference" between the "process-based" and "reduction-based" types of analysis stand in this context? It is also clear that, despite or beyond the way one precisely defines formulas or any other pre-improvisational material, Stewart is desperately trying to describe a process of improvisation.

Another and final example of the difficulty of articulating these two notions can be found in an article published by Steven Block in 1997. He discusses the use of set-theory in jazz and, as an introduction, delivers a general reflection on the analysis of free jazz:

> Past descriptions of free jazz include:
>
> Improvisation without any preset structure,
>
> Improvisation in which the performers play "outside" of the chord changes of the theme,
>
> Improvisation based on graphic or other nonmusical inspiration, and
>
> Improvisation dominated by textural considerations.[109]

This is a typical case where non–syntactic process–based aspects clearly dominate and possibly outshine syntactic aspects, but Steven Block comes to a different

conclusion: Isolating these qualities, unfortunately, freezes the style into a finished product that the early innovative work "promises" but did not yet fully possess.[110]

Why does Block see the four options suggested as "freezing style into a finished product"? All four suggestions describe actions; they take part in a process that is eventually embodied in a product, of course, and the investigation of which may allow for the reconstruction of the processes of production. Perhaps he is making the same mistake as Brownell, confusing the "syntactic versus non–syntactic process–based" distinction and that of "process versus product."

2.2.3 CRITIQUE OF MODELS

Perhaps Brownell's answers to these questions are to be found in the second part of his article, which focuses on processual models, meaning "those models of musical behavior which are characterized by a focus on improvisation as a process, as a dynamic unfolding rather than as a static object."[111] He suggests two types of these models: formulaic improvisation and linguistic models.

***Formulaic Improvisation*—**This refers to the investigation of epic poetry by Albert Lord and Milman Parry,[112] to which theorists of jazz improvisation have paid much attention. Could this "processual" model be useful for jazz? In Brownell's opinion, this model is not relevant for at least two reasons: first, it could only be applied by analogy; second, it does not seem to have been applied to jazz, whereas it could have allowed for an analysis of the "emotional content" that is, allegedly, an area of strength in jazz.

The only processual model that remains to explore comes from linguistics.

***Linguistic Models*—**Brownell mentions three concepts developed by linguists that have been identified as potentially applicable to music: the deep structure, well-formedness, and the existence of transformational rules. Once again, he seems skeptical about importing concepts that have been developed outside of music, let alone improvised musics. He eventually comes back to his main idea: "The question that must be asked at this point is, do formal models of music tell us anything new about the processes of spontaneous creation or do they simply provide us with another analytical perspective on the old view of improvisation as object?"[113]

The answer lies in the question: processual models do not work any better than reduction-based models. They offer "a different perspective" but do not solve the main issue and, as a consequence, Brownell dismisses them, too.

I believe that when a formal system is devised that truly produces music (whether improvised or composed does not matter) of quality, in a sort of musical Turing test, the details of how that system does what it does will be as inaccessible to analysis as the mind of Herbie Hancock is now.[114]

Brownell reaches the conclusion that as long as it is not possible to directly observe the way that Herbie Hancock's brain works when he is improvising, it is pointless to try and build analytical models. Eventually, the very act of analyzing is being questioned and not just the validity of transcriptions or the approach (product versus process). According to him, the root of the problem lies in an incapacity for analysts to operate ways of thinking outside the framework of Western art music. This position is not dissimilar to Derek Bailey's condemnation of recordings, based on a quasi-mystical conception of improvisation. This kind of view seems rooted in the denial of traces in principle, whether it be a recorded trace (discs), a notated trace (transcriptions), or a conceptual one (products), each appearing to be the exact opposite of events, performances, and processes respectively. In this view, improvisation appears to be a celestial object, devoid of point of origin (absence of pre-improvisational material) and disappearing as soon as it is enacted, i.e., an object with no physical existence and no development in time, like particles that can only be observed for a fraction of a second (and that are modified or destroyed as they are being observed). There is also an obsession to try to escape the Western tradition of art music (reminding us of some twentieth-century French philosopher who insisted on "thinking against oneself" and on "breaking the bones in one's head") as if, as occidentals, our understanding was necessarily and irremediably trapped in thinking habits, a kind of straitjacket that ought to be removed. This obsession may well lead to the dismissal of means that would allow for at least partial lucidity. Of course, one can only agree with the need to find an adequate approach for a specific object, jazz in our case (and this book is intended as a modest contribution to that purpose). Of course, tacking on tools designed for other types of musics and practices cannot be satisfactory, but does that mean that one should not allow ourselves to take into account the thought processes that created such tools, and what would we replace them with?

However, if one challenges the idea of a fundamental irreducibility between composition and improvisation in principle (an irreducibility that would manifest itself as a clear opposition between the product and the process at the time of analysis) and that, on the contrary, one considers composition and improvisation two acts of music production including premeditation (some pre-compositional material or processes in one case and some pre-improvisational material or processes in the other), does that mean one ignores differences between the two? There is ground to think that both actions are not irreducibly and fundamentally different from each other. One may even be surprised by the numerous common points between them (the glass-half-full perspective). However, the differences are just as important (the glass-half-empty perspective), and one in particular has already often been mentioned: the production of sound occurs after its conception in composition. As a result, it is possible to go back on the conception phase

of the music continuously or at any given moment of its progress, and rework it. But when improvising, conception (and preconception, which is actually needed for the conception phase to be possible), enaction, and sound production all coincide. There is also another difference that is harder to apprehend: the role played by the act of writing, i.e., the thought processes induced by notation as a way to conceive music. This is difficult because, on the one hand, some of these processes may be found in music produced without the use of notation and, on the other hand, even largely improvised forms of jazz may not be devoid of notated elements.

2.2.4 MEANING

This question remains: what sense do we make of an analysis?

> Though [Milton Lee] Stewart is correct (and exceptional in the reductive camp) in acknowledging the importance of what could be called the microstructure in improvised music (rhythmic, intonational, and timbral variability), for one who must be aware of Meyer's work on meaning in music, it is hard to see how Stewart could consider that even a finely detailed description of a musical product could act as an explanation for it.[115]

This takes us to the syndrome of the "guided tour": musical content formalized by analysis does not constitute an explanation in itself. The connections between the elements of the content (and external elements, too) need to be unveiled. The content requires to be confronted with hypotheses for any substantial explanation to emerge. But again, this rather obvious point does not undermine the fact that "microstructures," like other types of musical content, carry meaningful elements that play a part in the whole picture. Besides, the microstructures mentioned—"rhythmic, intentional, and timbric variability"—are processual rather than syntactic features. This has taken us a long way away from the distinctions made by Charles Keil.

◊ ◊ ◊

Every now and then these questions have led authors to a radical criticism of analysis. John Gennari, for example, considers that Gunther Schuller, in his book *The Swing Era* (1989), "seems to be advocating a critical approach along the lines of literary New Criticism, which would approach individual works of art as self-contained, self-defining objects to be elucidated as autonomous aesthetic works rather than understood as documents created in specific socio-historical contexts."[116]

This recurring point of criticism assumes that the practice of analysis has to involve the necessarily illusory belief that musical objects are independent. This

has sometimes been perceived as a form of essentialism, of which analysis is—allegedly—one of the main expressions (and thus a blameful activity). Philip V. Bohlman is one of the most vehement authors condemning essentialism: "In the hands of the musicologist, notation yields to another modality of essentializing, namely *analysis*. . . . And yet the analysis of oral tradition freezes it, renders it no longer oral, and arrests entirely the aural experience."[117]

Allegedly still, notation may well be another, more original expression of essentialism at the roots of the fundamental defects of analysis: "Probably no form of essentializing music is as widespread as *notation*. . . . Notation removes music from the time and space that it occupies through performance, thereby decontextualizing it."[118]

Others, like Derek Bailey, dismiss all arguments out of hand: "For the musical theorist there seems to be no description or evaluation without technical analysis which in turn usually relies on transcription and dissection. For the description—or evaluation—of improvisation, formal technical analysis is useless."[119]

So does Amiri Baraka (LeRoi Jones):

> Strict musicological analysis of jazz, which has come into favor recently, is also as limited as a means of jazz criticism as a strict sociological approach. The notator of any jazz solo, or blues, has no chance of capturing what in effect are the most important elements of the music.[120] . . . A printed musical example of an Armstrong solo, or of a Thelonious Monk solo, tells us almost nothing except the futility of formal musicology when dealing with jazz. Not only are the various jazz effects almost impossible to notate, but each note *means something* quite in adjunct to musical notation. The notes of a jazz solo exist in a notation strictly for musical reasons. The notes of a jazz solo, as they are coming into existence, exist as they do for reasons that are only concomitantly musical.[121]

Baraka asks the question of the validity of analysis itself, beyond that of transcriptions. At yet another level, the relevance of musicology and the musical level of investigation are also questioned. In this context, it seems that there is nothing left for musicologists to do as the level that they are concerned with is cleared of any substance: "The notes *mean something*; and the something is, regardless of its stylistic considerations, part of the black psyche as it dictates the various forms of Negro culture."[122]

These views represent peaks in a discourse that, in the end, expresses a radical referentialist attitude (in the sense used by Leonard Meyer),[123] involving fundamental reservations toward "formal musicology" perceived as "trivial." It is thus hardly surprising that such positions produce more bans than musicological data and outcomes.

However, do not be mistaken: this is not about an opposition between improvised and composed music or African American music and the tradition of Western art music. These are contrasting approaches that reach far beyond such boundaries.

2.2.5 SUGGESTIONS

Let us not go further into this debate for the moment. I would merely like to sum up my views on the subjects that have just been discussed, in the hope that it could help to clarify the basics for future debates concerning analytical procedures.

It is not possible to dissociate process and product in jazz improvisation or, at least, to focus on the former and dismiss the latter. From an analytical point of view, the process is only accessible (imaginable or reconstructible) via the product.[124]

The product is the object of analysis: the production process is only a part of it. Syntactic features, in particular, are all present in the product and can be observed at that level. They constitute one of the main points of focus of an analysis. This does not make it impossible to differentiate between "syntactic" and "non syntactic processual" features, which involve different analytical approaches.[125]

Transcription is often, and perhaps always, a necessary tool for analysis. It must not be confused with the work itself, as it only formalizes some of its aspects. The mechanical recording is the carrier of the work.

Recording is the operation through which a performance accesses the status of work as it transforms it into a discrete object (embodied by a physical object: roll, disc, tape, or file). In this way the work can be reproduced, shared, spread, and listened to over and over again: it becomes available to everyone and can be analyzed (providing a reasonably faithful copy can be made using the technology available and that it is done with the consent of the performers who recognize it as their work). This operation occurs before the analysis.

Transcription is an operation that is part of the analytical process. It results in the production of an object that involves interpretation choices and already reveals a certain view of the work. This object is analytical material and does not in itself reveal any meaning of the music transcribed. It is the analyst's task to treat and interpret this material, unveil the connections, and, eventually, suggest hypotheses about the meaning of the music transcribed.

Composition and jazz improvisation constitute two ways of producing music. The main difference between them lies not in different relationships between process, product, and vehicle but rather in the ways that these stages are articulated, which undoubtedly reveal a symmetrical organization between composition and jazz improvisation.[126]

2.3 Examples

Here are three examples to illustrate the points discussed: the historic works recorded by Miles Davis and Gil Evans between 1957 and 1962, André Hodeir's works of simulated improvisation, and *Köln Concert* by Keith Jarrett.

2.3.1 MILES DAVIS AND GIL EVANS, 1957–62

Miles Ahead, *Porgy & Bess*, *Sketches of Spain*, *Quiet Nights*: no need to reiterate here the importance of these works for the history of jazz. One may wonder why their creators never played them again on stage.[127] The answer has always seemed to me as simple as the question: it would not have made any sense to play these works again once they had been worked out and recorded because nothing significant could have been added to them. The delight and the excitement would have faded. There is no sign that the desire to do so ever emerged but did not happen. I believe that this is precisely due to the fact that these pieces are very much set on paper. They leave too little room for improvisation to have a chance to produce a new event that would justify creating them live. The excitement of the first performance (obvious from listening to the recorded rehearsals) could not have been found again, whereas Miles Davis always found inspiration when playing "All of You" in quintet for the nth time, precisely because there is a lot more space for improvisation. However, I believe that the ongoing success of these pieces is due to the marvelous writing of Gil Evans and the extraordinary playing of Miles Davis, but above all to the fact that they are not totally composed. The same arrangements with entirely composed trumpet parts would probably not have been received with so much enthusiasm even with Miles Davis's superb playing, or that of any other great trumpeter. No comparable excitement to that in the making of these pieces could have been triggered in the audience, especially in the improvised parts, even if they are proportionally less important than the composed parts.

2.3.2 ANDRÉ HODEIR AND SIMULATED IMPROVISATION

André Hodeir considered that, because it cannot go back on itself, improvisation presents a structural flaw compared to composition. In his opinion, improvised music cannot be as perfect as composed music from the point of view of syntax because it cannot go back. As a result, errors live on alongside good choices.[128] Hodeir got the idea of "simulated improvisation" in order to try and solve this. It consists of writing a part as if it was being improvised, i.e., using the same gesture as when improvising, but with the possibility to go back, which gets rid of the congenital weakness of the process. Of course, the challenge is that the simulation be believable, that nothing is lost from the value of improvisation in a writing process or gesture that mimes it.

Anna Livia Plurabelle and *Bitter Ending* are the key works based on this principle (and among the last composed by Hodeir). I believe that they are great and far too underrated works with regard to originality, sophistication, and the poetic quality of their writing. Why have they not had much impact? Probably for some bad reasons: They came at the end of the 1960s and early 1970s, when nobody was interested in a man wearing a suit and a tie—a white man on top of that—presenting jazz works based on composition; perhaps also because he was not American and not promoted enough. . . . But there is also a deeper musical explanation: despite the great qualities of these works, I believe that they lack something of the excitement described above, which some truly improvised parts could have brought. Perhaps they would have carried their share of syntactic imperfections with them but such imperfections certainly carry something else with them, some other message. What these pieces gained in perfection they lost, in greater proportion, on the front of unpredictability,[129] and I am convinced that this can be felt.

2.3.3 KÖLN CONCERT BY KEITH JARRETT

It may be interesting to focus for a moment on this recording, for three reasons that have nothing to do with the immense—and unexpected—success it encountered:[130] first, it is a solo work, which makes the comparison between the practices (improvisation and composed music) easier. Indeed, interplay, which is such an important factor in improvisation, is not at play here; the improviser is in dialogue with himself, a bit like a composer is. Second, the idiom used recalls the classical tradition in a way (piano works of the Romantic and Post-Romantic periods). Third, the disc involves several levels of improvisation.

Let us start with this third point: what allows us to be almost certain that "Memories of Tomorrow"—performed as an encore in the concert and without any information given about this on the CD jacket—is a composition and not a free improvisation? Or rather, an improvisation on a composition while everything else looks like free improvisation, i.e., material not based on any prior composition. The answer undoubtedly lies in syntactic elements: recurring harmonic sequences (chart), identification of a head and a head-solos-head form, i.e., rules of a well-understood common practice of jazz.

How do we identify the use of pre-improvisational material, i.e., material conceived prior to the performance, in the long sections of free improvisation of this concert (or rather: sections that we are convinced are freely improvised)? In other words, is it possible to detect some moments using potentially entirely composed material that could have been used as starting points for improvisation or discreetly inserted (which is not very likely), or harmonic schemes that would not be composed, strictly speaking, but implied by a style (Keith Jarrett's style is different from Abdullah Ibrahim's or Cecil Taylor's)? Finally, are there

some automatisms, schemes, recollections, or *topoi* (that of the piano keyboard, for example) at play?

Providing we can find pre-improvisational elements, what would confirm for certain that this music belongs to the realm of improvisation? Defects in the development that a composer would not have left behind? A feeling of uneven development that would not be felt in a composition? An indefinable and irreducible sense of excitement that cannot be reduced to syntactic elements? The simple fact that the listener is told (by Keith Jarrett, critics, or the CD jacket) that the music is improvised? Or is it, eventually, a mix of all such elements as well as the identification of a number of idiomatic features not found (although it would probably be possible to) in any corpus of music composed earlier or at the time?

Generally, there are many cases when it turns out to be very difficult to establish whether a moment in a piece or a piece itself is improvised or not, and in which proportion. Could it have been established for Dizzy Gillespie's break in "Koko"[131] if the first take was not available? Equally, would we always be able to spot improvisation if we could listen to the improvisations of virtuoso masters of the eighteenth century? Do "Donna Lee," "Anthropology," and "Ornithology" not sound like written improvisation? Is the first head of "Bud and Bird" by Gil Evans not made of the twelve bars of one of Bud Powell's solos that the arranger transcribed purely and simply? This does not mean that all things are similar, indistinct, and mixed in a big melting pot where, as a general rule, things are as clear as mud. The examples given are probably quite marginal. But still, composition and improvisation are different because in one case it is possible to reverse a process and the production of sound is deferred, which is not possible with the other. Also, in the case of collective improvisation, some interaction exists that may affect all parameters, while it only affects the way that something is performed in the case of composed music. These are fundamental differences. They seem to me to play a part in the relations between process and product, though, despite the fact that these relations do not seem very dissimilar in both modes of music production.

A final point: let us be clear, I do not believe that excitement—which is quite trivial in itself—lies at the heart of improvisation. It is one way among many that the ineffable and elusive element at play in improvisation in progress is expressed. Because I acknowledge the existence of and impossibility of analyzing this irreducible part of a music that I appreciate and am sensitive to as a listener, I believe that analysis is necessary, that it can produce knowledge and lead to a better understanding of its object as well as pleasure—and sometimes excitement, let us admit—as long as we only expect from analysis what it can provide and not what it is not designed to produce. Once misunderstandings have been cleared, this "gay science" may unfurl with empathy toward the work being analyzed and no other goal than to reveal what the work can—and is the only one able to—reveal.

CHAPTER 11

Transcription

Having discussed the general issues raised by jazz analysis, and before moving on to the concrete ways of carrying through an analysis, it seems necessary to discuss the primary and crucial (yet problematic) tool of jazz analysis: transcription.

Some reservations about its use have been presented in the previous chapter. Some authors go so far as to deny its usefulness completely, or may even see it as a harmful practice: "Transcription, it seems to me, far from being an aid to understanding improvisation, deflects attention towards peripheral considerations."[1]

This criticism of transcription actually amounts to a general condemnation of analysis itself. This position has already been discussed in the previous chapter, so there is no need to discuss it further here.

On the other hand, other authors, like Simha Arom[2] and Jean-Jacques Nattiez,[3] for example, find that analysis is impossible to do without transcription. The analytical attitude is quite natural to all jazz practitioners. On hearing a piece relevant to jazz, they immediately try to identify its rhythm and harmonic sequences as well as appraise the instrumental and orchestral sound. However, such real-time deciphering practices can only account for the most obvious aspects of the music. Access to deeper layers of the music requires other analytical tools.

In most cases, it becomes necessary to note things down in one way or another, whatever the goal analysts are trying to achieve. Whether simply trying to clarify for themselves a point about a work, or for the purpose of teaching or publishing an analysis, a graphic aid (which may be called a score, whatever degree of comprehensiveness it achieves) needs to be produced to complement the recording that is used as an aid to access the work itself. As a score carried out following a performance and based on it, it has to be a descriptive object. Prescriptive scores—i.e., those used for performances—are rarely available in jazz. However, if there are some, there is no reason for analysis not to make use of them as a document. Equally, one must never forget that a descriptive score is only a report on the work itself and can never fully account for it. Transcription gives an image of the work but neither carries nor embodies it.

1. GENERAL ISSUES[4]

1.1 Transcription: What Are the Stakes?

The way that recordings and transcriptions are articulated is more complex in ethnomusicology than in jazz. First of all, transcription started at a time when fieldwork using mechanical recording did not exist. As a result, transcription itself and reflection on its practice were taking place before recordings appeared. In those days, transcriptions fulfilled two functions: they were used to describe non-written musics in order to be able to analyze them, but also to produce a trace of what they were like so that they would not be forgotten and could possibly be reproduced. Such transcriptions were thus descriptive and potentially prescriptive at the same time. As Bruno Nettl put it: "Depending, of course, on the context in which they are produced, many transcriptions serve prescriptive and descriptive purposes equally. One cannot always tell by looking at a transcription whether its purpose is one or the other."[5]

A debate started about the validity of the recording process when it became possible to do so. Because a recording gives an account of one occurrence only, its capacity to represent its object appeared questionable; issues about variation from a potentially existing model were brought up. A kind of competition developed between transcriptions and recordings, which were seen as a new descriptive tool, but this situation never challenged the actual need for transcriptions. The object being transcribed is very difficult to approach in the first place. It is useful to discuss this complexity going back to the way it arose in ethnomusicology. Three general questions may be raised. The first involves the capacity for a trace to be representative: Does what I hear represent a general way of doing something, or is it a particular occurrence?

The second question that comes to mind involves the potential existence of a plan (What are the strategies behind what I hear?) or background: Is what I hear on the surface produced on the basis of a model and according to rules of variability?[6] The third question relates to the modelling of the material heard: What should I note from what I hear? In ethnomusicology the three questions are heavily intertwined. Is the song I intend to transcribe, heard at a specific moment in time, representative of a cultural archetype or is it an exception, an aberration, or a substitute? The identification of a potential background, which allows the distinction between what is essential and what is of secondary importance, between motives and ornamentation, etc., as well as some reflection on the way to lay it down on paper, is necessary in order to answer this question.

In order to investigate these questions in the context of jazz, it is important to remind ourselves of the fundamental difference between oral and phonographic

systems. Generally, the musics that ethnomusicology studies are not meant to be recorded and, in fact, are not recorded outside of fieldwork. We have already abundantly discussed how this is not so in jazz.[7] Recordings and transcriptions are articulated in very different ways, there is no competition between the two because they are fundamentally of a different nature from each other and operate at different levels. In fact, recordings are not on the same side as transcriptions in a phonographic system; they side with the object to be transcribed, which changes the whole perspective, of course. In this context, the first two questions (Is what I hear representative of a kind of music? and Does it have a background?) apply to analysis, not transcription.

The third question (concerning notation) sums up the whole debate about transcription in jazz. It generates a whole series of specific problems that will be addressed in section 11.2. But, beforehand, there is another distinction made by ethnomusicology that is relevant in a more general context.

1.2 Etic versus Emic

This pair is an extension of the phonetics/phonemics distinction made by linguistics. Kenneth Pike, a linguist, has suggested applying this pair of concepts to phenomena outside of languages and he did so by retaining the etic/emic suffixes only. An etic description gives an account of what is directly accessible in a concrete manifestation of an observed phenomenon, while emic descriptions provide an inner view of a phenomenon, using criteria chosen within the system.[8]

Here is how Simha Arom sums up the type of scores produced by both procedures: an etic score presents "the most detailed transcription of a musical piece. Transcribers try to give the closest account possible of what they hear, i.e., note all the acoustic phenomena that they can perceive and write them in the most faithful way possible."[9] A emic score is a transcription which "takes into account the tolerance accepted by users: melodic and rhythmic deviations that they do not perceive as significant are reduced to the norm. A cultural appraisal is necessary to decide which deviation is significant or not."[10]

This leads to two questions: first, where is the line drawn between an etic and an emic approach? Second, is one preferable to the other for an accurate analysis of a work of jazz? The first question actually triggers two others with regard to quantity (Should a large number of events be noted, or should one select among them the ones worth noting?) and to the profound nature of these two related notions.

Let us start with the latter. What makes a notation more etic or more emic? The etic notation is supposed to be the first step: a naive account of everything that perception picks up, so to speak, using one's own means and without thinking

about the way in which the system the piece to be transcribed works. However, unlike in the ethnomusicological context, there is little or no difference between the culture of a jazz analyst and that of the music that is to be transcribed. On this front, the situation is more similar to classical analysis: a jazz analyst comes, in principle, from the same system as his/her object of analysis.

Also, an etic notation bears, precisely, the features of a notation: outside of the marginal case of analysts making up their own system and rules of notation, transcriptions always refer (at least partially) to a conventional system, which is often that of written Western music (staves, clefs, pitches). This set of conventions is the result of a formalizing process that has established correspondences between sound realities and graphic or visual signs. This set of signs may be called a system; and, in a way, the transition from etic to emic mode has already happened in the process. A truly and totally etic transcription (in its purest expression, in other words) would consist of a mechanical recording that reproduces real sounds as sounds and nearly without losing any of their quality. It would not involve any other system than the technology that made it possible, which analysts can decide to see as acceptable or not. The situation of jazz is more comfortable than that of ethnomusicology in that respect. The legitimacy of recordings is not in question, as it is accepted that their products provide the very material for analysis.

Only a part of the issue is solved, however. Once it has been accepted that etic notation making use of the Western system with staves and pitches can be considered already partially emic, one needs to go further. Indeed, notations specific to jazz exist. Jazz may not be a foreign culture in the full sense, as it is not necessarily practiced by a culturally distinct population and thus one cannot be an insider or outsider. Nevertheless, its practice depends on specific codes that its practitioners—whether musicians or analysts—share knowledge of, which is not necessarily the case of an analyst coming from the classical tradition. Some of these codes relate to notation, and chord symbols, along with conventions indicating the development of the music in time, represent one of the most important of them.

This code is meant to be prescriptive, but it is used extensively in descriptive transcriptions, too. The use of codes of notation specific to jazz effectively puts transcriptions at the heart of a jazz system, which corresponds to an emic level of transcription.

As for the quantity matter mentioned above, and independently from the etic or emic quality of the notation, should one note a large or small number of events? This question has connections with the previous one. The use of chord symbols in a prescriptive context leaves musicians free to realize harmony as they wish. In a descriptive context, chord symbols are used when analysts do not need the details of a chord realization. A specific organization takes place here: transcribing all that is played by polyphonic instruments is a lot harder and takes

a lot longer than the mere synthesis of the underlying harmony behind actual chord realizations by all these instruments.

This takes us back to the original prescriptive question: is it better for a notation to retain a large quantity of information or to select from it according to criteria still left to be defined? The detailed investigation further on of the technical problems raised by the transcription of a work of jazz should give a partial answer to this question. However, it is already clear that it will not be solved without taking the purpose of the analysis into account (as shown in the previous example). In principle, a good transcription highlights the elements required by the argument without burying them under less relevant information.[11] This confirms that transcriptions are not simply an intermediary step between recording and analysis: the conditions of its validity depend on explaining the objectives. Consequently, it is very likely that two transcriptions of the same work would be different, because perception varies from one individual to another (or at different times with the same person)—which is the esthesic perspective on the matter—but also because it reflects what one wants to bring to light, which can be seen as a poietic dimension in transcriptions.

The modeling issue, which has to be raised at one point or another, is thus linked to that of relevance, which Simha Arom addresses, admitting a clear preference for emic rather than etic notation. The risk of overabundant information in etic notations applies to jazz, too: a notation overcrowded with data can prove counterproductive and hamper the identification of significant features. However, unlike in ethnomusicology, jazz is not the musical idiom of a specific population. The opinions of it that the members of the community have cannot act as a determining factor for the validation of an approach, a method, or a result. If one thinks of jazz as a "musical system," analysts should look for the relevant criteria within the system that analysis itself constitutes. A transcription is "apt" when it shows elements that are really present in the transcribed work and when it displays the information needed for analysis. In this context, a transcription is consistent with the analysis, and that is perhaps the purpose it should serve. By definition, it is the result of a modeling process, an abstract object that cannot match the original sound object. It seems best to acknowledge this deficiency and only ask from a tool what it can offer: in this case, the representation (partial, by definition) of a vision of a work, which is a springboard for analysis. Ultimately, the validity of a transcription is confirmed (or not) by the analysis that ensues. When a transcription does not seem suitable, the cause may be found in the rapport between the transcription and the original (obvious mistakes made in the process) but also because of some inadequacy between the transcription and the goals of the analysis.

Except for the positions presented earlier, these questions have been discussed relatively little in jazz. Todd Coolman[12] is one of the very few authors to have

done so, and his conclusions are unequivocal. He first noted that the most common type of analysis in jazz involves improvised solos and that authors make do with a transcription of the solo observed, pointing out contextual elements only briefly—the rhythm section in particular. Coolman himself, along with a team of transcribers, has carried out a comprehensive transcription of three pieces of Miles Davis's Quintet and his conclusion is clear: "the literature has rarely, if ever, looked at jazz improvisation in its whole (entire) context. It seems to me that this is analogous to examining an automobile without opening the hood, examining its underside, or entering the vehicle."[13]

The work that Todd Coolman used these transcriptions for focused on the study of interplay between the musicians of the quintet. Whether such a level of comprehensiveness in transcriptions was necessary in order to achieve the purpose of the analysis is debatable. Perhaps other choices could have been made that would have proved just as effective. However, it seems to me that the metaphor used by Todd Coolman is excessive and does not solve the issue.

2. SPECIFIC ISSUES

The full transcription of everything that one can hear is, as we have seen, only one solution among others and not always the best one. It is certainly the most time- and labor-consuming option. Choices range from the most comprehensive descriptive notation possible to the most succinct synthetic one, only taking into account items required to achieve the purpose of the analysis and presenting them in the simplest form. A melodic theme may be notated in a synthetic manner rather than exactly as it has been played in the version that is being scrutinized. Harmony may also be notated in a schematic way, leaving behind the workings of polyphonic instruments (such as chord positions, inversions, enrichments, alterations, chord substitutions) or of the bass (bass lines). Most of the time, it is preferable to write the type of rhythm (as well as a few accents possibly) rather than the whole part played by the drums. Such examples usually show most emphatically how significant features may end up buried under overabundant data.

As for melodic notation (the heads of compositions in particular), the notion of vocal quality—in a broad sense that can apply to instruments—comes into it. It is one of the original and crucial components of improvisation. Singing tunes provide the best breeding ground for variation and thus the best soil for the development of improvisation. In early jazz, improvisation consisted of paraphrasing the tune of the song. Paraphrases get more sophisticated as they develop, which is the first step of the analysis carried out by musicians themselves: one must be able to separate between the core components of a tune (which cannot be altered)

and those that are superficial, which can be subjected to variation. Eventually, paraphrases move so far away from the original tune that they become fully autonomous discourses, to the point that it may be difficult to track the original link. Once improvisation has been freed from this connection, it does not need an original tune to lean on and develop from; in this case, improvisation has a different status and does not have anything to do with variation anymore.

The solo is the realm of improvisation *par excellence*; but before it takes place, the presentation of the head itself is subject to a variety of treatments where the notion of vocal quality is opposed to that of instrumental quality. Historically, vocal quality was first imposed on instrumentalists (at least those who played the tunes). The repertoire thus naturally developed around songs, even when they were composed by jazz musicians to be played by instruments. As improvisation became more independent, its instrumental quality developed accordingly, and compositions (which were often transcribed and, to some degree, reworked improvisations) followed the same way.

In the 1940s bebop took full advantage of this instrumental quality of compositions, producing tunes that were "impossible to sing" and the contours of which were clearly influenced by instrumental practice (usually that of the composer[14]). This is why, in theory, most heads in bebop must be played exactly as they were composed, with no variation taking place, before improvisation as such can start based on the harmonic framework underlying the head.

However, this practice does not reflect the rule. When a head exists, it is usually destined to be interpreted. As soon as a tune appears as the core component of a piece, that vocal quality is involved; in other words, whether through a vocalist or a solo instrument acting as a singer, a synthetic type of transcription seems adequate.[15] Indeed, as we have just seen, a vocal attitude to the music—in the broad sense—nearly always involves variation: the same performer does not place notes rhythmically twice at the same place, and he or she often modifies some pitches in order to inflect the shape of the tune.

Figure 11.1 shows how differently Billie Holiday sings the three occurrences of the A part of her composition "God Bless the Child"[16] (built on an AABA structure) in the same recording. This is a parallel presentation of the three versions with a synthetic version on the bottom line, which could be a prescriptive suggestion to be played or studied. This transcription aims at a certain degree of precision with regard to notating rhythm, but it can hardly prove useful considering articulation is kept vague on purpose: it hangs over the pulse, attacks are not always clearly defined and articulation can appear ambiguous in places. This does not hamper a strong rhythmic feeling, and it never feels like the singer loses track of rhythm. We are touching on one of the crucial qualities of great jazz musicians: they manage to free themselves from the constraints of rhythm if expression requires it, but they do so while always considering the pulse.

The type of transcription presented below takes into account the problem of the relation to a model (a compositional model in this case). It recalls the method suggested by Constantin Brăiloiu:[17] several variations of a composed melodic material are placed side by side in order to come to a suggestion of synthesis based on these variations. The synthesis then acts as a model built afterward.[18]

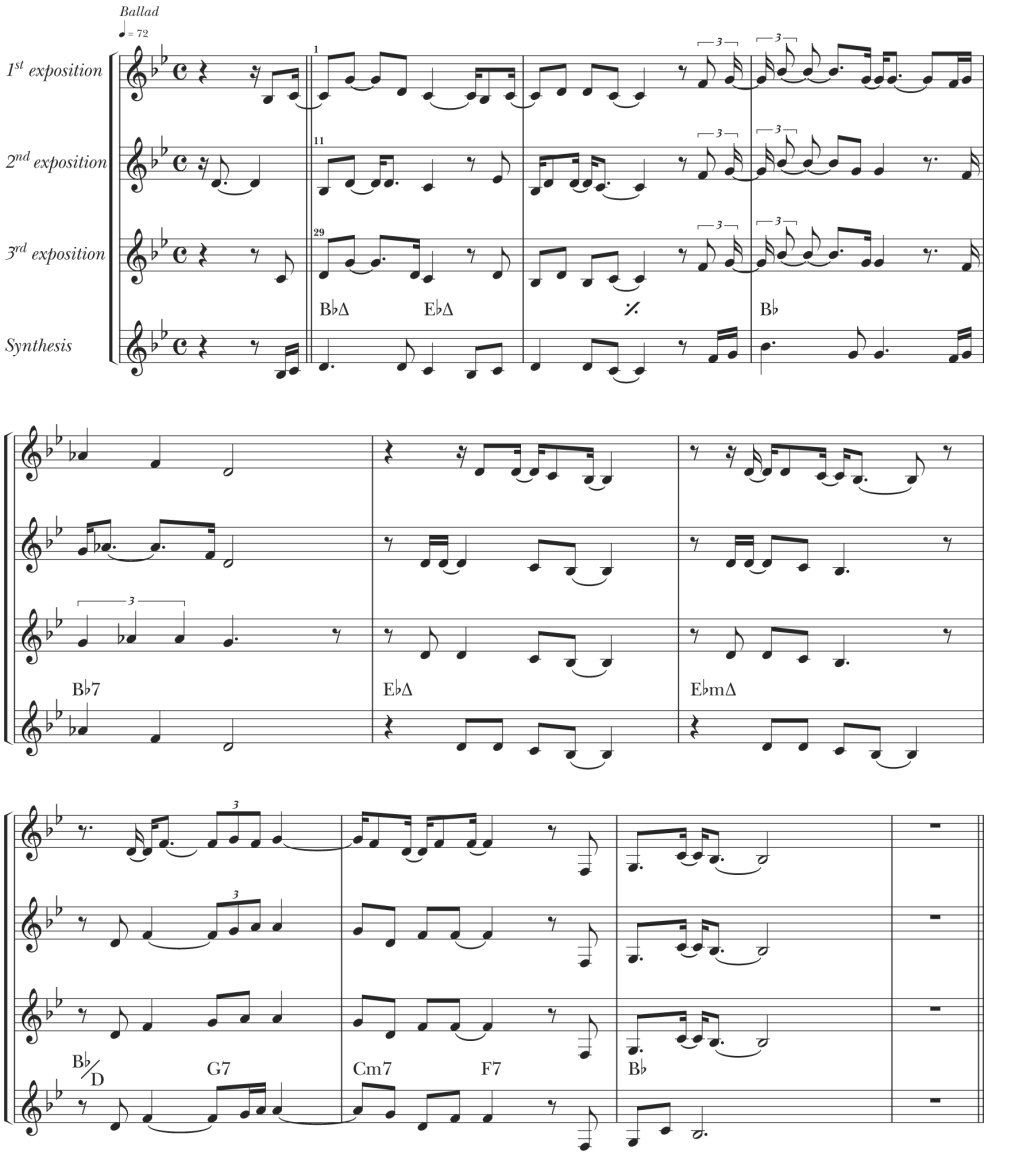

Fig. 11.1. "God Bless the Child" (Billie Holiday, May 9, 1941)

One may present the three occurrences, the synthesis, or a presentation side by side as done here, depending on the aims of the analysis.

Generally speaking, this example shows that a precise notation of the rhythm may be a waste of time if the rhythm was kept vague on purpose in the first place. This is one of the reasons that a score presented as a unique stave displaying a melodic line accompanied by harmony notated as chord symbols is the most common type of written aid. Musicians appreciate it particularly as a prescriptive tool to be used as a starting point for their work because it provides a limited number of elements from which their interpretation can develop freely. The song form stands as an essential part of the jazz repertoire. A schematic presentation of it may sometimes be justified as a description (as opposed to a prescription) as well.

As a general note, the objectives of an analysis determine the degree of comprehensiveness required from a transcription. Unless the study focuses precisely on the rhythm section, it is rare that one needs to display everything played by the members of this section. Most of the time, the type of rhythm played by the drums is indicated along with the harmonic guidelines followed by the bass, keyboard, guitar, vibraphone, or other instruments of the rhythm section. Transcriptions have to be economical with regard to this: transcribing the drums part is hard work and takes a long time, because it varies all the time. The same goes for the other instruments of the rhythm section. As a final point on the subject, melodic solos do not always get transcribed.

Once these preliminary conditions have been settled, numerous difficulties may arise in the transcription process. A few will be discussed below: issues with key signatures, rhythm, sound treatment, and the identification of parts and players.

2.1 Key Signature

The choice of key signature depends on the harmonic context of the piece to be transcribed, of course. The first scenario to envisage involves pieces that are clearly set in a tonal context. This includes nearly all standards from the Great American Songbook: George Gershwin, Cole Porter, Jerome Kern, Harold Arlen, Richard Rodgers, Victor Young, Irving Berlin, Harry Warren, etc. being among the composers whose music is the most played. All these pieces have been published, so original scores are theoretically available. In these scores, composers have themselves chosen key signatures that will not be discussed, especially as jazz musicians only modify chords as a general habit, without challenging the harmonic structure. This structure is very simple most of the time: a main key and one or several relatively straightforward modulations. However, such scores are not always at hand, and it is often necessary to make choices. In particular,

one has to decide when modulations truly happen (which involves a change of key signature), as opposed to more mundane harmonic or melodic phenomena that do not require any change.

Of course, the same question applies for tonal compositions that remained unpublished. In either case, transcribers can express their view of the work on this point as well: "'Round Midnight" by Thelonious Monk plays on an ambiguity between the minor and major modes of E♭. The first chord is E♭m and the last E♭. Usage tends to have the piece written with an E♭ minor key signature, in which case the conclusion is regarded as a picardy third. However, the "original" score—which was published when lyrics were added—is written in major, and Philippe Baudoin, for example, presents his transcriptions of this piece in major.[19] The logical outcome is a key signature with three flats only. In a case such as this, the transcription informs us on the view of its author.

Blues is a different case. It operates on different harmonic principles from those of tonality. In particular, the first-degree chord is made of four sounds—a seventh—which, morphologically, corresponds to the dominant chord in the tonal system.[20] As a result, the choice of key signature can never prove adequate, for key signatures as we use them were designed within the framework of the tonal system (and the major mode, specifically). So for a blues in C, for example, one would normally either choose the key signature corresponding to C major (having to use accidentals for every occurrence of a blue note) or that of the minor key, in which case the A♭ of the key signature does not correspond to any note in the system. A key signature with two flats, B and E, which correspond to the two blue notes, would be a third option but it would inevitably lead people to believe that a B♭ tonic exists, which does not reflect the reality, of course. The first solution (the key signature of the corresponding major key) seems to be the most used as it causes the least inconvenience.

We are left with the common case of "modal" situations (other than blues, if one considers blues modal). The Dorian mode[21] is one of the most used, producing the C-D-E♭-F-G-A-B♭-C scale if the tonic is C. Again, this is a mode that "naturally" involves two alterations: E♭ and B♭. The dilemma is the same as for blues, but two difficulties disappear: pitches (and thus intervals) are fixed in theory, and the chords correspond to the scale. If one chooses the key signature of C major, the main feature of the scale (minor thirds and sevenths) are ignored. If one chooses the key signature of C minor, one must use an accidental every time that the natural A appears. The key signature of B♭ would imply, as in the case of blues, that the tonic might be B♭, whereas it is C. "So What" by Miles Davis and "Impressions" by John Coltrane are both in Dorian D. Most of the time, transcribers of these pieces tend to leave the key signature void. This does not indicate that these pieces are in C major or A minor. The insight of the reader is required to understand the meaning of the void in the present case.

2.2 Pitches

Pitches often are the most objective elements, the ones that are least subject to interpretation. Options frequently occur, though, for notes the emission (and perception) of which are problematic ("ghost notes"), or those the pitch of which varies in a very short time. It is also sometimes necessary to make choices with regard to enharmony in the case of fixed identified pitches.

2.2.1 "GHOST NOTES"

Ternary articulation is characterized by a great variety in accentuation. Accents usually make sense in relation to each other: how close they are to each other, where they are placed in relation to the beat, etc. Ghost notes take place at the very end of the range of accents: they are heard or rather, guessed or implied, without being actually played. Their "ghostly" nature is sometimes debatable, which may lead to different choices in transcription. Figure 11.2 (bars 63 and 64 of the first take of "Billie's Bounce" on November 26, 1945, solo by Miles Davis) shows three possible choices for the transcription of a ghost note.

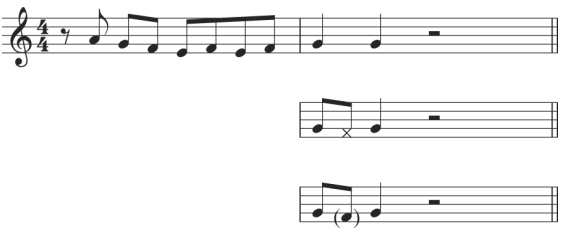

Fig. 11.2. "Billie's Bounce" (Charlie Parker, November 26, 1945), Miles Davis solo (concert key)

2.2.2 INFLECTED SCALE DEGREES

Often, discrete conventional notation based on semitones is not suitable to give an account of inflected sounds. It is possible to use symbols corresponding to ornaments (glissando, for example) or complementary conventions (such as signs used to indicate quartertones), but they do not always allow for a satisfying representation of the real sound phenomenon. This is, of course, problematic when trying to produce a relevant analysis. It often happens that a notation choice anticipates the result that an analyst predicts as right.

This is a permanent dilemma with regard to blue notes, as illustrated by the breaks of "Hotter Than That" (a composition by Lil Hardin, in the version by Louis Armstrong's Hot Five on December 3, 1927) (see fig. 11.3). This is clearly a tonal composition in E♭ major. When Louis Armstrong and the guitar player Lonnie Johnson alternate breaks, they both use the blue note third systematically, in a way that leaves analysts with the relatively arbitrary choice between G and G♭ for each occurrence.

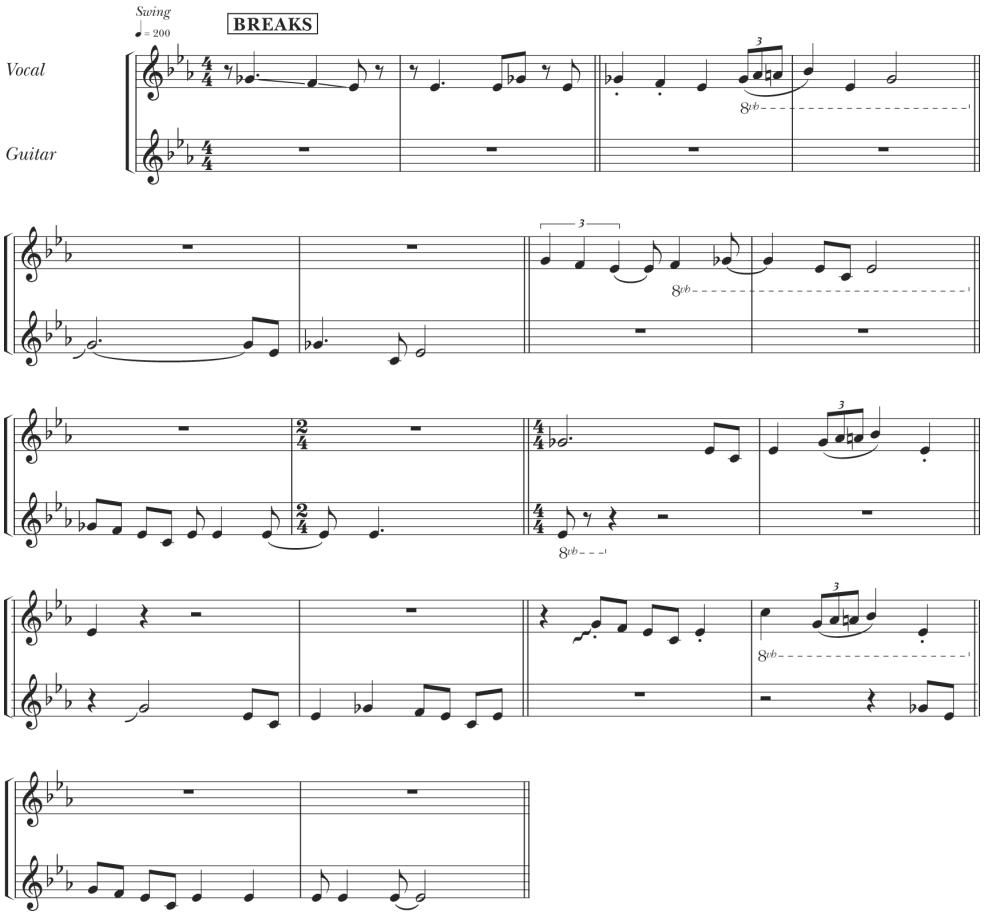

Fig. 11.3. "Hotter Than That" (Louis Armstrong, December 3, 1927), transcribed by G. Schuller

Generally, this problem arises as soon as a melodic line includes notes that move away from equal temperament. John Coltrane's "sheets of sound" are a famous example. As the name suggests, they are long, torn lines most pitches of which cannot be pinpointed. The only solution thus consists of trying to get as near to the reality of the sound as possible, with the full knowledge that such a reality cannot be wholly contained by the lines of a stave.

2.2.3 ENHARMONY

In many cases a note at a fixed pitch can be written enharmonically in two ways. The choice made pushes an analysis in one direction rather than the other. This is true of blue notes, too. Nobody would think of writing the B♭ blue note as an A♯ in a blues in C. But the question may be asked whether to write the other blue note as D♯ or E♭. One could be tempted to base the choice on the melodic

motion: D♯ when the motion is directed toward a natural E, or E♭ if it is descending. This results in writing two notes that are essentially the same in a different way depending on the context. Choosing D♯ implies that the analyst opts for a hexatonic rather than pentatonic blues scale, which is not a minor decision. On the other hand, choosing E♭ as a default position may lead others to believe that the analyst implicitly agrees with the alleged idea that the blue note brings a major/minor ambiguity into the equation, and that melodic motion always is ignored. It is clear that the notation never quite fits, which is hardly surprising considering that it was designed for the tonal system while blues obeys different harmonic rules.

However, the problem does not affect only blues. In particular, it may occur when an improvisation superimposes a distinct chord on the underlying harmony at a specific moment. Lennie Tristano's solo on "Line Up"[22] gives an example of it:

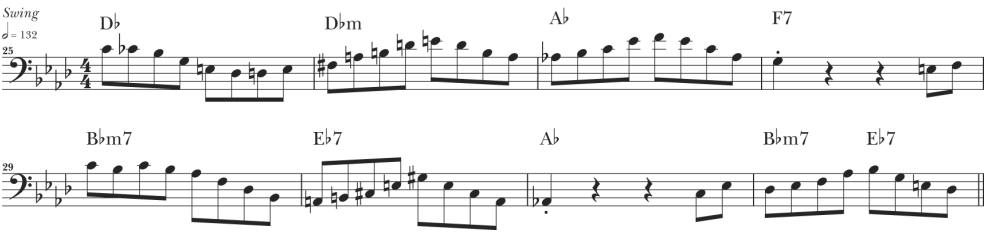

Fig. 11.4. "Line Up" (Lennie Tristano, September 1955), piano solo

It is important to notate bar 26 as shone here, in order to highlight the fact that Tristano plays a D6 chord[23] on a D♭m harmony. It is even more important to write the third and fifth quavers of bar 30 as C♯ and G♯ rather than D♭ and A♭, which could seem more pertinent in relation to the A♭ major key and E♭7 harmony. Again, it matters to show that the pianist plays AΔ on E♭7.

2.3 Rhythm

The largest number of difficulties arise in transcribing rhythm. In particular, it is worth looking at the ones concerning rhythmic linearity, bar signatures, the location of the first beat and "ternary" articulation.

2.3.1 RHYTHMIC LINEARITY

Regularity of tempo is one of the strongest rhythmic codes in jazz practices. Constant tempo is perceived as an element of the quality of the pulse in all jazz forms based on isochronous pulse (i.e., the vast majority of them). The rhythmic section of the orchestra is normally in charge of this regularity, in the same way that a good articulation between the bass and drums can usually offer a strong rhythmic basis for improvisers to develop from.

However, some jazz practices do not observe this rule. Matters of style or orchestral format are usually the cause. Here is not the place to discuss stylistic issues, but a specific type of format—the solo (i.e., an instrument alone with no accompaniment)—may be mentioned. It is often the piano but does not need to be. A musician may wish to make the most of the freedom available in this situation: melodic, harmonic, and rhythmic freedom.

In his trio version of the head of "Stella by Starlight," Keith Jarrett plays a solo introduction in which he brings up the head, plays fragments of it, follows the harmonic progression without always sticking to it; it is a sort of musical stroll on the theme by Victor Young. The rhythm is always changing, going through *rubato* sequences, duple and triple meters, slowing down or speeding up. Clearly there are as many ways to transcribe as there are variations in this introduction, i.e., a vast number. The transcriber's task consists of making the most pertinent graphic choices in order to give the best account possible of the reality of the musician's thinking at the considered time in the course of the piece. The choice of meter is a constant issue even in the passages where the pulse is regular, because one has to find the way to re-create the "sense of time" and the sense of where the first beat is placed; it is crucial if a certain phrase has to be heard on or off the beat. This problem appears again with some of the other examples mentioned here.

2.3.2 METER

The most common problem analysts face regards the choice of time unit or meter. Should one choose a quarter or half note as unit of reference and what tempo? The same music may be heard (and written) in 4/4 (a quarter note = 160), 2/2 (a quarter note = 80) or 2/4 (a quarter note = 160, in which case two bars correspond to one bar of the two previous scenarios). Such choices seem to bear little consequence at first. However, they have different implications, such as a varying distribution of beats and offbeats.

A correct choice of meter can be critical and cause (or be the cause of) some serious mistakes in the appraisal of rhythm. Bojan Zulfikarpašić's composition "Multi Don Kulti"[24] (see fig. 11.5), presented below, provides an emphatic example of this: the head may be heard in two ways that are equivalent and as likely. This is only true at a theoretical or arithmetical level, for one of these ways is actually correct and the other is not, with regard to the composer's intention and the deep meaning of the composition.

The use of tempo equivalence, as well as switching from a compound to a simple meter, lead to two different ways of thinking rhythmically about the same musical fragment. It is not just a musical game: when listening to this piece, one may tend to hear the second option while only the first one is actually "correct." Most importantly, one should note that this is not a mere transposition of meter: the first beat occurs at a different point in the two versions, which causes

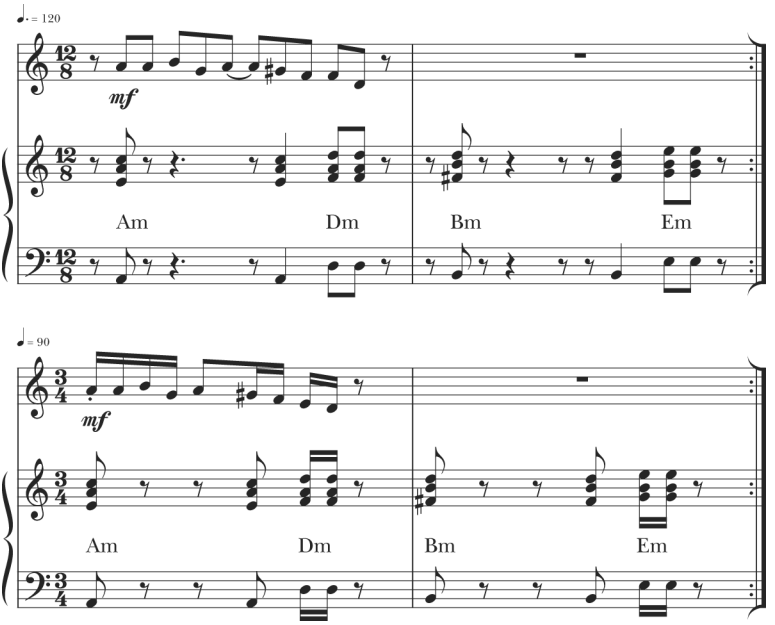

Fig. 11.5. "Multi Don Kulti" (Bojan Zulfikarpasic, December 18–21, 1995)

the second option to be definitely wrong. The first beat would not be located correctly—a major mistake in a transcription.[25]

2.3.3 LOCATING THE DOWNBEAT

In a four-beat pulse, the four beats in a bar are played by the bass (as opposed to a two-beat pulse, where only the strong beats are played). As a result, a four-beat pulse fundamentally opposes the two downbeats to the two offbeats (also known as afterbeats). Both types are normally stressed differently, which is the basis of this pulse. Confusing downbeats and offbeats is one of the most serious mistakes a jazz musician can make.[26] This applies to transcribers, too, as it necessarily distorts the subsequent analysis. However, such mistakes can be found, as shown in the following transcription of *Summertime*[27] from *Porgy & Bess* by Miles Davis, recorded with Gil Evans in 1958 (see fig. 11.6). This example was published as an illustration in the first biography of Miles Davis.[28] What is presented here as a first downbeat is actually a fourth beat (an upbeat): the second beat written is the real first downbeat. The mistake is all the more surprising because the rhythm section indicates the location of the first beat very clearly.[29]

This is an example of confusion between a first and second beat; but the downbeat/offbeat issue can arise, precisely, when there is no rhythm section to indicate it clearly. In "Stella by Starlight," Keith Jarrett plays on this ambiguity, on the possibility to hear the beat on a certain note or on the next eighth note: this is one of the driving forces of his musical discourse.

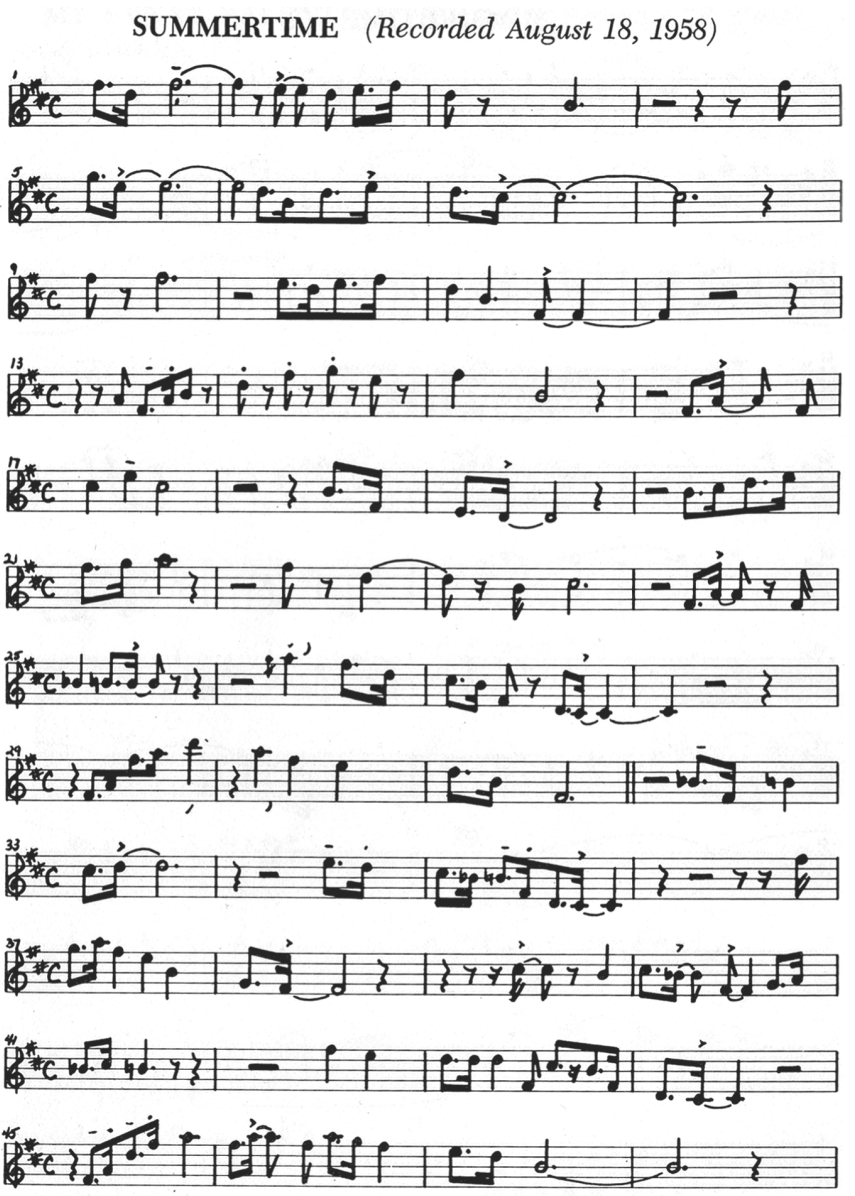

Fig. 11.6. "Summertime" (Miles Davis, August 4, 1958), trumpet solo, transcribed by B. Cole

The unaccompanied introduction of "West End Blues"[30] by Louis Armstrong (see fig. 11.7) is another famous example. The transcription presented here is Gunther Schuller's.[31] The presentation of the first two bars with the first four notes on the downbeat is widely accepted, though some commentators insist that they should be heard as offbeats (see fig. 11.8).

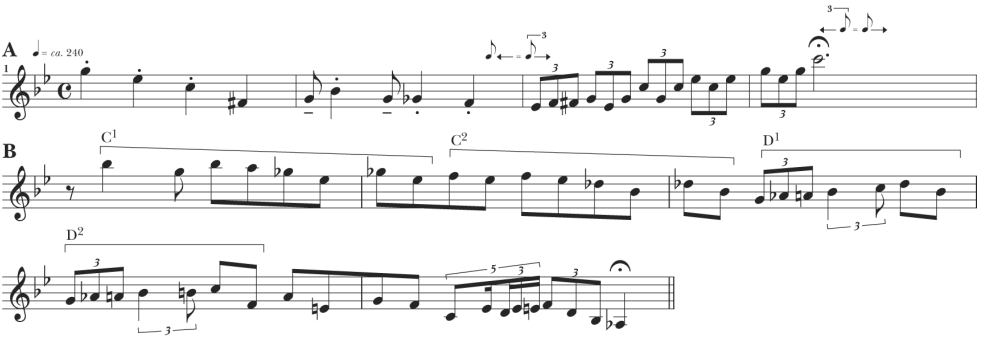

Fig. 11.7. "West End Blues," introduction (Louis Armstrong, June 28, 1928), transcribed by G. Schuller

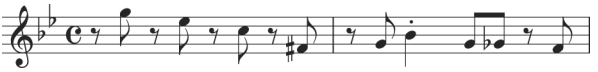

Fig. 11.8. First phrase of "West End Blues" (offbeat version)

2.3.4 TRIPLET SUBDIVISION

The "triplet quarter note—triplet eighth note" (ternary notation) is the notation nearest to the ternary articulation or triplet subdivision. However, it is often written as "dotted eighth note-sixteenth note" (duple or binary notation), as if the second note was taking place on the fourth part of the beat rather than the third. This may be a trace of the way this articulation emerged, i.e., via ragtime, easing a strict duple rhythm into a more relaxed triple one.

Several conventions thus exist. The first, which uses triple notation (and which is generally the nearest to reality), is actually the least common (because it is the busiest graphically). The second convention is relatively common and uses the quadruple subdivision.

A third convention indicates that "two eighth notes" equal a "triplet quarter note—triplet eighth note" rhythm, either written as such at the beginning of the transcription or in the form of words such as "ternary (or triple)" or "swing," which mean that the eighth notes on offbeats must be read on the third part of the beat, not the second (see fig. 11.9).

Fig. 11.9. Duple-triple equivalences

The fourth and last convention assumes that all such notes are superfluous and takes the triple subdivision of time for granted. Sometimes several conventions are used simultaneously, like in this example of a transcription of Louis Armstrong's "Big Butter and Egg Man"[32] by Gunther Schuller (see fig. 11.10).[33]

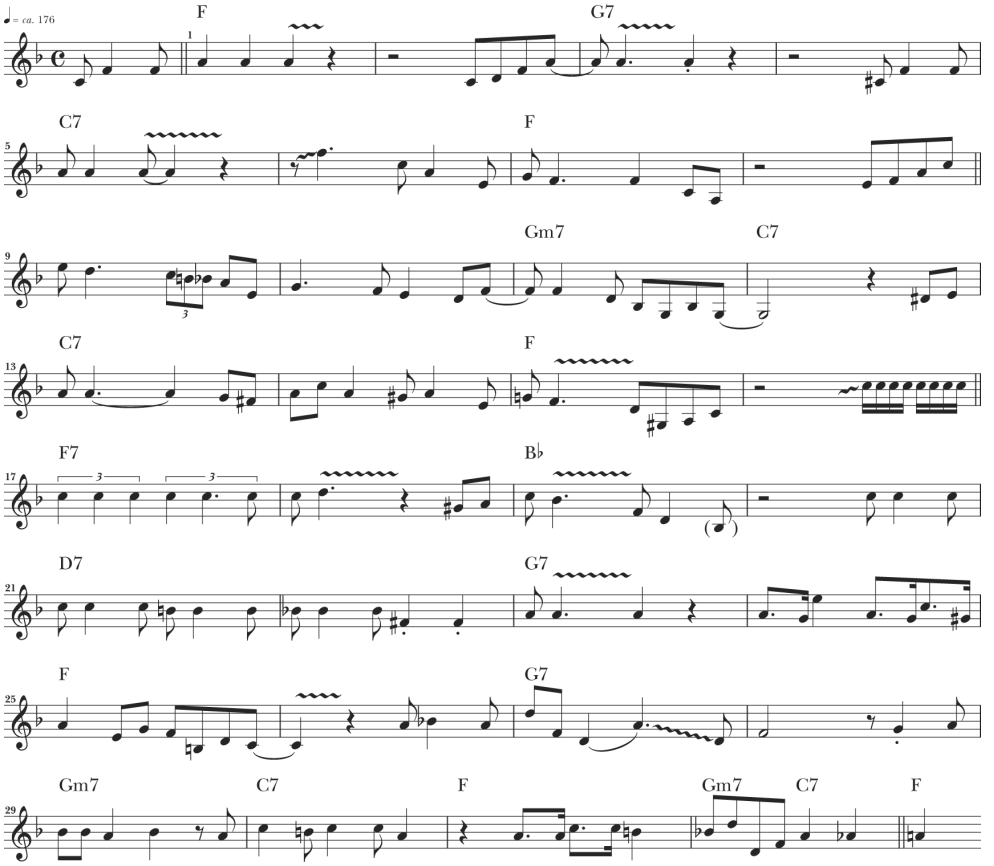

Fig. 11.10. "Big Butter and Egg Man" (Louis Armstrong, November 16, 1926), transcribed by G. Schuller

The articulation is written in eighth notes with no particular indication at the beginning. Yet, the author feels necessary to use duple notation at bars 24 and 31 even though it does not seem particularly needed in those specific moments.

2.4 Figuring

What exactly should be figured when the choice is made to provide figuring in a transcription? Should we figure the chords that have been used as a consensual basis for the performance, or the chords actually produced by an arrangement or a performance? How can figuring reflect conflicting harmonies between performers? A sensible solution is provided by Henry Martin: "The only realistic solution to this problem is that the analyst must make choices that seem reasonable for the purposes of the analysis, while being true to 'what's there.'"[34] This confirms once again that transcribing involves choices and is thus an analytical process in itself.

2.5 Sound Treatment

The transcription of the way in which sound is treated can prove difficult or even impossible. The more it moves away from discrete units (pitches), and the more it becomes like sound fragments the boundaries of which are blurry, the more a transcription seems incapable of giving a fair picture of the musical reality. As long as inflections can be identified, it is possible to create symbols to describe them. Many such symbols can be seen in the musical literature for big bands to describe attacks from underneath the note or the way that a note finishes (abruptly or progressively), etc. The more that such treatments gradually become part of the core of the sound instead of just being momentary effects, the more ineffective a transcription becomes. Treatments may be acoustic (pitch bend, wah-wah, growl, or distortions of all kinds) or electronic (wah-wah pedal, sound-distorting effects, phasing, etc.). The expression pedal, as used by John Abercrombie or Bill Frisell, erases the attack and allows for the sound to develop progressively which can make the rhythmic boundaries of pitches very blurry. Eventually, the task becomes virtually impossible with sheets of sound or screams (John Coltrane, the electric period of Miles Davis between 1972 and 1975, Albert Ayler).

2.6 Identifying Parts

Who plays what? It is not always straightforward to work out which part is played by which instrument in a polyphonic work. The difficulty may be of several kinds:

- Several similar instruments are being played at the same time (e.g., the trumpet section): it may be difficult to identify the distribution of parts between various instrumentalists.
- There are several instruments from the same section (e.g., various types of saxophones, oboe, English horn): it may be difficult to distinguish between them.
- There are several instruments from various sections: it can be difficult to identify each instrument in a mixed group when several or all of them are playing the same rhythm.
- It sometimes occurs that everything that is heard cannot possibly be played by the personnel announced (e.g., the percussion in "Water on the Pond"[35]). In such cases one has to make suggestions: the potential presence of non-credited instrumentalists, a process of overdubbing, etc.
- In a keyboard transcription, it is not always possible to appreciate the distribution of the parts between both hands. As a result, the transcriber may be unsure about what stave to write the notes on.

3. ERRORS

There can be a wide scope of variation in the ways that a given sound fragment may be transcribed, and it is not always possible to decide whether one transcription is right and the other options wrong. They all are options, indeed: theoretically, they should all be arguable and defendable. However, some discrepancies that can be seen as errors can be easily identified. Such discrepancies can be of two kinds: musicians themselves sometimes realize that the real sound produced is not quite what they intended. Transcribers then have to decide how to deal with these errors, which are present in the recorded material despite the musicians' intentions. Alternatively, transcribers can make choices that go clearly against what can actually be heard. The resulting transcription becomes a distortion of the reality. It is then the task of another analyst to point out the mistake, explain why it is a mistake, and suggest another and more accurate transcription.

3.1 Errors Made by Musicians

It is sometimes clear that one or several musicians have made a mistake either regarding pitch, rhythm, or their reading of a rhythmic code. Should analysts write down exactly what has been played, taking the risk that this might lead to a wrong analysis? Or should they restore some kind of "truth," not that of what has been played but that of what should have been played? The presentation of the head in "Billie's Bounce," recorded by Charlie Parker and Miles Davis November 26, 1945, for Savoy, is faulty in all five takes, but should analysts write down all the false notes hit by either musician? It is clear that transcribing the mistakes is of no relevance from an analytical point of view.[36]

If an analyst decides to produce the most faithful transcription possible while being convinced that the musician made a mistake, then mistakes should be identified and not lead to erroneous conclusions. Here are two examples taken from a transcription of a solo by Bill Evans on "Show-Type Tune."[37]

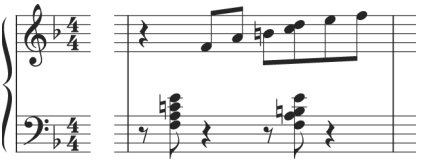

Fig. 11.11. "Show-Type Tune" (Bill Evans, May 29, 1962), transcriber unknown, extract 1

Two notes, C and D, are heard on the second part of the third beat but it is very likely that Evans intended to play D only on this G7 chord, as this whole passage is made of phrases of eighth notes with only one note played at a time. There is

no evidence backing the idea that double notes should take place here. It is clear that Evans missed a note unwillingly.

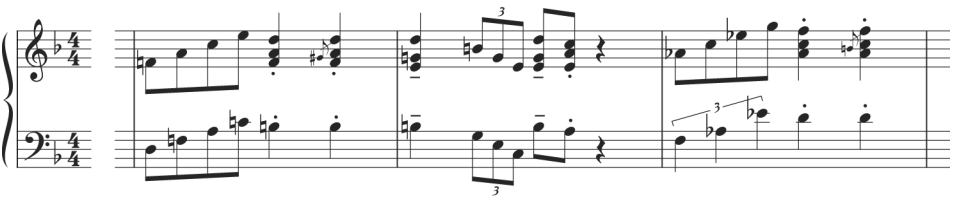

Fig. 11.12. "Show-Type Tune" (Bill Evans, May 29, 1962), transcriber unknown, extract 2

The fragment in figure 11.12 is taken from a passage where Evans uses the technique of block chords constantly: the improvised line is made of chords while the left hand plays a rhythmic unison, either playing the upper line of the right hand an octave lower or creating a new line. In the first two beats of the third bar, the right hand plays four notes while the left hand plays only three. It is very unlikely that Bill Evans intended an effect of polyrhythm (four-over-three) here. Considering the very fast tempo, it is much more likely that his left hand did not quite manage it: he wanted to play an Fm7 arpeggio a tenth lower than the arpeggio played by the right hand, but could not play the C.

3.2 Errors Made by Transcribers

Errors made by transcribers when listening to a piece or writing it down is a more important issue. It is not possible to accept all transcriptions as equally correct on the relativist basis that they depend on different and equally justifiable viewpoints, perceptions, and analyses. Some notations clearly go against unquestionable and obvious facts. The most common case involves pitches. As discussed earlier, they can sometimes prove difficult to identify or write down, but when their emission is plain, there is only one option and other notations are simply wrong. This is an audible fact that can be verified by experience: if a C has been played and recorded, it is a C even if we assume that the musician intended to play another note and despite the variety of ways in which it may be perceived.

We will see later that similar situations can occur about other parameters (rhythm in particular) or other moments of the production process. There may be several ways to hear and thus write a rhythm but some are clearly wrong. The emphasis on the esthesic level (perception) at which an object can be observed cannot alone justify a blatant discrepancy with the poietic level (the way musicians have conceived and produced a rhythm), as it may compromise the truthful rendering of the neutral level (the physical sound object being scrutinized). Let us take the example discussed earlier: the transcription by Bill Cole of "Summertime" by Miles Davis. One may hear the first beat as a fourth beat. Nonetheless, Miles

Davis and all the musicians involved referred to it as a first beat. As a result, there is a clear positioning of the first beat and any other option would be in conflict with what can actually be heard in the recording (immanent level). Consequently, the perception revealed in the notation does not display another way of hearing the music; it is an objective mistake.

Errors can be made even by the most competent analysts, as the following example by Gunther Schuller—a musician and musicologist above all suspicion—shows in the first two bars of his transcription of "Skit-Dat-De-Dat"[38] by Louis Armstrong's Hot Five.

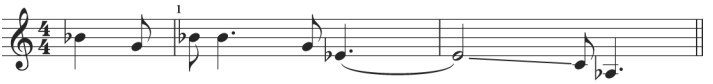

Fig. 11.13. "Skit-Dat-De-Dat" (Louis Armstrong, November 16, 1926), transcribed by G. Schuller

The second note in bar 1 is not a repeated B♭ but a natural A. As the trumpet is playing alone, this is clear despite the relative quality of the recording at the time (1926). So this is clearly a mistake made when transcribing or printing the transcription.

There is a fundamental difference between the mistakes made by Bill Cole and Gunther Schuller, of course. In the latter case, it is of secondary importance and without consequences. The author is obviously capable of distinguishing between A and B♭. The issue is more embarrassing with Bill Cole, because the error does not appear at just one point in the transcription but occurs throughout. It is annoying to think that all along the process the transcriber did not realize that the rhythm was written the wrong way around.

4. BACK TO THE STAKES: TRANSCRIPTION, COGNITION, AND SYMBOL

The arguments against transcriptions have been put forward earlier in the chapter. Arguably, transcriptions are mostly accused of not being able to give a fair account of a musical phenomenon as a whole or, worse, of missing what is essential in what is being heard. In the field of jazz, Robert Hodson has given a simple answer as an introduction to one of his books that contains many transcriptions by him: "I do not assume that [my transcriptions] capture all aspects of a recorded performance. . . . I regard them as representations of performances rather than pieces, and at times those representations will be approximate . . . ; my use of them is entirely pragmatic."[39]

Robert Walser has issued a warning that agrees with Hodson: "I have no illusions about the capacity of musical notation to represent musical performances completely or accurately. I have tried, however to furnish a transcription that acknowledges its own limitations, one that records the existence of aspects of the performance that are not notatable or that are usually overlooked by analysis. Even so, an enormous amount of important musical information is left out, especially nuances of pitch and timbre."[40]

These statements seem to me to sum up the issue perfectly with regard to jazz (without drawing conclusions as for ethnomusicology). The use of transcriptions is perfectly compatible with references to audible musical elements that cannot be written. As long as transcriptions are not confused with the actual objects of reference—the recordings (it is clear here that the positions on both issues are linked)—there is no reason to discard what they can offer, just as there is no reason to use them alone without any complementary tools.

Finally and no less importantly, the act of transcribing has cognitive and symbolic sides to it that affect the analyst. Transcribing is a very good way of deepening one's listening to a work. We could paraphrase Bruno Nettl's ironic statement "I can't say a thing until I've seen the score" as "I cannot hear anything comprehensively until I have transcribed the piece." Bruno Nettl gives five reasons to explain in short why ethnomusicologists are not willing to swap transcriptions made by ear for other types of transcriptions obtained by mechanical means. Here are the first four reasons that he gives:

> We have an excessive association of music and notation . . . We cannot quite remove ourselves from this concept of urban Western academic music culture.
>
> Ethnomusicologists, most of us believe, must be able to *hear* music, not merely to analyze, and reliance on automatic devices deprives them of a way of giving evidence of their competence. . . .
>
> Ethnomusicologists are emotionally tied to the sound of music and thus get much of the pleasure of their work from transcribing. Furthermore, having made a transcription gives them a certain sense of direct ownership and control over the music that they have laboriously reduced to notation.
>
> Although transcription is supposed to be descriptive notation, it nevertheless, in the corner of the scholar's mind, is something that is potentially prescriptive. At the very least, someone can look at the notation and, humming under one's breath, get at least something out of it, a general sense of how the music sounds. To the Western ethnomusicologist, Western notation makes the music seem like "real music."[41]

Even if the problematics of ethnomusicology are different, the bulk of the points mentioned above seems to apply to jazz as well. Like for ethnomusicologists, besides the scientific need for transcriptions, they play a special part in the work of jazz analysts: it can convey pleasure and be a way of showing one's ability to grasp the music, i.e., it can be a means to establish one's authority and show or feel a sense of belonging in the community of that music. These factors do not diminish the value of transcriptions, which, as a fact, have proved themselves to be one of the preferred tools for jazz analysis over time.

CHAPTER 12

Procedures 1: Analyzing an Improvised Solo

We are now at the point of looking at how to proceed with analysis itself. The analysis of improvised solos is by far the most common type of analysis in jazz, and for a long time there was very little analysis apart from that. Yet, Lawrence Gushee said in 1977:[1] "There is no commonly accepted coherent method of jazz analysis."[2] The way in which the author merges the analysis of jazz with the analysis of improvised solos is very revealing about the importance of the latter. For a long time, it was perceived as the only type of analysis specific to jazz. This is not surprising considering solos seem to display all the elements of which jazz is made (improvisation being the most obvious).

1. TYPES OF IMPROVISED SOLOS AND TYPES OF ANALYSIS

Improvised solos, as an object, were an obvious choice for analysts. However, the analytical methods used lacked theoretical backing and were always quite empirical. Nevertheless, a number of significant authors have contributed pieces that have gradually allowed theory to develop organically, but the theoretical jigsaw puzzle is still incomplete.

It is not always easy to present the authors' views in relation to each other, because they sometimes use the same words with different meanings, look at things from different angles, and do not always talk about the same object (or define it in the same way). However, it seems to me that five types of questions emerge from reading the texts, though not always explicitly.

1.1 Protagonists and Points of View

"How do improvisers proceed?" is the most frequently asked question when people start considering the issue. Answers given involve unveiling alleged methods of improvisation used by soloists, but a closer look at these answers reveals that several points of view can sometimes be confused. In my opinion, it is worthwhile to bear in mind that there are three angles of approach: the improvisor's (poietic approach), the analyst's (analytical approach), and the listener's (esthesic and perceptive approach).[3]

The improviser: He/she carries out strategies of improvisation (being aware of them to varying degrees) and may use improvisational methods.

The analyst: He/she tries to decipher what the improvisation consists of based on the final product (in this case, an improvised solo as it is presented on record). He/she tries to identify the strategies and methods of improvisation at play.

The listener: Listeners perceive a solo in certain ways (and are aware of it to varying degrees). Analysts are listeners first, obviously (and so is the improviser to some extent), but not all listeners listen with an intent to analyze the data they are presented with.

One could think that a choice of strategy carried out by a musician should lead to a certain type of analysis. Authors sometimes confuse the two for that reason: allegedly, analyzing consists of unveiling the method used. However, we will see that the link between the two is often more complex than that. Besides, the analytical positioning may also be affected by the choice of whether to include how the work was received by listeners.

1.2 The Solo from Within: Elaboration/Syntagmatic Chain

Various authors refer to two (or three) types of elaboration of an improvised solo more or less implicitly:

Combination: the soloist stitches together units that are not related to each other in principle.

Development: units are stitched together according to a logic. There are two solutions: 1. Each unit provides possibilities for the next ones, in which case each is to be understood in relation to the previous ones (and the following ones if we are dealing with the achieved state of the solo, which is the case for the analyst); i.e., development is iterative. 2. Some authors consider development to be led by its own inherent logic, a deep structure that unfurls on the surface. For them, development is organic.

From the point of view of an improviser, these are methods of elaboration. From the point of view of an analyst, these are different types of syntagmatic chains (i.e., different ways of assembling units into a chain).

1.3 The Solo from Outside: Points of Reference

Both the improviser as he/she elaborates the improvisation and the analyst as he/she attempts to decipher it can refer to elements that are not part of the solo itself. These elements may be of two sorts:

The head: in common practice the head is played before the solos, which are based on its chord changes (and thus its structure). There may be three sub-elements involved:

- The head's harmony
- The head's structure
- The head's melody (which may be present in varying degrees or not at all in the solo)

The vocabulary: soloists (in their practice) and analysts (in their search) may refer to a body of vocabulary. Again, there are two options that are not mutually exclusive:

- Individual vocabulary: the soloist's own idioms or borrowings from other improvisers (influences)
- Collective vocabulary: idioms related to a style

1.4 Melodic and Rhythmic Units

The concept of motive, which may become a formula under certain conditions, is recurrent in the literature. It is very difficult to deal with because authors use these terms with very different meanings. For that reason, a momentary definition of a "motive" is needed: let us say that it is a melodic and rhythmic fragment that can be appreciated differently depending on its place in a syntagmatic chain or what it is related to:

Syntagmatic Chain:

- A motive can be seen as an element combining with other elements of the same nature, i.e., other motives (combination).
- Most of the time, a motive is seen as a melodic fragment to be used and transformed by the solo. It involves development within the solo and does not rely on any other element outside of it.

Referent:

- The motive can refer to the head that is played before the solo takes place and provides it with the chord changes. In this case, the motive is a thematic marker.

- The motive can refer to the vocabulary of the musician using it, in which case it becomes a marker of that musician's musical language. It is then often called a "formula." This is the meaning of a "Parker style formula" or "Young style formula," etc.
- A motive can refer to the vocabulary of other musicians (intertextual dimension).
- It can refer to a collective vocabulary, in which case it becomes a stylistic marker.

This inventory of references does not actually list different objects but rather occasional functions that melodic and rhythmic fragments can have. A fragment may play any of the roles mentioned above simultaneously or in turns. A single motive may come from the head while belonging to the vocabulary of the improviser (especially if he/she composed it) and be used as a marker by a collective style.

1.5 Degrees of Awareness in Elaboration and Reception: The Conscious Intent

One may be aware of the presence of references in varying degrees and at different levels of consciousness. This is a crucial point. Here is not the place to go into the complex discussion about the kind of mental processes at work in improvisation and how they relate to various levels of consciousness. However, improvisers are certainly aware of using certain strategies, and it is also clear that their activity involves various levels of consciousness. The same applies to listeners. As for analysts, they are meant to be fully aware of the strategies that they use while not forgetting that they are listeners before being analysts.

Authors use these notions (though not always explicitly) to develop their thoughts about what is often presented as methods of improvisation (sometimes building on other authors' ideas). When summarizing, we shall see that it would be more appropriate to talk of the features of improvisations. It is not always possible for analysts to identify a simple correlation between the conceptual intentions and improvisational strategies/methods used and the actual result related. This is why the conscious intent that lies behind an improvisation and that is mentioned above matters so much. Besides, this book is concerned with analysis, not pedagogy. As a result, our aim is to understand how something is, rather than exactly how it was made (in order to be reproduced in a pedagogical perspective) even if the two are often related.

Here is the list of methods that have been identified by authors over time. The first draft presented below gives a momentary short definition of each method so that the reader is not confused by the terms when they are used with varying

meanings from one author to another. A more refined version of this list will be given in the summary at the end of the chapter.

Methods can be grouped in two categories depending on whether or not they refer to the head:

In reference to a head:

- Paraphrase: repeat of the head with slight variations (embellishment, ornamentation, marginal changes in pitches and rhythm);
- Schematic improvisation: based on the structure of the head;
- Thematic improvisation: the head is merely being referred to in various possible ways.

With no reference to the head:

- Motivic improvisation: progression and/or variation of motives;
- Formulaic improvisation: based on a vocabulary (generally the improviser's own) that can be found in other solos;
- Semiotic improvisation: a way of building a solo, of staging it and giving meaning to it.

It is worth making a final remark before starting to observe how each of these featured improvisations has gradually been studied and conceptualized. Analysis strictly based on parameters (harmonic, formal, melodic, and rhythmic) appear a lot more descriptive than the others (motivic, thematic, schematic, formulaic, and semiotic). Whether they include external references or not, the latter categories still go a step further in analytical terms. This step probably involves testing a greater range of hypotheses about the processes, strategies, or methods used by improvisers, and the task of analysts lies in unveiling and describe these. We are not saying that such analyses are better than those in the former category but they certainly have a broader scope.

2. A BRIEF REVIEW OF THE WORK OF TEN AUTHORS[4]

These are the authors (in chronological order of contributions) whose texts have been considered:

Roger Pryor Dodge (1934)[5]
André Hodeir (1954)[7]
Alfons M. Dauer (1969)[9]
Thomas Owens (1974)[11]
Barry Kernfeld (1995)
Winthrop Sargeant (1938)[6]
Gunther Schuller (1958)[8]
Frank Tirro (1974)[10]
Lawrence Gushee (1977)[12]
Henry Martin (1996)[13]

Most authors intend to identify methods of improvisation. Despite being in an analyst's position, they try to understand how improvisers proceed (i.e., how the poietic level operates), and what methods and strategies they use. Clearly there are limits to this way of investigation, as expressed by Henry Martin about the varying degrees of intention and awareness at work in improvisational strategies. Not only do improvisers use several methods either in turn or simultaneously but, most importantly, all the strategies do not operate at the same level of consciousness. As a result, the relevance of this approach is questionable for an analyst who, as such, is trying to decipher a musical result or product (even if this product results from an improvisational process). The same problem exists, at least partially, if we consider a writing process instead of an improvisational one.[14]

This is why, once again, from an analyst's standpoint it seems to me more appropriate to identify features in improvisation. An improvised solo displays certain typical features that vary in number and importance. Some of these features involve a conscious act by the improviser or points of reference, while others do not. Here is a suggestion of an inventory of twelve categories of features, largely (though not exclusively) based on the notions defined earlier—sometimes in contradictory terms—by the authors mentioned above. An appropriate analytical take on solos can reveal the features of which these types are composed.

Motivic Features: the developments that may occur in a solo, based on one or several melodic cells identified as motive(s). This is normally a conscious process.

Formulaic Features: using and combining patterns that are specific to an improviser. This may be done more or less consciously or unconsciously. It refers to the vocabulary of an improviser, a group, or a style.

Thematic Features: a potential reference to the melody of the head. This may be done more or less consciously or unconsciously.

Schematic Features: referring to the structure of the head, normally in a conscious way. The structure of the head is thus the point of reference, though the structure of the arrangement may join in or take the place of the structure of the head.

Semiotic Features: the ways in which meaning is produced in a solo, the building of it as a narrative ("telling a story"). Such processes are usually conscious.

Voice Leading Features: the way that, potentially, strong structural points influence how the melody unfolds.

Interactional Features: the ways in which the soloist interacts with the other performers: other soloists, rhythm section, orchestra.

Intertextual Features: the connections to texts other than the head: the "repertoire" in general, but also solos by other improvisers who are not taking part in the performance in process.

Harmonic Features: the (usually conscious) reference to harmony (the head's in the case of the common practice). The chord changes are the point of reference.

Melodic Features: all melodic elements. Voice leading may be included even if it also relates to harmony (the harmonic function of notes considered structurally important).

Rhythmic Features: all rhythmic elements. It is impossible for the improviser not to take the rhythm of the head into account (even if it may be only the tempo). However, it seems fair to consider that the rhythm of the head does not constitute an external point of reference.

Sound Features: all aspects relating to sound.

Paraphrase, as used by André Hodeir, does not appear on this list because it is genuinely a method. However, it is easy to see where it could fit into the realm of thematic features.

As said before, the fact that improvisers may combine several strategies and that these features described may be observed simultaneously is a difficulty. It is also sometimes difficult to distinguish between them. A motive developed in a solo may come from the melody of the head while being an element of the common vocabulary of an improviser, in which case the improvisation displays motivic, thematic, and formulaic features all at the same time. Besides, most of the time an improviser takes the harmony of the head and of its structure into account. Consequently, all solos in the common practice display harmonic and schematic features. Also, there is a semiotic dimension in all solos in the sense that even the least well-constructed and inconsistent of solos makes some sense and "tells a story," however messily.

This leads to a corresponding list of types of analysis:

Motivic Analysis: analysis of the development of a solo based on motives.

Formulaic Analysis: analysis of patterns and fragments heard in other solos by the improviser and thus considered part of his/her vocabulary. It may involve patterns drawn from another vocabulary, that of a style in particular.

Thematic Analysis: analysis of the ways in which a solo refers to the melody of the head.

Schematic Analysis: analysis of the ways in which a solo refers to the various structural levels of the head.

Semiotic Analysis: analysis of the ways in which meaning is produced and a narrative built ("telling a story") in a solo. Mapping dynamic and emotional intensities is an important part of this.

Analysis of the Voice Leading: analysis of the contrapuntal evolution of the voices in relation to a harmonic and potentially functional background.

Interactional Analysis: analysis of the ways in which a soloist responds to the suggestions made by other performers.

Intertextual Analysis: analysis of the references to texts other than the head or past solos by other improvisers.

Harmonic Analysis: analysis of the ways in which the ongoing harmony is referenced in the solo.

Melodic Analysis: analysis of melodic shapes and morphology.

Rhythmic Analysis: analysis of the rhythms/polyrhythms used.

Sound Analysis: analysis of sound qualities and variations.

It is worth noting that no stylistic feature (referring to a style of jazz or type of music, like blues for example) appears here, though a formulaic analysis could include it. This is because I believe such features should be seen as extensions of an analysis rather than as part of the analytical process itself, even if it is clear that stylistic features are at work in improvising. However, it seems to me that the identification of these features takes place at a later stage on the basis of the features observed in the list above.

The results may now be summarized in the table and scheme below:

TABLE 9. RECAPITULATION OF FEATURES AND METHODS

Feature/Type of Analysis	Referent	Parameter
Motivic		Melody
Formulaic	Vocabulary (of the improviser, of a style)	
Thematic	Tune of the head	Tune
Schematic	Structure of the head	Form
Semiotic		
Voice leading		Melody—Harmony
Interactional	Other performers	
Intertextual	Other texts	
Harmonic	Harmony of the head	Harmony
Melodic		Melody
Rhythmic		Rhythm
Sound		Sound

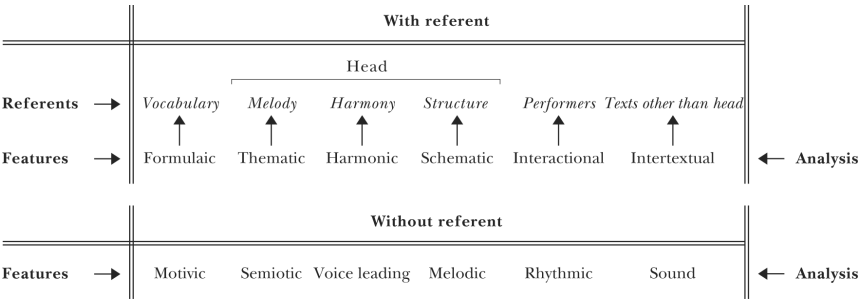

Fig. 12.1. Recapitulation of features and methods

CHAPTER 13

Procedures 2: Theories and Methods Applied to the Analysis of a Work of Jazz

While improvised solos undeniably constitute the main focus for jazz analysis, there are others. We shall look first at theories drawn from the classical tradition before considering the methods designed specifically for jazz, otherwise qualified as "native." In both cases we will examine results already produced by some of these methods before suggesting possible directions for future analysts to take. Finally, we will review a few tools that could prove useful.

1. IMPORTED THEORIES

For quite a long time improvised solos have been the main, if not sole, object analyzed in jazz. Since the 1970s (and notably during the 1980s) the field has extended considerably, in particular due to the importation of theories and methods that originally devised for classical music. Jean-Jacques Nattiez recommends making a distinction between two main groups of analyses of musical structures, one based on taxonomic models and the other on linear models.[1] The dividing line between the two groups could also be drawn based on those that start from the premise that there are deep structural levels and those that do not. This reveals two approaches that have been applied to classical music as well as jazz, for jazz has partly followed in the footsteps of classical music. How relevant are the analytical methods scrutinized in relation to an object whose tonal nature is variable? Also, how is the specific jazz quality of our object taken into account by these methods? The most representative theories of these two groups, Schenkerian analysis and semiological analysis, will be given consideration first. Then analysis inspired by Rudolph Reti (which could be seen as belonging rather more to the first group) will be reviewed, along with an application drawn from the

information theory and a transposition of the set-theory for non-tonal music. Jan La Rue's style analysis, which is an approach rather hard to classify (possibly because it has no theoretical ambitions and merely aims to propose an empirical tool), will then be considered.

1.1 Schenkerian Analysis

The most influential of these theories, produced by the musician and musicologist Heinrich Schenker (1868–1935), presents itself as a theory of musical works that might be universal.

The whole theory cannot be summarized here. However, let us recall that it is entirely based on the concept of "fundamental structure," described as follows by Nicolas Meeùs:

> The *fundamental structure* is a perfect triad that represents an artistic rendering of the harmonic series. However, this chord cannot be used as it is partly because it cannot be produced by human voices. It will therefore be presented in two contrapuntal lines. The lower line consists of the *bass arpeggiation:* an arpeggio going up from the root to its fifth and back down to the root; the upper line consists of the *fundamental line*, which is a melodic line descending stepwise from the third, the fifth or octave of the chord to the root. From then on the fundamental structure encapsulates the whole composition in embryo: the music unfolds through time; it is both contrapuntal and harmonic; it adds the passing notes to the notes of the triad in order to complete the *fundamental line*; it expresses a tonality.[2]

To the best of our knowledge, Steve Larson is the first to have envisaged the application of Schenker's theory to jazz in his 1987 PhD thesis.[3] One of his papers on the subject published in 1998 starts with a number of questions:

> In general, three questions have been raised about the applicability of Schenkerian analysis to improvised music:
>
> 1. Is it appropriate to apply to improvised music a method of analysis developed for the study of composed music?
> 2. Can features of jazz harmony (ninths, elevenths, and thirteenths) not appearing in the music Schenker analyzed be accounted for by Schenkerian analysis? and
> 3. Do improvising musicians really intend to create the complex structures shown n Schenkerian analyses?[4]

All of Larson's answers to these questions are entirely positive. With regard to the first question, Larson highlights the similarities rather than the differences between improvised and composed music. In particular, referring to alternate takes when they are available, he argues against the idea that composed music is more carefully crafted than improvised music. I would add that even when such takes do not exist, improvisation always involves labor directly or indirectly. Larson also believes that, in both cases, the surface that we perceive is based on a work's underlying structure, from which it is derived through transformational processes.

This statement lies behind Larson's answer to the second question: dissonances are better explained horizontally than vertically, and this is true for jazz as well as classical music.

The third question brings back the debate on process versus product. Steve Larson strongly believes that analysis aims to understand the product and that the intentions of the producer are not always helpful in achieving that. He backs up his statement, and rejects the idea that the real time of improvisation makes the elaboration of the complex structures and transformations unveiled by Schenker impossible, quoting this striking extract from an interview between Bill Evans and Marian McPartland recorded in 1978:

> [Bill Evans]: What the student should keep in mind is having a complete picture of the structure, as he is playing then indicating it.
> [Marian McPartland]: You mean of the tune?
> [B.E.]: Well, of the tune and also of the structure as he wants to indicate it.
> [M.McP.]: You mean pre-planning in a sense?
> [B.E.]: Yes, pre-planning a basic structure. I always have, in any thing that I play an absolutely basic structure in mind. Now, I can work around that differently or between the strong structural points differently, or whatever, but I find the most fundamental structure, and then I work from there.
> [M.McP.]: When you say structure, you mean, like, one chorus in a certain style, and . . .
> [B.E.]: No, I'm talking about abstract, I'm talking about more abstract architectural thing, the theoretical thing.[5]

Bill Evans then plays "A Touch of Your Lips" while explaining how he proceeds. Steve Larson thinks (rightly, in my opinion) that this recording proves that the transformation of a fundamental structure is possible in real time. Larson goes on analyzing the transcription of this piece using the Schenkerian method and shows that Bill Evans really does what he is explaining, proving that the voice leading is anything but random.[6]

His argument is convincing. But other objections may be raised than those involved in the three initial questions asked. Steve Larson himself suggests possible limits to the method. In particular, he fears that it might attribute to the voice leading (which is the prime aim of the method) processes that the instrumental *topos* or the formulaic vocabulary of a musician (here, Bill Evans) might actually be responsible for.

The most obvious criticism, which Schenker's theory also had to face in its time, claims that the method can only be applied to a body of works that practices tonality in a strict enough manner for the theory to be able to operate. The argument is particularly relevant considering the theory claims to operate universally (something Schenker may have believed). However, Steve Larson does not think so, and gives a list of features identified in modern jazz of which a Schenkerian analysis would struggle to give an account.[7] Generally, the objections raised involve not only the difficulties the method shows in dealing with certain aspects of some tonal practices but also the fact that the method is based on pitches only and possibly reduces a work to this parameter. Perhaps the specificity of jazz lies not precisely—or not only—in its treatment of tonality or harmony in general but rather of rhythm and sound, which Schenkerian analysis does not take into account. Célestin Deliège has dealt with this objection to the theory in general (not specifically about jazz):

> Schenkerian theory has faced, and still faces, important reproaches: it neglects rhythmic, melodic, and metrical aspects; Schenker's theory is based on the harmonic system and he subjects all other variable parameters to it. . . . Personally, I find such criticisms to be of secondary importance: rhythmic and metrical aspects are constantly implicated even if they are not dealt with explicitly. As for the status of harmony, it is a fact that it prevails over melody and defines the pitch theory in the tonal system.[8]

Beyond these arguments, I believe that the debate does not need to exist if we accept that an analytical method does not necessarily aim to account for everything that contributes to a work. It is already a satisfying result and a worthwhile process if it succeeds in accounting for some aspects. Steve Larson does not address the question directly in this article but touches on it when asking himself whether the music of Bill Evans is particularly well suited (possibly too well) to Schenkerian analysis.[9] Even if that were the case, it would already be a valuable result. Also, it would clearly be naive to imagine that such an important pianist could be an isolated case; he would have been influenced by the musical milieu around him and would have influenced others, too. However, Larson goes further and doubts that the Schenkerian method could apply to everything that Evans played.[10]

One could argue that some of the notes played by Evans may not fit the Schenkerian analytical framework because as he was playing them he was not within the boundaries of the system that the method can describe. This may have been an active choice on his behalf or else an involuntary outcome, perhaps because what he was attempting had actually failed. In this scenario, the method can be used as a measuring tool rather than a conceptual system, the validity of which can be confirmed or destroyed at every moment.

The theory faces another criticism that is linked to one just discussed: if the theory is only relevant for the tonal repertoire, then it only proves what we already know about that music. Nicolas Meeùs notes that this argument can be turned around: even if it is the case, the theory is still a precious tool for the identification of phenomena; also, the Schenkerian theory renews the way that counterpoint is analyzed.[11] This has particular implications for the analysis of jazz. Indeed, counterpoint is not easily analyzed in jazz. In my opinion this is because it is not part of the jazz tradition. To be more precise, it is left to pianists (when they improvise) and arrangers (when they write) to deal with the realization in their own ways. The domination of harmonic analysis over voice leading is very striking in jazz. The nature of Schenkerian analysis itself is an opportunity to even out this lack of balance.

Finally, the general view underlying Schenkerian analysis considers a work as a development, so in a dynamic perspective. This fundamental statement may prove very beneficial for jazz analysis, too. In this respect, I generally agree with analysts who recognize the value of the theory for the idea behind it more than they dislike it for the problems that a strict application may bring up. It is clear that the step made by Henry Martin in the debate over improvised solos has completely changed the perspective on the subject. Steve Larson's contribution to jazz analysis also seems crucial, even if the generalization of Schenkerian analysis has not brought an end to the debate yet.

1.2 Semiological Analysis

Semiological analysis in some ways represents the opposite take on analysis: it is based on a "horizontal" view of the surface under which there is nothing to discover. As a result, the fundamental question consists of establishing the way to dissect this surface and to break it down into units with a view to build a taxonomy.

Taxonomy is at the heart of the semiological approach. However, according to Jean-Jacques Nattiez there is a radical difference between semiology and structuralism in how they go about building taxonomies: the latter postulates the intrinsic meaning (or immanent quality) of its object, while semiology considers a work in a more extensive manner. It takes into account the stages that precede and follow the object (or text) itself: the production stage and the reception stage.

Hence the ongoing reference to Jean Molino's tripartition, which identifies three levels at which an object can be considered: The poietic level considers a work from the viewpoint of its production; the neutral level (or immanent level) deals with the mere material content of the work; the esthesic level involves how the work is received. However, the analysis of the neutral level remains the most important part of the process.[12]

Nattiez never refers to jazz as such. I believe that Denis-Constant Martin and Didier Levallet's study of Charles Mingus's "Fables of Faubus"[13] is the only explicitly semiological analysis ever carried out in the field of jazz. The corpus considered consists of fifteen versions of that piece recorded by the composer and, in particular, four versions recorded in April 1964 during a tour when Eric Dolphy was in the group.

Musical semiology is more an approach and a general attitude toward a work than a method that comes with a toolbox. In fact, once analysts have agreed to the general semiological frame of thought, they are left to their own devices and choices as to the ways of carrying out their analysis and appreciating outcomes and possible extensions of the results. Nattiez possibly sums up this open-mindedness in these terms:

> Musical semiology does not ask radically new questions compared to "traditional" approaches. It stills wonders what a work is made of, what its form and theme are, how it develops and from which generating cell it stems, what its stylistic features are, etc. Musical semiology as we understand it deals with issues brought up in the past but it constantly questions the methodology that lies behind an analysis (its own methodology as well as that of others) and does it under the influence of linguistics in particular. . . . It is more demanding with regards to the ways of defining the phenomena that are considered as relevant in a work and to the nature of the models used to give an account of its organization. As a *critical framework*, . . . musical semiology looks into the elements selected by other musicologists in the musical material, the ways in which this selection is made, the ways in which they talk about it and on which basis. . . . As a *programme of analysis*, it addresses each of these questions and tries to give verifiable and rigorous but certainly not definitive answers to them.[14]

1.3 Information Theory

As early as 1979, Keith Winter published an article titled "Communication Analysis in Jazz," in which he analyzed two solos by Louis Armstrong (in "Beau Koo Jack," 1928; and "Big Butter and Egg Man," 1926). He carried out a thorough

and systematic examination of the distribution of pitches, using numerous tables and graphs.

> The processes involved in the communication between the improvisator and his audience play an important part in the shaping of the music which is played. The way in which the performer presents his ideas can be looked at in syntactic terms but this form of analysis often fails to bring to light some of the most basic features of the music. This paper describes some simple methods of analyzing the reductive information structure of a jazz solo. In simple terms the reductive information variation with respect to time describes the relative difficulty which listeners experience in perceiving the music during the course of a performance. Although some important observations on the playing of Louis Armstrong are made as a result of the analyses shown here, the two solos have been chosen primarily as examples to illustrate the use of the analytical techniques.[15]

Winter's method is based on Ralph Hartley's information theory—first expressed in 1926—which defines information as a measure of the number of symbols sent via a system of communication. The prevailing criterion lies in the quantity of information rather than the signification of symbols. Importantly, it seems, this theory is partly cognitive, as it involves a hypothesis about reception. With Winter, it is clear that this theory focuses on statistics rather than syntax. Here lies, in his opinion, its originality and usefulness:

> The processes involved in the communication between the improvisator and his audience play an important part in the shaping of the music which is played. The way in which the performer presents his ideas can be looked at in syntactic terms but this form of analysis often fails to bring to light some of the most basic features of the music.
>
> This paper describes some simple methods of analysing the reductive information structure of a jazz solo. In simple terms the reductive information variation with respect to time describes the relative difficulty which listeners experience in perceiving the music during the course of a performance. . . . Information theory can only examine the distribution of the components of music. Some analyses of classical music have shown the limitations of an orthodox application of the theory although even here much can be learnt by such a simple treatment. This paper explains and employs a number of ideas which enable the analyst to include the effects of different types of syntactic structures in simple empirical determinations of reductive information values. From these results it can be seen that reductive information is an important parameter of jazz.[16]

Is Keith Winter thinking of Eugene Narmour's "implication-realization" model without mentioning it when he talks about the "predictability analysis"? However, the author is mostly interested in the possibility of extending its application to jazz, as he believes that this type of analysis is relevant across musical genres.

1.4 Set-Theory

I believe that Steven Block was the first to apply Allen Forte's set-theory[17] to jazz, in two articles published in the journal *Music Theory Spectrum* in 1990 and 1997 respectively. In the first article, "Pitch-class Transformation in Free Jazz," he examines five performances: "Air Above Mountains (Buildings Within)" and "Tales (8 Whisps)" by Cecil Taylor; "Ascension" by John Coltrane; "489M . . ." by Anthony Braxton; and "Lonely Woman" by Ornette Coleman. In the second article, "'Bemsha Swing': The Transformation of a Bebop Classic to Free Jazz," he examines in turn two versions of Thelonious Monk's composition, one by the composer himself and the other by Cecil Taylor.

Block's primary concern was to find appropriate tools to analyze free jazz works. The set-theory offers the great advantage of making it possible to deal with groups of sounds that appear on the surface (like chords, clusters, phrases, etc.)—named pitch-class sets—as independent and non-hierarchical entities bearing no relation to an external harmonic point of reference and no predetermined function. This "neutral" way of grouping pitches also allows the comparison of these sets in a range of ways. In Block's mind free jazz is, of course, not merely about "atonalism" or "energy"; it is also about pitch choices, the setting of specific connections between pitches, and strategies guiding these choices. The notion of mode has sometimes been used in this kind of investigation, but it is an inappropriate tool because it involves the concepts of tonic or tonal center.

A perfect example of this method is the analysis of a fragment of "Air Above Mountains (Buildings Within)" recorded as a piano solo by Cecil Taylor in 1976:

> An excerpt from Taylor's "Air Above Mountains" (1976) illustrates the additive surface transformation that is typical of Taylor's improvisations . . . The passage has been divided into the three primary gestures which alternate in the music, each of which represents a different musical lexicon. The first gesture is chromatic, the second whole tone, and the third diatonic in that it is the 3–9 {0,2,7} trichord[18] arranged as ascending fifths. For the most part, each gesture is distinct and each one, as it is sounded, is permuted or reiterated in different ways.[19]

Block extracts the following results from the rest of his investigation: "The relationship between these gestures, however, is more complex than a threefold alternation and variation scheme."[20]

Here Block introduces an idea that could be added to the list of methods of improvisation described in chapter 12. A development that was motivic in the beginning may lose its motivic nature as it carries on. In the final stages, the development may go through a dramatic qualitative change, as the motive that it is based on may not be traceable anymore. This is a process of addition and/or subtraction that Cecil Taylor gives examples of.

Finally, Block delivers a general conclusion regarding the analysis of free jazz:

> The art of free jazz seems to require that the improvisers themselves steer away from arpeggiation of common chord formations and progressions and think more in terms of relationships defined by interval class; this is true in both tonal and non-tonal contexts. For this reason, free jazz has an affinity to early twentieth-century concert literature, in which composers were thinking along similar intervallic and structural lines. While early twentieth-century composers *constructed* their pitch-class relations, jazz musicians *heard* them in improvisation—which suggests that pitch-class and nontonal relations can develop naturally out of musical practice in the same way that tonal music grew out of modal music and nineteenth-century tonality grew out of that of the eighteenth century.[21]

As we can see, the author expresses very ambitious and far-reaching hypotheses following his analyses. He was the first to establish the relation between the position of the analyst and that of the producer(s): if the music observed must be analyzed in this way, it means that it was constructed accordingly, i.e., it must reflect the processes used by improvisers. The notion of conscious intent previously mentioned comes back, though it seems the author did not want to get involved with that. According to Block, producers (improvisers) definitely use strategies whether they mean to do so or not and whether they do it consciously or not.

Block's second article, "'Bemsha Swing': The Transformation of a Bebop Classic to Free Jazz" (1997), deals with the issue of conscious intent with regard to a version of "Bemsha Swing" by its composer, Thelonious Monk: "For the purpose of determining the structure of Thelonious Monk's work, it is immaterial whether he 'heard' or was conscious of these connections. The fact is that as an artist he used these connections, perhaps, in part, as a result of recurrent finger patterns, and that they therefore do form the structure of his music."[22]

The issue is not important for Block: the product exists no matter what goes on in the process of making it, even if he contemplates the possibility of instrumental *topoi* ("digital patterns") and wonders whether strategies are carried

out consciously or not. In substance it is the same position as Henry Martin's about Charlie Parker. What about the listener then? "The real issue is not so much whether a listener can 'hear' an abstract connection or not but whether a listener can learn to hear such connections."[23] As one could have expected, the symmetry of situations between levels of reception on the listener's side and strategic processes on the producer's—all taking place with varying degrees of consciousness—is not addressed by the author, who prefers to question the listener's capacity to access deep levels.

A close look at Block's analyses raises other objections,[24] but these do not globally invalidate his method applied to jazz. I see it as a tool among others at the disposal of analysts, and Block must be given credit for that.

However, in my opinion this method must be handled carefully in several respects listed here:

There is no hierarchy between pitches in pitch-class sets. The particular value that some pitches are granted in a tonal, structural, or melodic context disappear. This fact has implications that analysts must take into account. They need to look carefully at the context their object of analysis is in, particularly if it involves tonality either in a strict or loose way.

If pitches are not fixed, the building of pitch-class sets may there prove difficult.

The building of pitch-class sets involves choices that affect the ways pitches are grouped and instruments picked.

Inversions are taken into account. This implies, for example, that no difference is made between C7 and CØ chords or between scales on Mixolydian and Aeolian modes. This may overlook some significant features.

The principle of equivalence, applied through the practice of inversion, results in evening out the material, which again may overlook some significant features related to instrumental or tonal *topoi*.

1.5 Style Analysis (Jan La Rue)

The analysis of style presented by Jan La Rue in his book *Guidelines for Style Analysis* published in 1970 is explicitly empirical: "The purpose of these *Guidelines* is to establish an effective general method. The specific application rests with each performer and listener."[25]

The way that Jan La Rue understands musical style and its analysis will not be discussed here. Let us simply highlight that he proposes a "general and effective method" based on a parametric analysis, with a peculiar aspect worth underlining: the author suggests that analysts start with a study of "SHMR" elements, i.e., sound (S), harmony (H), melody (M), and rhythm (R). The prime position of sound in this study is noteworthy, as it is not necessarily common in the analytical

tradition of art music. In this context, sound involves timbre, extent, range, leaps, special effects, use of idiom as a whole, texture, and dynamics. It is also worth noting that form is not looked at in this first analytical phase. It is observed in the second phase because it is seen as a resulting parameter (or "combining element"): form is identified by observing the four primary parameters. Also—and this is a crucial point—the concept of form as such actually disappears and is replaced by the concept of "growth," divided into "movement" and "shape," which is a much more dynamic approach. Form is considered in motion (which recalls a Schenkerian idea). Finally, the author suggests taking the verbal text into account when it is part of a work. So the whole analysis unfolds in three phases: 1. study of background (frame of reference); 2. observation (SHMR, growth, textual influence); 3. appraisal (process of completion of growth, balance between unity and variety, originality and imaginative wealth, external matters: novelty, popularity, timeliness, etc.).

Other important concepts appear, in particular the tridimensional nature of the analysis. It can operate at large, middle, or small dimensions. Each of these viewpoints gives a different perspective on a work. Also, the author particularly values the concept of "concinnity," which he describes as the highest degree of interconnection and correlation between elements.

In this analytical method, La Rue has no pretentions that he has designed a theory, as such. However, his method is based on rigorous grounds, in-depth questioning, and a long experience of analysis. Besides, it is easy to agree with the analytical approach that he favors: "The basic rule is one of attitude: do not pervert any observation or conclusion by elevating it to the level of dogma or Divine Truth. A proper analysis exposes its methods and its conclusions fully, ready for later researchers to make their own judgments and adopt the aspects that they find convincing or helpful."[26]

To the best of my knowledge, there is only one study of significant standing focusing on jazz works that was explicitly inspired by La Rue's principles: Steve Lajoie's study of the collaborative work between Miles Davis and Gil Evans, first as a PhD dissertation[27] and then as a published book.[28] The result of this systematic investigation of four pieces ("Blues for Pablo," "New Rhumba," "Bess, You Is My Woman Now," and "Will O' the Wisp") is remarkable.

Lajoie has produced his own transcriptions of the recordings available and researched the written traces of arrangements by Gil Evans with the help of the arranger's family. Whenever possible, he compared these traces with his own transcriptions after having completed them. So the transcriptions were purely based on his listening of the recordings and the existing written data was used for verification or modification afterward. The resulting score was then summarized and presented on three staves under which Steve Lajoie made a series of eight observations based on principles borrowed from La Rue.[29]

Such a method produces a lot of results, but it also shows a weakness: the author gives a methodical description of the four pieces selected but with no hypothesis at the start and without synthetizing the results at the end in order to propose a new vision of the work. This is very frustrating, especially as many interesting points are brought into light due to the systematic nature of the investigation. Consequently, the author perhaps falls into the trap that La Rue keeps warning inexperienced analysts about, that of too much data. Lajoie makes a selection in his data but does not subsequently organize it, and thus the information remains unsynthesized, lacking perspective and hierarchy.

The reader understands that my criticism toward the work of Steve Lajoie is about the way that he handles his results and what he makes of Jan La Rue's method. However, beyond this particular analysis, how useful for jazz analysis in general does this method appear? The example of Lajoie's work gives a clue. The works he chose to analyze are clearly very interesting in themselves and are rarely studied. However, I believe that there are additional reasons explaining why he chose them as an object of study. Indeed, from the point of view of music writing, the thirty-nine works arranged by Gil Evans and recorded by Miles Davis between 1957 and 1968 have a very special status in the jazz repertoire. These pieces are among "the most composed," which means that the largest part of the piece exists at the pre-performance stage. The contribution that the performance stage made to the whole is for the most part limited to Miles Davis's improvisations, but this was the main cause of the esthetic and public success of these works. Miles Davis improvised, indeed, but within an extremely precise and framed context. As a consequence, this music is not fit for reinterpretation.[30] It can only be played in one way: the one recorded by the creators.[31] As a result, this music makes up a restricted object equipped with abundant pre-performance material, and thus particularly suitable for an analysis in La Rue's style. The main difficulty an analyst faces when trying to apply this method to jazz relates to the importance of the pre-performance and performance stages. This problem is avoided here because the music chosen is very composed—which is a rare case in jazz—and a large part of the musical material (i.e., the arrangements and orchestration of Gil Evans) is analyzed at the pre-performance stage. The performance stage made—nearly exclusively—of Miles Davis's improvisations only represents a small part of the overall description, however crucial that part is in the substance of this music.

Nevertheless, the tools suggested by La Rue can be a great help for the specific analysis of jazz. The three different scopes (large, middle, and small dimensions) are theoretically as useful for jazz as they are for art music. The broad conception of rhythm—including various types such as harmonic rhythm, "textural" rhythm, surface rhythm, contour rhythm, etc.—are appropriate for jazz, too. The same applies to melodic features, in particular for close-up analysis of an improvised

line. But, of course, one must be able to apply these tools to the performance stage as well as the pre-performance stage, which Steve Lajoie did not demonstrate. In this respect, I find that La Rue's focus on sound is particularly interesting for the analysis of jazz.

La Rue's list of tools and notions has the great advantage of looking at parameters in relation to each other; such an analytical approach is even more fundamental in jazz analysis than in other areas.

1.6 Analytical Paths to Follow

Are there other analytical theories devised for art music that could apply to jazz? Two of them will be discussed in the remaining part of this chapter: Fred Lerdahl and Ray Jackendoff's generative theory of tonal music, and Nicolas Meeùs's theory of harmonic vectors.

1.6.1 A GENERATIVE THEORY OF TONAL MUSIC (LERDAHL AND JACKENDOFF)

Jazz is mentioned only twice in their book. It first occurs in a passage dealing with hierarchy between pitches, in which the authors explain that some pitches are structurally more important than others that are considered ornamental or derived from the former. This leads to the same implications as in Schenker's method: analysis must involve a process of reduction. Later, the authors discuss the case in which several sections derive from the same structure, as in a theme and variations form:

> More complex is the situation where two or more passages are both heard as elaborations of an abstract structure that is never overtly stated. Bach's *Goldberg* Variations is a particularly magnificent example of this kind of organization. Why is the listener able to recognize, beneath the seemingly infinite variety of its musical surface, that the aria and 30 variations are all variations of one another? Why do they not sound like 31 separate pieces? it is because the listener relates them, more or less unconsciously in the process of listening, to an abstract, simplified structure common to them all.
>
> Such relationships are needed not just for the analysis of written-out music. In any musical tradition that involves improvisation on a given subject (such as jazz or raga), the performer must actively employ knowledge of principles of ornamentation and variation to produce a coherent improvisation.[32]

A first thing to note is the different angle of approach the authors choose depending on whether they are dealing with music from a composed tradition

or practices making use of improvisation: the capacity to relate a surface to an underlying structure is approached from the point of view of perception in the first case and that of production in the second. In my opinion, this implies that the relation is evident in the composition process (perhaps it is even at the heart of the process) and, if it is not as clear in the case of improvised music, it nonetheless exists. On these grounds, Lerdahl and Jackendoff assimilate the jazz practice of improvisation on a form consisting of head with a theme and variations, which is not by any means obvious, but this is not overly important.

It does not look like this theory has been applied to jazz much. One example by Stephanie Sin-yun Shih focuses on text in a corpus of songs by Ella Fitzgerald.[33] The author faces difficulties in applying the rhythmic rules of the theory, in particular rule 2 of "metrical well-formedness," as well as the "continuous column constraint" which states that any beat on a given level must correspond to a beat on all inferior levels. The very high frequency of accents on the eighth note occurring before the first beat (i.e., on the upbeat) in the corpus of Ella Fitzgerald's songs contradicts the rule just mentioned above (but the same is true in numerous other cases, as this is often found in common practice jazz and may even be a feature of it). Indeed, this frequency makes the eighth note a "strong beat" that, according to the rule, should be found at all inferior levels (for example, in the pulse expressed by the bass and drums), which is not the case. But let us not forget what Ian Bent reminds us of: like Chomsky's grammar, it is a "mentalist" system, focusing on mental processes and not a final product.[34]

It has not been demonstrated that it is impossible or fruitless to apply this theory to jazz; but there are issues with it, which may explain the lack of attempts to date.

1.6.2 HARMONIC VECTORS

The theory of harmonic vectors was proposed by Nicolas Meeùs at the beginning of the twenty-first century.

> This theory postulates . . . that harmony is precisely based on the succession of chords rather than on a value that each of them may have in isolation. The function of a chord is determined by the way that it came to appear and the way that it was left rather than the degree of the scale on which it is built or its distance from the tonic. The key is determined by the signification that can be given to the chord progression rather than the function that each of the chords may be identified with.[35]

This is a theory neither of functions nor degrees; it is a theory of fundamental progressions. The progression of chord roots is thus examined and no assumption is made about functions or distances to a tonic. Concretely, there is no need

to identify a key as a first step in a harmonic analysis. Intermediary situations between tonality and atonality constitute the most suitable corpus for this theory. The Schenkerian theory, for example, is very well suited to the analysis of strictly tonal pieces, and the set-theory is well adapted to repertoires that have nothing to do with tonality, but both are more problematic in these intermediary situations. The theory based on vectors offers an opportunity to solve these problems. I do not think that it has yet been applied to jazz, but it could prove very helpful, as a great part of the jazz repertoire does not fully engage with tonality. The premise of the theory lies in the observation that there are six possible progressions of the roots within a diatonic scale. The author starts from the classification proposed by Arnold Schoenberg in *Structural Functions of Harmony* and bases the first two progressions of the first category on the presence of the root of one of the two chords in the harmonic series of the other:

Ascending fourth and descending third
Descending fourth and ascending third
Ascending second and descending second

"The first category of progressions is very common in tonal music whereas the second category hardly occurs. . . . In tonal music, still, [the ascending second progression of category 3] is frequent whereas the [descending second progression] is extremely rare."[36]

Meeùs then suggests associating the ascending second progression with the first category and the descending second progression with the second one, which leads to two groups:

Ascending fourth, descending third, ascending second;
Descending fourth, ascending third, descending second.

What are these groupings based on? Meeùs traces the theory of substitutions, discussing the hypotheses of Jean-Philippe Rameau, Simon Sechter, and Hugo Riemann in particular. For example, he puts forward that "Riemann's theory of substitutions merely describes the similarity that links together the chords that are a third away from each other. . . . This link between them is probably due to common notes in both chords."[37]

The theory cannot be described in detail here. I shall merely express the same thing in the terms that have been used earlier about what has been called the diatonic substitution,[38] according to which it is possible, in a tonal context, to replace a chord by the one located two degrees further up or two degrees further down. This way, a V-I progression may be replaced by V-iii or V-vi, that is to say by progressions of an ascending fourth, descending third, or ascending second.

In the same way: I-IV may be replaced by I-vi or I-ii, i.e., progressions of a descending fourth, ascending third, descending second.

The groups articulated by Nicolas Meeùs above are easily found here, which is not surprising.

In the theory the first type of progression is called *dominant vector* (DV, progression at work in the circle of fifths); the second *subdominant vector* (SDV, as in the plagal progression).

Despite being of different kinds, the first applications of harmonic vectors reveal a great stability of vectorial proportions depending on styles and composers. Bertrand Desbords carried out a comprehensive study of the recitatives in Mozart's operas and found that the proportion of dominant vectors was 89 percent. On the basis of a small body of Bach's chorals, Dmitri Tymosczko estimates that three-quarters of Bach's vectors are dominant and a quarter are subdominant. These examples show that the tonal language uses vectorial progressions in an asymmetrical but identical manner and with a proportion of dominant vectors representing between 70 and 90 percent of the whole.[39]

Conversely, pre-tonal and post-tonal musics reveal significantly lower rates of dominant vectors. The proportion of dominant vectors could thus help us measure the degree of tonality of a piece. The theory, however, is not limited to calculations of percentages. It is in constant progress, particularly through applications to more and more diverse repertoires, among them pop music through a study on the Beatles.[40] Its application to jazz would certainly need to be careful, but the very nature of jazz harmony makes it look promising.

2. NATIVE METHODS

We say methods rather than theories because I believe that no analytical theory specific to jazz has been proposed. Yet, empirical analyses have been carried out on aspects specific to jazz, and these analyses would be unlikely to be inspired by models designed for classical music or other types of music. We shall focus first on interactional and then comparative analysis.

2.1 Interactional Analysis

The analysis of interaction is a vital aspect of jazz analysis, as with other types of improvised music. It consists of trying to understand how musicians mutually react to the musical suggestions made in the course of collective playing. It thus focuses only on the performance stage, or at least on its actual manifestation (for its production does not come from nowhere, which is also true of all the other phenomena occurring during the performance). Again, it appears necessary

to use parameters. Interactional analysis is sometimes part of the analysis of improvised solos, which has to take the interactional dimension into account, especially the relation to the rhythm section (providing we are not in the case of a solo performance, of course). However, this method goes further and is involved in non-improvised parts too, including the way that musicians play a rhythm or written melodic parts together (for example, in big band sections).

Interaction is one of the subjects in jazz that generates the most interest. It seems to me that there are two main approaches, which are in no way incompatible with each other. One of them focuses on the purely musical manifestations of interaction, which amounts to focusing on the performance stage. This is the choice made by Todd Coolman[41] and Robert Hodson.[42]

The second option prefers to focus on relational and cultural aspects of musicians playing together. This is the choice made by Ingrid Monson, in particular:

> How musicians go about saying something in music and about music—as well as in music and about identity, politics, and race—involves interaction at several analytical levels: (1) the creation of music through the improvisational interaction of sounds; (2) the interactive shaping of social networks and communities that accompany musical participation; and (3) the development of culturally variable meanings and ideologies that inform the interpretation of jazz in American society. This book develops an ethnomusicological perspective of jazz improvisation centered on interaction in this multiple sense. Stressed here are the reciprocal and multi-layered relationships among sound, social settings, and cultural politics that effect the meaning of jazz improvisation in twentieth-century American cultural life.[43]

She also points out the difficulties encountered when trying to take simultaneously into account musical and social dimensions of music.[44] Paul Berliner's comprehensive survey, *Thinking in jazz*, tries in part to find a way to reconcile these two dimensions, even if the genesis of improvisation is his main focus of interest, rather than interaction.

The "Chicago school" of thought is where "interactionism" developed, and so it is perhaps more than coincidental that Berliner's and Monson's books were published in Chicago. Howard Becker, one of its prominent representatives, has also published a study on deviance and jazz musicians.[45] Berliner and Monson hardly ever quote Becker in their books, but it seems to me that their works bear some relation to this Chicago-based tradition that highlights the importance of social relations between the protagonists. However, despite this focus their studies also include a lot of analyses of both fragments and whole works of jazz.

With regard to systematic interactional analysis in the strictly musical sense, I believe that the PhD thesis of double bass player Todd Coolman in 1997 can be

seen as a model. He carried out a minute analysis of interplay in Miles Davis's "second quintet" on the basis of comprehensive transcriptions of four recordings. His approach shows through clearly in his description of the results of his micro-analysis of two of the four pieces:

> "Masqualero" revealed yet another facet of this ensemble's music-making ability. It was the adaptability of each player that enabled the performance to constantly expand and contract the form of the original composition. Various motivic cues were utilized by each member of the ensemble at various times to delineate formal alterations. So immediate was the responsiveness of the group, that the listener would not detect the subtle changes taking place. In this way, the group discovered a method of playing that allowed freedom but at the same time held onto enough structural elements so as to create a sense of balance.
>
> In the analysis of "Stella by Starlight" I discovered that through careful attention to texture, rhythm, harmony, and a highly developed reflexive interplay (call and response) on the part of each musician, the moment to moment musical events fit together in a global sense and created a sophisticated piece of music possessing great formal unity.[46]

Todd Coolman's study (the quality of which, I believe, has not often been matched) shows emphatically that this type of work on very detailed transcriptions is time consuming but worthwhile.

2.2 Comparative Analysis

This commonly practiced form of musical analysis would appear to be particularly well suited to the nature of jazz, but this does not seem to be reflected in publications. How did different musicians (potentially at different periods in time) deal with the same composition? It is clearly informative, especially for the understanding of styles, and can be carried out on one or several parameters. As for harmony, it approaches issues relating to hierarchy in a particular way (mostly in tonal contexts, of course). Chords that are identical at certain points in all the different versions are likely to be of prime importance structurally. In the same way, chords that are substituted in various ways reveal moments of a harmonic progression that are structurally weaker. Harmonic models can be deduced as a result and then put in perspective in relation to their time and style.[47] Similar comparisons can be carried out about other parameters, of course. Looking at the different versions that have stemmed from a composition can be a good way to deepen one's understanding of it.

This inventory of analytical methods is not comprehensive and there are other options to suggest for further investigation in the future.

2.3 Directions for Future Analysis

2.3.1 ANALYZING CODES OF PLAY

Such an analysis focuses on describing codes of play (as they have been defined in chapter 3) and the way that they are enacted by musicians. It has not been done as such before, not least because the notion had not been identified and labeled until now. However, it is clear that many analyses have touched on it. It seems to me that systematic surveys on such codes could prove fruitful, especially in analyzing the performance stage. Scrutinizing codes in a differentiated manner—codes of play decided on at the pre-performance stage, the way that they are actually applied at the performance stage, and those that may be discovered and initiated by performers during the performance—may help draw a picture of the playing styles that other methods may not have revealed.

2.3.2 ANALYZING THE WAY THAT A COMPOSITION IS TREATED

Many analyses include the study of the text as it is fixed at the pre-performance stage, the composition in particular. It focuses on pointing out structural differences as well as harmonic and rhythmic modifications. However, this is usually a preliminary study prior to the investigation of the main object to be analyzed. Occasionally, the way that the composition has been treated may become the main object of an analysis. This is the case when analyzing the specific style of an arranger, for example. Cases of adaptations of classical scores come to mind: Tchaikovsky's *Nutcracker* and Grieg's *Peer Gynt* by Duke Ellington; Yradier's *La Paloma* and Mussorgsky's *Arab Dance* by Gil Evans for Claude Thornhill's orchestra; the famous arrangements of Gershwin's *Porgy & Bess*, Rodrigo's *Concierto de Aranjuez*, and Kurt Weill's songs ("My Ship," "Bilbao Song," "The Barbara Song"), all by Gil Evans. In all cases, all parameters are involved. The purpose of this kind of analysis is to observe how the choices made by arrangers on the material of the composition reflect their own personal style.

3. TOOLS

Some tools have proved very useful whatever method of analysis is chosen. Here are some of them.

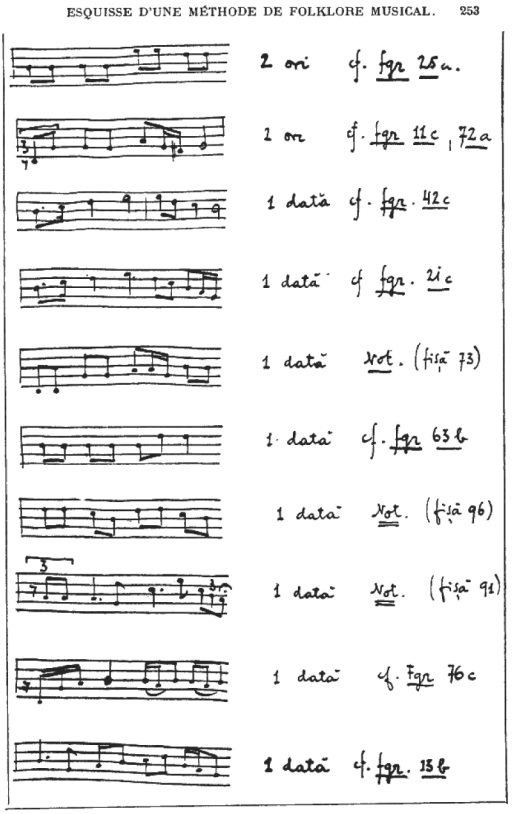

Fig. 13.1. Superimposed Presentation C. Brăiloiu (Brăiloiu 1931, 253)

3.1 Superimposed Presentation

The Romanian ethnomusicologist Constantin Brăiloiu (1893–1958) was probably the first to insist on the fact that there is no single reference version of a popular song identified by a title. Indeed, each recorded new performance shows significant differences from the prior versions (textual, rhythmic, or melodic modifications, additions, omissions, or interpolations). Following Bartók's footsteps, Brăiloiu called this phenomenon *Variationstrieb* and we owe the method for studying it to him; it consists of superimposing the various versions of the same song but only writing up the new elements.[48]

The presentation shown in figure 13.1 can be suitable for jazz. It is useful to study the variations of a tune. In a head in AABA form, for example, the melody in A is presented three times. The superimposition of the transcription of the three occurrences shows clearly the elements that remain unchanged (and may thus be considered necessary) and the variations, as well as the degree to

which they could potentially vary.[49] The transcription by Roger Pryor Dodge of several takes of "Black and Tan Fantasy," reproduced in figure 10.2 (p. 217), is a good example of this.

3.2 Paradigmatic Analysis

This method, created by Nicolas Ruwet, consists of comparing identical or similar melodic segments using a vertical presentation:

> When studying monodies it has seemed informative to me to use a method that Claude Lévi-Strauss has applied to the analysis of myths (an idea that he got from the musical notation of orchestral scores). If possible, equivalent sequences are written one below the other in a single column and the text must be read from left to right and from top to bottom ignoring the blanks. Some structural features—as well as some ambiguities—immediately appear as a result.[50]

This method displays comparable elements as well as melodic similarities or identities. I have used this method myself on the composition of "Fables of Faubus" for a commentary of the versions analyzed by Denis-Constant Martin and Didier Levallet. The results recalled the motivic analysis of an improvised solo, but in my case the method was applied to a fixed text. Equally, this tool could be used in the context of a harmonic analysis.

3.3 Comparison of Takes

Comparing takes made during a specific recording session can be very revealing. The way that the recording industry has developed has made this possible. Alternate takes have appeared with new editions of recordings by prominent musicians on albums. Occasionally, the juxtaposition of different editions could reveal that the newly published take was not (or not exactly) the same as the originally released version. "Springsville" on the album *Miles Ahead* by Miles Davis and Gil Evans is an example of this. The comparison of successive editions of the album shows slightly differing versions with some solo passages overdubbed with those recorded in different takes. Alternate takes, but also fragments of takes, false starts, rehearsals, and studio conversations started to spread when CDs and editions of complete works came along. The comparison of these different takes makes it possible to isolate some features that otherwise would have been impossible to pin down. The most emphatic example of this is given by the two takes of "Koko" recorded by Charlie Parker and Dizzy Gillespie November 26, 1945 (the second take being the originally released master). The first, interrupted

take reveals two important things: first, Gillespie's break is not improvised, as it is played in exactly the same way the second time; second, Parker intended to record "Cherokee," the head of which he started to play before stopping the take. Based on this information, one can presume that the first thirty-two bars had been conceived as an introduction and that they subsequently became the head (though it is not repeated at the end) following the removal of the exposition of "Cherokee."

Generally, successive takes often offer a document on the working style of musicians as well as insight into the progress of the work during the recording process. The various solos overdubbed by Miles Davis on "Springsville" show that he often started these solos with the same notes, which he used as a basis. When there are many takes, tiredness and possible tensions—which can have an impact—can also become palpable. In the context of this journey, we listen to the final take in a very different way, which is probably closer to the perception the musicians themselves experienced. Listening to the seven takes of "I Get a Kick out of You" recorded March 31, 1953, by Charlie Parker is very enlightening in this respect.

3.4 Counting

Counting is the basis of statistical methods. The idea behind them is usually to unveil stylistic features that can be seen in the statistics. Most studies using this method deal with pitch or pitch relations. A few examples suffice to show what can be achieved in this way.

Keith Winter's informational analysis mentioned earlier (pp. 276–78) is largely based on statistical counting and a specification of the notes in the solo analyzed.[51] Pitches may also be counted in relation to the tonic of the moment rather than in absolute value (i.e., identifying and counting degrees). The degrees that Ken Rattenbury, for example, deals with have a special status as he tries to establish the frequency of blue notes in five pieces recorded by Duke Ellington between 1939 and 1941.[52] Rattenbury draws some remarks on blue notes and types of syncopation from the statistics he had obtained. Statistics can then be observed in relation to each other to try and establish correspondences of stylistic features.

Statistics can apply to groups of notes, motives for example. Thomas Owens's whole argument about Charlie Parker's style is based on statistics drawn from an extremely large corpus. He first identifies 97 motives and then counts them in 190 solos. He puts them in two groups based on their frequency: those that appear over a hundred times and those that appear between fifty and a hundred times. He then organizes those left over (that appear less than fifty times) according to the degrees on which they appear.

One may also decide to observe certain pitch relations. The frequency of intervals in a musician's playing can be an interesting piece of information. Ludovic Florin has counted the intervals used in 107 specific compositions by John Coltrane,[53] using the "Monika" software, which calculates intervals between the consecutive notes of a melody.

In the first phase of his study, he counted ascending and descending intervals. Merging the two types of intervals, he obtained a second table that showed that 78 percent of the intervals used were seconds or thirds and that large intervals (larger than a perfect fifth) were very rare, with none scoring more than 2 percent and cumulatively remaining under 7 percent.

The software could also measure pairs of successive intervals. It reveals that Coltrane used the "descending half-tone followed by another descending half-tone" formula twenty-nine times. The table shows that moving up by an ascending major second followed by a descending major second and back up by an ascending major second is by far the most common journey. It also shows very clearly that successions of large intervals are very rare (the "descending fourth-ascending fifth" sequence being the least rare). The final tables eventually highlighted that the percentage of perfect fourths and fifths went up in the compositions of the final two years.

The "Monika" software has been developed since and turned into a newer version called "Charles."[54] This new software has been conceived as an extension of the theory of harmonic vectors.[55] Its main function is to calculate the percentages of dominant and subdominant vectors as well as pairs of vectors.

3.5 Technology

"Monika" and "Charles" are two examples of software designed to help analysis. Software of sound treatment offers the possibility of repeating a fragment constantly or slowing it down while altering neither the pitches nor the sound quality, which makes the transcription process a lot easier. They can also be very helpful in the analysis of complex rhythmic phenomena, especially in very fast tempos. They can also be used in more general studies. André Hodeir managed a research program dedicated to jazz at IRCAM[56] between 1978 and 1986, describing it thusly:

> The indefinable rhythmic thrill that is specific to jazz and which has been called "swing" is fuelled by melodic articulation more than by any quality of the pulse (which, in jazz, is the means by which the primal information—the tempo—is concretely realized in an objective way). . . . We were convinced . . . that the phenomenon existed objectively so it seemed rational to us to turn to the means offered by modern technology to reveal the laws

> of that phenomenon. We used computers and joined the small number of academics who, in America and elsewhere, work on articulation (our research taking part in a more general study of musical articulation).[57]

Software that allows the visualization of sound may also be used. The Groupe de Recherches Musicales has developed the acousmograph, "a software designed for the listening and visual representation of music. It helps with mapping, annotating and describing any type of music or any sound document thoroughly. Using sound signals, its functions allow the creation of presentations designed for the purpose of teaching non written musics."[58] In his analytical presentations of works by Miles Davis and Gil Evans (inspired by Jan La Rue's analysis of style),[59] Steve Lajoie systematically utilized the stereo graph from the Pro Tools software, which helps the reader visualize intensity variations. Other software like Sonic Visualiser (music audio file analysis), iAnalyse (computer-assisted analysis), or Praat (phonology) can be of great help.

3.6 Vincenzo Caporaletti's "Audiotactile Principle" and the "Theory of Audiotactile Formativity"

The theory of Italian musicologist Vincenzo Caporaletti originates in the statement that certain musics—mainly jazz—prove difficult to analyze using the usual conceptual pairs such as written versus improvised or written versus oral, which are not adequate to describe the cognitive dimension of these musics. Therefore, in his book *La definizione dello swing*,[60] Caporaletti brings the notion of Audiotactile Principle (*Processo audiotattile*). Correlatively, he suggests to call musics the practice of which is based on that principle "audiotactile musics" (*musiche audiotattili*), which should thus be analyzed in a specific way.

Before addressing the definition of that principle, let us note that Caporaletti stresses the importance of the medium as defined by Marshall McLuhan, especially it its formative and performative dimensions, which are radically different in written and audiotactile musics. The latter involve a "psycho-corporeal formativity":

> On the one hand there is the typographic page ("where speech is trapped by space" [Roland Barthes]), which comes with its own epistemic approach and leads the presumptions associated with linear and phonetic ways of writing to drastic consequences as uniform iteration and a number of other principles increase: the segmentation of experience into discrete units, qualitative homogenization, serial succession, and the prominence of sight over the other senses. On the other hand, there is the polymorphic and enticing atmosphere resulting from the technological applications of

> electricity; it is also polycentric and penetrating; the senses of touch and hearing become pre-eminent again.[61]

In a way, the author sums up his concept with this statement: "Beside the structural archetype of Sender—Message—Receiver, on which the semiological triad of the Poietic—Neutral—Esthesic levels [Molino-Nattiez] is based, it would be wise to consider the fourth pragmatic element of communication: the conditioning role of the Medium." Starting from that point, Caporaletti then comes to a definition of the Audiotactile Principle conceived as a medium made of the performer's sensorimotor system, which "is responsible for a physicogestural modulation of sound/musical energies, and the action of which is crucial in the structuring of the musical text. Aesthetically, this marks the appearance of the bodily aptitude—which operates outside of text—in the traditional domination of Form."[62]

As a consequence, at the levels of conception as well as performance and transmission, a lot of traditional or African American musics involve cognitive and bodily resources (for example, in the imitation or reproduction of performed musics—heard either live or through recordings) that are fundamentally different from those involved in written musics, which favor the visual approach through the score. Learning a tune by listening to a record or by deciphering a score, learning an idiom by listening to the masters or by studying their scores, playing ten minutes in trio from a thirty-two bar melody supported by a figured harmonization, or conducting a symphony movement are different activities not only in their modalities but also in what founds their practice.

Though Caporaletti puts the Speaker—Message—Listener and Poietic—Neutral—Esthesic chains into perspective by adding the medium's performativity, he also puts this addition itself into perspective. Indeed, the "crucial part played by the cognitive and interactional factuality that develops between the sensorimotor system of the performer and the realm of the global form of sound"—which does not appear in the semiological triad even with the addition of a fourth element (medium)—must be taken into account first. This mechanism is activated in very different ways in audiotactile and art musics." In other words, the main difference between audiotactile musics and written Western art music is not so much that learning, memorizing, and the production of music happen mainly through live or recorded music instead of score reading. It is rather the whole relation to music involved by two fundamentally different cognitive modes.

It is worth noting that audiotactile musics are ontologically bound to phonography, which is not the case of the so-called oral "traditional" musics that are not supposed to be recorded (even if, of course, it can happen). This leads Caporaletti to suggest the concept of Neo-Auratic Encoding present in audiotactile musics and not, supposedly, in folk musics. For example, audiotactile musics

may involve musical notation (in compositions or arrangements). They are also fixed by phonographic means; and finally, they share some features and practices with Eastern high art musics (China, India, etc.) as well as with contemporary art music. None of these can be assimilated to oral culture.

Audiotactile performativity is, as far as I know, the first proper theory as such, for it suggests concepts and articulates them as a consistent whole leading toward a global vision. It offers organized answers to questions formerly formulated in the pairs by Charles Keil[63] (*Embodied meaning–Engendered feeling*), George Lewis (*Eurological–Afrological*),[64] the argument about process and product,[65] or myself in this book with the issue related to the phonographic system.[66]

Finally, let us note that it is not exactly an analytical method. Rather, the scope brought by the theory on the jazz work (and *de facto* on its analysis) deeply transforms the analytical approach. This may be appreciated in analyses published by Vincenzo Caporaletti of works by Thelonious Monk (2002a), Charles Mingus (2002b), Charlie Parker (2006a, 2007), Stéphane Grappelli (2006b), Eddie Lang (2008), Jelly Roll Morton (2011), or John McLaughlin (2013), for example. The best introduction to that theory is found in Caporaletti (2018) and related analyses in Cugny (2018) and Araújo Costa (2018).

CHAPTER 14

Interpretations

1. PRELIMINARIES

The various procedures presented in the previous chapters offer a range of specialized options for the analysis of specific works. The results of analyses do not have much value in themselves until they are interpreted and analysts make sense of them. This occurs in a post-analysis stage that echoes the pre-analysis stage (when hypotheses are formed unless this step is either deliberately or unconsciously ignored). What can we make of conclusions? Do they confirm, invalidate, or transform hypotheses? Do they reveal that problems were initially misconstrued? Do they suggest new hypotheses that take us back to the start of the process, i.e., do the results produce conclusions or hypotheses again?

I believe that it is possible for an analysis to reveal its own hypotheses in the course of the analytical process, even if it is clear that analysts never start the process without some predetermined ideas on their object. Afterward, the way that an analysis is presented and the process reconstructed for the sake of the readers is another issue. In my opinion, it is unlikely that analysis could only validate or invalidate hypotheses. I believe that the dynamics of the analytical process itself can modify hypotheses or produce new ones. For that reason, I prefer to talk of consequences rather than hypotheses or conclusions. By that term I mean a process of generalization based on the analytical material produced during a journey of discovery, so not necessarily a sheer process of verification/validation. Eventually, whether such a generalization is presented as a validation of hypotheses made in the pre-analytical stage or as a deduction carried out in the post-analytical stage is unimportant. The generalization must be as well argued as possible, based on analytical evidence produced in the most rigorous way possible, and presented in a manner that makes the link between the two—and the validity of that link—clearly visible.

The status of the environment that a work appears in needs to be discussed. An environment is composed of two sorts of determining factors: nonmusical

factors (socio-historical, economic, cultural factors, etc.) and musical ones (style of the time, musical knowledge available at the time, etc.).

The conflicting views of the supporters of one category over the other when it comes to deciding which is the most important have been mentioned many times before. Those advocating the prominence of the non-musical context are particularly interested in free jazz.[1] Indeed, there are strong connections with the racial tensions that were going on at the time it emerged: the struggle of African Americans for civil rights, riots, etc. Some authors claim that these connections are more than links or reflections; they see a true osmosis (described as "effect and symptom" below) between the changes happening in society and music:

> The word "free" in free jazz does not just reflect the rejection of a number of musical forms or the setting of new targets in jazz. It shows that it is opposed to colonized music and sides with music and culture produced by the revolutionary struggle against imperialism. Archie Shepp describes this situation rather well, where culture and politics are intertwined: "New jazz is like old jazz. There is nothing really new in it except that it delivers a message that could not be expressed before. . . . For a long time, black Americans were forced to contend with a point of view that they did not share." Musical innovations in free jazz first reflect a more general change: they are the effect and symptom of the way that black Americans relate to their culture and the role that it plays directly in their political struggle. To analyze and only give value to the mere musical transformations taking place in free jazz would hide the political factors that conditioned these transformations.[2]

Some people have gone even further, actually rewriting history. Ronald L. Morris, for example, sees the links between the financial workings of the underworld and the business side of jazz as the key to understanding the evolution of jazz, regardless of any musical parameters.[3]

All contextual elements (however important a role one thinks they play in understanding music) involve the pre-existing environment of a work rather than the work itself. It is fair to assume that a social or musical context determines a specific music at a specific time to some degree, but it is a different challenge to point out the actual effects of such factors on a specific work of a given corpus. For that reason, it seems to me[4] that culturalism practiced in a radical way is a denial of the effectiveness of analysis. Indeed, there are only two options if one considers that everything is conditioned by the socio-historical and cultural environment: one option consists of giving credit only to analyses that base their musical content on exclusively non-musical facts. In his work on Miles Davis and Gil Evans, Steve Lajoie makes suggestions pointing in this direction:

> *Blues for Pablo* exists in 1950s America. The vibratoless sound of Gil's ensemble, a deviation from the swing-band style of the 1930s and 1940s, suggests the sweetness and innocence of post-World-War-II United States. The lightness of the double-time swing passages suggests the upbeat happiness of mainstream American society of that time; the absence of the gritty drive often associated with the blues reflects the era's contentedness. Passages with a Spanish sound and an emotionally darker feeling allude to those who were neglected by the mainstream society of the 1950s. The alternation between the major-key double-time swing passages and the Spanish-sounding passages symbolizes the conflict between the innocence of the mainstream and the discontent of those neglected, a discontent that would later manifest itself in less subtle ways.[5]

While Lajoie only makes this comment as part of his analysis and not within the conclusions of the analysis itself, the tentative connections suggested still seem totally arbitrary. Martin Williams gives an enlightening counterexample:

> In the 1930s, in the midst of the Great Depression, when no people were harder hit than American black men, the Count Basie orchestra played with a surging, joyous momentum and a new rhythmic flexibility. Such qualities not only characterized the Basie orchestra itself, they fundamentally and permanently affected the most basic jazz idiom—the twelve-bar blues. Such musical-aesthetic facts (and one might cite many more of them) involve, it seems to me, a strong criticism of narrowly Marxist or "social" interpretations of the art.[6]

However, one could just as easily have argued that people need lightness and entertainment to cope with their lot in difficult times. If every example can be interpreted in one way or the other, it becomes difficult to give credit to such specific links made between musical facts and alleged environmental features of the time.

In order to avoid this uncomfortable position, some people have simply condemned analysis altogether, arguing that it produces results that are not relevant to the actual signification of the music. The solution to this toxic confrontation may be to go back to the original meaning of the word "context," acknowledging that it has an influence at a broad level. It provides boundaries and expectations, direct choices, makes certain things possible and others impossible; but the meaning of a work can never be reduced to these things. The context provides a frame, a backdrop, and a feel of the time in which a work appeared and, of course, all these elements have an impact on it. However, it seems a bit pointless to link musical objects with their environment in a systematic and exclusive

way, or at least without discussing the nature of that link first. It is also possible to take factors of a more local nature into account, which could have a smaller and less important but more direct impact on the music. In this context, a work becomes part of a mechanism where tensions are applied by a range of forces and articulated by historical temporality. Identifying the various narratives involved allows the reconstruction of at least some of the landscape surrounding a work.

Analysis proceeds from the other side of the object. It looks at a completed object to try and reveal its inner coherence as well as its links to the world. This cannot be done by simply reversing the process described above, hoping to eventually work back to the context rather than start from it. The risk of losing sight of the object in the process would be too great. The work must remain the core object and never be instrumentalized nor reduced to the status of mere conveyor, which does not mean that no place will be given to the context. This position is different from the radical culturalist attitude that claims that works themselves do not have anything to say outside of context and that they have no autonomy of their own. Rather, this is a broader conception of the work; it is not limited to the musical content (score, recording), and includes the reception at a secondary or esthesic level. The reception of a musical phenomenon is envisaged not only from the point of view of a virtual listener but also from that of critics, the audience, society, and stretching far beyond the time when the work appeared, changing the scope from a micro to a macro approach. Pascal Ory specifies that this position does not undermine the work considered; it gives it an active role, not just the status of a receptacle of representations: "Culturalists must never forget the ultimately subjective nature of representations, even in a pre-modern society characterized by powerful communal practices, where the group outweighs the individual. . . . Let us be reminded that it is part of the culturalist project to fully recognize the value of the particular productions (works, in particular) which contribute to the construction of collective representations."[7]

Yizhak Sadaï has warned analysts against a comparable pitfall. In the same way that the focus can be moved away from the object toward the context, the method can also overshadow the work itself: "Since the Schenkerian era for example there is a tendency to confuse what the *analysis* of musical work could be—i.e., the description and demonstration of what is specific about this work—and what is merely the *demonstration* of a theory through the 'analysis' of a chosen work."[8]

For all the reasons I have just touched on, I believe that the two processes need to be kept relatively separate and should be carried out in the following order: focus on the object (the work) in order to produce some analytical material first; the commentary should follow, whatever the status of the questioning or the interpretative position may be. This is another way of saying that the analysis of the material manifestation of the work (immanent level) should come first, and my preferred approach focuses on the work as much as possible: an analysis of

the neutral level that attempts to describe what has actually been played as it is perceived from recorded material. This does not mean that the ways in which a work has been produced (poietic level) are not addressed. An attempt is made at reconstructing this process when the question is asked whether the material is fixed or not, whether a fixed text is written or not, when codes of play are at work, or where some conventions, cues or improvisation are identified: in short, the whole analysis of the performance level. The esthesic level is generally absent from this first phase, except that in a phonographic system a work is usually only accessible through listening, so reception is involved from the start of the process.[9]

Any reference to the context is absent from the first phase of analysis, except for the identification of the work, authors, and dates of production. Indeed, I believe that contextual referencing must take place in the post-analysis stage to fuel the interpretation of the results gathered, based on a sound foundation of musical facts. I believe that this procedure creates the conditions for a truly well-informed commentary, which can then subsequently be taken in a variety of directions.

As a consequence, a blindfold test represents the ideal analytical situation. The listener-analyst is presented with a work about which he/she has no information: on who is playing, their gender, skin color, community of origin, sexual orientation, time period, historical and cultural context, intentions, views, etc. Of course, this does not happen in reality, because one always has a lot on information at one's disposal, simply because one chooses the object of analysis, which involves prior discovery and thus a layer of knowledge superimposed on the object itself.

In a more abstract way, this debate compares with the distinctive etic-emic approaches in linguistics. In the first case, analysis focuses on the sounds themselves as much as possible, the way they relate to each other, the patterns and forms they create when they assemble. In the other case, analysts know who is involved, where and in what way. One may be tempted to interpret sounds in relation to this context, the conditions of production, the language of the protagonists, or any other piece of information that actually "precedes" or "surrounds" a work. The first case seems preferable to me.

Yet, we have integrated the identification of intertextual elements in the main body of analysis while keeping those relating to the context for the post-analysis stage. We could have done the opposite, but it seems to me that all the references to other works (through quotations, rearrangement, etc.) are fully part of a work and of the way it operates. Influences and models are more difficult to deal with because they are not necessarily expressed in a clear manner in the actual text of which a work is made. On the contrary, some contextual elements or the sociological environment of performers may play a direct role (or always do and sometimes in a prominent way, according to culturalists) in the organization of a piece. Generally, I think it more reasonable to keep such considerations for the

post-analysis stage, when they can be expressed in relation to a certain vision of the world through commentaries, interpretations, evaluations, etc. Of course, at this point, all interpretations are acceptable, providing they show respect for the text analyzed and do not force or anticipate what the text has to say. This way leaves space for surprises, which anyone who has practiced analysis knows occur all the time: for example, one may be surprised that a certain thing could be played (or a manner practiced) at a certain point in time or that such and such musician played a certain thing at a certain time considering his/her background, environment, influences, etc.

I am aware that breaking up the analytical process into separate stages (pre/post or inside/outside) has implications, but if I have to choose between the risk of giving too much attention to the context and thus distorting a formal analysis or underestimating the role played by the environment, I would go with the second option, which seems to me less harmful. In all cases, the most important qualities in an analyst's attitude (in order to guarantee the quality and optimal life span of the results) seem to me to remain rigorous in the approach and to have the determination to stay impartial, while acknowledging that it is not always possible to fully achieve this. The worst scenario consists of subverting the music to make it say things that do not exist within it but which one wishes it to express. As Paul Veyne[10] put it, a historian may choose the narrative that will organize the facts. The same applies to analysts who can interpret their formal results in the direction that interests them most among the multiple tracks on offer. In that sense, all narratives, all interpretations are acceptable providing that, on the one hand, the majority of the (in our case, musical) objective content of the text is respected and, on the other hand, one gives up the concept of destiny, for things could always have happened differently. The necessity to keep away from this concept was expressed by François Furet about much more serious matters, but in terms that we could make our own:

> The sense of history, that widely spread concept [. . . is] used as a religion by those who do not have any, hence why it is so difficult and painful to root it out. The process of bereavement is necessary, though, if one wishes to understand the twentieth century. The understanding of our time is only possible if we are free from the illusion that necessity has anything to do with it: the [twentieth] century can only be explained, providing that it is possible, if we acknowledge its unpredictable nature, which was denied by the main people to blame for its tragedies.[11]

Providing that this process of bereavement is accepted and completed, Christophe Prochasson's ideas about biographies could be applied to jazz musicians and to their works:

> Biographers are like stage performers. They balance on the very edge of two equally dangerous precipices: indecent emotion on one side and rigid rationality on the other. Their work consists in getting the passions nourished by (and for) their object to cancel each other out. The idea is not to force these passions out but to transform them into the fuel of historical intelligence. Some authors have managed it or, at least, aspire to it. They try to carry out a process similar to that practised by historians and science sociologists which, following David Bloor, they call a "symmetry principle" and which consists in trying to ignore what one actually knows very well: i.e., the end of the story. Nothing of what a man is going to become in the future is written in his early childhood. His first successes or defeats do not predict his accomplishments or renouncements to come. The future does not cast light on the past and, even if the past contributes to guide the present, it does not impact on the realization of the future in a simplistic way.[12]

It is clear that no music is produced outside of a given context and the historical, social, cultural implications it entails. However, many sorts of music could have emerged from such a context but one is only dealing with the music that did: a unique object extracted simultaneously from a range of narratives.

> The musical productions of any human group must be considered as a set of living objects without linking their diverse musical features to some geographical determinism. Each music develops in its own original way using the possibilities offered by its social and physical environment. Various causes may have a similar effect and the opposite is also true. The musical components that each society combines in its own way are either drawn from its own creativity or borrowed from the outside. [Franz] Boas encourages the study of musical history in order to explain the contemporary features of music in its diversity. He also encourages his followers to take factors of diffusion into account: causes for borrowings, ways in which they are integrated in the receiving culture, role of pioneers, rejections, assimilations, remodelling, and innovations triggered by the borrowings.[13]

François Picard makes this quote from François Rivière his own, cunningly changing the original word "culture" to "music." The word "possibilities" is particularly interesting. In my opinion, what is expressed here about culture or music can be transposed to a musician using a specific idiom to express himself or herself in a precise context or culture with its own conditions. Musicians produce music in an autonomous way within the variety of musics possible in that idiom, context, conditions, or culture. Radical romantics would claim that musicians do so in a completely autonomous way, while culturalists would claim the exact opposite.

The process of linking a work to the world usually consists of positioning it in its own time, at the heart of historical networks and logics. I will present some of the narratives in which jazz can be placed, considering them as contexts made of determining factors but also as a specific corpus from which analysts can draw arguments to serve as a basis for their commentaries, appraisals, and post-analysis interpretations.

2. NON-MUSICAL HISTORIES

2.1 Political and Social History

Let us start with large-scale history: the history of the world. Here are a few examples: World War I brought American soldiers to Europe, some of them in military bands. James Reese Europe's band or the Harlem Hellfighters are generally perceived as having introduced jazz to France. Following the Wall Street Crash in 1929, the Great Depression totally transformed the US economy, including the entertainment industry that involved jazz musicians. Also, World War II changed jazz in many ways. On the economic front:

> The effects of the war on the music industry were unpredictable and contradictory. Some of the changes stimulated the business; others undercut its profitability. Still others added nightmarish logistical difficulties to the already complicated task of providing entertainment on a national scale. On the large scale, these factors tended to cancel out, creating a vigorous but unstable wartime prosperity for the business as a whole. For individual musicians, however, each of the changes had a distinct impact, many of which proved especially significant for the young bebop musicians-to-be, active between 1942 and 1945.[14]

As well as socially:

> While defense work brought African Americans new economic and social freedoms, it placed them cheek by jowl with transplanted white southerners, with the result that overburdened cities became new racial battlegrounds. At the same time, northern blacks who wanted to demonstrate their commitment to the country by fighting in the war found themselves subject to the extremes of Jim Crow in segregated boot camps in the Deep South.[15]

The world of jazz was also affected by a general ambiance and tensions that are hard to link to specific events, as Gunther Schuller puts it:

> To understand how the bop revolution was inevitable, we must recognize several factors with profound implications; the stylistic pulling and tugging I referred to earlier was, again, not an isolated musical phenomenon occurring in a social vacuum. The whole world was torn asunder by a global conflict, surely a political pulling and tugging of major proportions. The war disrupted not only peoples and nations but a way of life. The comfortable stability jazz had at last achieved in the waning years of the 1930s, embraced in fact as America's single and unique popular music, was quite suddenly shattered, never to come together again in quite the same way. Moreover, swing in that environment of stability began increasingly to concern itself with its own self-perpetuation. Swing, as represented by the average dance band, existed as we have seen only for the present and *in* the present. It became in far too many instances a static music that never looked outside or beyond itself. Anxious only to hold onto its own order and stability, it was bound to petrify.[16]

This is not a theory of reflection between history and culture in the strict sense of the term but, still, history and musical development are described as isomorphic phenomena (music is "on the same wavelength" as its time). Max Roach expressed a similar idea about the same period of time from the point of view of performers. He first mentioned the consequences of economic constraints:

> When dancing, comedians and all these things became too costly because of the war tax, the spotlight came on instrumental playing. Instrumental playing was the source of entertainment during the whole forties period, and so the virtuoso instrumentalist was the one who worked. Everybody worked hard at developing themselves instrumentally, constantly; this was a constant thing because no beginners could be on the bill. The spotlight was on instrumentalists because of the prohibitive entertainment taxes. They had a war tax at 20 per cent; they had a city tax; they had a state tax. You couldn't have a big band because the big band played for dancing. Count Basie traveled with a small band. The only big band I think that survived during that whole period was Duke Ellington, that traveled during that whole period. The war broke everything down.[17]

He then described the musical reaction to that state of affairs:

> Because the groups were small, quintets, quartets and trios, in order to have fuller sound, more was required. More open spaces for solo playing. All this meant that you had to work hard. When you came to work at night or on a record date, you were prepared to meet these demands in craftsmanship.

> When you look at the period before that, the men like Joe Jones and Sidney Catlett and Chick Webb had tremendous virtuosity. What we were doing was just an extension of that all the time. The people who decided to say this was a big change were the critics of the time. But we were just continuing in a tradition to meet the high standards that were set up before we came on the scene.[18]

At a more individual level, Dizzy Gillespie expressed a similar idea, describing some sort of permeability to the environment and yet continuity at the same time, joined with a strong focus on the music itself:

> Recently, after becoming an adult musician, after forty years, you realize that your music reflects the times in which you live. My music emerged from the war years, the Second World War, and it reflected those times in the music. Fast and furious, with the chord changes going this way and that way, it might've looked and sounded like bedlam, but it really wasn't. Because we always kept in mind the fundamentals of the music, like, in the cycle of fifths, C, F, B♭, E♭, A♭, D♭, et cetera, we went through a cycle, and all of my music is built on those. Sometimes, when you know the laws, then you can break them. But you've got to know it first. And it's the same way with all the laws of living, break them flagrantly, and you might hurt yourself, or someone else, or even blow your own mind.[19]

Both Max Roach and Dizzy Gillespie talked of an imposed upheaval that eventually had musical consequences. However, both stressed the musical continuity over the historical discontinuity.

References to political and social history are sometimes expressed in the titles of pieces. The connection is clear in vocal music with text, as is the case with "Strange Fruit" by Billie Holiday, which refers to the lynching and hanging of black people, or in "Fables of Faubus,"[20] referring to Arkansas governor Orval Faubus, who refused to integrate black pupils into schools in 1957. References sometimes appear in the title of instrumental pieces such as John Coltrane's "Alabama" (referring to four black female teenagers who were burnt alive in the arson of a church in Birmingham, Alabama, on September 15, 1963) or Archie Shepp's "Attica Blues" (about the rebellion that took place in the New York state prison in Attica in September 1971).[21]

2.2 Cultural History

Periods of time are palpable in music outside or beyond specific political or social events. They are revealed by intellectual trends or fashions: all the aspects

that compose the field of "representations" nowadays, which is the terrain of cultural history. "Cultural history is an aspect of social history but, unlike classical social history which—explicitly or not—is a history of the classes and aims at reconstructing their ways of functioning, cultural history is limited to symbolic phenomena. It may be defined as a *social history of representations*."[22]

It is clear, for example, that the recording sessions of *Bitches Brew* by Miles Davis in 1969 give testimony of a certain atmosphere of the time with the wealth of instruments, instruments "exotic" for jazz (tablas, for example) and a sense of disorganization. The same could be said of Carla Bley's opera *Escalator over the Hill*, recorded between 1968 and 1971 (the pictures from the sessions tend to give credit to this intuition). Of course the link with representations is of a special kind when the work involves text. George Russell's "New York, New York" explicitly describes the atmosphere of the city and the music that was played there at the time of the recording (1958–59).

2.3 Belonging to a Community

This has a very particular status, of course. The first commentaries on jazz started with a founding questioning about the relationship between black and white people and, in the background, between slaves and owners, Africans and Europeans, Africanness and Europeanness. This questioning has never stopped and still is the main, if not the only one.

Things are more complex when looking at musical works. In a blindfold test,[23] it is hard to say what the color of the musicians' skin is, their gender and preferences (sexual ones in particular). Economic and cultural groups[24] could be considered, too, as well as musicians from the United States as opposed to those from elsewhere (Europe in particular). Cultural studies mostly take care of these inherited issues, stressing gender issues and matters of sexual orientation in particular, and more generally other occurrences of the dominating/dominated paradigm. It is a logical consequence of these studies to challenge conceptions based on the individual: "There are some dangers far too seldom recognized in continuing to cultivate and expand nineteenth-century ideals of individuality without subjecting them to critical reflection. The same set of individualistic values that has produced our principal concert repertory and given the West its cultural hegemony in much of the world also has a negative underside that extends through the entire breadth of our musical culture and probably of our civilization as well."[25]

Here is not the place to discuss this view any further, but it seems just as dangerous to elude the concept of individuality and subject completely without prior critical reflection.

2.4 Technical and Social History of Music

Of all the non-musical histories presented here, this is the most music-related: the history of the conditions of production of jazz and the conditions in which jazz musicians practice their profession. The importance and impact of recording technology on the development of jazz has already been heavily mentioned. The crafting of the music itself has been influenced by it. It is impossible to ignore the uses of overdubbing and the slowing down of tracks when analyzing Lennie Tristano's "Requiem," "Turkish Mambo," or "East Thirty Second." The analysis of Miles Davis's studio production in his electric period is radically different depending on whether it has been carried out before or after the release of the complete, unedited sessions.[26]

Some periods of time have been colored by social history. It is clear that the two recording bans (1942–44 and 1947–48) were an important factor in the changes and creations that took place in jazz during the 1940s, which was a decisive decade in many respects. In particular, the first ban made it impossible to produce documents about the beginning of bebop. The prominence of vocalists over orchestras during these years is also largely due to these events, as explained by Gunther Schuller:

> Some writers have tried to suggest that the recording ban broke the momentum of jazz's progress. It is tragic, of course, that many exceptional young bands and musicians went unrecorded in their early peak years . . . but the recording ban did not stop musicians from playing, from developing, or searching for newer forms of expression: it only stopped them from *recording*. In fact it is possible that the recording ban in a peculiar way favored the advancement of jazz in the form of bop, because it did not have to contend in its fragile and formative years with a booming record industry, which surely would have rejected it or tried to muzzle it creatively. It was not until new small record companies sprang up in the mid-1940s, companies either willing to take some risks or actually supportive of the new jazz, that bop found a friendly haven in the recording field. And by then bop was strong and ready for its unrestrained diffusion.
>
> Indeed, it is remarkable that the recording ban had so little negative effect on jazz, except in a financial way. In fact, the ban helped some aspects of jazz. For example, record companies began to reissue earlier records from their catalogues, which was not only a boon to jazz record collectors but created an awareness among many music lovers that jazz *did* have a venerable history to be taken seriously and appreciated, at the same time reminding listeners of the deeper values in the pre-Swing era jazz, values which had been in many cases dissipated and abandoned.[27]

The influence of the media is crucial, of course, and long commentaries could be made on the commercial aspect of the business, the role played by success, the industry, the press, radio, and TV.[28] To give only one example, it is clear that there would not have been as many discs of bossa nova made at the beginning of the 1960s without the dazzling success of Stan Getz's recordings with Astrud and João Gilberto.

The history of jazz producers is still there waiting to be written. People like John Hammond,[29] Ross Russell, Alfred Lion, the Ertegun brothers Ahmet and Nesuhi,[30] Norman Granz,[31] Teo Macero, George Avakian, or Manfred Eicher among many others, had a direct influence on a considerable number of recordings; they even triggered them in some cases.

2.5 Individual History

The importance of individual stories of musicians' lives tends to be underestimated because the alleged "romantic narrative" denounced by Sherrie Tucker[32] is still not very well considered in the academic field. Many biographies of jazz musicians have been written that place biographical and musical information side by side, often revealing some very interesting links between the two.[33] I do not see any reason to ignore the individual histories of musicians that—either in a clear or veiled manner—manifest themselves in numerous dedications appearing in titles;[34] nor do I see any reason why the influence of these individual factors should be under- or overestimated.

Various addictive behaviors and family-related events have sometimes directly influenced the music recorded.[35] I do not see any reason not to explore more specifically psychological or psychoanalytical areas either. Alain Gerber's fictionalized biographies certainly do so indirectly. Scott LaFaro's untimely death in a car crash is a major element for the understanding of Bill Evans's career, in the practical sense that he had to find another bass player, but also perhaps for its impact on his psychology.[36] Lewis Porter[37] makes more of John Coltrane's very special childhood than simply mentioning it as a biographical note.[38]

3. MUSICAL HISTORIES

Because they are the substance of which musical histories are made, there is no denying that works find their place within musical logics and time periods in a more straightforward way. There are several musical histories: some come from within jazz or very close; others come from further afield, and we will start with these.

3.1 The History of Art Music

> Very strange similarities between the evolution of jazz and Western art music have been pointed out on many occasions. With the same starting point—popular and religious vocal music—and the same steps—instrumental polyphony, accompanied melody, symphonic style, etc.—jazz seems to have done roughly the same journey in fifty years that Western art music has completed in ten centuries.[39]

Even if it has been "pointed out on many occasions," it is useful to briefly discuss the parallel between jazz and classical music (or rather the history of their respective musical languages). I believe that the core notion lies in the common practice. In art music this runs roughly from the middle of the eighteenth century until the beginning of the nineteenth century. It is characterized by the relative stability of a prevailing system (classical tonality), which has gradually emerged from prior practices dating from the Middle Ages until the baroque era. The classic era (end of the eighteenth to beginning of the nineteenth centuries) takes place within the period identified as the common practice, with composers such as Mozart, Haydn, and Beethoven. The tonal aesthetics continued to develop through the nineteenth century with more and more sophisticated compositions, especially during the Romantic era and up to a peak marked by composers such as Wagner and Mahler. The next generation felt that the system was running out of steam and looked for alternatives, either suggesting to get out of the system completely and start on a new basis (Arnold Schoenberg, the Vienna School, and dodecaphonism), or exploring less radical paths that challenged the practice deeply without giving up the old system (French impressionists, some Russian and Spanish composers of the early twentieth century). Since the 1970s the multiplication of different trends has created a particularly heterogenous musical landscape.

However simplistic a presentation this may be, it involves several phases: a phase of convergence (gradually putting together the pieces to compose a language and system of music production), a phase of stability (unfolding all the possibilities offered by this system and language), followed by a phase of divergence, first expressed by a dual approach to the crisis in the system (a radical option and another less so), until the system broke up in a way that we qualify as postmodern. *Mutatis mutandis*, this reading in phases of the historical articulations of Western art music, can apply to jazz except that it happened at a different time and speed.

It is thus possible to see the prehistory of jazz and elemental jazz (i.e., from the freeing of slaves until 1917) as echoing the Middle Ages and Renaissance era, during which the various components of the language were put together. The New Orleans and Chicago period, between 1917 and 1930, could correspond to

the baroque era with great musicians such as Sidney Bechet, Louis Armstrong, and Bix Beiderbecke: the system settles in gradually. The great classical period of jazz, that is generally identified as running between 1930/1935 and 1944 (and that I suggest extends until 1959[40]) can be compared to the classical era in art music. Bebop and post-bop times (cool jazz and hard bop) can mirror the Romantic era and the whole nineteenth century in art music. Pushing the comparison very far, it is possible to consider the music of John Coltrane in the late 1950s and early 1960s as playing a similar role as the music of Richard Wagner, in the sense that Coltrane explored the boundaries of the possibilities offered by the common practice like Wagner had done in art music. In the early 1960s, some musicians got tired of the common practice, which they thought had nothing to offer anymore, and looked for ways to get out of it. Ornette Coleman, Cecil Taylor, and Albert Ayler opened radical paths like the Viennese School at the beginning of the twentieth century. Others, like Miles Davis, John Coltrane, or Bill Evans—not unlike Debussy, Ravel, Stravinsky, and De Falla—explored less radical paths that did not prove any less fruitful. Finally, the jazz landscape at the end of the twentieth century gives the same scattered impression as that of art music after the 1970s.

Obviously, this historical construction was made after the events, in a very simplistic and purposeful way. The purpose is not to try and track down ways in which art music could have influenced the development of jazz; the idea is to suggest an analogy in the way that both histories took shape and, in a way, a structuralist hypothesis about potential patterns of development in objects (here, musical ones) that do not seem particularly close at first.

This sort of analogy is only worth the value that one wants to give to it. But it may not be insightful to ignore such a possibility on the ground that there are as many, if not more, elements that differ between the two paths of evolution as there are common points. What are the differences? As said before, the periods in time and the speed of development are different. Besides, practices are fundamentally different. Jazz is based on a phonographic system and is anchored in different cultures. So how can the comparison make sense? The cultures of origin are remote from each other, but jazz is also largely based on European music, art music as well as popular music. Its history may have mimicked that of its European root in proportion to the importance of that root. Alternatively, are there types of music that follow unchanging features of development over and above the variety of their contexts (the structuralist hypothesis)? Do some underlying abstract patterns of development (structures?) exist that can take shape in types of music remote from each other? These options are neither incompatible nor comprehensive.

Besides, can we imagine what the future might be, based on this comparison? As a complement to the previous remark, André Hodeir added: "This disturbing

analogy—which cannot be taken literally anyway—does not bring any strong arguments into the debate between those who believe that jazz is set to disappear soon and those who believe that it has a nearly boundless future ahead of it. We do not need to look that far ahead anyway: already now, jazz has an existential problem."[41]

The question asked in 1947 is partially answered: jazz has not disappeared, of course, even if it cannot be predicted a "boundless future" either. If we date the end of the common practice to 1960, as we do in this book, has the analogy been confirmed by what happened next? There has been a major difference: no system equivalent to dodecaphonism or serialism has appeared in jazz. However, the scattered contemporary landscapes in both types of music and situations described as postmodern can be observed in both cases, which tends to give credit to the analogy:

> For people non conversant with jazz, it is always difficult to realize that certain ideas or concepts that are taken for granted in "classical" music had to be rediscovered, as it were, by jazz and reinterpreted in jazz terms. The twenties were especially rich in such discoveries, and that decade abounds with "firsts" which musicians came upon in one way or another, singly or—as is so often the case in the arts—simultaneously with others, yet independently. It may therefore surprise some readers that the larger orchestral ensemble, that is the big band, as a jazz institution had also to be invented and developed.[42]

Beyond this analogy, has Western art music influenced jazz in a more direct way? Yes, of course, and on different levels. The most obvious influences involve harmony as well as the repertoire. Harmony has already been discussed extensively. As for the latter, jazz musicians have borrowed material from art music abundantly, from Jelly Roll Morton's two versions ("straight" and "swung") of Verdi's *Miserere*, John Kirby's adaptions of Chopin or Grieg, to reinterpretations of Mozart or Mahler by pianist Uri Caine, Fabrizio Cassol's takes on Monteverdi's *Vespers*, Liszt's *Liebestraum* by the Hot-Club Quintet of France, Stéphane Grappelli and Eddie South's improvisations on Bach's *Double Violin Concerto in D-minor*, Duke Ellington's take on *The Nutcracker* or *Peer Gynt*, and Gil Evans's borrowings from Chopin, Mussorgsky, de Falla, Tchaikovsky, or Ernst Bloch. The list could be long.

Several authors have looked for more intrinsic connections outside of these direct and avowed relations. As early as 1934 Roger Pryor Dodge suggested the following hypotheses:

> It seems to me the little phrases in bars eight, nine, and ten of no. 1,[43] where he [Bubber Miley] plays with his melody at either end of the octave, can only be found elsewhere in such music as Bach's *Goldberg Variations*. . . . Joseph Nanton's twelve-bar variation in no. 2 seems to be on the harmony. It is followed by Miley's beautiful entrance, a slow trill on the original B flat. In no. 4, . . . the little coda to the long note is the purest music I have ever heard in jazz. I speak of purity in its resemblance to the opening of the Credo for soprano voices in Palestrina's *Missa Papae Marcelli*.[44]

Other authors have looked for connections at the level of form:

> The history of classical music provides us with a telling historical precedent for such a prognosis: after largely non-thematic beginnings (in the early Middle Ages), music over a period of centuries developed to a stage where (with the great classical masters) thematic relationships, either in a sonata or various variational forms, became the prime building element of music, later to be carried even further to the level of continuous and complete variation as implied by Schoenberg's twelve-tone technique: in short, an over-all lineage from free almost anarchical beginnings to a relatively confined and therefore more challenging state. The history of jazz gives every indication of following a parallel course, although in an extraordinarily confined and therefore more condensed form.[45]

Henry Martin noticed differing elements, though:

> The persistent application of formula also creates a sense of ritual, which in both fine-art and more popular styles, has become more important to Western musical culture in the late twentieth century. The incantatory aesthetic of groove and ritual, so characteristic of the music in our time, is culturally revolutionary when viewed on the large scale: it can be argued, for example, that it reverses a dominant trend in Western art music from the Middle Ages to mid-twentieth-century modernism, which, in its major statements, such as the sonata-allegro movement, viewed small-scale repetition circumspectly. With the obvious exceptions of theme and variations models and more popularly-based material, works of major import and length were created through increased complexity, not formula or strophic repetition. This idea is a major principle behind the Schenkerian *ursatz*, which might underline the 8-bar melody, and on a vaster (and far less determinate) scale, the 500-bar sonata-allegro movement.[46]

However, the same Henry Martin suggested a form of continuity with art music in his commentary on Charlie Parker's style: "Parker in this sense is a musical conservative, a caretaker of the tonal tradition, which, with jazz adaptations, finds its original inspiration more in the musical outlook of a Bach than of a Cage."[47]

3.2 Histories of Other Types of Music

We know all too well that jazz has mixed musical origins. From its birth and all along its evolution it has been in contact with other musics, some of which being close and others more remote. There are ones that are closely related to jazz—so closely in fact that we never know whether they should be integrated as part of jazz or not—i.e., spiritual, gospel, blues, rhythm and blues. There are also various kinds of pop music: African American (soul, black pop) or more commonly white (pop, rock, musicals whose links with jazz, especially with regard to repertoire, are well established). Finally, world musics have always brought an element of novelty into jazz, from the original contribution of African and European musics (Celtic, Latino, East European) to Asian musics via music from the Caribbean, South America, or the Indian subcontinent.

Sometimes other types of music can have an effect by default. It is clear that the outbreak of rhythm and blues in the 1940s and that of rock and roll a bit later had a crucial effect on jazz and the works it produced, by turning some of its audience away before eventually influencing it (for example, the effect of soul or Jimi Hendrix's rock on musicians in the sphere of Miles Davis at the end of the 1960s).

3.3 Jazz History

It may seem strange to mention the influence of jazz history on jazz works, because it seems so obvious and because each work somewhat takes part in the global oeuvre and participates in the history of the genre. Yet, in the context of discussing interpretations that can take place following an analysis, it is one of the preferred options. The object nearly overlaps with stylistic analysis. The material produced by an analysis may be put in the perspective of this history, whether or not the performers of the work were aware of their position in that history. How much and in what ways are the protagonists active or passive in that historical positioning (which hints at matters of influence, originality, and creation[48])? This is a key issue on which material produced by an analysis can shed light.

The multiplication of tributes of jazz musicians to masters is also to be taken into account. It can be seen as a postmodern feature and the sign that jazz is starting to look back on its history and inventing a form of neo-classicism.

3.4 Specific Histories

Performers also take part in more specific histories: the histories of the instruments they play, the history of orchestral formats, and even sometimes the history of specific orchestras.

3.4.1 INSTRUMENTS

This area of history may seem to cover a very small part of the larger history of jazz. However, it is a fundamental one and possibly the most important of all specific histories. It seems to me that, in the first instance, a pianist refers to part or the whole history of the keyboard. Pianists are likely to be heavily influenced by their predecessors and contemporary pianists. This history involves the respective *topoi* of each instrument: pianisms for pianists, guitarisms for guitarists, etc. Mental representations must be different and have an influence that analysis can take into account, including in a historical perspective. However, the history of an instrument is often mostly made of the history of its masters (great and little ones), and analysis can suggest that or give evidence of it.

3.4.2 ORCHESTRAL FORMATS

The same applies to orchestral formats, especially those endowed with a strong history: the piano-bass-drums trio, the bebop combo, and the big band, of course.

3.4.3 SPECIFIC ORCHESTRAS

Some great orchestras—Fletcher Henderson's, Count Basie's, Benny Goodman's, or Duke Ellington's—carry a history of their own that may be a point of focus for an analysis and the interpretations drawn from it. Similarly, some great musicians like Louis Armstrong or Miles Davis display the same features: it is fair to consider that all the musicians who played as sidemen with Miles Davis have played in Miles Davis's style during their time with him.

3.4.4 CODES OF PLAY

This notion has already been heavily discussed.[49] All "premieres" (first walking bass, first ching-a-ding, etc.) bear some historical importance. The positions of musicians toward the codes of play (invention, transformation, reorientation, dismissal) provide analysts with interpretative opportunities.

3.5 The Musical Background of Performers

Finally, all musicians perform at a specific point in their musical history and their performances are largely conditioned by that history:

> On one point there is universal agreement: Tatum's awesome technique. But his complete digital mastery of the keyboard—despite the fact that he was 85 percent blind—may also have been his Achilles' heel. For much of what is flawed or of lesser creativity in Tatum's work can be directly related to his extraordinary technical facility. In the earlier part of his career he could rarely tame his nimble fingers and alacritous mind to embrace the simple rather than the dense and garrulous. His was a profuse art, so abundant that its problems were not, as with most players, how to attain greater technical control of his materials but, rather, how to channel his superior gifts into a more deeply expressive and creatively more original language—challenges which, if his career is seen in the long view, he really did not entirely meet, at least in the sense and the degree that an Armstrong or a Parker did.[50]

> Jimmy [Rushing] used to sing during sunday-morning services. He used to sing "Rose in the Bud," I think it was, and a couple of other church songs. Jimmy was right at home with those church folks, and they just loved him in there. They appreciated what both of us were doing. I guess it showed that we hadn't forgotten our upbringing in spite of all the joints we hung out in.[51]

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Musical works can thus be seen at the crossroads of several dynamics, some of which are musical and others not. Like any other musical work, a work of jazz appears at a certain point in history as well as a specific moment in several histories. The first history mentioned is the bigger picture, the political and social history of the world and of the country where a work appears. It is clear that a work produced during World War II, the Vietnam War, just after the assassination of Martin Luther King or during May 1968 in France can be expected to show traces of those events. Reducing the scope of observation, a work may then be looked at from the perspective of cultural history, which deals with behaviors, trends, ways of thinking, and representations. It is possible to look for and find traces of the hippie movement (its ideology and vision of the world) in works of jazz by Charles Lloyd and his pianist Keith Jarrett, for example. The history of technology and the media could be taken into account in a third step. Whether the work was recorded at the time of rolls, ten-inch discs, LPs, compact discs, or digital files can be a relevant piece of information about it, as is the knowledge of the techniques available at the time: mechanical or electric recording, stereo, multitrack, and sampling. The recording bans of 1942–44 and 1947–48 have had significant consequences. A label like ECM not only allowed for works to come into existence but also influenced the actual making of many of them. We are gradually getting to the musical histories proper, looking at the position of a work in the musical continuum: the history of the classical tradition, that of

other musics and, finally, that of jazz. It goes without saying that a work of jazz is vastly influenced by the moment at which it appears in the history of that music. In the last instance, the musical (and possibly personal) lives of the protagonists play their parts.

There is some continuity between all these different contexts, from the least musical one (the world history) to the most musical one (the history of jazz, in this case). It is down to analysts to take them into account in a suitable way in the process of describing the intrinsically musical material of a work. Interpretations obviously vary considerably from one analyst to another depending on sensibilities and convictions. The most important phase is that of the musical analysis itself, which must be carried out in the most neutral manner possible.

4. EVALUATION

The aim of this book as well as the competence of the author do not allow the discussion of esthetic judgment generally. I would merely like to touch on two related but much more limited issues: on the one hand, the relationships between musical analysis and assessment in the field of jazz; and on the other hand (but starting with it), the historical role played by the evaluation of works in the development of exegesis on jazz.

4.1 The Historical Role Played by the Evaluation of Works

The way that jazz was received in its early days has been researched extensively and will probably still be researched in the future. Without entering the details of the matter, let us remind ourselves of a few facts that bring light on the questions to be addressed.

Jazz was not as badly received as is sometimes said, but it certainly was the object of misunderstandings, including among those who praised it. This explains the need that some authors felt to spread a "truth" that they thought gave a fairer view of the object. One can easily understand how this actually led to the artificial and biased construction of the object in order to improve its value (which involved collective hagiography) and to separate the wheat from the chaff, to point out the "good" protagonists and unmask impostors. The global discourse on jazz at the time (1910s and 1920s) targeted those who were perceived to be not the genuine article, motivated either by greed (commercialism) or merely through ignorance, or both. So the identity of jazz had to be built on knowledge: it had to be described in order to be praised and to show what "real jazz," "authentic jazz" was. In a broad sense, there was already an analytical side to this maneuver. On these aspects, see Cugny 2010, 2014, and 2017.

After attending the opening night (or one of the first performances) of Gershwin's *Rhapsody in Blue* and reading some of the critiques on the concert, Roger Pryor Dodge felt he had to express some truths that people did not seem to know about, starting with the definition of what jazz is. He wrote (probably in 1925):

> Ernest Newman, the eminent musical critic of the London *Times*, some short time since allowed his keen judgment to be overthrown in the violence of a controversy for and against jazz. A reading of the remarks of Mr. Newman and the answers of his opponents convinces me that jazz needs protection not so much against its enemies as against its friends. . . . The word "jazz" is being used too loosely and too indiscriminately by persons who have little perception of the true nature of the embryonic form now developing amongst us. It is no wonder that critics are unable to agree when no two of them are discussing the same thing. The word "jazz" as it is currently used seems to cover both true jazz and popular music in general. It covers Paul Whiteman, George Gershwin, and Irving Berlin, none of whom I consider as belonging to the ranks of jazz at all; but if these men are not exponents of jazz, who is? And what is jazz?[52]

Two francophone authors, Robert Goffin and Hugues Panassié, followed ardently and embarked on this crusade to reestablish the truth with all the excesses that such a position can induce. Panassié became one of the most devout supporters of "true jazz" to the point of caricature and the loss of any sense of evolution or reality. But people sometimes forget that he was a much more balanced observer at the beginning.

> The hot style of playing jazz benefited from the growing sophistication of jazz music in general. In the years that immediately followed the war some white conductors, the famous Paul Whiteman in particular, wanted to develop tighter performances. They began to attach a greater importance to arrangements, i.e., to scoring, introductions, transitions, etc. Some took it too far, unfortunately. With the help of arranger Fred Grofé [*sic*],[53] Paul Whiteman tainted jazz with ridiculous pastiches of classical music that had neither the spontaneity nor the character of jazz. However, Paul Whiteman's action had a positive outcome: it encouraged the best musicians of color to refine their playing and to improve the musical quality of their performances, which was necessary, while not losing the flavor of it. These musicians understood the benefit that could be occasionally drawn from arranging ensembles rather than leaving them to be randomly improvised and dealt with simultaneously by often mediocre performers. But rather than spoiling

> the music with bad-taste "symphonic" touches like Whiteman had done, these arrangers wrote ensembles in a melodic style similar to that of the best improvisers. This is how hot arrangement developed. As a consequence, performers had to better their playing so that they could play the written parts. The average musical level of jazz orchestras went up rapidly.[54]

As Henry Martin noted, assessment became quite naturally an integral part of the activity of critics and aficionados:

> Before the 1950s, most writing on jazz consisted of criticism in which recordings, concerts, and artists were routinely evaluated, compared, and (in some instances) rated numerically. Critics, indeed, were among the first jazz historians, alongside fans and record collectors. There is also a remarkable professional correspondence between critics and analytical theorists in that both groups often evaluate pieces or musicians for intrinsic merit; theorists, however, usually approach the works technically whereas critics most often write for the popular media.[55]

After Winthrop Sargeant's book *Jazz: Hot and Hybrid* was published, the need to construct the jazz object itself became less strong and a real analytical musicology could start developing outside of a global crusade to increase the prestige of jazz collectively:

> The particular field that *Jazz: Hot and Hybrid* sets out to explore however, has, as far as I am aware, remained almost exclusively its own. It is not primarily a critical or a biographical or a historical book. Its purpose is descriptive. What evaluation it contains is limited mainly to the consideration of jazz as a type of art compared with other types of art. Its task has been to define jazz, to analyse its musical anatomy, to trace its origins and influences, to indicate the features that distinguish it from other kinds of music and that give it its unique place in the music of the world.[56]

Wilder Hobson's book, published a year later, pursues the same aim: "I might say that I am not interested in judging the *value* of this music as against that of any other music, or in judgments of musical values in general, but in the distinctive qualities of this music in itself. This book discusses the jazz form, focusing by way of example on thirty phonograph records which are listed in the last chapter."[57]

Many years later—beginning in the 1960s—another discourse emerged that denounced the way that commentators had taken over jazz as an object with a view to create scales of values and enhance the prestige of legendary masters

without thought for others, which was perceived as a distortion of the reality. This discourse was led by a less specialized and more ethnomusicological (or possible anthropological) point of view:

> One characteristic of the ethnomusicological approach that usually distinguishes it from other kinds of writing on jazz is that it tends to avoid critical judgments of either artists or music. This can be seen as deriving from an anthropological desideratum that cultural description be "objective," not tinged by evaluation that may be inappropriate for an outside observer. It remains to be seen whether these jazz ethnomusicologists remain more comfortable in the anthropologists' camp, with their cultural concerns; aligned with musicologists and their emphasis on historical process; or with theorists and their more technical models of musical structure.[58]

Some ethnomusicologists and anthropologists attacked what they qualified as a "dominant" or "romantic" historiography of jazz, which they saw as fueled by hagiographic narratives and lacking methodological neutrality:[59] "And there is the resurgence of popular collective jazz identity, recently produced through a mass-mediated series of romantic narratives about remarkable individuals[60]—almost invariably U.S. American and male, usually poor, and often black, routinely unique, natural geniuses—who transcend humble backgrounds by creating very special music that makes America feel good, and makes the rest of the world feel good about America. Obviously, these are romantic fantasies that I find dangerous and in need of critical examination."[61]

For Amiri Baraka, this construction of value is only the visible part of the iceberg: "Usually the critic's commitment was first to his *appreciation* of the music rather than to his understanding of the attitude which produced it. This difference meant that the potential critic of jazz had only to appreciate the music, or what he thought was the music, and that he did not need to understand or even be concerned with the attitudes that produced it, excepts perhaps as a purely sociological consideration."[62]

In this respect his views are—as often—very close to those of Hugues Panassié after the war:

> Most white people believe that they have grounds to judge jazz according to their own criteria about music, while jazz was created by black people in the United States according to their own criteria. This attitude either indicates a complete lack of knowledge, gross stupidity or racism (avowed or not) where one should read between the lines that the superior white race has nothing to learn from black people. In reality, jazz is a foreign language for us, the language of another race. If we want to understand it

> we must learn it from black people, ask them for the keys to their musical language. One must learn the way to grasp it and speak it like they do if one intends to be a jazz musician.[63]

This debate about the specificity of jazz as an object and the claim that a black approach is needed to understand black music is an indirect attack on approaches based in the classical tradition and the musicology of art music: "In jazz criticism, no reliance on European tradition or theory will help at all. Negro music, like the Negro himself, is strictly an American phenomenon, and we have got to set up standards of judgment and aesthetic excellence that depend on our native knowledge and understanding of the underlying philosophies and local cultural references that produced blues and jazz in order to produce valid critical writing or commentary about it."[64]

For John Gennari: "And just as [Henry Louis] Gates argues that 'we must turn to the black tradition itself to develop theories of criticism indigenous to our literatures,' so [Albert] Murray argues that black music criticism must be an organic extension of the distinctive African-American cultural experience of the blues tradition. Criticism not grounded in a secure and sensitive knowledge of the lived experiences of art—the socio-cultural sources both of its creation and its use—is not capable, Murray argues, of reaching the core of an art's meaning."[65]

These different viewpoints have split jazz commentators into categories (especially in North America): ethnomusicologists, musicologists, or music theorists, each group allocated a designated territory even if they did not want to be. This situation was described by Henry Martin—who sees himself in the category of music theory—in 1996:

> While it is not pertinent to this essay to engage in a broad defense of music theory, it comes as a surprise to many of us to find the study of jazz as centered on the music itself under attack. If nothing else, I would like to point out that what leads most listeners and players to jazz *is* its music, not its connections to other disciplines. This is not to say that the social, historical, commercial, and other issues, are unrelated to what forms the music takes and how it functions. They are extremely critical to a fuller understanding of jazz as a product of Western cultural history. As such, we look forward to any studies that shed new light on the many controversies that have involved jazz since its inception. To paraphrase a familiar quotation, the house of jazz is large and has many mansions. But we should never neglect what brought us to jazz itself: the music, and our emotional and aesthetic response to it. Theorists do not spurn the larger-scale issues; they simply prefer applying their expertise: attempting to fathom what is happening sonically, to the extent that it can be pinned down. To that end, we welcome

> the continuing increase in the activity of jazz theorists—whether they be active musicians, scholars from the academy, or both—and hope that they will continue to pursue a closer scrutiny of how jazz *works* as music.[66]

There is room for everybody in the house of jazz, but one has to admit that assessment is not just practiced by commentators about the music; it also sometimes occurs between them, as we have just been seen.

4.2 Analysis and Evaluation

Analysts often express their admiration for the creators of their objects of analysis; but not many attempt at proving the quality of the objects they have selected, and even fewer embark on actually proving the contrary. André Hodeir is one of the few who took the latter risk: "Milton Mezzrow's solo in 'Royal Garden Blues' is a good illustration of what we have just said. . . . Everything in these two choruses comes from the decomposition of the chord. The result is a lack of melodic wealth that clearly speaks for itself against the use of such a technique. But in addition . . . , there is a rhythmic weakness on top of the bad effect created by the continuous arpeggios."[67]

Barry Ulanov's view tends to be more moderate, as this quote shows:

> Actually, there are very few general standards with which most of us approach any of the arts. Basically, there seem to be three: freshness, profundity, and skill. Freshness means, of course, freshness of idea. Another way of putting it offers an even more ambiguous debating term in the arts—inspiration. How do you ascertain a musician's freshness or inspiration? . . . It is possible to follow the blues tradition, the common variations on the even commoner themes, the rows of familiar riffs, and the mountains of only slightly different solos. And from this it is further possible to come up with common sounds, with basic ideas, to note one long curve on a graph, reaching to bop and then changing shape and direction abruptly whether for good or bad. The very least, then, that we can do with freshness of idea or inspiration is to name the changes wrought by musicians, to discover exactly what they are doing with notes and chords and rhythms, and to make public that discovery. In the next category of standards we may find some way of deciding the value of those changes.[68]

Ultimately, a report led by expertise is Ulanov's preference. Commenting on a quote by Gérard Genette, Lucien Malson mentioned expertise, too:

> There are things that an "expert" can perceive—like the fact that a piece is in G minor—which a lay person will not pick up. It is possible to perceive a feature and not identify it, like a lay listener hears a tritone or augmented fourth without being beware of what it is (or what such interval is). . . . A distinction must be made between a "perceived chord" and an "identified chord." There is a *primary*, more naive kind of focus, that differs from the *secondary*, more informed kind of focus. "A judgment of taste may be more informed, more enlightened than another but, again, that does not make it more valid or more true" . . . This confirms that there are two levels of reception for Genette: the primary and secondary ones; the former may be called esthetic and the latter artistic. . . . There is no "better judge."[69]

Going back to the distinction as expressed by Gérard Genette, between an artistic judgment (informed, "secondary") and an esthetic judgment (possibly naive, "primary"), Lucien Malson adds: "Comprehensive criticism produces artistic judgments in various well-informed ways as well as esthetic judgments which are never totally naive but still certainly less 'loaded,' and for which good literary and poetical skills are naturally required. No academic study is free of this exercise of taste because, ultimately, nobody can demonstrate the truth or falseness of what is, deep down, a feeling. On this front, 'expertise' (technical expertise in particular) never prevails."[70]

We can certainly agree with that, even if we have not exhausted a debate as complicated as it is old. Does the analysis of a work provide information on its worth, and according to which criteria? We cannot assert that it is not so; anyway, in my opinion it is always best to keep away from judgment when engaging in analysis. Analysis can certainly provide people with arguments if they want to make a point about the value (or worthlessness) of a work. However, I do not think that analysis can prove anything in this area. Jazz analyses that are fueled by this sort of agenda usually fail to convince anyone in this respect. This does not stop such analyses from producing interesting results, but the alleged demonstration of the esthetic value of a work is not one of them. Besides, it seems to me that analysis is a freer activity if it is not associated with a function of assessment. The less it is involved with tasks of assessment the more freely it is practiced:

> What analysis could demonstrate in analytical terms in which way a certain music is "better" than the most mediocre of musics, and in which way its "structure" is better (before we expose the problems related to setting the criteria for "good structures")? There is one thing that we know for sure: there are a number of set criteria which can be defined now and with which it is possible to create music which would be judged as "good" in a sort of collective-subjective assessment, and another that would be seen as

"very bad" in the same way. As a result—and against the opinion of many people—analysis cannot provide information that can be useful for making *judgments on the value* of music. The reason is simple: our relation to music is based on a *musical experience*, an experience that is lived concretely and the structures of which have sometimes nothing to do with the *musical structures* that can be drawn from analyzing scores.[71]

CONCLUSION

Toward a Musical History of Jazz

On August 23, 1957, John Coltrane—playing the tenor saxophone—recorded five pieces with Red Garland (p), Paul Chambers (b), and Art Taylor (dm) as a quartet under his name at Rudy Van Gelder's studio in Hackensack, New Jersey, for the Prestige label with producer Bob Weinstock: the pieces "You Leave Me Breathless" (Hollander-Freed), "Bass Blues" (Coltrane), "Soft Lights and Sweet Music" (Irving Berlin), "Traneing In" (Coltrane), and "Slow Dance" (Alonzo Levister) were released on the album *Traneing In*.

This happened right in the middle of the Cold War, a year after the uprising in Budapest and the Suez Canal crisis. Decolonization was also in process. The independence of Ghana was declared on March 6, 1957, soon followed by Malaysia (August 3) and Habib Bourguiba becoming president of Tunisia on July 25. The Treaty of Rome, creating the European Economic Community (EEC) and Euratom, was signed on March 25. Dwight Eisenhower was president of the United States. Senator Joseph McCarthy, who led the infamous communist witch hunts between 1950 and 1954, died on May 2, 1957. On July 2, the Democratic senator John F. Kennedy pleaded for the government of the United States to intervene in favor of Algerian independence. On July 30, a voting rights bill was passed by the Senate in order to grant black voters federal protection. It was enacted by Congress on September 9. On September 23, a thousand federal troops were sent by the government to Little Rock, Arkansas, to enforce the integration of black pupils in a previously white-only school; the Arkansas governor, Orval Faubus, was opposed to the policy of integration (Charles Mingus recorded "Fables of Faubus" in 1959 to denounce Faubus's reaction). On July 6, the tennis player Althea Gibson became the first African American to win the Wimbledon tournament (a year after being the first black woman to win a Grand Slam final in Paris). She was also the first African American woman elected Female Athlete of the Year by the Associated Press. Her autobiography, *I Always Wanted to Be Somebody*, was published the following year. On February 3, Leo Castelli's gallery dedicated to Pop Art opened in New York. *On the Road* by Jack Kerouac was published and Orson Welles completed the filming of *Touch of Evil*. The opening night of

Leonard Bernstein's *West Side Story* on Broadway took place on September 26. The Department of State organized Benny Goodman's tour to Cambodia and Wilbur de Paris's tour to Africa.

Edgar Varèse's *Déserts*, Benjamin Britten's *The Turn of the Screw*, and Pierre Boulez's *Le Marteau sans maître* were either composed or first performed in 1954, followed by Stravinsky's *Canonic Variations*, Luigi Dallapiccola's *Concerto per la notte di natale*, *Zeitmasse* (Karlheinz Stockhausen), *Pithoprakta* (Iannis Xenakis), *Il Canto sospeso* (Luigi Nono), and *Radio Music* (John Cage) in 1956, and *Musica su due dimensioni* (Bruno Maderna), *Mobile* (Henri Pousseur), and *Two Poems for Jazz Quartet* (Boris Blacher) in 1957. Dmitri Shostakovitch wrote his *Symphony no. 11* in 1956–57 and Olivier Messiaen composed *Le Catalogue d'Oiseaux* between 1956 and 1958.

Atomic Basie (Count Basie), *Miles Ahead* (Miles Davis with Gil Evans), *Such Sweet Thunder* (Duke Ellington), *Gil Evans & Ten* (Gil Evans), *Ella Fitzgerald Sings the Duke Ellington Songbook* (Ella Fitzgerald and Duke Ellington), *Groovy* (Red Garland), *Songs for Distingué Lovers* (Billie Holiday), *Tijuana Moods* (Charles Mingus), *That's Him* (Abbey Lincoln), *Thelonious Himself* (Thelonious Monk), *Jazz in 3/4 Time* (Max Roach), *Way Out West* (Sonny Rollins), and *The Alphabet* (André Hodeir) were all recorded or released in 1957.

During the same years, a new club (the Half Note) opened in New York; Morris Levy created the Roulette label; and Nat Shapiro and Nat Hentoff published *The Jazz Makers*. For one of the first times in the history of jazz, Miles Davis, Gil Evans, and their Producer George Avakian decided to use the overdubbing technique for the making of the album *Miles Ahead*. Rudy Van Gelder's studio and sound engineering skills were still very much in demand among New York producers. Among them, Bob Weinstock (Prestige) was in competition with Alfred Lion (Blue Note), Orrin Keepnews (Riverside), and George Avakian (Columbia), in particular.

John Coltrane was an African American, Christian, and heterosexual (as far as we know or need to care) citizen of the United States. He was born in Philadelphia, in the Northeast of the United States, in a middle-class black family. He hardly knew his father and experienced the loss of several relatives in childhood and in his teenage years. He was mostly brought up by women. He married Naima (Juanita Austin) on October 3, 1955. In spring 1956, he settled in New York with his wife and her daughter, Antonia. He was a workaholic with an obsessive personality and addiction problems (especially to heroin).

During April 1957, he was in Miles Davis's Quintet at the Café Bohemia, but his relationship with the trumpeter deteriorated due to his addiction problems. Coltrane was thriving as a sideman (the year before he recorded with Paul Chambers, Thelonious Monk, Paul Quinichette, Art Blakey, Miles Davis, Johnny Griffin, Mal Waldron, and Red Garland) but he recorded for the first time under

his own name on May 31. We also know that he listened to Bartók's *Concerto for Orchestra*, especially because of his interest in the progressions of fourths that he wanted to use and develop in his own playing and composing. During this recording session he was probably playing on a saxophone made by Selmer, possibly the Balanced Action model with a metal mouthpiece by Otto Link and a #4 reed. He had reached a certain point in his personal musical development, both as a performer and a composer. His views on harmony and rhythm had developed by that stage and he was becoming increasingly famous.[1]

All the above facts are seen as events in some histories and non-events in others. Some of these facts had direct impact on the recording made on August 23, 1957, and others did not. It is difficult, if not impossible, to know which contemporary recordings John Coltrane knew, what he was listening to at the time, which of them particularly interested him, what interest he had in his environment, whether there were events that could have particularly affected him or his music, and what physical, emotional, and psychological state he was in at the time. Potentially, all these factors may have played a role to varying degrees; some could have been crucial and others insignificant. Some of these factors definitely shut certain musical paths but others opened new ones and created a gamut of musical possibilities. At that very moment, John Coltrane stood at a point in the history of the world, his life, his own musical history, and that of his surrounding environment, at the crossroads of many different narratives or histories. The music he produced that day was eventually, necessarily, the result of this bundle of facts. It was music that must have been compatible with all these intertwined factors. There was also John Coltrane as a unique and free individual (also made of contradictions and irrational views or behaviors) with total control over his music. He may have played against some these determining factors; in fact, he must have. He must have played outside of the influence of some these factors at some point, or against them, otherwise he would merely have been a musician of his time. However, he both combined these influences and transcended them.

> During World War I, newspapers and journals sometimes looked away from the terrible worries of the present to try and think of what would happen in the future, once peace would have returned. They were particularly interested in the future of literature. One day I was asked what I thought that it would be like. I was a bit surprised and declared that I had not given it a thought. "Do you not foresee at least some potential directions? It may not be possible to predict the details but, as a philosopher, you must have some idea of the general picture. For example, what picture do you have in your mind of the next big dramatic work?" I cannot forget the surprise of the person whom I was speaking to on hearing my answer. I said: "If I

> knew what the next big dramatic work would be like, I would write it." I realized that he thought of the future work as some sort of object locked up in a chest full of possibilities and that I, having already been practising philosophy for a long time, ought to have obtained the key to the chest. "But, I said, the work that you are talking about is not possible yet."—"But it must be, because it will happen."—"No, it is not. The most that I can admit is that it will have been possible."—"What do you mean?"—"It is quite simple. A man of genius or of talent may appear suddenly and create a work: as a result that work becomes real and retroactively or in retrospect, possible. It would not be so, it would not have been so, if that man had not suddenly appeared. That is the reason why I am telling you that this work will have been possible today but is not so yet."—"Aren't you pushing it a bit? Are you telling me that the future impacts the present, that the present brings something in the past, and that action goes back in time to print its mark on what happened in the past?"—"It all depends. I have never claimed that the real could be inserted in the past and that it is possible to work things out backwards. But it is not doubtful that there is room for the possible in the past. As reality unfolds, always unpredictable and new, its image is reflected behind it in the indefinite past; this is how reality turns out to have always been possible; but it is only at this precise moment when the reflection takes place that reality turns out to have always been possible. This is why I said that the possibility of what is real does not precede its reality. It will have preceded it once reality has appeared. As a result, what is possible is a mirage of the present in the past. As we know that the future will eventually be present, and that the mirage effect is constantly happening, we can tell ourselves that tomorrow's image is already there in the actual present—which will be tomorrow's past—though we cannot grasp it yet. This is how the illusion happens."[2]

A work is an event involved in an irreducible dual advent dimension. First, no analysis will ever exhaust a work, i.e., an analysis will never manage to break a work down to the smallest of its molecules. Analysts must be reconciled with the idea that they unveil mechanisms, put their material in perspective, and connect their object to various time lines, but none of these actions are enough to manage to embrace the whole object, ever. There will always be some residue that even the most comprehensive analysis cannot access. Second, the historicity of a work cannot be reduced to its conditions of appearance and possibility. As Bergson put it, a work becomes possible from the moment of its creation only. Nothing that happens was set in stone beforehand; no work had to be produced.

There tend to be two contrasting views on works in the musical field: that of analysts and that of culturalists. It seems to me that culturalists have tended

to attempt to seize control of the field in the recent past, as this view of John Shepherd shows (but many authors—especially from the anglophone world—would agree):

> But to claim, as Willies does, that "musicology is the discipline which has the formal resources for this task [analysis]" is to make an unfounded assumption. While it is true that historical musicology has developed a formidable range of analytic techniques and terms for coming to grips with the internal parameters of "music," such techniques and terms have a very limited application. It is not possible, for example, to agree with Wilfrid Mellers that there are such things as objective "musical facts," necessarily susceptible to explanation through a terminology "which has been evolved by professional musicians over some centuries."[3]

Musical analysis is not the key that explains and encompasses every aspect of a work or music, as we have shown in this book. However, this does not mean that musical facts do not exist; they do, and they cannot be reduced to anything else. Analysis is the process through which they are identified, described, and their relation to each other revealed. There is no reason to deny the existence of musical facts on the grounds that analysis cannot fully account for them.

We have already mentioned how, according to some people, musical facts have no autonomy. This viewpoint may go as far as denying the existence of a musical level itself and, consequently, denying the *raison d'être* of analytical processes. This position logically leads to reducing creators of works to the status of agents enacting what the context forces them to produce. As a consequence, the belief that musical geniuses exist can be scoffed at as a manifestation of naive romanticism. Whether the authors of works that have left an imprint on their time are seen as geniuses or not, there is no denying that there was someone (usually someone of caliber) behind their production, otherwise they would not have occurred. Besides, it is equally naive to consider that giving credit to creators for the production of unique works should necessarily involve ignoring that works occur in contexts that are unique, too.

Considering works as events with an irreducible dimension has consequences. One must admit that nothing will be entirely "explained." It is possible to look for causes and to find them but they will only explain parts of a situation. There will always be a residue that cannot be explained in a work. Also, causes themselves are intertwined and linked to more than one time line, to several histories. It is difficult to untangle them and track their history but not impossible, and there are grounds for justifying the attempt to do so. Causes are like braided threads. No thread represents the braid alone; each thread is special in its own way. One can wish to describe in what way it is special and to track down its history. One may

also[4] be interested in one thread more than the others, as one may be interested in a historical narrative (see Paul Veyne[5]) more than in another. As Paul Veyne has put it, no narrative is unacceptable in itself, but one must be aware of the one chosen and take responsibility for the consequences it involves. This is where we see that analysis is, probably irredeemably, linked to history. Analyzing involves finding the place of the elements described on a time line; often, it even involves creating these time lines.

It has often been said that jazz is more about *how* music is played than *what* is played. I feel uncomfortable with this idea and how it is taken for granted. Of course, the way that things are played in jazz seems more important than what is played, at first sight. This has been repeated since Roger Pryor Dodge, Robert Goffin, and Hughes Panassié. However, it may only be an illusion. A closer look shows that it is difficult to define these "ways of playing" in terms that do not actually involve content, i.e., what is played. Let us take the first example that comes to mind: swing. It is easy to conceive that one can play with or without swing and that the choice of piece being played does not really matter in this respect. However, does the answer to this question solve the problem of swing? Is it possible to go further and achieve a definition of swing without looking at the actual components of swing at some point?

Also, providing that we eventually penetrate the mysteries of playing jazz, how can we be sure that this will be enough to define jazz itself, that jazz is no more than the ways in which it is practiced? If this were true, one would expect not to find these practices outside of jazz. Let us go back to the defining criteria discussed in chapter 1, which involve ways of playing, i.e., improvisation, swing, and possibly sound (understood as a way to produce sound) and harmony, too (a certain way of playing harmonies). On the one hand, it has been made clear that it is very difficult to reduce jazz to these criteria and, on the other hand, that all these elements (separately or not) can be found here and there in other musics. Consequently, it seems that there are better chances to grasp the nature of jazz with a dual approach combining ways of playing with contents such as certain types of chord progressions, certain rhythms, forms, etc. This implies that one knows for certain how to differentiate between ways of playing and contents: is ii-V-I a way of playing chords or a harmonic content? Surely, the more features that are identified (features that seem either characteristic or at least frequent enough), the better the chances are to eventually draw a fair picture of our object. How could ignoring features on the basis of a hazardous divide between ways of playing and content be of any help?

All the above points lead me to hope for the development of a musical history of jazz that is, for the most part, still to be written. A dual analytical (in a broad sense) and historical approach seems to me the most promising track to follow in the study of jazz nowadays. I am talking of a history of the language of jazz

or idiomatic histories. Musical contents vary enormously depending on the narratives in which a particular musician occurs at a specific time and place. There is no reason to expect any musical content in some of these histories (political or social histories, for example), but things can be more blurred in cultural or art histories, the history of recording techniques, or media history. Among the musical histories some relate to jazz more than others, and it is thus justified that jazz musicologists focus on these first for the development of a musical history of jazz. On these grounds, it would seem fair to start with the history of codes of play, i.e., a history of the typical—if not specific—procedures (ways of playing or contents?) in jazz. I am convinced that this particular history—envisaged on a very large scale—can provide a picture of the evolution of jazz over time. From this angle, the evolution of jazz displays a general movement of relaxation and simultaneously of multiplication of the codes in use. In the early days of jazz, codes of play were few and very restrictive. There were not many different orchestral formats and the scope for variation was limited. Instrumental functions were also very limited: each instrument had its place, role, and function in the orchestra from which one could not depart. Gradually, musicians started to take liberties; their imagination created new codes and new ways of playing together. Nowadays, when entering a jazz club, it is impossible to guess the format of the band that will be playing unless one has read a description on the poster on the entrance door. It could be a solo guitarist, a trio or quartet without drums or bass, a string ensemble, or a medium-sized group with a rhythm section as big as the wind section. It is also impossible to guess which role each instrument will play and whether or not roles will be swapped between instruments in the course of the performance. There may also be a wide range of codes of play that each musician may wish to use. It is equally impossible to guess whether the music will be totally, partly, or not at all improvised. In a nutshell, it is impossible to predict who will play what, when and, to some extent, how. This is one of the reasons why being a professional jazz musician today requires great technical ability, beyond matters of virtuosity.

Writing the history of codes of play could involve tracing back the genealogy of a number of them: the break—from its appearance to its fall into disuse—or the solo, for example. It would show how the succession of codes along the history of jazz allows the identification and definition of stylistic changes. Where and when was the ching-a-ding born? Who plays it?[6] The same goes for the walking bass or trading fours, etc. Generally, a history of each instrument in jazz should be written: the piano, saxophone, trumpet, and drums,[7] of course, but also the clarinet, tuba, banjo,[8] and, above all, a history of the rhythm section.[9] The latter alone would reveal a crucial arc for the history of jazz. A history of orchestral and ensemble formats would also be useful: a history of the New Orleans orchestra type in particular, the codes organizing the roles and functions within

it, the variants of the format, its evolution and almost disappearance; histories of the piano solo, of the piano-bass-guitar trio, the piano-bass-drums trio, the quartet, quintet, and big band, of course. A history of arrangement (which would be something different) would also be welcome, as well as histories of vocal jazz (which would reveal original time lines and connections), of improvisation, of the jazz repertoire, of harmony, rhythm, melody, sound,[10] and a history of recording techniques as they have been used in jazz. This approach would also have the advantage of taking into account the different time lines involved in the evolution of the language.

> There is a profound theoretical lesson to learn from the evolution of the tonal language and its transition to atonality: parameters have a tendency towards autonomy; *as a result, each of them evolves at its own pace*. In Schoenberg's music, this explains the role of thematic cells *on which series are based* and which are inherited from Beethoven and Brahms, though the tonal hierarchy of pitches has disappeared. The same can be observed with the use of classical forms by Berg, etc. From a diachronic point of view, the semiology of parameters has a lot to gain from integrating Fernand Braudel's concept of history as it differentiates between historical layers, each of which evolves at its own speed. The history of the musical language is not composed of lumps of parameters that evolve in symbiosis within tightly delimited periods. It is the result of a complex interaction between distinct parameters that evolve according to their own laws. It is not surprising, thus, that a favorite of Braudel's concepts—that of "*longue durée*"—applies here and that a composer in 1980 may find his or her inspiration in principles that he/she finds in the tonal music of 1722.[11]

The need for such histories of the language does not mean that one should stop writing the musical histories of groups: a history of jazz by white people,[12] by women,[13] homosexuals, Amerindians, French people,[14] or any other conceivable group. There are also the musical histories of places to develop: a history of jazz in New Orleans, Chicago, Kansas City, San Francisco, Paris, Berlin, Rome, Moscow, Tokyo, Beijing, Kuala Lumpur, Abidjan, Johannesburg . . . These multiple histories can certainly enrich and inform (but not replace) the purely musical investigations that, paradoxically perhaps, seem to me to have been rather overlooked until now. The map of jazz is far from complete and this research is needed to help draw a more comprehensive picture. I do not solely have in mind the music theory led by North American academics, but also a history that is more precisely musical. The focus until now has mainly been on the history of styles and this involves looking at all musicological parameters at the same time (or sometimes not at all) in a necessarily superficial manner. This makes a

truly historicized approach of each of them separately, taking into account their specific time lines and evolution, impossible.

However much there is still left to do, a lot of work has been achieved in the field already. This is the time and place to warmly pay respect to these authors who have led the way: Edward Krehbiel, Abbe Niles, Roger Pryor Dodge, Hugues Panassié, Winthrop Sargeant, John Mehegan, André Hodeir, Gunther Schuller, Alfons S. Dauer, Thomas Owens, Franck Tirro, Milton Stewart, Jeff Pressing, Lawrence Gushee, Henry Martin, Barry Kernfeld, Steve Larson, Steven Block, Keith Waters, Philippe Baudoin, Georges Paczinski, Bill Dobbins, Scott DeVeaux, Vincenzo Caporaletti, and so many more.[15] We know all too well that the field gets bigger as we explore it. Well-thought-out jazz analysis can contribute to this large-scale oeuvre which, in return, should stimulate the history of jazz styles. This may only happen if the idea of destiny or necessity is left behind: it is only relevant to describe musical processes as realizations that have become possible among other options and not as necessary, predictable, and unavoidable scenarios.

It has become clear that we are in favor of a phenomenology rather than an ontology of jazz as a way to approach its identity, even if it may appear as a detour. The word "jazz" has often been rejected, sometimes by its most famous representatives. Since the 1970s the dismissal of the term has spread while the music has been increasingly considered part of "improvised musics." This label admits being related to jazz but claims independence from it. This situation was caused by the huge disruption that happened in the 1960s, in particular with the split between two important paradigms respectively initiated by free jazz and modal jazz. The acknowledgment and understanding of this split may be another task for jazz musicology in the future; it could refresh the debate on the identity of jazz. Nowadays it is too often reduced to a mere "in or out" divide: something either belongs to jazz or does not. Generally, the end of the common practice and its consequences—which, like others, I have momentarily called "postmodern jazz" (starting around 1975) until a better term is found—do not seem to me to have been acknowledged and reflected upon enough. It is striking to see that studies are still massively focused on Charlie Parker, John Coltrane, Ornette Coleman, Cecil Taylor, or Bill Evans. How much do we know about the music played by John McLaughlin, John Scofield, John Zorn, Bill Frisell, Wynton Marsalis, Steve Coleman, Uri Caine, Marc Ducret, Brad Mehldau, or Bojan Zulfikarpašić? In this respect, I would not say that jazz musicology is running late, because so much has been done already, but it certainly is in a comparable situation to the librarian who, having just finished filing the books that arrived the day before, sees the pile of today's arrivals sitting on his or her table.

NOTES

Preface

1. In this book "subject" and "object" are used according to the usual distinction made between an observer (subject) and the thing (to be) observed (object).

2. The expression *art music* refers to the European composed musical tradition.

3. Molino 1975. Molino's concept of tripartition suggests three levels at which to consider an object: the poietic level, the neutral (or immanent) level, and the esthesic level. The poietic level considers a work from the viewpoint of its production. The neutral level deals with the mere material content of the work. The esthesic level involves how the work is received.

Chapter 1: Jazz

1. Defined in chapter 3.

2. Referred to as simply "common practice" in this book.

3. The features described may still be found operating together, which means that the common practice itself continues and the expression "straight ahead jazz" seem to reflect that.

4. In *Hommes et problèmes du jazz* (Hodeir 1954).

5. For a long time 1895 was considered the date when this orchestra started, based mainly on the claims of trumpeter Bunk Johnson, but the work of Robert Goffin and Donald Marquis in particular has led to the date being changed to 1900. This debate has been summed up in a recent book by Bo Lindström and Daniel Vernhettes (Lindström and Vernhettes 2012).

6. Hardie 2004, 2007.

7. Borrowing from Paul Veyne the concept of scheme (*intrigue*) that he applied to history (Veyne 1971).

8. Interview with Florence Zunster, *New York Evening Graphic Magazine*, December 27, 1930.

Chapter 2: The Work of Jazz

1. Nelson Goodman sees artistic practices in which the work is made of a unique object as autographic (a picture in the realm of painting, for example) as opposed to allographic practices, which produce multiple objects (books, in the case of literature) (Goodman 1968; also Genette 1994).

2. On the album *The Melody, at Night, With You*, ECM, 1999.

3. Ingarden 1986.

4. Charles Seeger (1958) distinguishes between a prescriptive score (that is used to play) and a descriptive score that consists of a transcription of music already played.

5. No to be confused with a graphic transcription, which is a score made on the basis of a recording.

6. *Panthalassa: The Music of Miles Davis 1969–1974,* Columbia, 1997.

7. *The Complete Live at the Plugged Nickel 1965*, Sony, 1995.

8. Statement made in a personal conversation with him, May 1996.

9. This reminds us of the similar case of George Martin, known as the "fifth Beatle."

10. Derek 1992.

11. Jost 1975.

12. Panassié 1946, 110–11.

13. Bailey 1992, 103.

14. The atmosphere of a concert may still be at least partially tangible in many recordings made in public, for example the excitement rising among the musicians and the audience, nearly reaching a state of trance, in the recording of "Diminuendo and Crescendo in Blue" by Duke Ellington's orchestra at the Newport Festival in 1956.

15. Gerber 1985, 21.

16. Williams 1993, 262, note 2.

17. Williams 1993, 262, note 2.

18. Williams 2001, 196.

19. Michel 2008, 129–30.

20. Michel 2008, 132. Italics are Michel's.

21. Gerber 1985, 20–22.

22. Gerber 1985, 20–22.

23. Williams 2001, 198.

24. Blesh 1946, 11.

25. Sudhalter 1999, xvi.

26. Shipton 2001, 127.

27. Basie is referring to the "old" and "new" orchestras, as in the ones he conducted before and after 1950 when he performed with small ensembles.

28. The 78rpm format.

29. LPs.

30. Basie and Murray 2002, 350–51.

31. Sudhalter 1999, x.

32. Schuller 1968, 70, note 15.

33. Shipton 2001, 120.

34. Panassié 1946, 173.

35. Panassié 1946, 176–77. In the same book Panassié gives a detailed account of recording processes with the means available at the time (190–92).

36. Williams 2001, 185.

37. Williams 2001, 185–86.

38. Williams 2001, 188.

39. Williams 2001, 190.

40. Williams 2001, 193.

41. Dodge 1929, 7.

42. Panassié 1934, 49–50.

43. Blesh 1946, ix.

44. Shipton 2001, 120.

45. Sudhalter 1999, x.

46. Schuller 1968, 242.

47. Carby 1986, 14.

48. Hobson 1939, 216–17.

49. http://lordisco.com, accessed November 2018.

50. The case exists with the American pianist Uri Caine (*Urlicht, Primal Light*, Winter & Winter, 1997).

Chapter 3: Basic Notions

1. This expression is based on the chord changes of the George and Ira Gershwin's song "I Got Rhythm."

2. Brăiloiu 1949, 319–20, quoted by Arom 1985, 226.

3. Lortat-Jacob 1987, 46.

4. Lortat-Jacob 1987, 49–50.

5. However, it is striking to note that the dense model seems to be at work in some compositions in spite of everything. Indeed, in some cases (like "Crepuscule with Nellie" by Thelonious Monk) musicians balk at improvising while they enjoy playing the composition.

6. Basie and Murray 2002, 170.

7. George Lewis does not say so explicitly, but this kind of idea is suggested in the difference that he makes between Eurological and Afrological processes (Lewis 1996). It is also a main issue of Vincenzo Caporaletti's audiotactile theory (see chapter 13).

8. Patrick 1975, 3.

9. Soundpainting created by Walter Thompson, for example.

10. Merlin 1996.

11. Sadaï 1986, 299–300.

12. Pressing 1998, 52.

13. Pressing 1998, 53.

14. In other words, standard configurations (*topoi*) exist in the use of keys as well as instruments.

15. Owens 1974, I, 36.

16. Kubik 1999, particularly 120, 143. See chapter 15.

17. Pressing 1998, 54.

Chapter 4: Structuring a Work of Jazz

1. The introduction and coda of "'Round Midnight," for example.

2. Charlie Parker Septet. Charlie Parker (as); Miles Davis (tpt); Eli "Lucky" Thompson (ts); Arvin Garrison (g); Michael "Dodo" Marmarosa (p); Vic McMillan (b); Roy Porter (d). Radio Recorders Studio, Hollywood, CA, Dial, March 28, 1946. This is the version that involves Charlie Parker's famous solo break on alto saxophone.

Part II: Analytical Parameters

1. Everett 2004, 111.

2. See chapters 11, 14.

Chapter 5: Harmony 1—General Points

1. We are only looking at these questions in the context of jazz.

2. One could possibly talk of a "relationship" between the notes forming such a set.

3. All the descriptions of these sets are to be read from bottom to top.

4. Even if it is not our subject matter here, the reader should bear in mind that these evolutions are never linear nor regular.

5. Sargeant 1959, 202.

6. See section 2.3, 87–89.

7. This depends on the type of text one is dealing with: lead sheet, improvised solo, written arrangement, etc.

8. A test case could be made that would consist of making a jazz musician listen to Richard Wagner's "Tristan's chord" without disclosing any information about it. It is very likely that it would be identified as an altered G seventh chord or an enriched $D^{\flat}$ (or $C^{\sharp}$) seventh without the root. None of these options appear in the compilation of interpretations of that chord made by Jean-Jacques Nattiez (Nattiez 1987, 256–58).

9. As the major ninth (D in C) is considered the norm (that is to say, the equivalent of a perfect interval), downward alteration consists of minorization ($D^{\flat}$) while augmentation alters it upward ($D^{\sharp}$).

10. It can be seen as an inversion of the second degree of the scale. In the set of notes given above for illustration, C7sus4 is an inversion of Gm7 on its eleventh (C). This C is, in fact, the root of the dominant (C7) anticipated at the second degree Gm7. D, the fifth of Gm7 is missing in C7sus4 but, as mentioned before, a chord does not need to be complete as long the third and seventh are present.

11. These conventions are neither spelled out nor fixed in writing anywhere. Only usage can be used for reference. This is how the "most common practice" becomes the norm.

12. Siron 1992, 267.

13. The reader is reminded that shortened notations are always used here Δ=Maj7, Ø=m7($^{\flat}$5), and mΔ=m(Maj7), whereas the authors mentioned do not necessarily do so themselves.

14. Mehegan 1978, 20.

15. The reader is reminded once more that this discussion is strictly limited to jazz.

16. Doc Cheatham, in Berliner 1994, 161.

17. It becomes obvious when hearing Charlie Parker that other things are at play as well, and Henry Martin shows it brilliantly (Martin 1996a, 2012).

Chapter 6: Harmony 2—Harmonic Situations: Tonality

1. The alternative term "free" is also problematic because of its connotations.

2. This excludes the case of the same chord on a different octave.

3. See chapter 13, section 1.6.2, 284–86.

4. Mehegan 1978.

5. Which may possibly have been used before Mehegan.

6. See chapter 5, 87–89.

7. See chapter 5, 92–94.

8. As the original system by Mehegan does not retain lowercase symbols for chords with minor thirds (nor does Berklee's), the original notation using capital letters only is maintained here.

9. Of course it is possible to figure these chords as Am7 and Dm7 while analysis may later establish their functions as I and IV in C major rather than vi and vii. Basically, the figuring of intervals (as practiced in art music) is not appropriate when applied to a type of music where this case (I=C6, IV=F6) does not actually occur.

10. As a consequence—or related phenomenon—voice leading works differently in art music and jazz. In a debate with Dmitri Tymoczko taking place on the smt-jz discussion list (Society for Music Theory—Jazz), Nicole Biamonte has expressed the following point of view: "Regarding the differences between augmented sixths and tritone subs: . . . I agree with you that they represent the same basic mechanism. My point was that these chord types, in their native environments of classical and jazz respectively, have typical voice-leading behaviors and typical harmonic contexts that are slightly different, which allows us to distinguish between them outside of their native environments (i.e., augmented sixths in jazz and tritone subs in classical). My perspective on why the normative voice-leadings are different is not quite the same as yours; I think it is because the basic harmonic unit in 'common-practice' art music is the triad, while the basic harmonic unit in jazz includes at least one extension, so octave doublings are much rarer. This extended basic sonority is what allows leading tones in jazz not to resolve" (smt-jz list, March 18, 2009).

11. This does not mean that chords must be played like that, of course.

12. Adding a ninth alone (without any sixth or seventh) is also a very popular ornament.

13. The issue with V is different; here it is easier to agree that it must be conceived as a four-sound chord.

14. See, for example, Burbat 1988.

15. Tymoczko 2003, 59.

16. Tymoczko 2003, 61.

17. This is based on Franck Robin's course on harmony as it was summed up and passed on to me by Antoine Zucarelli.

18. In reference to a famous distinction made by Gilles Deleuze, we are looking for rhizomes rather than roots.

19. See section 3.1, 133–34.

20. Tymoczko 2003, 36.

21. Even if this thought process takes place at an unconscious level for jazz musicians.

22. Berliner 1994, 80–81.

23. The degrees do refer to the same chords in blues (see chapter 7, section 1.3, 140–43), but this does not affect the argument.

24. Rudolph Réti in Nattiez 1987, 347.

25. Berliner 1994, 537.

26. When this substitution happens, it refers to the form and harmony of blues. This example reinforces the idea of a close link between the plagal cadence and blues and supports the status of the plagal cadence as a model just like the perfect cadence.

27. Goldman 1965, 92–100.

28. Nattiez 1987, 350.

29. Sometimes called "quarter cadence."

30. A book entirely dedicated to substitutions ranks it as first on the ground that it is "one of the most frequently called upon substitutions in the professional musician's bag of tricks" (LaVerne 1991, 6).

31. In an article focusing on tritonic substitutes and augmented sixths, Nicole Biamonte notes: "Augmented-sixth chords and tritone substitutes have long been recognized as enharmonic equivalents. . . . Their relationship is generally described as two different perspectives on the same syntactic structure: in classical terminology, an augmented-sixth chord; in jazz, a tritone substitute. An obvious distinction in their typical contexts is that augmented sixths are a compositional

characteristic of art music from the 18th and 19th centuries, while tritone substitution has been a performance practice in improvised jazz since the bebop era (mid-1940s) or slightly earlier. . . . Augmented-sixth chords and tritone substitutes share a number of structural features, including pitch-class content, nonessential fifths, underdetermined roots, structural position, and two possible harmonic functions, as pre-dominant or dominant. A significant distinction between these two chord classes can be made, however, on the basis of their behaviors: they differ in their voice-leading conventions of contrary vs. parallel, normative harmonic function as dominant preparation vs. dominant substitute, and enharmonic reinterpretation as modulatory pivot vs. dual-root dominant approaching a common resolution. While the correlation between these two chord classes has been described as a point of intersection between jazz and classical theoretical orientations, the differences described above allow us to identify augmented-sixth chords in jazz as well as classical repertoires, and tritone substitutes in classical as well as jazz" (Biamonte 2008, 1–21).

32. We prefer to call the process described here "virtual modulation"—rather than "passing modulation" or "borrowing," the more traditional terms that would be expected in this case—because everyone agrees that there is no modulation in this instance, not even for a short period of time.

33. Falk 1969, 119.

34. "Christopher Columbus" (Berry/Razaf).

35. See Baudoin 1990, 67.

36. Equally, a systematic use of transformational rules enables the production of any chord progression. In my opinion, this is the flaw in Bill Dobbins's presentation: he lists twenty-six possible variations of ii-V-I on page 47 of his book. In this list no discrimination is made between very common variations and a large number of very rare ones, some of which make no sense, harmonically speaking.

37. Sadaï 1986, 300.

38. Potter 1989. See also Strunk 1979.

39. See page 126 to be reminded of how a coda form is formed.

40. See chapter 6, section 3.1, 133–34.

41. Potter 1989, 46.

42. Mehegan 1978, 161–62.

43. Mehegan 1978, 171–74.

44. This is at the infrastructure level, so leaving possible enrichments and alterations aside.

Chapter 7: Harmony 3—Harmonic Situations: Blues, Modality, Non-functionality

1. Basie and Murray 2002, 8.

2. Kubik 1999, 128.

3. Kubik 1999, 126.

4. Seagrove 1915.

5. Kubik 1999, 124.

6. All examples to follow will be given in key of C.

7. Gunther Schuller (1968, 51–53) observes many occurrences of it since the 1920s; but Winthrop Sargeant, for example, is more skeptical (Sargeant 1959, 169–70). Gerhard Kubik takes these differing views into account and discusses the nature of that degree in a rather complex way (Kubik 1999, 146–49).

8. It is also sometimes presented as a heptatonic scale, adding a second and sixth degrees (D and A respectively).

9. It would seem that originally a single phrase was repeated three times. For Abbe Niles (in Handy 1926, 2), "the thought would not necessarily be expressed in a single line, twice repeated without variation. There might be and usually was one repetition, but instead, the second line might slightly modify, by way of emphasis, the first, while the third would introduce something new: lines one and two having expressed, say, some grief, wistful reflection, or some unhopeful 'if,' line three would now supply a reason for the grief, some collateral conclusion, or the course which would be taken should the 'if' come true; the third thus became the important line, releasing the the tension accumulated during the repetition of the first."

10. Baudoin 1990, 102.

11. According to Wynton Marsalis, "the blues addresses the central chords of Western harmony, the I, the IV, and the V chords. Its central progression is the I, IV, I, or 'amen' cadence in Western religious music" (in Crouch 1991). Yet, from a different viewpoint blues stands in opposition to religious music. Moreover, black churches used to dislike this secular music that often sang about attitudes of which Christian morals disapproved.

12. This does not mean that developments such as these did not occur, perhaps more occasionally, in blues itself or other popular musics in the United States.

13. A lot of variants exist in bar 2. We have chosen to present the seventh chord on IV but the perfect chord on the same degree may be found too, as well as the tonal substitutes Dm7-G7 (i.e., ii-V).

14. This can make us wonder about the potential dominant function of this chord (see 148–50).

15. This part of the book owes much to the inventory made by Philippe Baudoin in *Jazz mode d'emploi,* Vol. 1 (Baudoin 1990).

16. This is true only in principle, as there are many exceptions, in particular with Lester Young or Count Basie, who are jazz musicians rather than bluesmen in the strict sense of the word.

17. Malson-Bellest 1987.

18. A first version with no piano solo and a different personnel was recorded as early as April 1, 1959.

19. "Milestones," recorded by Miles Davis in 1958, is usually quoted as the first modal composition in jazz but it seems fairer to go back to "Flèche d'or" by Django Reinhardt, recorded six years earlier on January 30, 1952. Strangely, it follows the same very unusual AABBA structure as "Milestones" and also displays only one harmony per section, Bm for A and E7 for B (see Cugny 2006). Some compositions by Duke Ellington could be mentioned, too (the first six bars of "Caravan," for example) and, above all, "Jungle Blues," recorded by its composer Jelly Roll Morton on June 4, 1927, the title of which may refer to the pedal point mentioned by Gerhard Kubik about the origins of blues (Kubik 1999, 128).

20. Though it is possible to see E♭m7 as a transformation of the tritone substitute of the dominant A7 in D minor.

21. The same harmony is used as the start of "Flamenco Sketches" on *Kind of Blue*.

22. Quoted from the front cover of the album.

23. Some authors like John Gennari (1991, 449–50) mention microtones as part of the jazz vocabulary, but it seems excessive to me.

24. I do not think either that John Coltrane's sheets of sound or Ayler's screams challenge the chromatic scale. In any case, no alternative viable scalar system has been produced.

25. Probably also because George Russell theorized about it in *Lydian Chromatic Concept of Tonal Organization* (Russell 2001).

26. It seems more appropriate to me to talk of the "seventh with augmented eleventh" than of the "diminished fifth," which is of common use.

27. See, for example, "Hotel Vamp" (Steve Swallow) and its transcription as it appears in the *Real Book*.

28. Waters 2000, 53.

29. Kernfeld 1995, 146–47.

30. In the jargon of jazz musicians, "vamp" is a phase when they momentarily stay on a very limited number of chords (from one to three or four). It is common to use it as an introduction or coda.

31. Waters 2000, 55.

32. Waters 2000, 55.

33. I believe that this is the case in the analysis of Miles Davis's *Lift to the Scaffold* by Andrea Pejrolo (2006), for example.

34. A rarer case exists with musicians who choose to improvise the harmony while forcing themselves to follow tonal codes. For example, the French saxophonist Philippe Maté does it.

35. "Main Title," which opens the music to the movie *Anatomy of a Murder*, has an atonal starting point and finishes tonally, for example.

36. Herbie Hancock's "Dolphin Dance" gives a convincing example of the mixing of harmonic situations.

Chapter 8: Rhythm

1. Hodeir 1995, 36.

2. Hodeir 1984, 8.

3. This notion is usually known as "swing" or "jazz feel" in English, whereas the distinction between the binary and ternary division of time is used in French. Though it is not the common way to describe it in English, we have chosen to use the French approach as it allows for a more precise description of the phenomena discussed here.

4. Hodeir 1984, 37–38.

5. For a long time it was even believed that it was impossible to swing on meters other than 4/4 or 2/2: "Swing . . . can only develop if certain favorable conditions are present. The first condition is to choose a duple meter, as regular as possible and stylistically adequate. It seems impossible to carry out swing in a triple or quintuple meter. Equally, the sensation of swing disappears when the tempo gets noticeably fast or heavy" (Hodeir 1948, 27–28, but the author has changed his mind about this since writing it).

6. See figure 8.17, 187. In Charlie Parker's version of March 28, 1946, saxophones are playing in ternary style whereas the keyboard, guitar, bass, and drums are playing in binary style.

7. Every time I listen to Charlie Parker, I wonder whether he does not always play in ternary style, even in the Afro-Cuban pieces.

8. There is a historical discussion of this alternative choice, which is commented on by Philippe Baudoin as follows: "There is a deeply rooted idea that New Orleans style must be played in two beat. But listen to the great bass players of that style (Pops Foster, Wellman Braud) or even the oldest of them, Bill Johnson (born around 1872) and you will see that this old cliché is ungrounded: the four beat is very often used. Equally, the four beat is not always used in later jazz. The two

beat is played very frequently in all jazz styles when the head is played and it changes for a four beat when choruses are introduced" (Baudoin 1992, 63).

9. I have to confess that I have never managed to hear the first beat of the 3/4 for the first of the two notes played on the trumpet in "The Buzzard Song" by Miles Davis and Gil Evans. I absolutely cannot help but place it on the orchestral response, which occurs on the third beat.

10. Knowlton 1926, 458–59.

11. Arom 1985, 329–30.

12. Lerdahl and Jackendoff 1983, 20–21.

13. This is the option chosen in Jacques Siron's *Dictionnaire des mots de la musique*: "a superimposition of two or more strongly independent rhythmic elements that are in conflict with each other" (Siron 2002). But Denis Arnold's *Dictionnaire encyclopédique de la musique* makes a different choice: "a simultaneous use of different rhythms in different parts of the same musical structure" (Arnold 1988, vol. 2, 510).

14. Lerdahl and Jackendoff 1983, 18.

15. Arom 1985, 330.

16. Arom 1985, 331.

17. Arom 1985, 333.

18. Lerdahl and Jackendoff 1983, 17.

19. Arom 1985, 334–35.

20. Siron 2002, 328 (the numbering is mine).

21. Krebs 1987.

22. Folio 1995, 105–6.

23. Lester 1986.

24. Waters 1996, 21.

25. Sargeant 1959, 111.

26. Sargeant 1959, 117–18.

27. I have chosen to transcribe this example in 4/4 time, but 2/2 or 4/4 in a tempo twice slower (with the tuba playing each beat instead of every other beat) would have been possible. This would have no impact on the identification of the polyrhythm.

28. Besides, one may ask whether or not this solo was improvised.

29. Folio 1995, 126–32.

30. Keil 1966. This article is discussed in chapter 10, 222–26.

31. Keil 1987.

32. Keil 1987, 275.

33. Prögler 1995, 21.

34. Larson 1999.

35. Butterfield 2006, 2007.

36. Benadon 2007a, 2007b.

Chapter 9: Form, Sound, Melody

1. However, as early as 1935 he composed "Reminiscing in Tempo," which lasts 12:30.

2. Hodeir 1951, 11.

3. Hodeir 1951, 11, 12, 18.

4. We are talking of "blues form" and not just "blues" because the generic term encompasses many more things than form alone. See chapter 7, 137–38.

5. See chapter 7, 143–48.

6. The song form may be a worthy concept, but it proves difficult to use. The "song" that we are talking about emerged from the repertoire of songs of the United States between about 1910 and 1960. It is true that AABA and ABAC are the most common forms found, but some structures exist that do not correspond to those forms (and conversely, those forms can be found outside of "songs"). Moreover, the song form incorporates another feature, the verse, whose theme differs from the theme of the chorus it introduces. The verse is very rarely utilized by jazz musicians. They only retain the theme of the chorus and use its harmonic progression to improvise.

7. Siron 1992, 409.

8. Or rather at the post-performance stage, as the layout may be changed through the editing process.

9. For example Miles Davis's album *Elevator to the Gallows*, *Anatomy of a Murder* (Duke Ellington), the recording of performances by Miles Davis's group at the Plugged Nickel in Chicago in 1965 (*Cookin' at the Plugged Nickel*, followed by *The Complete Live at the Plugged Nickel 1965*).

10. See chapter 12.

11. Nattiez 1987, 299–301.

12. Meeùs 1993a, 78.

13. Martin 1996a, 34.

14. Meeùs 1993a, 47–55.

15. This will be explored in chapter 13, 272–75.

16. Nattiez 1987, 299–305.

17. See chapter 12, 267–70.

18. This composition is often attributed to Charlie Parker.

19. Martin 1996a, 33.

20. *Out of the Cool*, Impulse, November 18 or 30, 1960.

21. *Svengali*, Atlantic, May 30, 1973.

22. Shapiro and Hentoff 1966, 354–55.

23. See chapter 12.

24. Kernfeld 1995,143.

25. The restricted definition applies only to strict transposition using the same interval for all the notes. This occurs very rarely.

26. But it is a five-beat motive in its first occurrence and a six-beat motive in the second. So this is as much a case of polyrhythm as of melody.

27. See Piedade 2012, Ratner 1980.

Chapter 10: History—Theory

1. Epstein 1973, 65.

2. Ligon 1657.

3. Oldmixon 1708, in Epstein 1973.

4. Sloane 1707. The page reproduced here is found in Epstein 1973, 70, and Radano 2003, 198.

5. Spaulding 1863.

6. Krehbiel 1914, 42–43.

7. Allen, Ware, and McKim 1867. Ronald Radano discusses this book extensively (Radano 2003, 206–29).

8. Fenner and Rathbun 1891.

9. Marsh 1880.

10. Edwards 1895.

11. Hallowell 1907.

12. Johnson and Johnson 1925, 1926.

13. Radano suggests that Johann Tonsor might have been the pen name of Mildred Hill, an ethnologist from Louisville (Radano 2003, 371–72, note 87).

14. Tonsor 1892, in Koenig 2002, 16–17.

15. Haskell 1899.

16. Murphy 1899.

17. Barton 1898, 1899a, 1899b (Koenig 2002 made a mistake when he gave November 1893 as the date of publication of the first of the three articles).

18. Peabody 1903.

19. Ballanta-Taylor 1925.

20. Krehbiel 1914.

21. Krehbiel 1914, ix–x.

22. Incidentally, this shows that transcription has been an ongoing object of concern for most authors.

23. Louis Spohr, violinist and composer (1784–1859).

24. Krehbiel 1914, 72.

25. These three articles are mentioned in Karl Koenig's compilation, which, unfortunately, does not provide the exact references of the originals (the names of the authors in particular). The titles of the three articles are "Rag-Time Music" (Converse 1899, in Koenig 2002, 51–54), "Syncopated Music" (*Brainard's Musical Journal* fall 1899, in Koenig 2002, 59) and "Syncopated Rhythm vs. 'Ragtime'" (*Musician* November 1901, in Koenig 2002, 67).

26. Kuhl 1903, in Koenig 2002, 74–76.

27. Sargeant 1959.

28. Carew and Fowler 1944.

29. Blesh and Janis 1950.

30. Seagrove 1915.

31. Scarborough 1916, in Koenig 2002, 112–16.

32. Handy 1926.

33. The link between these two men has been examined in detail in a chapter by Elliott Hurwitt in *Ramblin' on My Mind* (Hurwitt 2008, in Evans 2008). In 1938, Jelly Roll Morton protested vehemently against the view that held Handy as the "Father of the Blues."

34. Gushee 1998, 299, 306, 308. The pieces involved are "Cornet Chop Suey" (1924), "Potato Head Blues" (1927), and "Savoy Blues" (1928).

35. Fillmore 1919 is excluded from this comment, as I have not had the opportunity to check it out.

36. Hopkins 1913.

37. Seagrove 1915.

38. Grenville 1919.

39. Ansermet 1919. I have commented on this text extensively, as well as Coeuroy and Schaeffner 1926 and Hoérée 1927, in *Histoire du Jazz en France 1. Du milieu du XIXe siècle à 1929* (Cugny 2014).

40. This needs to be appreciated bearing in mind that the first jazz recording was made in 1917.

41. In the case of Ansermet, his commentary is based on a true analysis in real time of works he had heard on stage. His competence as a conductor allows him to do so, but the works are mentioned only briefly.

42. Osgood 1926.

43. Coeuroy and Schaeffner 1926.

44. Whiteman and McBride 1926.

45. Baresel 1925, 1929.

46. Hoérée 1927.

47. Grofé was also one of the first major composers of art music in the United States.

48. Gayda 1993, 47–48.

49. Milhaud 1924, in Koenig 2002, 359.

50. Copland 1926, in Koenig 2002, 496.

51. Berliner 1994, 97.

52. At least, this is how his son, Pryor Dodge, presented the context in the compilation of texts by his father that he carried out (Dodge 1995, ix–x).

53. Dodge 1929, in Dodge 1995, 7.

54. Goffin 1932.

55. Panassié 1934.

56. Sargeant 1959.

57. These names are taken from the 1959 version of the book, and seem to be the same as in the 1946 version. I have not had the opportunity to access the 1938 version.

58. Sargeant 1959, 9.

59. Hobson 1939, 16.

60. Henry Allen (tp); Jimmy Lord (cl); "Pee Wee" Russell (ts); Thomas "Fats" Waller (p); Jack Bland (g); Eddie Condon (bjo); George "Pops" Foster (b); Zutty Singleton (dm). American Record Company, 1932.

61. Koger 1985. This article gives a comprehensive list of the transcriptions published by *Down Beat* between 1936 and 1984. See Morgenstern 1986 for additional information.

62. Fargeton 2006.

63. Hodeir 1984.

64. Hodeir 1962.

65. Fillmore 1919.

66. Mehegan 1978.

67. Levine 1989.

68. Sturm 1995.

69. Schuller 1989, ix.

70. Schuller 1989, 8–9.

71. This is true at least among the supporters of the music theory. We shall see that other circles may have a different view.

72. Owens 1974.

73. Owens 1995.

74. Larson 2009.

75. Block 1990.

76. Block 1997.

77. Rattenbury 1990. Andrew Homzy wrote a highly critical review of Rattenbury's book (Homzy 1992).

78. Martin and Levallet 1991.

79. Cugny 1989, 1993.

80. Kernfeld 1995.

81. Martin 1996a.

82. Porter 1998.

83. Coolman 1997.

84. Lajoie 1999.

85. La Rue 1970.

86. Lajoie 2003.

87. Dewhurst 1994.

88. Paczynski 1997, 2000, 2005.

89. Meyer 1956. Keil's text also refers to an article by Leonard Meyer published in 1959 (Meyer 1959).

90. Martin 1996a, 127.

91. Keil 1966, 338.

92. This view—which was novel then—may be seen as a development of the argument exposed early on by Dodge (1929) or Panassié (1934), according to whom performances matter, not compositions. It is also linked to the even older notion that jazz corresponds to a way of doing things and not to a type of music as such (Lomax 2001; see also chapter 1, 8).

93. This is not a comprehensive list, of course.

94. Keil 1996, 346.

95. An element of this contrast is also to be found in the "Afrological versus Eurological" distinction made by George Lewis (Lewis 1996).

96. Brownell 1994.

97. Brownell 1994.

98. Block 1997, 207, note 7.

99. Arom 1985, 254. Gushee argues the same idea (Gushee 1991).

100. See Prögler 1995, for example.

101. The Cité de la musique in Paris has published many such analyses online.

102. See Robert Hodson's statement, chapter 11, 260.

103. Schuller 1958.

104. See chapter 14, 322–24.

105. The objection could be raised that when improvisation is experienced through recordings (which is not a marginal scenario), it is also possible to go back during the process by deleting a take and making a new one. Besides, in this case the production of sound is not differed deferred (the sound is produced as it is being conceived) but the reception of it is.

106. Gennari 1991, 450.

107. Stewart 1979.

108. This has been discussed extensively by Henry Martin (Martin 1996a).

109. Block 1997, 206.

110. Block 1997, 206.

111. Brownell 1994, 17.

112. This should not be taken for granted, in my opinion.

113. Brownell 1994, 21.

114. Brownell 1994, 23.

115. Brownell 1994, 15.

116. Gennari 1991, 459.

117. Bohlman 1993, 420–21.

118. Bohlman 1993, 420.

119. Bailey 1992, 15. However, Bailey is talking about improvisation here, not jazz.

120. This is a widely spread idea in North American musicology. It is to be found in the writings of John Gennari, too: "The blue notes, microtones, polyrhythms, and extended harmonies of jazz constitute a musical vocabulary and grammar that cannot be accurately represented by the standard notational systems of Western music. Likewise, scat singing dissents from the logocentric tyranny of standard English, eschews referential lyrics in favor of vocalized sounds (e.g.,'Geff-gar gee-bap-beda dedo d-da-do') whose meaning is their own sound. And because jazz's semantics hinge on process rather than given form, jazz generates new meanings with every performance" (Gennari 1991, 449–50). See chapter 11.

121. Baraka 1968, in Baraka 1999, 182. This extract is taken from "Jazz and the White Critics: A Provocative Essay on the Situation of Jazz Criticism," *Down Beat*, August 15, 1963.

122. Baraka 1968, in Baraka 1999, 182.

123. Meyer 1959, 1.

124. Paul Berliner (and probably Henry Martin, too) seems to share in this view: "Although performances embedded in recordings are primarily useful for aural analysis, the painstaking work of transcription provides interpretive pictures of improviser's thoughts" (Berliner 1994, 11). It seems to me that Martin develops a similar view on a precise example: the question of the intentions that may lay behind what soloists in the process of improvising have actually played. This will be touched on again later.

125. For the study of "non-syntactic processual" aspects, one may refer to several studies that attempted to understand the mysteries of Billie Holiday's vocal gestures (Burns 2005; Folio and Weisberg 2006; Huang and Huang 1996). See also Caporaletti 2000, 2005, 2007, 2011, 2014, and chapter 13 about his theory.

126. Heinrich Schenker himself—who cannot be accused of underestimating composition—wrote that "background and foreground coincide. . . . As a result, the background is omnipresent in the foreground. The chronology of the creation itself is a different matter. It does not follow the logical links as closely as the image suggests to those who do not understand. The composer's imagination gives way to his improvisational talent at any time" (in Meeùs 1993, 46, note 1).

127. Except on the occasion of a Robert Herridge TV broadcast in 1959, the Carnegie Hall concert of 1961, and the remake (without Gil Evans) in Montreux in 1991.

128. It seems that Charlie Parker took this idea of succession of relatively good and bad ideas into account when improvising. This is how I understand this story told by Gil Evans, anyway: "Bird used to say: 'Music is yes, yes, yes, yes, no, yes, no, no, yes, yes, no, no.' When you play, decisions are made in a split-second" (Evans and Cugny 1988).

129. I avoid the word "spontaneity" on purpose.

130. Carr 1992.

131. See chapter 13, 291–92.

Chapter 11: Transcription

1. Bailey 1992, xi.

2. Arom 1985.

3. Nattiez 1987.

4. See chapter 10 as well, section 2.2.1, 226–28.

5. Nettl 1983, 68–69.

6. "We want to know what intention musicians have every time that they play a certain piece of music, not what they *exactly* did on a specific occasion" (Alan Merriam in Arom 1985, 223).

7. See chapter 2.

8. Kenneth Pike in Arom 1985, 244.

9. Arom 1985, 282.

10. Arom 1985, 282.

11. This problem has been underlined by many authors, in particular La Rue 1970, 4.

12. Coolman 1997.

13. Coolman 1997, 40.

14. Some singers have embraced this trend and instrumentalized their voices. Jon Hendricks is one of the main representative of this tendency, which has led to practices such as *vocalese*, which consists of singing transcribed solos exactly as they are written, sometimes adding lyrics to them.

15. Except if the features of the vocal quality of the music are the object of the analysis, of course.

16. Billie Holiday's version, OKeh, May 9, 1941.

17. Brăiloiu 1931.

18. See chapter 13, 290–91.

19. Original transcription of "'Round Midnight."

20. See chapter 7, 140–43.

21. See chapter 7, 150–60.

22. Lennie Tristano's version on Atlantic, September 1955.

23. One could discuss whether it should be considered a $E^{\flat\flat}6$.

24. Bojan Zulfikarpašić's version, Label Bleu, December 18–21, 1995.

25. I made this mistake most genuinely and was corrected by the composer himself.

26. In French jargon, it is called *se mettre à l'envers* (to play against the music).

27. Miles Davis's version, Columbia, August 4, 1958.

28. Cole 1974, 238.

29. It is also worth noting that the author chose to write the ternary division of time as dotted eighth notes–sixteenth notes (cf. next part).

30. Louis Armstrong's version, Okeh, June 28, 1928.

31. Schuller 1997, 125. Something odd worth noticing: Schuller's key signature has only two flats despite the key being $E^{\flat}$. The A in bar 5 is an $A^{\flat}$ in reality, which tends to suggest that there is a flat missing in the key signature, probably by mistake.

32. Louis Armstrong's version, Okeh, November 16, 1926.

33. Schuller 1997, 114.

34. Martin 1996a, 5–6.

35. Version by Miles Davis, December 28, 1967. The coordinator of the new edition makes the following comments in the notes given on the sleeve: "In this piece, a stick plays in strict tempo on the edge of the snare drum. Tony Williams (the drummer in this session) asserts that no other

drummer attended the session but he has no recollection overdubbing taking place either. Indeed, no overdubbing appears on the master." (Notes taken from the sleeve of the *Quintet—1965–1968* boxed set, Columbia, 1997.) Such weird cases sometimes occur.

36. It is, however, very telling with regard to the time of the recording: the limits of the recording techniques (impossibility to get rid of some defects), how the protagonists saw their recording (they preferred to retain defects rather than get rid of a take they considered good at the level of expression, improvisation, etc.).

37. Version by Bill Evans, Riverside, May 29, 1962.

38. Louis Armstrong's version, Okeh, November 16, 1926.

39. Hodson 2007, 2–3.

40. Walser 1995, 185, note 15.

41. Nettl 1983, 77–78.

Chapter 12: Procedures 1: Analyzing an Improvised Solo

1. Or in 1981 at the latest. The paper was produced in 1977 but published in 1981.

2. Gushee 1991, 228.

3. Of course, it is tempting to recognize the tripartition mentioned before.

4. The detailed analysis of these authors' work may be found in the original version of this book (Cugny 2009, 405–42).

5. Dodge 1995.

6. Sargeant 1959.

7. Hodeir 1984.

8. Schuller 1958.

9. Dauer 1969.

10. Tirro 1974.

11. Owens 1974.

12. Gushee 1991.

13. Martin 1996a.

14. "After completing the work [*the chamber symphony*] I got very worried about the apparent lack of connection between the two themes. When composing I was purely led by my sense of form and the flow of my ideas, and I had not asked myself those questions. But, as usual, doubts appeared once I had finished. . . . The true link was revealed to me some twenty years later. It was so intricate that I doubt that any composer ever tried consciously to build a theme in that way. But our subconscious mind does it unintentionally" (Arnold Schoenberg in Satyendra 2005, 52).

Chapter 13: Procedures 2: Theories and Methods Applied to the Analysis of a Work of Jazz

1. Nattiez 1999, 48.

2. Nattiez 1999, 44.

3. Larson 1987.

4. Larson 1998, 210. It is interesting to note that there was a fourth question in the thesis completed in 1987: "Can music based on popular songs display the complex structures that Schenkerian analysis show[s]?" (Larson 1987, viii).

5. Evans and McPartland 2002, track 8.

6. There is also an automatic dimension to this as Bill Evans speaks as he is playing, which means that he proceeds at a lesser conscious level of awareness of what he is doing than one might expect.

7. Larson 1998, 217.

8. Deliège 1986, 14.

9. Deliège 1986, 239.

10. Deliège 1986, 238.

11. Meeùs 1993b, 21, 24.

12. Nattiez 1987, 51.

13. Martin and Levallet 1991.

14. Nattiez 1987, 219–20.

15. Deliège 1986, 93.

16. Deliège 1986, 131.

17. Forte 1973.

18. 3–9 refers to the classification of sound groups by Allen Forte: it means the ninth chord in the list of three-sound chords. In this case it is {0, 2, 7}, i.e., from C: C, D, G; the repeated occurrences of $F^{\sharp}$, $G^{\sharp}$, and $D^{\sharp}$ on different octaves in the fourth bar of this example are reduced to {0, 2, 7}.

19. Block 1990, 182.

20. Block 1990, 182.

21. Block 1990, 202.

22. Block 1990, 218.

23. Block 1990, 218, note 14.

24. See Cugny 2009, 463–71.

25. La Rue 1970, 5.

26. La Rue 1970, 140.

27. Lajoie 1999.

28. Lajoie 2003.

29. Lajoie 1999, 98.

30. In this context, Steve Lajoie's point 7 giving conductors performance guidelines seems somewhat misplaced. Some of these works, indeed, have been performed again but these performances were re-creations rather than re-interpretations.

31. Everyone agrees that the technical quality of the performance when the recordings took place was far from perfect because of time pressures. But, of course, style and not technique is being discussed here.

32. Lerdahl and Jackendoff 1999, 105–6.

33. Shih 2007.

34. Bent and Dabkin 1987.

35. Meeùs 2003, 10.

36. Cathé 2007, 276–77.

37. Meeùs 2003, 16.

38. See chapter 6, 119.

39. Cathé 2007, 277–78.

40. Philippe Cathé has produced a list of studies on sixteenth- and seventeenth-century pre-tonal works (Léonard de Hodemont, Christoph Bernhard, Luca Marenzio, Claudio Monteverdi) in which the percentage of dominant vectors never goes beyond 70 percent. Other post-tonal works (by Gabriel Fauré or Charles Koechlin) reveal very variable percentages (Cathé 2010 and 2015).

41. Coolman 1997.

42. Hodson 2007. It is also worth mentioning Hostager and Bastien 1992, who have studied, through a video recording, the interplay in a jazz group that met up for the first time.

43. Monson 1996, 2.

44. Monson 1996, 3.

45. Becker 1963.

46. Coolman 1997, 156–57.

47. I did it with an (unpublished) analysis of twelve versions of "When I Fall in Love" by Victor Young. It gave convincing results, revealing harmonic features specific to this composition as well as stylistic traits specific to the musicians studied.

48. Nattiez 1987, 116.

49. See the transcription of "God Bless the Child" by Billie Holiday, figure 11.1, 246.

50. Ruwet 1972, 116–17.

51. Winter 1979.

52. Rattenbury 1990.

53. Florin 2011.

54. As a tribute to Charles Koechlin.

55. See chapter 13, section 1.6.2.

56. Institut de Recherche et de Coordination Acoustique/Musique, Paris.

57. Hodeir 1995, 36.

58. http://www.ina.fr/entreprise/activites/recherches-musicales/index.html, accessed May 2008.

59. See chapter 13, section 1.5.

60. Caporaletti 2000.

61. Caporaletti 2012, 2.

62. Caporaletti 2000, 161.

63. See Keil 1966.

64. See Lewis 1996.

65. See pages 229–31.

66. See pages 22–35.

Chapter 14: Interpretations

1. Logically, those who argue for the preeminence of these factors will disagree with the term "context," but I have chosen to retain it.

2. Carles and Comolli 1971, 20–21. See also Monson 2007; Gridley 2007.

3. Morris 1980.

4. Discussed in chapter 10.

5. Lajoie 2003, 108.

6. Williams 1993, 264.

7. Williams 1993, 18. Even if the same term "culturalist" is used here, it reflects the position of European ("continental," one could say) cultural history rather than that of anglophone cultural studies, which is different.

8. Sadaï 1986, 300.

9. One may argue that an object is always approached subjectively, so from the side of reception, which cannot be neutral. This is clearly the case, but one may still aim for the maximum level of neutrality.

10. Veyne 1971, 51–52.

11. Furet 1995, 16.

12. Prochasson 2008, 93.

13. Claude Rivière, "Boas Franz 1858–1942," *Encyclopédie philosophique universelle*, III, *Les Oeuvres philosophiques*, J.-F. Mattéi, ed., vol. 2, PUF, 1992, 2266. Quoted in Picard 2005, 2.

14. DeVeaux 1997, 238–39.

15. DeVeaux 1997, 237.

16. Schuller 1989, 846. It is interesting to note that this comment was made by one of the most ardent supporters of transcriptions and of hardcore musical analysis.

17. Max Roach in Gillespie and Fraser 1979, 232.

18. Max Roach in Gillespie and Fraser 1979, 233.

19. Gillespie and Fraser 1979, 201.

20. Version by Charles Mingus, October 20, 1960, Candid. This "comprehensive" version was recorded by the composer so that the lyrics could be released, as the production team had not allowed it on the first version (May 5, 1959, Columbia).

21. It is hardly surprising that these references involve the history of African Americans. References to other events like the Holocaust, which inspired composers of art music, or the Vietnam War, heavily mentioned by folk and pop singers, are quite rare in jazz.

22. Ory 2004, 12–13.

23. It consists of listening to a work with no prior information on it, trying to guess the title, the musicians involved, etc.

24. Allegedly, Cecil Taylor said about Miles Davis that he played "rather well for a billionaire" (Chambers 1985, 23).

25. Subotnik 1980, 248.

26. I unwittingly demonstrated the first situation with a book published before the release of these complete sessions (Cugny 1993).

27. Schuller 1989, 847.

28. The musicology of pop and rock music has developed these issues considerably. See the work of Simon Frith or Richard Middleton in particular.

29. Hammond and Townsend 1981.

30. Greenfield 2011.

31. Hershborn 2011.

32. Tucker 2004.

33. In particular, see the biographies of Louis Armstrong (Armstrong 1936; Panassié 1947; Armstrong 1952; Chilton and Jones 1971; Giddins 1988; Teachout 2009), Duke Ellington (Ulanov 1946; Dance 1970; Ellington 1973; Hasse 1993; Steed 1999; Teachout 2013), Bix Beiderbecke (James 1959; Lion 2004), Sidney Bechet (Bechet 1960; Chilton 1987), Benny Goodman (Goodman, Herdi, and Kolodin 1961; Firestone 1993), Django Reinhardt (Delaunay 1961, 1968; Spautz 1983; Williams 1998; Dregni 2004), Charlie Parker (Russell 1973; Reisner 1977; Giddins 1987; Priestley 2005; Crouch 2013; Haddix 2013), Miles Davis (Cole 1974; Carr 1982; Nisenson 1982; Chambers 1983, 1985; Davis and Troupe 1989; Szwed 2002), John Coltrane (Simpkins 1975; Thomas 1975; Cole 1976; Nisenson 1995; Porter 1998), Dizzy Gillespie (Gillespie and Fraser 1979; Shipton 1999), Charles Mingus (Priestley 1983; Santoro 2000), Thelonious Monk (Fitterling 1987; Gourse 1997; Solis 2008; Kelley 2010), Stéphane Grappelli (Smith 1988; Grappelli, Oldenhove, and Bramy 1994), Gil Evans (Cugny 1989; Hicock 2002; Crease 2003), Keith Jarrett (Carr 1992), Ella Fitzgerald (Fidelman 1994), Sarah Vaughan (Gourse 1994), Kenny Clarke (Henessey 1994), Muggsy Spanier (Whyatt 1996), Jess Stacy (Coller 1997), Bill Evans (Pettinger 1998), Jimmy Archey (Carr 1999), Bunk Johnson (Hazeldine and Martin 2000), Carmen McRae (Gourse 2001), Benny Carter (Berger, Berger, and Patrick 2002), Art Blakey (Gourse 2003), Terry Gibbs (Gibbs and Ginell 2003), Tony Parenti (Coller 2003),

Paul Bley (Cappelletti 2004), Wayne Shorter (Mercer 2004), George Shearing (Shipton 2004), Kid Howard (Harvey 2008), Johnny Griffin (Henessey 2008), Albert Ayler (Schwartz, online), Martial Solal (Solal 2008), Barney Kessel (Summerfield 2008), Tommy Ladnier (Lindström and Vernhettes 2009), Ron Carter, (Ouellette 2009), Eddie Hazell (Petkus 2009), Alice Coltrane (Berkman 2010), Wilbur Sweatman (Berresford 2010), Sonny Rollins (Nisenson 2000; Blumenthal and Abbott 2010), Jimmy Heath (Heath and McLaren 2010), Kenny Davern (Meyer 2010), Cab Calloway (Shipton 2010), Stan Kenton (Sparke 2010), Randy Weston (Weston and Jenkins 2010), Carla Bley (Beale 2011; Florin 2013), Barney Wilen (Wilen and Buin 2011), Eddie Rosner (Dragilyov 2011), David Baker (Herzig 2011), Peter King (King 2011), Clark Terry (Terry and Terry 2011), Bunny Berigan (Zirpolo 2011), Johnny Hartman (Akkerman 2012), Jackie McLean (Ansell 2012), Pepper Adams (Carner 2012), Dick Cary (Coller 2012), Tadd Dameron (Combs 2012), Marian McParland (de Barros 2012), Dave Liebman (Liebman and Porter 2012), Paul Chambers (Palmer 2012), Bud Powell (Pullman 2012; Ramsey Jr. and Guthrie 2013), Gary Burton (Burton 2013), Nina Simone (Elliott 2013), Julian "Cannonball" Adderley (Ginell 2013), Idris Muhammad (Muhammad and Alexander 2013), Chris Barber (Barber and Shypton 2014).

34. There are countless examples of dedications to relatives, lovers, friends, or even pets and dealers ("Moose the Mooche" by Charlie Parker).

35. The famous version "Lover Man" that Charlie Parker recorded July 29, 1946, in a confirmed catastrophic physical state before being confined in Camarillo Hospital for six months, is the most quoted example.

36. "After the death of Scott LaFaro, the summer of 1961 became one of the extreme low periods in the life and career of Bill Evans. 'I didn't realize how it affected me right away,' he said. 'Musically everything seemed to stop. I didn't even play at home'" (Pettinger 1998, 119). About the four sides that the pianist recorded solo on April 4, 1962, Peter Pettinger notes: "A hectic period of recording was looming for Evans, and in the ensuing flurry both producer and pianist forgot about the sessions. Peter Keepnews sees the playing as 'a kind of unofficial eulogy' to Scott LaFaro. Testament or not, and imperfect though it is, it is a moving document" (Pettinger 1998, 122).

37. Porter 1998.

38. A PhD thesis has been carried out at University of Paris–Sorbonne that investigates the psychological aspects of John Coltrane's development and the consequences on his music (Lauer 2013).

39. Hodeir 1981, 39.

40. See chapter 1, 3–8.

41. Hodeir 1981, 39–40.

42. Schuller 1997, 254.

43. This refers to the transcriptions by Roger Pryor Dodge of various versions of Duke Ellington's "Black and Tan Fantasy," reproduced in figure 10.2, 217.

44. Dodge 1934, 24–25 (see page 217).

45. Schuller 1958, 96–97.

46. Martin 1996a, 127.

47. Martin 1996a, 113. This idea is in total contrast with the more common opinion that bebop reunites with the origins of blues and the roots of black music.

48. On this last aspect, see Cugny 1994, 2001.

49. See chapter 3, 58–60, and chapter 13, 289.

50. Schuller 1989, 477–78.

51. Basie and Murray 2002, 152.

52. Dodge 1929, in Dodge 1995, 3.

53. Ferde Grofé, actually.

54. Panassié 1934, 60.

55. Martin 1996b, 3.

56. Sargeant 1959, 9.

57. Hobson 1939, 18.

58. Martin 1996b, 4.

59. See DeVeaux 1991 on this subject.

60. The author is referring to *Jazz*, a series of documentaries by Ken Burns with the participation of Wynton Marsalis in the 1990s and dedicated to great jazz musicians.

61. Tucker 2004, 248–49.

62. Baraka 1999, 180–82.

63. Panassié 1965, 9.

64. Baraka 1999, 186.

65. Gennari 1991, 454.

66. Martin 1996b, 4.

67. Hodeir 1981, 137–38.

68. Schuller 1997, 401–2.

69. Malson 2001, 14–15.

70. Malson 2001, 20.

71. Sadaï 1986, 326–28.

Conclusion: Toward a Musical History of Jazz

1. Sources: Arnold 1988; Carles, Clergeat, and Comolli 1988; Baudoin 2005; Porter 1998; Wikipedia and Google search engines.

2. Bergson 2008, 110–11.

3. Shepherd 1982, 146. The quote by Wilfrid Mellers is taken from *Twilight of the Gods: The Music of the Beatles* (New York, Viking Press, 1973), 15–16.

4. This may actually also be an illusion and would deserve further investigation.

5. "Facts do not exist in isolation. History is made of what we will call narratives: material causes, aims and chances mix together in a way that has a great deal to do with humanity and not much to do with science. The result is a slice of life that historians can cut the way they wish, and in which facts have objective connections and are of relative importance: the genesis of feudal society, the Mediterranean policy of Philip II of Spain or only one element of that policy like the Galilean Revolution. The word 'narrative' underlines the fact that the material studied by historians is as human based as that of a play or novel, as that of *War and Peace* or *Anthony and Cleopatra.* This narrative is not necessarily organized in chronological order: like a personal drama it can unfold at various levels. In the case of the Galilean Revolution, the narrative takes place at the level of Galileo's struggle against the perception of the boundaries of physics at the beginning of the XVIIth century, the level of the vague personal aspirations that he felt within himself, and the problems and references fashionable at the time such as platonism and aristotelism, etc. A narrative can cut transversally through various time lines; it can be a spectral analysis: it will remain a narration because it is human, sublunary, and not a piece of determinism" (Veyne 1971, 51–52).

6. Georges Paczynski has already answered that question comprehensively (Paczynski 1997, 2000, 2005).

7. See Paczynski 1997, 2000, 2005.

8. See Bardinet 2003.

9. See Monson 1996.

10. "One could probably tell the history of jazz in terms of the way in which this concept of individual sound has been developed, modified, and enlarged over the years" (Williams 1993, 263).

11. Nattiez 1987, 366.

12. See Sudhalter 1999.

13. See Leder 1985; Dahl 1989; Laird 1995; Tucker 1998, 2001, 2004; Johnson 2000; Enstice and Stockhouse 2004; Buscatto 2007; Rustin and Tucker 2010; Hausleitner and Solomon 2013; Smith 2014; Da Rin and Parker 2015; Knauer 2016; Maultsby and Burnim 2017.

14. Tournès 1999; Cugny 2014.

15. Whom I ask to forgive me for not mentioning them by name in this list either out of ignorance or thoughtlessness.

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