Jazz Improvisation as Conversation: A Pragmatics Approach to Jazz Studies

by

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Dalhousie University is located in Mi'kma'ki, the
ancestral and unceded territory of the Mi'kmaq.
We are all Treaty people.

Dedicatory

To my wife Mariana, and my sons Daniel and Alejandra,
thank you for being my inspiration and for believing in me.

To Jose Miguel Plata for so much, bendiciones infinitas.
To my brother John Nisler (JBD) for always being there.

To my mother, who left us in the middle of this journey.
To my dad, Javier, Maru and my nieces.

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Abstract

The central aim of this thesis is to propose a novel approach to studying jazz music that acknowledges jazz improvisation as a collaborative endeavour. Traditional examinations of jazz improvisation tend to concentrate solely on the individual soloist, with little or no attention given to the accompanying musicians with whom the soloist interacts. To explore this collective and conversational aspect of jazz improvisation, I intend to utilize analytical methodologies from pragmatics, a subfield of linguistics, in conjunction with music theory to analyze improvisation in the context of jazz. Music theory provides essential insight into the harmonic, melodic, rhythmic, and formal conventions of jazz music, which a linguist might refer to as its "syntax." Establishing the syntax of the jazz "language" will allow for a pragmatic analysis, which will investigate how syntactical meanings are modified in the practical application of that language within a collaborative context. By examining the interactions among all members of an ensemble during an improvised jazz performance, this approach will elucidate how the jazz language functions pragmatically to generate a coherent discourse for both jazz musicians and audiences. To illustrate this approach, I will apply it to "So What," the opening track of Miles Davis's landmark 1959 album, *Kind of Blue*.

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CHAPTER 1: INTRODUCTION

The main objective of this thesis is to contribute an approach to the academic study of jazz music that recognizes jazz improvisation as a collective practice. Conventional analyses of jazz improvisation tend to focus exclusively on the individual soloist, with little or no consideration given to the accompanying musicians with whom the soloist interacts. To investigate this collective, "conversational" aspect of jazz improvisation, I apply analytical methodologies from pragmatics, a sub-discipline of linguistics, to complement music theory as a tool for analyzing improvisation within a jazz context. Music theory is necessary for understanding the harmonic, melodic, rhythmic, and formal conventions of jazz music, what a linguist might call its "syntax." Establishing the syntax of the jazz "language" will enable a pragmatic analysis, one that explores how syntactical meanings are modified in the practical use of that language within a collective context. Considering the interactions among all members of an ensemble during an improvised jazz performance illuminates how the jazz language functions pragmatically to create a coherent discourse for both jazz musicians and audiences. This approach is applied to "So What," the opening track of Miles Davis's landmark 1959 album, *Kind of Blue*.

In Chapter 2, I review the relationship between linguistics, improvisation, and music-language within musicology. Moreover, I delve into jazz improvisation, examining its impact on cultural history and the brain. Jazz improvisation has a rich and multifaceted history shaped by events and influential figures. The connection between language and music is intriguing, and exploring the similarities in cognitive processes involved can help deepen our understanding of jazz improvisation. Through research in neuroscience and music psychology, we can investigate how the brain processes and responds to the dynamic and expressive nature of jazz improvisation and the intersection of experience and science in this context.

Chapter 3 establishes my theoretical framework, which combines jazz theory (that is, music theory as applied specifically to the jazz tradition) and linguistic pragmatics. Both of these theoretical tools help explain the syntactical rules that make a particular language coherent to its users, and how those rules vary through usage within specific contexts. It needs to be acknowledged that both pragmatics and the related field of semiotics were developed for the

analysis of natural languages; for this study, they are applied to jazz, a non-natural language, but one that has remained widely coherent through its history as one of the world's widely familiar musical cultures.

Furthermore, musical semiotics aims to analyze everything that allows us to understand a musical statement in its totality: from the processes of creation and performance to those of interpretation and reception history of a work; from the processes of perception and cognition to the internal structure of that work and its representation in notation or recording. Since pragmatics helps to explain the problems derived from language in use, it might beneficially be used to help explain jazz improvisation in a performance. Because music has been the object of semiotic analysis, it seems promising to apply pragmatics, which focuses on the live performance of language in practice, to analyze jazz improvisation. The most relevant concepts from pragmatics for the purpose of this will be: speech act theory, concept of speech, discourse, conversational implicature, speech acts, the principle of cooperation, and presuppositions.

Consequently, in Chapter 4, I design and explain an analytical instrument that combines the analytical approaches of jazz theory and linguistic pragmatics. I am using a template that allows us to expand the resources of analysis of the musical material of improvisation at different levels and to demonstrate the usefulness of pragmatics in the study of jazz improvisation. The first part of my analytical apparatus will be a transcription of the recording of "So What," the piece I have selected as a test case for my novel approach to jazz analysis. Moreover, jazz studies are rife with transcriptions of individual solos, but whereas conventional transcriptions represent the performance of a soloist in isolation, my transcription will include the content contributed by accompanying musicians as well. This brings the entirety of the improvised performance into the semiotic plane of representation and provides a visual diagram of the elements of pragmatic musical conversation. On top of that, jazz syntax features a variety of chordal formations, structures, idiomatic harmonic progressions, and contrapuntal procedures that—in comparison to common practice and other kinds of music—constitutes a distinctive musical language.

Beyond the transcription of all of the musical parts, my analytical template establishes the various musical parameters to which a pragmatic approach can be applied. This is a largely exploratory exercise, and I expect that pragmatic analysis will work better with some musical

parameters and contexts than others. This chapter establishes those aspects of “So What,” and jazz improvisation more broadly, that can best be illuminated by linguistic pragmatics.

Additionally, I apply the analytical template established in Chapter 3 to the transcription of "So What." I focus on the improvised solo sections of the recording, however, I give equal consideration to the contributions of the accompanying musicians as they support and interact with the soloist. The track “So What” is used to develop the metaphor between jazz improvisation and verbal conversation. Therefore, the different representations of the transcription provide us with a vertical visual representation to isolate the different theoretical levels: the musical, the semiotic, and the pragmatic, and their subsequent analysis.

Next, I apply pragmatics as a theoretical tool that can embrace the development of improvisation in its proper context, that is, in collective, “conversational” usage. My analysis will address elements traditionally foregrounded in the study of jazz improvisation, such as the harmonic, melodic, and rhythmic elements that structure an improvised performance. These are then illuminated through a pragmatic analysis that can address the conversational interactions of an entire ensemble as they unfold in practice.

As a final point, the conclusion summarizes and assesses the value of applying linguistic pragmatics as a tool for understanding and interpreting jazz improvisation, as demonstrated in the previous chapters. It also points to the value of jazz pragmatics as a tool for jazz pedagogy and jazz theory.

CHAPTER 2: Music, Brain, and Myth: Jazz Improvisation.

In order to develop the present research, it is necessary to highlight some of the questions that need to be addressed to set the theoretical grounding to explore them and combine their applicability for jazz improvisation. Firstly, the concept of improvisation within the jazz tradition will be defined and examined. Secondly, the cognitive relationship between linguistics and music theories, as well as the empirical perception of professional improvisers, will be explored in depth. Through this exploration, we hope to provide a comprehensive understanding of the theoretical framework that underlies jazz improvisation.

2.1 The importance of jazz improvisation

Jazz, as a musical genre, has evolved to possess a shared aesthetic function that is present in all forms of artistic expression as a result of human activity. In this case, composition and arrangements in the music tradition and its musical materials, such as form, melody, harmony and rhythm provide a common ground for comprehension, especially in short forms of popular music. Moreover, jazz musicians have developed their own "jargon" to define the musical material, for example, the "head," which refers to the primary melody of a composition, and the "changes," which refers to the harmony or chords. As Levine explains: "In classical music, a melody based on the harmony of an existing tune is called a *contrafact*. In jazz, new melodies based on changes to existing standard tunes are called *heads,* also."[1]

The compositional process of jazz might follow the compositional procedures in other kinds of music, but one of the most important components of jazz is improvisation, and this will be my focus. The scope of this thesis is limited to the dynamics that occur among musicians when improvising during a jazz performance.

Improvisation is among the most compelling musical elements of jazz music for both musicians and non-musicians immersed in this musical culture. Jazz improvisation is itself a particular form of communication within the world of music. Along with jazz history over the last hundred years, jazz improvisation has changed. We can trace this development diachronically and synchronically; however, improvisation as a formal field of study within jazz

[1] Mark Levine, *The Jazz Theory Book* (Petaluma, CA: Sher Music, 1995).

studies has a shorter history. Additionally, improvisation emerged through practice among mostly non-literate musicians, who improvised "by ear," rather than mastering a set of rules. Only relatively recently has the art of improvisation been subject to formal academic study and systematization.

In every jazz school, it is common to hear the expression "jazz language". Intrinsically, language comes with a set of rules, such as grammar, spelling, punctuation, etc., which make it possible for a language to be understood widely among groups of people. Similarly, for jazz musicians to communicate musical ideas fluently, they must be conversant in the rules of "the jazz language," such as harmonic theory, scale structure, and rhythmic patterns, among many other musical elements.

Nonetheless, for a jazz musician or jazz student, the vast majority of information found in jazz methods focuses on improvisation; as result, we can find many transcription books based on the improvisation of specific musicians. A typical jazz transcription contains the head of the song with its chord changes in addition to transcriptions of individual solos, as in, for example, the transcriptions made for Miles Davis's *Kind of Blue* album.[2] Questions that arise about those improvised parts include the following: How do musicians improvise within a harmonic context? If improvisation is a free act, why do jazz musicians spend so much time working on jazz vocabulary//language, such as figurations that can be improvised over II-V-I progressions? In order to clarify some of these questions, it is necessary to establish the connection between music and language. This raises another series of questions regarding music and language, perhaps the most important being: What can be made of the metaphor about music as a language, and how might this metaphor usefully illuminate musical practices?

2.2 Influential events

2.2.1 Language and music

[2] N.a., transcribed score series (Milwaukee, Wisconsin: Hal Leonard, 2000).

In his books *Aspects of the Theory of Syntax* (1965)[3] and *Syntactic Structures* (1957),[4] Noam Chomsky considered natural languages in reference to a universal grammar proper to all human beings, with biologically rooted,[5] innate understanding of how language works, from which derive the multitude of languages that have developed and existed around the globe. Chomsky's theory not only contributed to the development of the field of linguistics, but also influenced musicology as well.

In the preface of Fred Lerdahl and Ray Jackendoff's[6] book, *A Generative Theory of Tonal Music* (GTTM), the authors state that Chomsky's theory constitutes a "formal description of the musical intuitions of a listener who is experienced in a musical idiom" with the aim of illuminating the unique human capacity for musical understanding. [7] The work of Lerdahl and Jackendoff was inspired by Leonard Bernstein's 1973 Charles Eliot Norton Lectures at Harvard University, wherein he called for researchers to uncover a musical grammar that could explain the human musical mind in a scientific manner comparable to Noam Chomsky's revolutionary transformational or generative grammar. Additionally, Martin Rohrmeier has taken a similar approach influenced by Chomsky into his explorations of cognitive musicology.

The influence of Chomsky is evident in Figures 2.1, 2.2 and 2.3, In Figures 2.2 and Figure 2.3, it is possible to visually identify the similarities of Lerdhal and Jackendoff's and Rohrmeier models with Chomsky's model (tree structure marked in the red square) in Figure 2.1. It is evident, that both models show how analysis can generate units from deep structure to the surface. These are just some examples that link linguistic theories and music. This mode of analysis is applied to natural languages (English, Spanish, Italian, etc.) in Figure 2.1, and it is applied to music as language in Figures 2.2 and 2.3. In the latter two cases, the theoretical approaches are focused to a certain degree on harmony as a cognitive process, upon which most jazz improvisation depends, especially in Figure 2.3.

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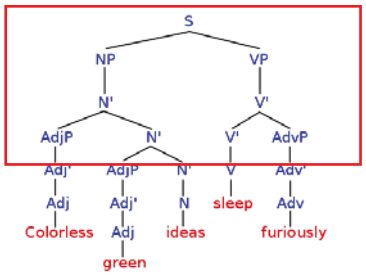
[3] Noam Chomsky, *Aspects of the Theory of Syntax: 50th Anniversary Edition*, Fiftieth anniversary edition, Massachusetts Institute of Technology. Research Laboratory of Electronics. Special Technical Report: Number 11 (The MIT Press, 2015).
[4] Noam Chomsky, *Syntactic Structures*, Janua Linguarum, Series Minor, Nr. 4 (Mouton, 1957).
[5] Chomsky posits a kind of syntactical device in the human brain for organizing and generating language from a deep structure and represented on a surface level.
[6] American linguistics and music composer
[7] Fred Lerdahl and Ray S. Jackendoff, *A Generative Theory of Tonal Music, reissue, with a new preface* (Cambridge, Mass., 1996).



Colorless green ideas sleep furiously

It is a sentence composed by Noam Chomsky in his 1957 book Syntactic Structures as an example of a sentence that is grammatically well-formed, but semantically nonsensical.

Figure 2.1: Approximate X-Bar representation of "Colorless green ideas sleep furiously" based on Chomsky's tree diagram model[8]

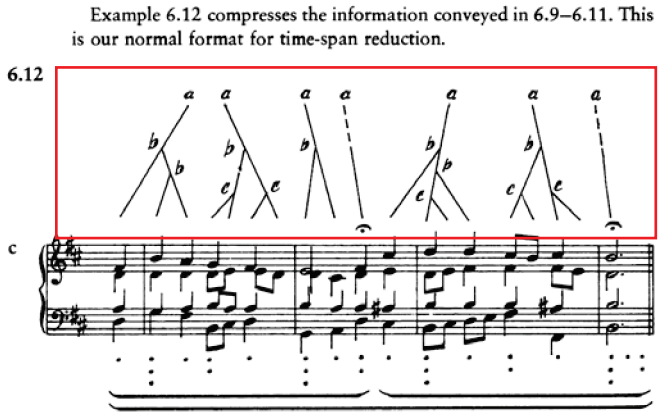


Figure 2.2: Lerdahl and Jackendoff's Model (GTTM)[9] (tree music diagram), taken from Lerdahl and Jackendoff, *A Generative Theory of Tonal Music*[10]

[8] "Colorless Green Ideas Sleep Furiously," from *Wikipedia*, accessed 4 March 2023, https://en.wikipedia.org/w/index.php?title=Colorless_green_ideas_sleep_furiously&oldid=1142878411.
[9] Lerdahl and Jackendoff, *A Generative Theory of Tonal Music,* 132
[10] Martin Rohrmeier, "Towards a Generative Syntax of Tonal Harmony," *Journal of Mathematics and Music* 5, no. 1 (March 2011): 35–53.

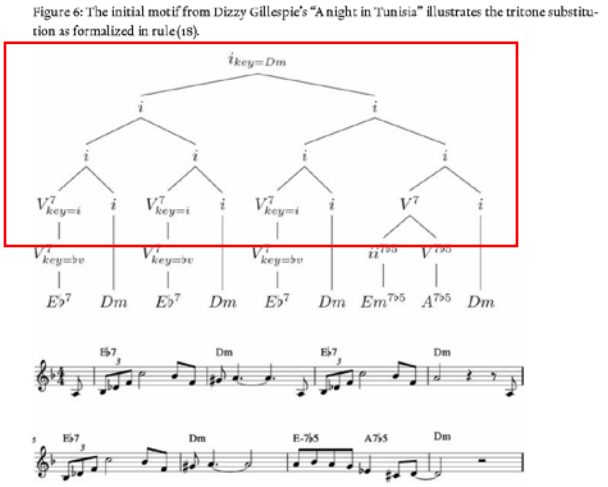


Figure 2.3: Rohrmeier's Model (tree music diagram) taken from Rohrmeier, "The Syntax of Jazz Harmony: Diatonic Tonality, Phrase Structure, and Form"[11]

2.2.2. Neuroscience

In 2008, researchers at Johns Hopkins University's School of Medicine in Baltimore tracked brain activity as two jazz musicians played pieces from memory and then engaged in back-and-forth improvisation, creating something akin to a spontaneous musical conversation. Dr. Charles Limb, who is a surgeon, neuroscientist, and musician, and his colleagues used functional magnetic resonance imaging (fMRI) to track brain activity as two jazz pianists performed. They found that areas of the brain associated with syntax and language were very active as the musicians were improvising.[12] Yet, "During the improvised exchanges, the parts of the brain that interpret the meaning of language — semantics — were completely deactivated," Limb told Live Science. "I figured we would have the involvement of language areas during a spontaneous musical conversation, but I did not really anticipate the semantic area would be deactivated the way it was." According to the article,[13] this could suggest there is a fundamental difference between how the brain processes meaning for music and language, according to the experiment. Despite the deactivation of the meaning area of the brain, the syntax and language

[11] Martin Rohrmeier, "The Syntax of Jazz Harmony: Diatonic Tonality, Phrase Structure, and Form," *Music Theory and Analysis (MTA)* 7, no. 1 (30 April 2020): 1–63.
[12] Global News, "Brain on Jazz: Study Puts Pianists in MRI Scanners to Show Link between Music, Language," National | Globalnews.Ca, accessed 30 January 2023, https://globalnews.ca/news/1161642/brain-on-jazz-study-puts-pianists-in-mri-scanners-to-show-link-between-music-language/.
[13] Ibid.

areas were activated during the act of improvisation, demonstrating corresponding brain activity during verbal and musical conversation. To provide clarity within this research, it is important to define the term "musical meaning." Musical meaning, in this context, is focused on the functional purpose within the musical material itself, rather than seeking additional semantic meaning outside of the music. Nevertheless, it is necessary to consider pragmatic meaning, which will be explained further.

2.2.3 Experience meets science

In November 2018, the Society for Neuroscience held their annual conference with the theme “Dialogues Between Neuroscience and Society: Music and the Brain.” They invited Pat Metheny, a legendary jazz guitarist, who has received three gold albums and 20 Grammy Awards, to be a keynote speaker. In this address, Metheny discussed music as a universal language and a powerful force in the world. He noted the impact of music on the brain and on our emotions and memory as well as the role of music in healing. He also considered the processes of creativity in music, the arts, and the sciences.[14]

According to Metheny, in jazz performance, “the brain meets the soul, in that place where the goal of maximum consciousness is an essential component of what it takes to be a great musician, the same sense of consciousness is also, paradoxically, the thing that you find disappearing completely as you get to your best moments on the bandstand...”[15] Metheny’s comment has far reaching implications for my research question, for it suggests that “speaking” the jazz “language” effectively requires a profound awareness of that language’s grammar and syntax, such that it can be used in practice most effectively when one’s awareness of the syntactical rules of the language has been eclipsed by the act of “speaking,” or what linguistics scholars might call a “speech act.” I believe that this is where pragmatics can help illuminate the practice of jazz improvisation.

First, Chomsky’s theoretical formulation from a biological perspective explains the syntactic function in language; the same theory was adapted to music to help understanding musical syntax, the system that allows for musical statements to make sense among musicians

[14] *Dialogues Between Neuroscience and Society: Music and the Brain*, 2018, accessed March 3, 2023, https://www.youtube.com/watch?v=yhAbNv1gJT8.
[15] *Dialogues Between Neuroscience and Society* (min 7:46).

and listeners. If the biological device described in Chomsky's theory accounts for how we organize our speech, might this be the same place where music is organized too? This question set the ground for the *Generative Theory of Tonal Music* (GTTM). Using advanced technology, the 2008 experiment carried out at Johns Hopkins measured the responses that the brain emits when jazz improvisation takes place. The results supported Pat Metheny's observations concerning the relationship between language and music. So far, however, there is no clear theory that explains how jazz improvisation relates to linguistic practices.

2.2.4 Music and language

Jazz pedagogy that focuses on improvisation often uses the metaphor of jazz as language to facilitate the teaching-learning process. Les Wise's 1982 book *Bebop Bible*[16] presents a compilation of licks[17] and other musical devices to help musicians develop facility in the bebop jazz idiom.[18] According to Wise:

> The developing musician should not merely "memorize licks" but learn to embellish these ideas with his own, forming concepts that ultimately mould an individual style. By building up a vocabulary of these melodic ideas, we can begin connecting them together in endless possibilities to form larger phrases and complete solos.[19]

He presents examples in which musical fragments are understood as units within larger linguistic structures to create short ways to perform this "vocabulary" in a real context. For example, a "lick" constitutes a word (Fig. 2.4). The word when combine with other "words" forms a sentence (Fig. 2.5), which can be extended to form a paragraph (Fig. 2.6)

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[16] Les Wise, *Bebop Bible* (Seattle, Wash: REH Publications, 1982).

[17] A term used in jazz, blues and pop music to describe a short recognizable melodic motif, formula or phrase. Improvising jazz and blues musicians have at their disposal a repertory of licks, some of their own invention by which they can be identified, some borrowed from other players, and a solo may be little more than the stringing together of a number of such fragments. In some styles (e.g., slow blues) and for some ubiquitous chord progressions (e.g., I–II–V–I), a common stock of licks is in circulation.
Robert Witmer, 'Lick,' *Grove Music Online*, accessed 31 January 2023, https://www.oxfordmusiconline.com/grovemusic/display/10.1093/gmo/9781561592630.001.0001/omo-9781561592630-e-0000049259.

[18] Wise, *Bebop Bible,* 3.

[19] Ibid.

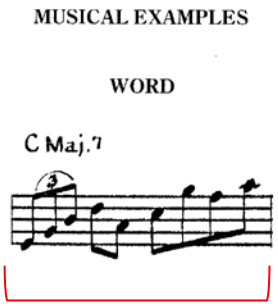

Figure 2.4 Musical phrase representing a word

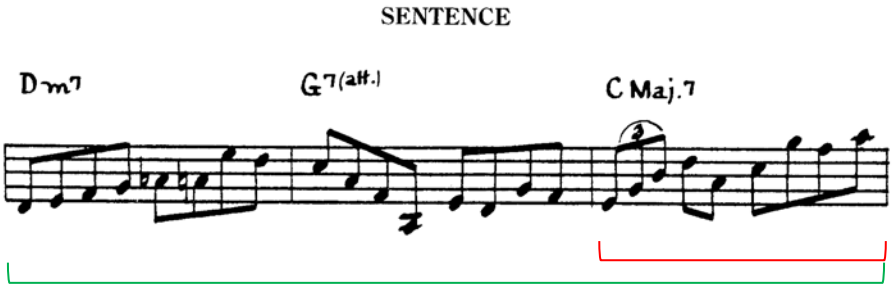

Figure 2.5: Musical phrase representing a sentence

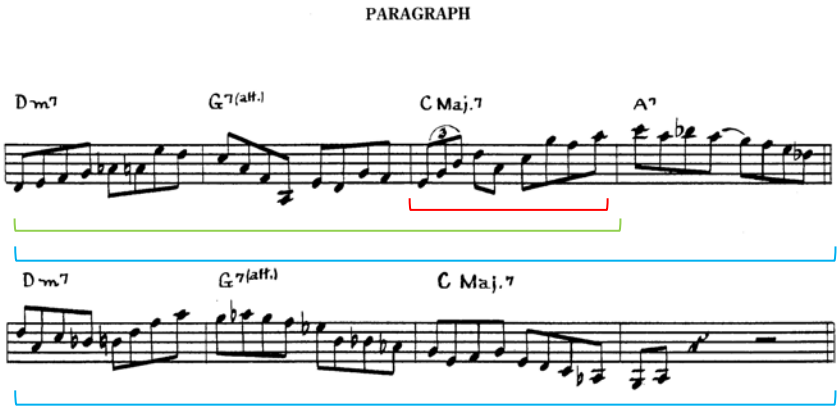

Figure 2.6: Musical phrase representing a paragraph

Wise explains that it is important to expand one's vocabulary and compares a jazz student to a student in a high school regarding vocabulary acquisition. Though referred to as a "bible" in its title, Wise's book is more akin to a dictionary in the jazz idiom that explains how to use

"words" in practice. As Wise clarifies, one's vocabulary can be expanded by copying other musicians on records or in live performances, and by studying transcriptions from one's own or from other instruments, one new word or phrase at a time. This is the process by which we learn and expand the language of improvisation.[20]

2.2.5 Music as language

Concerning the metaphor of music as a language, Les Wise states:

> Musical improvisation is a language, just as English, French, Spanish and German are languages. It has to be learned. Sure it can and will eventually feel natural and "improvised," but it first must be learned in the same contrived manner that we learned our own language or in the same contrived way that we would learn any new language. One word at a time - its pronunciation, spelling, meaning, proper use, etc.[21]

Expanding on this notion, jazz scholar Ingrid Monson describes her approach:

> I develop a perspective on these various linguistic metaphors (especially improvisation as conversation) and on the more general issue of music as a cultural discourse that considers both close analysis of the music and cultural analysis of how improvisation has been part of the construction of meaning, identity, and critique in twentieth-century African American and American society.[22]

The metaphorical insights provided by Wise and Monson share a close connection. When viewed through the lens of learning a language, it becomes clear that language acquisition encompasses more than just grammar and syntax. In fact, all linguistic components carry significant cultural and social implications that are manifested in language use. This highlights the critical importance of gaining a comprehensive understanding of jazz improvisation.

[20] Wise, *Bebop Bible,* 3.
[21] Wise, *Bebop Bible,* 3.
[22] Ingrid Monson, *Saying Something: Jazz Improvisation and Interaction*, Chicago Studies in Ethnomusicology (Chicago: University of Chicago Press, 1996).

2.3 What is jazz improvisation?[23]

In order to understand such a theoretically complex process, it is useful to consider how jazz musicians themselves understand improvisation. Their experiences as professional improvisers,[24] teachers and influencers in jazz culture make their observations relevant to my primary research question. As Les Wise has written:

> Musical improvisation. Let's define what it is not. It is not the God-given ability to invent melodies from out of the sky. It does not come from a bolt of lightning, enabling one to be a monster soloist. It is not a divine gift which only a few of us have because we are special.[25]

Similarly, ethnomusicologist and author of *Thinking in Jazz: The Infinite Art of Improvisation*, Paul Berliner explains:

> I used to think, how could jazz musicians pick notes out of thin air? I had no idea of the knowledge it took. It was like magic to me at the time.[26]

These statements aim at deconstructing the long-standing myth of jazz improvisation as a "natural" ability that certain musicians are born with. On the contrary, as Pat Metheny stated above, heightened consciousness is an essential component of what it takes to be a great musician, or "professional improviser," to use Metheny's term.[27] This helps explain why, if improvisation is a free act, jazz musicians spend a lot of time developing a jazz vocabulary, mastering the jazz language, and common jazz idioms, such as II-V-I harmonic progressions.

As a conscious process, it is necessary that in a previous stage, the soloists develop their jazz vocabulary through the proactive processes of listening to music, reading music and playing music that uses the jazz idiom. Therefore the "output" is a conscious and controlled activity. Moreover, jazz improvisation is a controlled musical discourse, organized in musical statements at the "utterance" level (discussed below) within a specific context, in which a previously learned musical vocabulary or language is put into practice; it does not happen *in vacuo,* because it needs a context to acquire semantic value. The illocutionary strength of the statements is a

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[23] In order to avoid ambiguity, the research refers only to improvisation in the context of jazz culture.
[24] Term used by Pat Metheny in the *Dialogues Between Neuroscience and Society: Music and the Brain*, 2018. https://www.youtube.com/watch?v=yhAbNv1gJT8.
[25] Wise, *Bebop Bible,* 3.
[26] Paul Berliner, *Thinking in Jazz: The Infinite Art of Improvisation*, Chicago Studies in Ethnomusicology (University of Chicago Press, 1994).
[27] *Dialogues Between Neuroscience and Society* (min 7:46).

result of the symbiotic process, mediated by the interaction of musical elements or parts involved in the melodic, harmonic and/or rhythmic content at a given moment of the musical development.

Just like a conversation between people, jazz improvisation involves a back-and-forth exchange of ideas and influences. The musicians listen to each other, react to what they hear, and build upon each other's musical statements. This creates a dynamic, ever-evolving musical conversation that is unique to each performance. According to *Jazzology: The Encyclopedia of Jazz Theory for All Musicians*:

> The word improvisation designates composition in real time. Improvised music is created "on the spot" by a musician who assumes the double role of performer and composer. Improvisation in some form or to some degree has been associated with jazz since its very inception. With the bebop revolution of the 1940s, improvisation became arguably the defining element of jazz.
>
> Jazz improvisation began with a process of embellishment or stylized interpretation of the melody… The extended solo provided a useful formula for jazz performance. Successive solos over repeated choruses or sections of the tune allowed suitable length for dancing without all musicians having to play continuously. In the larger ensembles of the swing era, intricate arrangements take the place of continuously repeated solos, as improvisation is reduced to a lesser but still significant role. With the advent of bebop, however, improvisation clearly emerges as the central component of the music. The harmonic structure of the tune assumes more importance than the melody. Whereas many swing musicians had been accustomed to faking solos by ear, the demanding tempos and chord sequences of bebop made it necessary for musicians to learn thoroughly the chords to the tunes they improvised on. This was a major paradigm shift, and it has held sway in most jazz since that time. Jazz musicians before Charlie Parker had the option of simply re-interpreting the melody and making it "hot." Jazz musicians after Charlie Parker were expected to create something new and original from the harmonic structure of the tune.[28]

As previously mentioned, it is possible to gain a better understanding of the general concept of improvisation in jazz. Similarly, by examining the historical progression of Charlie Parker, it is possible to observe the evolution of the jazz improvisational language.

Natural languages, as linguistic systems, have evolved throughout history because of their users and the changing contexts in which language was used. In the same way, we can think

[28] Robert Rawlins, *Jazzology: The Encyclopedia of Jazz Theory for All Musicians* (Milwaukee, WI: Hal Leonard, 2005).

of the evolution of the language of jazz improvisation, which has a history that can be traced over a hundred years, at least through recordings. If both languages have evolved over time through the users of natural languages in verbal communication and musicians in jazz, we can infer that the theories and tools to analyze language in use, might be suitable in the case of jazz improvisation, since musicology has been using principles from linguistics. There has to be an approach that allows us to understand jazz improvisation as a system and to understand the interactions that take place in performances as communicative processes, where musicians make use of jazz language in conversation. Hence the application of linguistics pragmatics appears to be suitable to convey both phenomenon since it studies the language in use. It seems that the "linguisticity" of languages is the same from language to language, but the "linguisticity" of musics is not the same from music to music.[29]

Musicology has incorporated the principles of semiotics from philosophy and linguistics to understand the workings of music. The concept of semiotics as an independent discipline emerged in the late 19th century, introduced by Swiss linguist Ferdinand de Saussure in his *Cours de Linguistique Générale* in 1916. Today, the term "semiotics" is commonly used, largely due to the impact of American philosopher Charles S. Peirce, who provided a comprehensive examination of sign structure and function.[30] Musical semiotics is a domain of inquiry that delves into the mechanisms by which music generates significance and communicates messages. It is preoccupied with the ways in which musical signs, such as sounds, rhythms, melodies, and harmonies, are utilized to impart musical meaning, and how hearers apprehend and construe these signs. This perspective regards music as a system of signs and seeks to comprehend how auditory occurrences can signify musical meaning by virtue of their associations with objects and interpreters. The structural methods originally developed for language have been adapted to gain insight into the signification of music, with noteworthy contributions from Ruwet, Nattiez, and Molino.[31] Furthermore, Tarasti emphasized the importance of considering not only the product, object, or text in musical semiotics, but also the act of improvisation itself. Any attempt to apply a semiotic framework to improvisation must consider the activity itself, not just its outcome. In his book *A Theory of Musical Semiotics,* Tarasti presents his views on musical semiotics and its

[29] Harold S. Powers, "Language Models and Musical Analysis," *Ethnomusicology* 24, no. 1 (1980): 1–60.
[30] Louise Cummings, *The Pragmatics Encyclopedia* (Abingdon, England; Routledge, 2010).
[31] Ruwet, Nattiez, and Molino as summarized by Walton, Richardson, and Chemero, "Self-Organization and Semiosis in Jazz Improvisation," *International Journal of Signs and Semiotic Systems* 3 (1 June 2014): 12–25.

relationship to musical understanding and interpretation. [32] He also argues that musical signs can be understood as having a syntactic aspect, which refers to the relationships among signs in a musical structure. He suggests that musical syntax operates similarly to linguistic syntax, allowing for the combination of signs into larger units and the creation of more complex meanings.

In summary, jazz improvisation is commonly understood as the act of spontaneously creating and performing music in the context of the jazz tradition. However, exploring the theoretical underpinnings that influence musicology from linguistics is critical to fully comprehending jazz improvisation. In recent years, research into the neurological processes that underlie jazz improvisation has grown, and the connection between neuroscience and improvisation has become clearer. Additionally, the semiotics of music are vital to understanding jazz improvisation, and the combination of improvisation and music semiotics provides insight into the significance of pragmatics in jazz. By analyzing the contextual and communicative aspects of improvisation, we can gain a deeper understanding of the intricate interplay between musicians in jazz performances. Essentially, jazz improvisation is a multifaceted process that draws on linguistic, neurological, and semiotic frameworks, among others. This leads to the fundamental importance of pragmatics in jazz.

[32] Eero Tarasti, *A Theory of Musical Semiotics*, Advances in Semiotics (Bloomington: Indiana University Press, 1994).

CHAPTER 3: Theoretical Grounding: Pragmatics and "So What"

This chapter aims to explore the applicability of pragmatics in analyzing jazz improvisation in performance. To begin, a definition and introduction to key concepts in pragmatics will be provided, including speech act theory, concept of speech, discourse, conversational implicature, speech acts, the principle of cooperation, and presuppositions. By applying the principles of pragmatics to the song "So What," we can gain a deeper understanding of the challenges and complexities that arise from the jazz language in use during the recording.

3.1 What is pragmatics?

In musicology, we often use semiotics for analysis. Might pragmatics, similarly, be another interpretive tool for the study of music? The difference between sentence meaning, which is the domain of semantics, and utterance meaning, which is the domain of pragmatics, is not always as simple as instances where speakers say one thing but intend something else. There are additional complexities that contribute to this gap. Pragmatics is a complex field of study, so it is important to consider concepts with clear and simple explanations for a better understanding. Pragmatics is a sub-discipline within semiotics – the general science of signs. According to the semiotic trichotomy, syntax is the study of the formal relation of one sign to another, semantics deals with the relation of signs to what they denote, and pragmatics addresses the relation of signs to their users and interpreters.[33]

Pragmatics is concerned with how language is used in social contexts. This means it deals with the functions, purposes, and intentions of communication, and how context affects the interpretation of meaning. It also encompasses the aspects of conversation management, including maintaining the flow of a dialogue, starting and ending topics, and making meaningful contributions. In this way, pragmatics plays a critical role in effective communication, helping to ensure that messages are conveyed accurately and effectively, taking into account social context and conversational norms.

[33] Cummings, *The Pragmatics Encyclopedia*, 14.

3.2 Why pragmatics?

Applying the principles of pragmatics to the study of jazz improvisation can provide valuable insights into the performance of music. Pragmatics, which focuses on the live use of language, can help to explain the dynamic, context-sensitive nature of improvisation in jazz. Musicology has benefited greatly from the application of semiotics and linguistic theories, but the application of pragmatics to the field of music has been limited. By exploring different theories of jazz improvisation through the lens of pragmatics, we can gain a deeper understanding of the semiotics of jazz performance and the pragmatic elements that are inherent in the live musical "conversations" that take place in jazz improvisation.

The practical application of pragmatics to the study of jazz improvisation requires us to consider the unique context of jazz performance, such as a jazz concert, recording session, or jam session. These settings allow for spontaneous musical interactions and provide the situational context in which jazz improvisation occurs. By examining jazz improvisation through the lens of pragmatics, we can gain a better understanding of the pragmatic elements that are essential to successful musical communication in jazz.

3.3 Speech Act Theory

A fundamental concept and the core for this research is the concept of speech act. In his highly influential 1962 book, *How to Do Things with Words*, philosopher J. L. Austin defines speech acts as the actions performed in saying something. Speech act theory says that the action performed when an utterance is produced can be analyzed on three different levels. The first level of analysis considers the words themselves; this is the locution, what is said. This includes the form of the words uttered, that is, the letters used in its spelling and the sounds made in its utterance; the act of saying something is known as the locutionary act. The second level considers what the speakers are doing with their words. This is the illocutionary force, what is done in uttering the words, the function of the words, the specific purpose that the speakers have in mind. Other examples of speech acts, spoken utterances that accomplish an act in their very utterance, include “inviting,” "advising," “promising,” “ordering,” “excusing,” and “apologizing.” The third level of analysis considers the result of the words. This is known as the

perlocutionary effect, what is done by uttering the words; it is the effect on the hearer, the hearer's reaction.[34]

Building on Austin's speech act theory, philosopher John Searle posits that to speak a language is to engage in a form of (highly complex) behaviour governed by rules. To learn and master a language is (inter alia) to have learned and mastered such rules. The notion of speech act is at the core of Searle's theory.[35]

The speech act - that is, the utterance of a sentence made under the appropriate conditions - is the minimal unit of linguistic communication. Unspoken sentences (as abstract, unrealized units) cannot be the basic units of human communication because they lack the fundamental dimension for it: they have not been produced.[36] Like speech acts, improvisation needs to be "uttered" in appropriate conditions, resulting in the minimal musical unit. In a few words, in order to exist, something needs to be said or played to serve as a unit of analysis, in linguistics or music; otherwise, it can only be explained on the semiotic side.

Speech act theory can be applied to jazz improvisation to understand the communicative aspect of this musical genre. According to speech act theory, a speech act is an utterance that not only conveys information but also performs a particular action, such as making a request, giving an order, or making a promise. In the context of jazz improvisation, musical phrases can be viewed as speech acts. For example, a musical phrase may express a particular mood or emotion, while also implying a musical direction or suggesting a particular harmonic progression. By combining various musical elements, the improviser is able to communicate musical ideas and create a musical discourse. Furthermore, jazz improvisation involves a type of interaction between the soloist and the rest of the ensemble, similar to a conversational interaction among individuals. The soloist and the ensemble respond to each other's musical contributions (see Figure 3.1), shaping and directing the improvisation. This dynamic interaction is a key aspect of jazz and demonstrates how speech act theory can be applied to this musical genre.

[34] John Austin, *How to Do Things with Words,* William James Lectures 1955 (Oxford: Clarendon Press, 1962).
[35] Searle quoted in María Victoria Escandell Vidal, *Introduccion a la Pragmatica* (Barcelona: Editorial Ariel, 2006).
[36] Vidal, *Introduccion a la Pragmatica*, 61

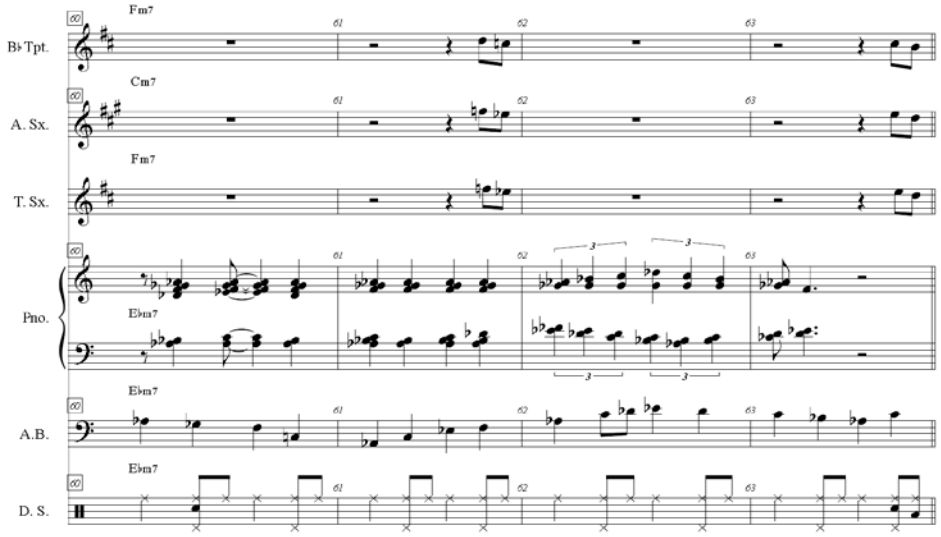

Figure 3.1: Transcription of piano soloist interacting with the other musicians during “So What”

3.4 Concept of Speech

Speech is a crucial concept that exists in both music and linguistics since both fields involve the production of sound and meaning. Speech is a fundamental aspect of human language and is considered a defining characteristic of our species. The study of speech and its development is a central area of research in linguistics, psychology, and other related fields. The study of speech has also led to a deeper understanding of the nature of human communication and has provided important insights into the cognitive processes involved in language use.

The concept of speech refers to the production and use of language as a means of communication between individuals. It encompasses both the sounds that are used to produce language and the meanings that are conveyed through those sounds. Speech is characterized by several unique features, including a systematic organization of sounds (phonology), a set of rules for combining sounds into meaningful units (syntax), and the ability to convey meaning through the use of words, phrases, and sentences (semantics). In addition, speech is a dynamic and flexible form of communication, allowing us to adjust our messages based on the context and the needs of the listener.

In this sense, jazz improvisation is a form of speech in that it involves the use of musical sounds to communicate and express significance. In jazz performance, musicians engage in a musical conversation, using their instruments to respond to each other's sonic utterances, building on each other's contributions to create a coherent discourse. Just as in spoken language, music involves the use of linguistic-like structures, such as melodies, chord progressions, and rhythmic patterns, to bear meaning. In jazz, these structures are often built upon conventional musical forms and styles, but they are also subject to the improviser's interpretation and creative expression.

Jazz composer and pianist Vijay Iyer has observed the following correspondences between speech and musical performance:

> • Like speech, musical performance is a *process*, a salient mental and physical activity that takes place in time.
> • Like speech, musical performance is interactive, characterized by dialogue, call-and-response, and collective synchronization.
> • Like speech, music has *semiotic* dimensions, which enable sonic symbols to refer actively to other parts of the same piece, to other music, or to contextual and extramusical phenomena—as with the rhythmic correspondences between finger motion and speech itself.

Note that these aspects of speech and performed music are not restricted to the domain of semantics; that is, they are not solely concerned with the "intrinsic" meanings of words or notes. Rather, these specific aspects depend upon the act of performance.[37]

3.5 Discourse

Clarifying the concept of discourse and its application to music is vital, as it is one of the primary units of analysis concerning the improvisational aspect of each musician. The concepts of speech and discourse are related but have different meanings in the field of linguistics and communication.

Speech refers to the act of producing and uttering vocal sounds to communicate a message. It is a physical and acoustic activity, and it involves the use of language and other nonverbal cues such as tone of voice, facial expressions, and body language. Speech can be

[37] Vijay Iyer, "Exploding the Narrative in Jazz Improvisation," in Robert O'Meally, et. al., eds., *Uptown Conversation: The New Jazz Studies* (New York: Columbia University Press, 2004), 393–403.

analyzed in terms of its phonetic, syntactic, and semantic features, as well as its social and cultural context.

Discourse, on the other hand, refers to a more complex and broader concept that includes not only spoken language but also written, visual, and other forms of communication. Discourse is a unit of language that extends beyond the sentence level, and it involves the organization of language into larger units such as conversations, narratives, arguments, and texts. Discourse can be analyzed in terms of its syntactic, semantic, pragmatic, and social dimensions, and it includes considerations of how language is used to construct meaning, express power relations, and enact social roles and identities. While speech refers to the production of vocal sounds to communicate, discourse encompasses a wider range of communicative acts and includes the organization and meaning of language in context.

Undertaking a pragmatic analysis of the song "So What" requires us to analyze the discourse of each soloist; for example, Davis's utterances on the trumpet and Coltrane's utterances on the saxophone must be considered as major units which are discursive musical units representing a first level of discourse as a product. Discourse as a product[38] refers to the result of communication, and in jazz improvisation, the tangible output is the music resulting from the discourse between the musicians. We can analyze the final performance as a product of their communication through their instruments.

In addition, the dialogical development must be analyzed as a micro-unit within each soloist's performance and their interaction with the other musicians. The accompanying musicians' dynamics during each solo should vary according to the spontaneous dynamics that occur in the interaction among all musicians. This includes examining who introduces a phrase, be it melodic, harmonic, or rhythmic, and how the other musicians respond or react. Furthermore, discourse as a process[39] refers to the ongoing nature of communication and how it evolves over time. In jazz improvisation, the discourse between the musicians is an ongoing process that develops and changes throughout the performance. The improvisation is not

[38] Jack Bilmes, "The Concept of Preference in Conversation Analysis," *Language in Society* 17, no. 2 (1988): 161–81.
[39] Bilmes, "The Concept of Preference in Conversation Analysis," 153.

rehearsed or pre-planned but emerges in real time as a result of the interaction among the musicians.

3.6 Definition of presuppositions

A presupposition is a type of implicit meaning that is taken for granted by speakers and listeners in a conversation. In linguistics, a presupposition is a statement or belief that is assumed to be true in order for a sentence to make sense. We infer the total meaning of an utterance based on all the information we have available at the moment in the given context, including what was previously said and what is deemed socially and culturally appropriate.

In the context of jazz improvisation, presuppositions can come into play when musicians rely on shared musical conventions and understandings to create coherent and meaningful musical communication. For example, if a jazz pianist starts playing a recognizable chord progression, the other musicians may presuppose certain things about the harmonic structure of the music and build their own improvised parts based on that presupposition. In this way, presuppositions can help facilitate musical communication and allow musicians to create improvised performances that are cohesive and meaningful. However, if a musician's presuppositions are not shared by the other members of the group, it can lead to misunderstandings and a breakdown in communication.

3.7 Implicatures

In pragmatics, implicature refers to the indirect meaning of an utterance, beyond the literal meaning of the words used. An implicature is a type of inference that is made by the listener based on the context, the speaker's intent, and the conversational principles of cooperation and relevance. One way to apply the concept of implicature to jazz improvisation is to examine how musicians deliver meaning through their improvised musical phrases, and how listeners infer meaning based on the context and the musicians' musical choices. For example, in jazz improvisation, musicians often use manipulated various musical parameters such as rhythm, harmony, melody, and timbre to create different emotions, moods, and ideas. These musical choices can produce implicatures, which are implied meanings that go beyond the literal meaning of the notes played. Listeners can infer these implicatures based on their prior knowledge of the music and the context of the performance, such as the tonality, tempo, and

mood of the piece. They can also use their knowledge of the musician's style and musical language to understand the meaning of the phrases being played.

In addition, the interaction between musicians during improvisation can also create implicatures. For example, a musician may play a phrase that sets up an expectation for the next musician to respond in a certain way, creating an implied musical conversation. Overall, by examining the concept of implicatures in jazz improvisation, we can gain a deeper understanding of how musicians communicate meaning through their improvised performances, and how listeners interpret and appreciate their musical language.

3.8 The cooperative principle

The cooperative principle is a fundamental concept in pragmatics that explains the norms of conversational interaction and which can be useful applied in a musical context. The principle was first introduced by the British philosopher Paul Grice and states that speakers in a conversation should aim to be informative, relevant, and clear, and should avoid being ambiguous or unclear. [40] The cooperative principle is based on four maxims:

1. The Maxim of Quantity: Speakers should provide as much information as is needed, but not more than is required.
2. The Maxim of Quality: Speakers should provide information that is true and relevant.
3. The Maxim of Relevance: Speakers should provide information that is relevant to the current topic of discussion.
4. The Maxim of Manner: Speakers should present information in a clear and concise manner, avoiding ambiguity and vagueness.

The cooperative principle serves as a guideline for effective communication, helping speakers ensure that their contributions to a conversation are clear, relevant, and informative. By following the principle, speakers can create a more productive and meaningful exchange of information.

[40] Grice as summarized in Marcella Bertuccelli, *Qué es la pragmática* (Madrid; España: Paidós, 1996).

The conversational principle of relevance is a principle in pragmatics that states that every utterance made in a conversation should be relevant to the current discourse and the goals of the participants in the conversation. The principle of relevance states that speakers and listeners should aim to make their contributions to the conversation maximally relevant, given their shared background knowledge and the goals of the conversation. This means that speakers should make their utterances informative and relevant to the discourse, and listeners should process the information in the most relevant and efficient way possible. In essence, the conversational principle of relevance is about making the most of limited attentional resources in conversation and ensuring that communicative exchanges are efficient and effective.

Cooperation in jazz improvisation refers to the ability of musicians to work together and create music as a group. Jazz improvisation requires the musicians to listen to each other, respond to each other's musical ideas, and work together to create a cohesive and engaging performance. In this sense, jazz improvisation can be seen as a cooperative form of communication, where the musicians are using their musical skills to engage in a shared creative process.

Relevance in jazz improvisation refers to the importance of choosing musical ideas and phrases that are appropriate to the overall musical structure and the musical conversation that is taking place. A jazz soloist must choose musical ideas that are relevant to the chord progression, the rhythm, and the musical style of the piece, as well as respond to the musical ideas of the other musicians in a relevant way. In this sense, jazz improvisation can be seen as a form of communication in which musicians are exchanging relevant musical information, just as speakers in a conversation exchange relevant linguistic information.

Ultimately, in jazz improvisation, musicians must work together cooperatively and choose musical ideas that are relevant to the musical conversation in order to create a successful performance. These principles are similar to the conversational principles of cooperation and relevance in linguistics, where speakers must work together cooperatively and exchange relevant information in order to have a successful conversation.

3.9 Conversation

Jazz musicians frequently use the metaphor of "conversation" when talking about making music with other musicians, as Herbie Hancock explained when discussing his experience with the Miles Davis Quintet in the early 1960s.

> We were sort of walking a tightrope with the kind of experimenting that we were doing in music. Not total experimentation ... we used to call it "controlled freedom" ... just like conversation-same thing. I mean, how many times have you talked to somebody and ... you got ready to say, make a point, and then you kind of went off in another direction, but maybe you never wound up making that point but the conversation, you know, just went somewhere else and it was fine. There's nothing wrong with it. Maybe you like where you went. Well, this is the way we were dealing with music.[41]

According to jazz scholar Ingrid Monson, sociolinguists define conversation as talk occurring between two or more participants who freely alternate turns. She adds that the jazz ensemble, with its rhythm section and soloist roles, is itself a musical framework for participation. This framework balances the relatively fixed rhythm section roles against the freer role of improvising soloist.[42] Good jazz improvisation is sociable and interactive just like a conversation; a good player communicates with the other players in the band. If this doesn't happen, it's not good jazz.[43] As Monson explains:

> When they (musicians) refer to playing music as "talking;" they emphasize communication through the act of performing music-a usage akin to *parole*. When they compare performance in an ensemble to "conversation," they refer to a specific genre of musical talk that requires listening carefully to the other participants.[44]

The term "conversation"[45] can have different meanings in textual and discourse analysis. As a type of design, conversation is characterized as an oral, dialogical, immediate, dynamic, and cooperative discourse with a non-predetermined alternation of turns. While these features are

[41] Hancock quoted in Monson, *Saying Something: Jazz Improvisation and Interaction*, 78.
[42] Idem.
[43] Idem., 84
[44] Idem., 85
[45] Antonio Briz, "Las unidades de la conversación," *Rilce. Revista de Filología Hispánica* 16, no. 2 (31 May 2018): 225–46.

shared by other dialogical discourses, the non-negotiated alternation of turns is the defining feature of conversation.

3.10 Transcription

All approaches within pragmatics that are based on recordings of actual verbal interactions face the problem of "catching" the phenomena of interest for careful study and for sharing the data with others. Just playing the recording, even repeatedly, does not seem to fully do the job, and in any case, recordings are hard to distribute for many types of sharing. Therefore, researchers of this type of work have developed techniques to render spoken language in a textual format, an "entextualization," often called transcription. Such a cross-modal rendering can never be a "complete" representation of the original event. Both the recording process and the process of transcription itself necessarily involve a reduction of information.[46]

As in pragmatics, transcribing is a common practice in music, but transcribing in jazz improvisation has several advantages:

1. Learning language and style: Transcribing solos of jazz masters helps learners to understand their musical language, phrasing, articulation, and overall style. This helps learners to develop their own style by incorporating elements from different jazz musicians.
2. Developing listening skills: Transcribing requires a high level of concentration and active listening. This helps learners to develop their ear training, which is crucial for any improviser.
3. Improving technique: Playing along with transcriptions helps learners to develop their technique, such as finger dexterity, intonation, and tone production.
4. Building repertoire: Transcribing and learning jazz standards can help learners build a repertoire of songs that they can play in different situations, such as jam sessions, gigs, or recordings.

[46] Cummings, *The Pragmatics Encyclopedia*, 472.

5. Historical and cultural knowledge: Transcribing jazz solos can provide insights into the history and cultural context of the music. This can help learners to appreciate the music on a deeper level and understand its evolution over time.

3.11 Stylistics (in the style of…)

One final element of pragmatics that is important to consider here: the concept of stylistics. Stylistics[47] has been influenced by Speech Act Theory, resulting in the emergence of "pragma-stylistics," which focuses on the relationship between style and the speaker's intention to convey meaning through implicit and explicit interactions with the hearer. Similarly, in music, jazz studies often involves the use of manuals and transcription to learn the style and language of musicians in real situations, such as David Baker's book, *The Jazz Style of John Coltrane: A Musical and Historical Perspective.*[48]

In summary, the fundamentals of pragmatics have been outlined above, and they are expected to be applicable to jazz improvisation, particularly in Miles Davis' recording of "So What." The aim is to pragmatically identify the communicative aspects of jazz improvisation delivered by the soloists. By analyzing the solos, it is possible to recognize how the music conveyed meaning through them, both implicitly and explicitly, using musical resources such as phrases and dynamics between the musicians. Additionally, the general structure of the musical language used can also be analyzed. Finally, transcription and templates can be used as tools to better understand and pragmatically interpret the communicative intention of the musicians present in the song.

3.12 “So What”

I will apply pragmatics analysis to Miles Davis’s “So What.” It is an excellent choice for testing my proposed analytical method. It appears on Miles Davis’s 1959 album *Kind of Blue,* a seminal work in the genre of modal jazz, representing a departure from conventional chord

[47] Cummings, *The Pragmatics Encyclopedia*, 20.
[48] David Baker, *The Jazz Style of John Coltrane a Musical and Historical Perspective*, Giants of Jazz (Lebanon, IN: Alfred Music, 1990).

progressions and a greater freedom of improvisation. The album was recorded by Davis's band, featuring prominent jazz musicians such as John Coltrane, Cannonball Adderley, and Bill Evans. The groundbreaking approach to harmony, structure, and improvisation exhibited in the album had a profound influence on the development of jazz and inspired countless musicians. Notably, "So What," one of the defining tracks of the modal jazz style, was recorded for this album, showcasing a simple chord progression based on modes. "So What," uses a 32-bar AABA structure with the A section in the Dorian mode of D and the B section in the Dorian mode of Eb and what makes it distinctive musically is that the soloist improvises along the modal scale rather than on chord changes. Since all the notes in the modal scale are considered consonant with one another, the musician(s) have a wide range of chord options, including triadic, quartal, and secundal chords.

This unconventional approach allowed the musicians to improvise and create novel melodic and harmonic ideas, facilitating the evolution of jazz. As well, the distinctive bassline and trumpet melody of "So What" have helped to make it a jazz standard, inspiring numerous subsequent recordings, such as John Coltrane's "Impressions."

Due to its immediate and broad appeal, "So What" can be regarded as having laid the foundation for one of the most important jazz conversations. Its further relevance to this research relates to Bill Evans's comments in the album's liner notes, which offer a detailed explanation of the conceived process. He says:

> Group improvisation is a further challenge. Aside from the weighty technical problem of collective coherent thinking, there is the very human, even social need for sympathy from all members to bend for the common result. This most difficult problem, I think, is beautifully met and solved on this recording.[49]

Evans adds:

> Miles conceived these settings only hours before the recording dates and arrived with sketches which indicated to the group what was to be played. Therefore, you will hear something close to pure spontaneity in these performances. The group had never played these pieces prior to the recordings and I think without exception the first complete performance of each was a "take."[50]

[49] Bill Evans, quoted in the liner notes to Miles Davis, *Kind of Blue* (Columbia, 1959).
[50] Davis, *Kind of Blue*, 1959

Although jazz musicians are often expected to improvise on new material at a recording session, the character of "So What" represents a particular challenge. Briefly, the character of each of the five formal sections of the tune are as follows:

Introduction: Piano and bass in a free rhythmic style

A^1 Section: simple figure based on one mode (8 measures)

A^2 Section: varied repetition of A^1, based on the same mode (8 measures)

B Section: melodic variation, based on a different mode from the A section (8 measures)

A^3 Section: varied repetition of A^1, based on the same scale or mode as A^1 (8 measures)

Having established the basic theoretical tools of linguistic pragmatics, we can now apply them to "So What," which in the next chapter will serve as an example of the jazz language in use. This case study will allow an exploratory application of pragmatics as a tool of interpretation and musical analysis within jazz studies.

CHAPTER 4: Establishing a Jazz Pragmatics Analytical Template

In chapters 2 and 3, I outlined the features of pragmatics that are relevant for music analysis. Before applying this model to a specific piece of music, it is necessary to develop a template as a tool for the analysis. I propose an analytical instrument that combines the analytical approaches of jazz theory and pragmatics to expand the resources of analysis of the musical material of improvisation at different levels. The analytical instrument includes a transcription of the solos from "So What" (refer to appendixes), which includes the content contributed by accompanying musicians. This brings the entirety of the improvised performance into the semiotic plane of representation and provides a visual diagram of the elements of pragmatic musical conversation. It also establishes various musical parameters to which a pragmatic approach can be applied, exploring those aspects of "So What" and jazz improvisation that can best be illuminated by pragmatics.

In his book on the jazz style of John Coltrane, David Baker offers a musical and historical perspective, as well as a template for documenting jazz improvisation (as in Figure 4.1),[51] which I will adopt and adapt. Although it has not been recognized as such, this is a clear example of pragmatics being applied to jazz studies. As we stated in the beginning, the main goal of this research is to expand the tools at our disposal for analyzing jazz music. Such a template can serve many purposes, for example, laying out visually the collective nature of jazz ensemble performance practice, but also foregrounding the individuals and offering an overview of the rhythmic, melodic, and harmonic contexts as well. Regarding his model style and analysis worksheet, Baker states:

> The reader may want to modify it or design another one which fits his or her specific needs. In any event, the aspiring jazz player is encouraged to completely dissect the improvisations as well as the tunes on which they are based. (This is mandatory in the case of bebop tunes whose patterns, melodic lines, and harmonic structures comprises a substantial portion of the vocabulary of every contemporary jazz musician).[52]

Baker's basic template for jazz improvisation analysis focuses on the stylistic breakdown of a specific artist's solo development, with the harmonic context being the primary referent in the solo transcriptions. However, a pragmatic-linguistic analysis of jazz improvisation should

[51] Baker, *The Jazz Style of John Coltrane a Musical and Historical Perspective*, 34-35.
[52] Ibid., 2.

take into account all musical elements - rhythmic, stylistic, and harmonic - to obtain information at different levels of analysis. To achieve this, a template is useful in summarizing for the purpose of analysis as much information as possible for the given song, including details about the artist or band, album, recording, date, digital information, form, modal or tonal musical context, musical style, tempo, time, instruments, key changes, and instrumentalists. The performance practice section of the template identifies the elements used during the development of the solo, such as simple to complex, complex to simple, vertical or horizontal orientation, harmonic context, thematic references, use of sequences, call and response, etc. Meanwhile, the vocabulary section involves transcribing musical contributions of all participants involved, including their complete context.

A pragmatic analysis of jazz improvisation can be likened to the analysis of language in use, and like pragmatics, jazz improvisation studies have developed tools for analysis at the level of discourse utterance. Therefore, the template developed here serves to collect general information and musical meta-information about the resources used in the development of the solo. The purpose of the pragmatic chart is to classify and organize the musical meta-language derived from the melodic analysis of the soloist in each bar and section in relation to the harmonic development in progress. This chart provides insight into the musical thought and strategies employed by the soloist and helps us to convey how they created their improvisation and applied musical techniques to create their unique discourse.

The template can be used for personal growth as a musician or as a teaching tool for students. By breaking down the components of a solo, it is possible to recognize patterns and techniques used by different jazz musicians and apply them in the development of personal vocabulary. Overall, this template provides a comprehensive and pragmatic-linguistic approach to jazz improvisation analysis, allowing for a deeper understanding of the musical discourse and the techniques used to create it.

ARTIST_____ Page_____

Title of composition:

Album:

Recording company:

Date:

Leader or sideman:

Instrument:

****

Tune type (circle one or more): blues, ballad, modal, standard, free; jazz original, bebop, Latin/Afro-Cuban/etc., other (specify)_____

Tempo:

Key:

Dramatic devices (circle and describe): vibrato, slurs, rips, growls, glissandi, articulation (specify):, alternate fingerings, harmonics, other (specify):

Tessitura:

Scale preferences (circle one or more): major (and derivatives), whole tone, diminished, diminished whole tone, lydian dominant; blues, pentatonic, chromatic, other (specify):_____

Prevailing scale patterns:

Recurrent patterns: (A) II V7

Turnbacks

Cycles

(B) Melodic patterns

(2)

(C) Rhythmic patterns

(D) Other formulae (I VI II V; III VI II V; half-step progressions,etc.)

****

ERFORMANCE PRACTICE

evelopmental techniques: simple to complex
(circle and describe) complex to simple

single climax
many climaxes

vertical
horizontal

chord referential
thematic referential

use of sequence/call and response

use of quotes (what and where)

use of substitutions

rhythmic practices: double time
half time
assymetrical groupings
reiterative
non-reiterative
describe relationship to the basic time:

melody: folk-like bluesy
wide expressively bebop
narrow expressively quartal
riff-like other (specify)_____

****

eneral Comments:

Figure 4.1: Style and analysis forms from Baker

4.1 Template for jazz improvisation

ARTIST INFO:

ARTIST			
ALBUM			
RECORDING		DATE	
INSTRUMENTS			

SONG INFO:

SONG:	FORM:	MODAL/TONAL:
KEY CHANGES:	STYLE:	Tempo:
INSTRUMENTS:	Musicians:	
Trumpet:		
Sax:		
Piano:		
Guitar:		
Bass:		
Drums:		

PREVAILING PATTERNS: (I.E):		
II-V, Turnbacks, Cycles.		
Melodic Patterns		
Rhytmic Patterns		
Other Formulae: (I VI II V) Half step-Step progressions		

PERFORMANCE PRACTICE:

Simple to complex, Complex to simple.	
Vertical, Horizontal.	
Chord reference, Thematic reference.	
For use of sequence, Call and Response	
Use of quotes (what and where)	
Use of substitutions: Tritone, Back door	

Rhythmic Practices: double time, half time, asymmetrical grouping.	
Melody: Folk-like, wide expressively, Narrow expressively, Riff-like, Bebop, Quartal, Other.	
Sequences	

4.2 Addition to jazz template

This section can be added to the template to understand the vocabulary, phrase, or lick to be analyzed within the situational context.

Vocabulary:

The melodic vocabulary: “licks”/rhythmic and harmonic context:

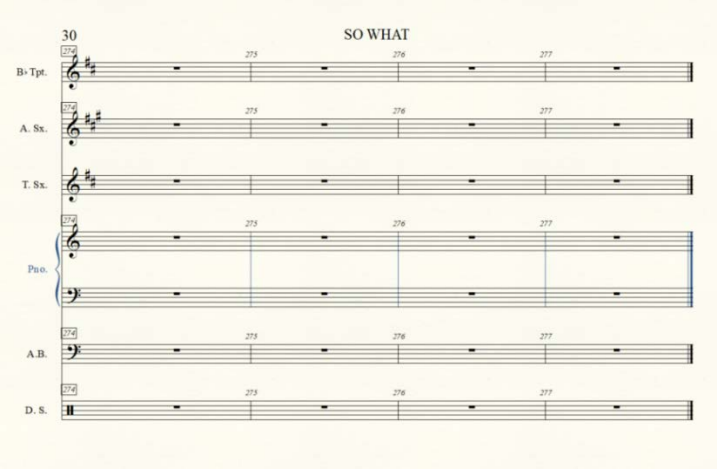

Figure 4.2: Representation of all instruments involved in the musical moment of the solo

4.3 A pragmatic template

The template created by the author serves a crucial role in analyzing the meta-musical structure of phrases used by soloists during a solo section. Each box within the template is indicative of a single bar of music, which corresponds to each bar of the solo transcription. The template is designed to emphasize the pragmatic communicative intentions of every soloist and offers valuable insights into their musical thought process, phrase by phrase within the correspondent bars. The utilization of this template, in both level 1 and level 3 of the analysis, allows for a comprehensive understanding of the soloist's communication strategies. It highlights their musical intentions and the specific techniques employed to convey their locutionary act (the utterance, see Figure 4.3 and Appendix A). By utilizing this template, it is possible to uncover the nuances of their musical language and develop a more profound understanding of their improvisational approach and their illocutionary intentions. Furthermore, the template design provides an accessible and straightforward method for analyzing the structure of the phrases used by soloists, making it an invaluable tool for both students and professionals in the field of jazz improvisation. It allows learners to examine the pragmatic elements of jazz improvisation and develop their own improvisational language by understanding the techniques employed by the masters.

1st	CHORUS			
A				
A^2				
B				
A^3				

2nd	CHORUS			
A				
A^2				
B				
A^3				

Figure 4.3: Template for two choruses of a 32- bar AABA song form

4.4 Transcription bases

My analysis will use transcriptions that I have put toghether, based on several pre-existing transcriptions and videos listed below. I have adapted them to show different perspectives and to provide accurate transcriptions. The transcriptions are made using FINALE to facilitate the analyses, all of which are undertaken by the author. They are based on the following sources:

a. General instruments: *Miles Davis – Kind of Blue*[53]
b. Paul Chamber's bass transcription[54]
c. "So What" score[55]
d. Jimmy Cobb drum transcription[56]

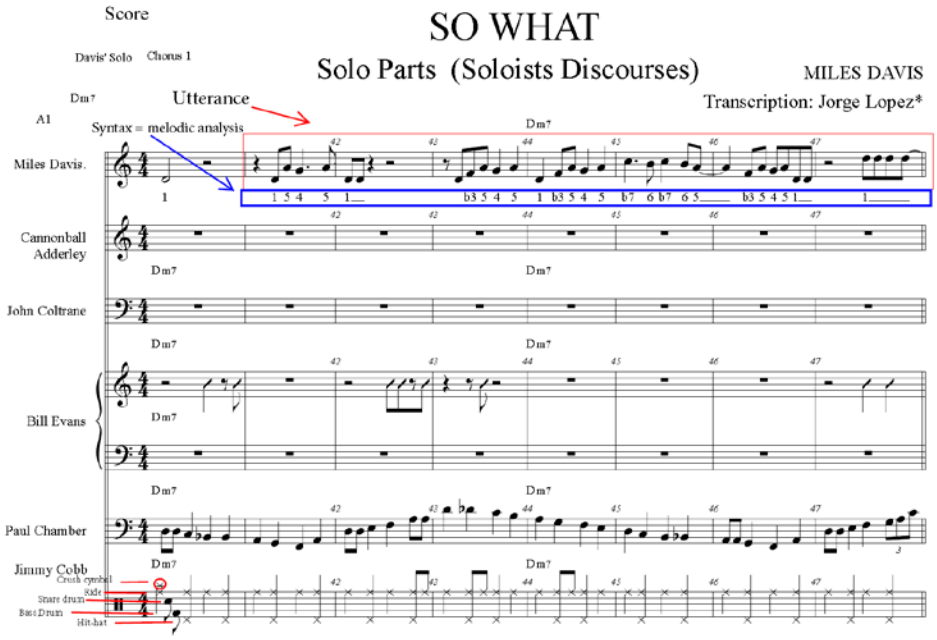

Figure 4.4: Utterance representation, melodic analysis, and drum description

[53] N.a, "Miles Davis – Kind of Blue - Transcribed Score."
[54] *So What/Miles Davis-Paul Chambers' Transcription. Transcribed by Carles Margarit*, 2018, https://www.youtube.com/watch?v=YLTH36TBj2g.
[55] *So What with Score*, 2016, https://www.youtube.com/watch?v=o9zQfgcwV1k.
[56] *#milesdavis #sowhat Miles Davis - So What / Jimmy Cobb Drum Transcription / Miles Davis Solo Comping*, 2020, https://www.youtube.com/watch?v=kZ1Q1LuvnIs.

In conclusion, I intend to leverage the tools presented in this part of the chapter, namely, Baker's template, the transcription of all instruments, and the pragmatic template, to perform comprehensive analyses at various levels in the next section. By utilizing these analytical tools, I aim to derive pragmatic interpretations that will facilitate my research objectives. Moreover, these tools offer a unique opportunity to expand the scope of jazz improvisation language learning techniques, whether it be for soloists or accompanying musicians, by providing a framework for understanding the language in its original context. It is worth noting that pragmatics is an invaluable tool for foreign language acquisition, as it enables learners to focus on the practical usage of the language. Similarly, the principles of pragmatics can be employed to understand the language of jazz improvisation in the context of jazz. This approach to learning jazz improvisation may offer learners an opportunity to gain a deeper understanding of the language by exploring its practical usage in real context. As well, by utilizing the analytical tools presented in this study, I aim to derive pragmatic interpretations that will aid in achieving my research objectives. Additionally, these tools offer a promising avenue for expanding jazz improvisation language learning techniques by providing a practical framework for understanding the language in its original context.

4.5 Applying jazz pragmatics

4.5.1 The semiotic level of “so what”

In order to analyze the song, it is necessary to break down the musical components from specific to general ones, for example, from notes to phrases. In addition, it is essential to highlight the semiotic level in order to contrast discursively with the pragmatic levels. In Chomskyan terms, we can speak of deep structure (minor chord) and surface structure (D-7) and harmonic functional structure (II-7). This is relevant because these levels of representation are in the solo structure of “So What,” and it has been part of music studies.

In this regard, music theorist Kofi Agawu points out that music has two interdependent planes, which he calls the plane of succession (melody) and the plane of simultaneity

(harmony),[57] a distinction that is particularly relevant to the bebop revolution in the early 1940s. Similarly, Mark Levine states that for most of its history, jazz musicians would think horizontally (in terms of scales) as much as they did vertically (in terms of chords).[58] During improvisation, musicians typically draw from both the melody of a tune and the notes of the chords. A chord, for instance, is often approached by its constituent notes, such as the root, 3rd, 5th, and 7th, as in the case of a D-7 chord, where one emphasizes D-F-A-C. In the 1930s, advanced musicians, including Duke Ellington, Coleman Hawkins, Art Tatum, and Lester Young, would expand on this approach and suggest playing additional notes, such as E-G-B, which correspond to the 9th, 11th, and 13th of a D-7 chord. In our case, both the melody and the harmony of "So What" conceptually suggest the Dorian mode. Although the purpose of this research is focused on improvisation, as a referent, and for semiotic-pragmatic purposes, it is necessary to take as a referent the main theme of the song.

The Dorian mode is the principal organizing structure of this song. It is a minor scale in that it has a lowered third and seventh scale degree, but it does not feature the lowered 6^{th} degree of the natural minor scale or Aeolian mode. The Dorian mode indicates that it is the second degree (II) of the major scale. When starting on the second note, for example, the note D of the C major scale, its structure changes automatically generating a particular sonority. The succession of notes we get from the D scale without any alteration is D-E-F-G-A-B-C-D. However, the internal structure is particular because of the intervallic distance between the notes, as a result, we have a scale (1-2-b3-4-5-6-b7-1) that can be understood as a minor scale with a raised 6^{th} or a major scale with lowered 3^{rd} and 7^{th}.

Semiotic analysis can be used to explore the various meanings and associations that are associated with the Dorian mode. A semiotic analysis of the Dorian mode in jazz improvisation would appear as follows:

- Signifier: The Dorian mode.
- Signified: A sense of tension, a modal sound, a minor scale with a raised sixth, a distinct tonality that is used in jazz and other genres.

[57] V. Kofi Agawu, *Music as Discourse: Semiotic Adventures in Romantic Music* (New York: Oxford University Press, 2009).
[58] Levine, *The Jazz Theory Book*. 32

- Cultural Context: African American social, cultural, and musical history, jazz improvisation in which the Dorian mode is often used over minor chords and progressions.
- Connotations: The Dorian mode is often associated with a more "modal" sound in jazz, which creates an ambiguity, undermines tonal resolution, and creates a sense of tension and interest. It is also associated with a specific tonality that is used in certain genres, including rock and folk music. The use of the Dorian mode in jazz improvisation can signal a particular musical aesthetic, as well as a knowledge and appreciation of jazz theory and history.

  Interpretation: The use of the Dorian mode in jazz improvisation can be interpreted as a deliberate choice made by the musician to create a certain sound and express a particular musical idea. It can also be interpreted as a reflection of the musician's skill and knowledge, as applying the Dorian mode in improvised performance over often complex harmonies requires great musical sophistication. Overall, the use of the Dorian mode in jazz improvisation is a complex signifier that carries a range of connotations and meanings within the cultural context of jazz music.

4.5.2 Analyzing “So What”

To undertake a comprehensive analysis, the methodology will utilize three levels of analysis, level 1- melodic analysis of the phrases; level 2 - identifying the acts of speech; level 3 - the pragmatic interpretation of the soloists’ discourses regarding their contribution to the song. Level 1 (4.5.3) entails a melodic analysis of Miles Davis's musical discourse, as represented in the transcription (see Appendix A). The aim of this level is to determine how Davis employed the musical syntactic units and a particular vocabulary in use, with the Dorian minor scale serving as the base unit, and with the harmonic context of the phrases taken into consideration.

Melodic analysis reveals the melodic and rhythmic patterns Davis employs. Moreover, patterns of solo development, such as the progression from simple to complex, and the use of melodic references based on the chords or main melody of the song, sequences, quotations, call and response, substitutions, harmonic impositions, among other musical options, can be discerned. The patterns and techniques identified in the first level are utilized in the template that functions as a structural framework for the analysis (Appendix A). The template identifies the different musical elements present in the solo, including the chord progressions, the melodic and

rhythmic patterns, and the phrase structure. These musical patterns and techniques used by Davis serve as the basis for the second and third level of analysis.

Consequently, moving onto level 2 (4.5.4), the methodology focuses on identifying the acts of speech within the musicians' performance (Appendix B). Finally, level 3 (4.5.5) of the analysis involves the pragmatic interpretation of the soloist's discourses. This seeks to understand the pragmatic intentions behind the soloist's performance, focusing on their contribution to the song. This level of analysis will provide valuable insights into the soloist's improvisational approach and their contribution to the musical conversation through their discourses (Appendix C and D).

4.5.3 Level 1

The following part is a detailed description and interpretation of the phrases found within the transcription of Davis' solo, utilizing a melodic analysis. The phrases can be found in appendix A, and they are framed and labeled with the letter P, followed by a corresponding phrase number (P.1, P.2, etc). The labeling of each phrase with the letter P and a corresponding phrase number provides a clear and organized framework for referencing and discussing each individual phrase within the context of the solo.

Davis "discourse analysis" from bar 44 to 105 (see Appendix A):

Chorus 1

A, A^2 sections

P.I Introduction Phrase = anticipation. Tonic 1 of D Dorian / Dmin7 with a descending 8-b7-1 phrase, with 1 landing on the downbeat

P.1 = Modal reinforcement (tonic)

P.2 = Dm arpeggio[1] + 4, 5

P.3 = P.2 variation (repetition)

P.4 = Dorian phrase

P.5 = P.1 variation (repetition)

P.6 = Modal reinforcement (tonic)

P.7 = Dm pentatonic phrase

P.8 = Dm7 melodic minor scale no 6th (omission)

P.9 = Pentatonic phrase

B section

P.10 = Ab + Dbmaj7 triad (V-I implicature) + Lydian phrase

P.11 = Ebm phrase

P.12 = Eb broken Dorian scale no 6^{th} (omission)

P.13 = Bb7 Blues phrase (V/ii implicature)

P.14= A7 blues resolution (V/ii implicature)

A^3 sections

P.15 = Dm $arpeggio^2$

P.16 = Modal reinforcement (tonic) (repetition)

P.17 = Dm $arpeggio^3$

Chorus 2

A, A^2 sections

P.18= Anticipation for Cmaj $arpeggio^1$/ phrase

P.19 = Cmaj $arpeggio^1$/ phrase (repetition)

P.20= Dm $arpeggio^4$ + blues phrase

P.21 = Dm $arpeggio^4$ variation

P.22 = Dm $arpeggio^2$ (repetition) ^{2}

P.23 = Dm $arpeggio^2$ variation(repetition)^3

P.24 = Dorian $phrase^1$ (repetition)

B section

P.25 = Anticipation, Ebm7 Dorian scale (no 6th)

P.26 = Ebm7 sequence + Ab arpeggio

A^3 sections

P.27 = Anticipation, Dm broken scale + Am7 arpeggio (suspended implication)

P.28 = Dorian phrase

P.29 = Dm7 melodic minor (no 6^{th})

C.P = Closing phrase Dm7 blues phrase

In order to understand the first level of analysis it is necessary to highlight that it is mostly a musical analysis rather than dealing to semiotics. Therefore, a general description of Davis's improvisation in musical terms is required. This can be compared to a discursive analysis in pragmatic terms, but the aim is not to substitute musical notes for words or to generate an extra-musical result. Despite this, Davis's discourse has a musical significance that is represented in musical terms; a as consequence the pragmatic values and locutory force will be described in these terms. The musical macro-structure of Davis's solo in "So What" can be synthesized using the classification of the phrases played, and the values obtained from this analysis belong to the interpretative plane of jazz analysis.

Based on the analysis results, Davis's discourse has a predominantly Dorian locutionary force, with his improvisation displaying a range of discursive tools, such as anticipation, triads, repetition (with variations), modal repetition of a chord tone, same-note repetition (ostinato) as connectors, minor pentatonic and Dorian scales, melodic minor scales, omission of the 6th scale degree to create ambiguity, harmonic implicatures (V-I, V7/ii, Imaj, vi, Sus4), blues phrases, scalar sequences, short and long phrases, space, tension, and release. Additionally, the note selection in Davis's improvisation includes a heavy use of fourth and fifth intervals. Moreover, a comparison is established between the semiotic and pragmatic planes, indicating that Davis's discourse is primarily attached to the minor plane through the use of Dorian elements, melodic minor, and Aeolian. This indicates that his expression is more semiotic as it adheres to the rules established by the predominance of the Dorian scale.

In addition, we need to consider the pragmatic components that can be utilized in our analysis. In the realm of jazz studies, examining the musical vocabulary is a common tool for learning. This involves analyzing phrases as a learning unit, regardless of their length or rhythm, and observing whether they span one or multiple bars. Therefore, the vocabulary acquisition approach typically begins with melodic analysis, which we have already done in this part of the analysis. Now, we must identify the musical elements or units that could be explored pragmatically.

Additionally, we have established that the level of utterance represented musically is Davis's speech, which is essentially his improvisation. However, it is not performed in isolation; it is cognitively tied to a musical form (AABA) and is subject to a harmonic context (D-7, Eb-7). For this level of analysis (Level 1), I am not taking into account the interaction with other musicians. We can interpret Davis's speech as his opinion of "So What," allowing us to establish both the locutionary force, which is the utterance of a sentence, what is said, and the illocutionary force, which is the intended effect of the statement.

The locutionary force of the speech is clear, and we can observe it in the transcription (see appendix A). The illocutionary force interpreted from Davis' solo phrases, can be summarized as in Figure 4.5, which is explained in musical material.

1st	CHORUS			
A	Anticipation + Root phrase	Pentatonic (Phrase 1)	Root phrase	Triad (P.2)
	Triad repetition	Dorian Mode highlight	Repetition pentatonic (bar 2)	Root phrase
A^2		Pentatonic	pentatonic	
	Melodic minor scale	Melodic minor scale	Pentatonic	
B	Triads (V,I)	Lydian scale	Dorian scale	Dorian scale
	Root phrase	Dorian scale	Blues scale	Anticipation phrase
A^3		Triad		
		Triad		Anticipation I Triad

2nd	CHORUS			
A		I Triad	Triad	
		Repetition (bar 2)	Repetition (bar 3)	Triad
A^2		Triad	Triad	
	Repetition Triad (bar 2, chorus 1)	Repetition Triad (bar 2, chorus 1)	Dorian Mode highlight	Anticipation phrase
B	Dorian scale	Dorian scale	Dorian scale	
	Dorian scale sequences	Dorian scale sequences		Anticipation phrase
A^3	Arpeggio (vi)	Arpeggio (vi)	Arpeggio (vi)	Dorian Mode highlight
		Melodic minor arpeggio	Blues phrase	Root note Closure

Figure 4.5 Meta musical representation of the illocutionary force from Davis solo

Moreover, as part of the communicative intentions, it is valuable to describe how and where these elements were produced. This information may be relevant to the interpretation of the discourse as a larger unit of analysis or in the smaller components that make up the discourse. As a result, it might have a pedagogical impact in the process or leaning part of this units, for example, phrases and where to use them.

At the beginning of his solo, Miles Davis plays a simple yet powerful rendition of the main theme using fragmented scales and short melodic phrases. He starts by emphasizing the first melodic degree of D minor, by playing a descending 8-b7-1 phrase, and gradually introduces more colour to his phrases. He introduces the minor third of the triad (bar 45), uses repetition, and incorporates the sixth scale degree to define the mode as Dorian in bars 47, 59, and 88. He opens and closes his statement by using the tonic, adding two musical ideas that repeat to highlight the Dorian mode, concluding the idea with the tonic. He also uses a D melodic minor passage (bar 54) to vary the colour of the mode, creating tension with the major 7th scale degree over Dm7. As Miles continues his solo, he implies functional harmony (bar 58) through arpeggios as another improvisational tool. He commonly employs chord extensions, adding tertial extension on top of a triad to create 7ths, 9ths (labelled 2nds in the melodic analysis; 2^{nd} + 8va = 9^{th}), 11^{ths} (labelled 4^{ths}), and 13^{th} (labelled 6^{ths}) chords, although he does not use any chordal ideas other than the Dm triad in the first two A sections of the solo. He later adapts by anticipating a C major triad as the key tool for his melody (bar 73). He uses the notes in the C major arpeggio almost exclusively until introducing the note A in the last bar of the phrase (80), creating some harmonic ambiguity. As the solo winds down, Davis delivers shorter, more rhythmic phrases that gradually decrease in intensity. Finally, at bar 95, he concludes the solo with a bluesy phrase that serves as a fitting end to the improvisation.

Furthermore, it is important to note that improvisation is conceptualized at the level of utterance, requiring a harmonic and rhythmic context to produce its musical significance. The sonorous development of the improvisation is an extension of the musician's thoughts in musical terms and thus has an intention. While the first intention of improvisation is aesthetic, the elements used by improvisers consciously have other musical intentions that not only communicate to an audience but also bring into play the sound feedback and exchange with other

musicians. Therefore, this analysis can be interpreted at the level of speech acts in the pragmatic framework, on level 2.

4.5.4 Level 2

In order to establish the speech acts, in this analysis, my attention will be focused on the musicians' interaction. This level considers the soloist and the comping ensemble "in conversation." In linguistic pragmatic terms, jazz improvisation can be seen as a complex communicative act that involves multiple speech acts, presuppositions, confirmations, and dynamic interchanges among the musicians.

In the given text (see Appendix B), several speech acts can be identified, such as asking/answering questions, confirmation, and closure. For instance, when Miles Davis introduces a phrase and repeats it, he is performing the speech act of introducing an idea and inviting others to respond to it. When the pianist responds with the same kind of rhythmic figures (Act.5, Appendix B, bar 51), he is performing the speech act of answering the question or confirming the act of dynamic.

Presuppositions can also be observed, such as the presupposition that the rhythm section will maintain a certain groove or the presupposition that the resolution will involve a descending line (Appendix B, Bass line, bar 65, Act, 11). These presuppositions guide the musicians' choices and help to create a shared understanding of the musical context.

Confirmations are similarly present in the text, such as when Davis repeats four eighth-notes on the pitch D to announce a change between the A and A^2 sections, and the other musicians confirm the change by introducing four figures. These confirmations help to reinforce the shared understanding of the musical structure and provide cues for the musicians to transition between different sections.

Finally, dynamic interchanges are a key aspect of jazz improvisation, as the musicians respond to each other's ideas and adapt their own performance accordingly. This can be seen in the text (see Appendix B, from bar 57 to bar 60) when the drummer creates a more dynamic context by responding to the piano's rhythmic figures, allowing Davis to go from simplicity to complexity in his speech, or when the Evans's illocutionary phrase opens the context for new ideas (see Appendix B from bar 62 to 65).

In general, the text highlights the complexity and richness of jazz improvisation as a communicative act that involves multiple speech acts, presuppositions, confirmations, and dynamic interchanges among the musicians.

4.5.5 Further considerations

The following section shows the units of speech acts and their taxonomy, in the context of a musical conversation (see appendix B). To achieve this, the phrases uttered by Davis and the other musicians involved are identified, and the selection of speech acts are observed in the transcription. It is important to note that there is no comparative point reference for musical studies, which presents a challenge in defining the units of speech acts in this context. Consequently, the classification used in this research is an interpretation based on the dialogues between the musicians and the musical values expressed through their interaction.

Fundamentally, the study recognizes the complex and unique nature of musical conversations, and how they differ from conventional conversations. Therefore, the identification of speech acts in musical conversations requires a different approach, which is why the classification is based on the musical materials and the interaction between the musicians. This approach can provide valuable insights into the pragmatics of musical conversations and how they can be better understood as observed in this level of analysis.

4.5.6 Interpretation of the soloist and the comping ensemble in "conversation" (Appendix B)

This level considers the conversation between the soloist's main discourse (trumpet solo) and the rhythm section (piano, bass, and drums).

The context: Modal context, at 135 BPM, steady harmonic rhythm and steady swing rhythm in 4/4 meter with characteristic rhythmic anticipations.

The following is an interpretation of the musician interaction found in the Davis' solo transcription, noting the speech acts, which are found in Appendix B, and are framed and labeled by act, followed by the corresponding act number (A.1, A.2, etc.). The labelling of each act has a corresponding number that provides a clear and organized framework for referencing and discussing each individual act within the context of the solo.

A.1 **Speech act = Dynamic.**[59] The beginning of the solo starts with an open high, light, tonic D by Miles Davis, accompanied by crash cymbal accents from Jimmy Cobb. The double bass changes from the melodic style of the "head"[60] to a conventional "walking" bass line with driving quarter-note rhythms. Simultaneously, Cobb switches from the light accompaniment of the head, played with brushes on the ride cymbal (with comparatively loud hi-hats played with the foot on beats 2 and 4), to a heavier ride cymbal pattern played with "proper" drum sticks to lay the foundation for the conversation in this case. Chambers changes the function to walking bass. Bill Evans confirms the change using the anticipated rhythmic figure introduced by Davis.

A.2 **Speech act = asking/answering a question.**[61] Davis and Evans.

A.3 Davis introduces a phrase and repeats it, establishing the Dorian mode. The other musicians give him ample space to develop the idea.

A.4 **Speech act = confirmation.**[62] From bar 49, Davis repeats 4 eight D notes to announce a change between the A and A^2 sections, as does Chambers, but Evans introduces 4 figures confirmed by drummer Cobb in bar 50.

A.5 Both rely on a common rhythmic phrase from the main theme.

A.6 **Speech act = asking/answering a question.** The pianist responds with the same rhythmic figures.

A.7 **Speech act = asking/answering a question.** Davis, Cobb and Evans.

A.8 **Speech act = asking a question.** In this B section the illocutionary question of the piano lends the bass a certain ambiguity, and the trumpet implies harmonic movement until the resolution with the enclosure at bar 60. In the meantime, Evans and Cobb maintain their

[59] The speech act that describes dynamics is "performative." This type of speech act not only describes a state of affairs but also performs the action it describes. In an improvisation, a musician might say "let's change the key" or "let's speed up the tempo," which not only describes a desired change in dynamics but also performs the action of initiating that change.

[60] The "head" refers to the primary melody of a jazz standard, typically played as composed the first time through the chorus, after which soloists take turns improvising over subsequent statements of the chorus chord progression. The head, or "main tune," often returns after or between improvised solos.

[61] The speech act of asking a question is classified as a type of illocutionary act, specifically a directive act. In jazz improvisation, the act of asking a musical question and providing a musical response can be seen as a type of illocutionary act. The act of questioning and responding in jazz improvisation can also be seen as a way for the musicians to negotiate and navigate the harmonic and rhythmic structure of the music in real time.

[62] Confirmation is an act of speech that affirms or acknowledges a previous statement or action.

response. This context gives space to the trumpet to create a tension in the statement. The rhythm section is implies tension.

A.9 Chambers seems to imply Ab7 harmonic context.

A.10 Evans plays the predominant figure in the main theme as common ground, mediating between the trumpet phrase, the bass and the drum figures.

A.11 **Presupposition**. In the bar or resolution, Chambers plays a descending line, seconded by the piano and drums in support of Davis's blues phrases.

A.12 **Speech act = confirmation.** In the return to the A section, there is a rhythmic reiteration of the main theme, providing the context for the trumpet to respond with triadic speech and develop new musical ideas for the second chorus.

A.13 **Speech act = Dynamic.** This leaves space for the drummer to contribute to the conversation, and he is expected to create the setting for the next section.

A.14 **Speech act = Dynamic.** Chambers plays a constant phrase as a pedal or sort of "riff" to change the dynamic. His illocution is so strong that it opens the context for new ideas, for example, the rhythmic figure explored by the pianist in bar 77, leaving less space for the trumpet, which is confined to playing long notes, but elicits more activity from the drummer.

A.15 **Closure.** Bar 82 is ambiguous. It is the beginning of the second A section, but, in terms of speech, it functions more like a closure of the previous part (act 14).[63]

A.16 **Recapitulation:** Davis "quotes" himself by using the same discourse structure from his solo (bar 45), but, in this case, Evans and Cobb decide to fully participate as well.

A.17 **Speech act = Dynamic.** The drummer and the pianist create a more dynamic context, in which Davis goes from simple to complex speech. The B section, as is conventional in jazz and other styles, provides a contrast as it had in the first chorus.

A.18 **Speech act = confirmation.** The long notes of the trumpet player's phrases, allows the pianist to act more vigorously, supporting Davis statements.

[63] This is clear evidence of the spontaneity in jazz improvisation as well as in conversation.

A.19 **Speech closure.** In the last four bars of the solo, Davis creates tension and release, then shortens his phrases with a final leap down from 5 to 1. Evans plays a certain ostinato with intensity, seconded by the drummer, who is phrasing with the same closure resolution. On the other hand, the final two bass notes conclude with a downward leap paralleling Davis's final two notes.

4.5.7 Pragmatic interpretation from a musical standpoint

The analysis of Miles Davis' "So What" solo illuminates the various speech acts involved in jazz improvisation. The musicians' communication is characterized by dynamic interactions, question-and-answer exchanges, and confirmations. By identifying these different speech acts, the analysis helps to clarify how the musicians engage with each other and collaborate to develop the solo. The reliance on rhythmic phrases from the main theme creates a common language, allowing for ample space for Davis to explore his ideas.

Furthermore, the contrast provided by the B section demonstrates the role of ambiguity in jazz improvisation. The illocutionary question from the piano lends a certain ambiguity to the bass, while the trumpet creates tension until the resolution with an enclosure. The rhythm section's contribution is equally important, with Chambers providing a constant phrase to change the dynamic and leave room for the drummer to add to the conversation.

In summary, the analysis highlights the importance of dynamics and closure in jazz improvisation, as well as the use of common rhythmic phrases and harmonic contexts to establish a shared language. This analysis's framework of speech acts offers a unique perspective on musical communication, emphasizing the similarities between spoken language and musical communication. Ultimately, this analysis contributes to the understanding of jazz improvisation by providing a pragmatic analytical perspective on the complex interactions between musicians during a solo.

4.5.8 Level 3

In this level of analysis, I will use the Grice maxims conversational principles as an overview of the soloists' discourses. This will give us a general appreciation regarding to jazz improvisation as a discourse. The third level compares the soloists' conversations in relation to the song, "So What." The illocutionary force is specified in the meta-musical template, as seen in

Level 1 of the analysis, Figure 4.1. This level of analysis also involves the use of cognitive devices and a stylistic description of the solos by John Coltrane and Cannonball Adderley to that already undertaken for Miles Davis's solo. The song "So What" as a composition, provides a shared context in which several speakers address the same topic, but each gives their own perspective, therefore a discourse is created in the moment. They all have the same musical context, and, since it is a live recording, each soloist's turn is the expression, the musical discourse that develops according to the context of the shared situation.

The following part is a detailed description and interpretation of the phrases found within the transcription of Coltrane's solo, utilizing a melodic analysis, as done in level 1 for Davis's solo. The phrases can be found in the appendix C, and they are framed and labeled with the letter P, followed by a corresponding phrase number (P.1, P.2, etc.). The labeling of each phrase with the letter P and a corresponding phrase number provides a clear and organized framework for referencing and discussing each individual phrase within the context of the solo.

4.6 John Coltrane's solo

Coltrane "discourse analysis" from bars 106 to 169 (see Appendix C)

Musical devices used:

Chorus 1

A Section

P.1	Dorian pentatonic
P.2	Sequence
P.3	Pentatonic
P.4	= P.2 = Sequence[1]

A^2 Section

P.5	Pentatonic sequence
P.6	Dm7 Arpeggio
P.7	Pentatonic sequence
P.8	Dm7 Melodic minor

B Section

P.9	Ebm scale + enclosures + sequence
P.10	Ebm scale (long phrase)

A^3 Section

P.11 Dm7 sequence (melodic minor ascending)
P.12 Dm melodic minor ascending and Dm Dorian descending + enclosure
P.13 Dm melodic minor ascending and Dm Dorian descending

Chorus 2

A Section

P.14 Dm6 pentatonic
P.15 Sequence
P.16 Dm melodic minor scale
P.17 Sequence notes (1-5-2-b3-1)
P.18 Dm pentatonic
P.19 C Mixolydian scale + Dm bebop scale

A^2 Section

P.20 Dm scale+ triad
P.21 Sequence + enclosure
P.22 Sequences repeated
P.23 Pentatonic
P.24 Dm7 Triad+ sequence
P.25 Enclosure + chromatic + scale

B Section

P.26 Dorian phrase
P.27 Ebm scale + Dorian phrase
P.28 Dorian
P.29 Ebm9 arpeggio + Ab Mixolydian bebop scale

A^3 Section

P.30 Dm11 arpeggio
P.31 Dm bebop scale + Dm Dorian scale
P.32 Pentatonic + chromatic+ enclosure
P.33 Dm Dorian scale + passing tones

1st	CHORUS			
A	Pentatonic		Sequence	Pentatonic
	Pentatonic		Sequence	
A^2	Pentatonic sequence	Pentatonic sequence	Dm7 arpeggio	Dm7 arpeggio
	Pentatonic sequence	Pentatonic sequence	Dm7 melodic minor	Dm7 melodic minor
B	Ebm scale + enclosures + sequence	Ebm scale + enclosures + sequence	Ebm scale + enclosures + sequence	Ebm scale + enclosures + sequence
	Ebm scale	Ebm scale	Ebm scale	Ebm scale
A^3	Dm7 sequence (melodic minor ascending)	Dm7 sequence (melodic minor ascending)	Dm melodic minor ascending and Dm Dorian descending + enclosure	Dm melodic minor ascending and Dm Dorian descending + enclosure
	Dm melodic minor ascending and Dm Dorian descending	Dm melodic minor ascending and Dm Dorian descending	Dm melodic minor ascending and Dm Dorian descending	Dm melodic minor ascending and Dm Dorian descending

2nd	CHORUS			
A	Dm6 pentatonic	Sequence	Dm melodic minor	Sequence
	Pentatonic	Pentatonic	C Mixolydian bebop scale + Dm bebop scale	C Mixolydian bebop scale + Dm bebop scale
A^2	Dm scale+ triad	Sequence + enclosure	Sequence repeated	Pentatonic
	Pentatonic	Pentatonic	Pentatonic	
B	Dorian phrase	Dorian phrase	Dorian phrase	Dorian phrase
	Dorian phrase	Dorian phrase	Ebm9 arpeggio + Ab Mixolydian bebop scale	Ebm9 arpeggio + Ab Mixolydian bebop scale
A^3	Dm11 arpeggio	Dm11 arpeggio	Dm bebop scale + Dm Dorian scale	Dm bebop scale + Dm Dorian scale
	Pentatonic + chromatic+ enclosure	Pentatonic + chromatic+ enclosure	Dm Dorian scale + passing tones	Dm Dorian scale + passing tones

Figure 4.6 Meta musical representation of the illocutionary force from Coltrane's solo

John Coltrane's improvised solo in "So What" employs various musical elements. These include the implementation of different pentatonic scales, which function as a fundamental vocabulary or building blocks. Additionally, he utilizes various scales, arpeggios, and sequences, which serve as more complex structures in his improvisation, enabling him to develop an intricate and sophisticated solo that builds on the fundamental pentatonic vocabulary.

The use of the melodic minor scale in Coltrane's improvisation is a stylistic choice that creates a specific atmosphere, often heard in modern or contemporary jazz styles. Furthermore, he employs different sequencing techniques, enclosures, chromaticism, and passing tones as rhetorical devices in his improvisation. These elements are similar to those used by a speaker to create emphasis or persuasion in their speech, allowing Coltrane to generate tension, release, and variation in his solos.

4.6.1 Communicative intentions

Chorus 1

A, A^2, P.1, P.2, and P.4 are all variations of the pentatonic scale, which is a common device used in jazz improvisation. In pragmatic terms, the pentatonic scale can be seen as a "performative" musical act that establishes a tonal center and creates a sense of stability in the improvisation.

P.5 expands on the basic pentatonic scale with additional notes that create a more complex melody. This can be seen as a "locutionary" act, where the musician is expressing a particular musical idea or phrase.

P.6 is an arpeggio, which is a sequence of notes played in succession that outline a chord. Arpeggios can be seen as "illocutionary" acts, by which the musician suggests a particular harmonic structure or chord progression.

P.7 is another pentatonic scale, which serves a similar function as P.1, P.2, and P.4.

P.8 is the melodic minor scale, which is often used to create tension and dissonance in jazz improvisation. This can be seen as a "perlocutionary" act, where the musician attempts to evoke a particular emotional response from the listener.

A^3, P.11 and P.12 both use the Dm melodic minor and Dm Dorian scales, which can create a sense of tension and dissonance similar to P.8. The addition of "enclosures" in P.11 serves to create more complex melodies and add interest to the improvisation.

P.13, P.15, and P.17 all use pentatonic scales, which function similarly to P.1, P.2, and P.4.

P.14 and P.16 both use sequences of notes to create interest and movement in the improvisation. In pragmatic terms, these can be seen as "locutionary" acts that express a particular melodic idea.

Chorus 2

A Section

P.18 combines the C Mixolydian scale and the Dm bebop scale to create a sense of tension and release. This can be seen as a "perlocutionary" act, where the musician is attempting to evoke a particular emotional response from the listener.

P.19 uses the Dm scale and triad, which can be seen as a "locutionary" act that establishes a particular tonal center and harmonic structure.

A^2 Section

P.20 combines a sequence of notes with "enclosures," creating a more complex and interesting melody.

P.21 uses repeated sequences to create coherence and motion.

P.22 uses the pentatonic scale, which is a common tool in jazz improvisation.

P.23 and P.24 combines a triad with a sequence of notes to create interest and movement.

P.25 uses enclosures and chromatic notes to create tension and dissonance.

B Section

P.26 and P.27 both use the Dorian scale, which is a common tool in jazz improvisation for creating a sense of tension and dissonance.

P.28 combines the Ebm scale with a Dorian phrase to create interest and movement.

P.29 combines an Ab Mixolydian bebop scale with an Ebm9 arpeggio to create tension and release.

A^3 Section

P.30 uses a Dm11 arpeggio adds a sense of movement and direction to the solo.

P.31 uses Dm bebop scale in addition to Dm scale for creating a sense of tension and dissonance.

P.32 and P.33 uses chromaticism and passing tones, to create tension and add a sense of unpredictability to the improvisation.

4.7 Cannonball Adderley's solo

Once again, the following part is a detailed description and interpretation of the phrases found within the transcription of Adderley's solo, utilizing a melodic analysis, as done in level 1 for Davis's solo. The phrases can be found in the appendix D, and they are framed and labeled with the letter P, followed by a corresponding phrase number (P.1, P.2, etc.). The labeling of each phrase with the letter P and a corresponding phrase number provides a clear and organized framework for referencing and discussing each individual phrase within the context of the solo.

Cannonball Adderley "discourse analysis" from bar 170 to 233 (see Appendix C)

Chorus 1

A Section

P.1	Initial phrase
P.2	Dorian scale
P.3	Dorian phrase
P.4	Triad pair = G arpeggio + Fmaj7 arpeggio
P.5	Em pentatonic

A^2 Section

P.6	Dm scale
P.7	Dorian scale
P.8	C pentatonic + Am7 arpeggio + Dm9 Arpeggio + Cmaj9 + G pentatonic
P.9	Anticipation: Em7 Aeolian sequence

B Section

P.10	Ebm7 Dorian sequence
P.11	Ebm7 Dorian scale (Bb Aeolian)
P.12	Ebm7 arpeggio + Db Maj7 + Ebm arpeggio
P.13	Sequence + anticipation

A^3 Section

P.14	Dm phrase
P.15	Triad pair = G7 Arpeggio + Fmaj9 arpeggio
P.16	Dm9 arpeggio + sequence + G7 phrase

Chorus 2

A section

P.17 Dm7 arpeggio
P.18 Dorian scale + sequence
P.19 Sequence + sequence + pentatonic

A^2 Section

P.20 Am7 arpeggio
P.21 Chromatic + Dm scale

B Section

P.22 Em7 pentatonic
P.23 Ab Mixolydian scale (V7 implicature)
P.24 Sequence + Gb triad + sequence
P.25 Anticipation

A^3 Section

P.26 Chromatic passage
P.27 G7 Mixolydian scale + sequence
P.28 Closure: G7 Mixolydian phrase

1st	CHORUS			
A	Initial phrase	Dorian scale	Dorian scale	Dorian scale
	Dorian phrase	Triad pair = G arpeggio + Fmaj7 arpeggio	Triad pair = G arpeggio + Fmaj7 arpeggio	Em pentatonic
A^2	Dorian scale	Dorian scale	Dorian scale	Dorian scale
	C pentatonic + Am7 arpeggio + Dm9 Arpeggio + Cmaj9 + G pentatonic	C pentatonic + Am7 arpeggio + Dm9 Arpeggio + Cmaj9 + G pentatonic	C pentatonic + Am7 arpeggio + Dm9 Arpeggio + Cmaj9 + G pentatonic	Anticipation: Em7 Aeolian sequence
B	Ebm7 Dorian sequence	Ebm7 Dorian sequence	Ebm7 Dorian scale (Bb Aeolian)	Ebm7 Dorian scale (Bb Aeolian)
	Ebm7 arpeggio + Db Maj7 + Ebm arpeggio	Ebm7 arpeggio + Db Maj7 + Ebm arpeggio	Sequence + anticipation	Sequence + anticipation
A^3	Dorian phrase	Dorian phrase	Triad pair = G7 Arpeggio + Fmaj9 arpeggio	Triad pair = G7 Arpeggio + Fmaj9 arpeggio
	Dm9 arpeggio	Dm9 arpeggio	Sequence	G7 phrase

2nd	CHORUS			
A		Dm7 arpeggio	Dorian scale+sequence	Dorian scale+sequence
	sequence	sequence	Pentatonic	
A^2	Am7 arpeggio	Am7 arpeggio	Am7 arpeggio	Am7 arpeggio
	Chromatic + Dm scale	Chromatic + Dm scale	Chromatic + Dm scale	Chromatic + Dm scale
B	Ebm7 pentatonic	Ebm7 pentatonic	Ebm7 pentatonic	Ab Mixolydian scale
	Sequence + Gb triad + sequence	Sequence + Gb triad + sequence	Sequence + Gb triad + sequence	Anticipation
A^3	Chromatic	G7 Mixolydian scale + sequence	G7 Mixolydian scale + sequence	G7 Mixolydian scale + sequence
	Closure: G7 Mixolydian phrase	Closure: G7 Mixolydian phrase	Closure: G7 Mixolydian phrase	Closure: G7 Mixolydian phrase

Figure 4.7 Meta musical representation of the illocutionary force from Adderley solo

From the perspective of jazz improvisation theory, Adderley uses a variety of harmonic and melodic devices to create interest and variation in the line. For example, the use of the Dorian scale and Dorian phrase in P.3 and P.7 establish the tonality, while the use of a triad pair in P.4 creates tension and interest in the line. The musician also uses chromatic passages, pentatonic scales, and arpeggios to add colour and variation to the improvisation. Additionally,

the use of anticipations, sequences, and closures creates a sense of forward motion and harmonic tension that is resolved in satisfying ways. Overall, the improvisation demonstrates Adderley's improvisation style and his ability to create a complex and varied harmonic and melodic palette.

From a speech act perspective, Adderley's performance in this discourse can be analyzed as a series of illocutionary acts, or speech acts that perform an action. Each of the musical devices listed can be seen as a type of illocutionary act that serves a specific purpose in the improvisation. For example, P.1 can be seen as a declarative illocutionary act that sets up the melodic context for the improvisation, while P.13 can be seen as an interrogative illocutionary act that creates interest in the line through the use of a sequence and anticipation.

4.7.1 Communicative intentions

In jazz improvisation, musicians utilize various techniques to create compelling and coherent musical expressions. The first chorus of "So What" showcases a range of these techniques.

In the first A section, Adderley starts with an initial phrase (P.1) and then employs the Dorian scale (P.2) and a Dorian phrase (P.3) to create a distinctive melodic character. The use of a triad pair (G arpeggio + Fmaj7 arpeggio) (P.4) allows the musician to emphasize the chord tones and create an interesting harmonic line, while the use of the Em pentatonic scale (P.5) provides a bluesy sound.

In the A^2 section, Adderley utilizes a Dm scale (P.6) and Dorian scale (P.7) before employing a variety of techniques, including C pentatonic, Am7 arpeggio, Dm9 arpeggio, Cmaj9, and G pentatonic (P.8). This combination creates a sense of tension and release. The use of anticipation with an Em7 Aeolian sequence (P.9) sets up an effective transition to the B section.

In the B section, Adderley employs an Ebm7 Dorian sequence (P.10) and an Ebm7 Dorian scale (Bb Aeolian) (P.11) to create a sense of forward motion. The use of an Ebm7 arpeggio, a Db Maj7, and an Ebm arpeggio (P.12) creates a harmonic tension and resolution while the use of sequence and anticipation (P.13) provides an effective transition to the next A section.

In the A^3 section, the Adderley starts with a Dm phrase (P.14) and then employs a triad pair (G7 arpeggio + Fmaj9 arpeggio) (P.15) to emphasize the chord tones. The use of a Dm9 arpeggio, sequence, and G7 phrase (P.16) creates a sense of forward motion and development.

In the first A section of Chorus 2, Adderley employs a Dm7 arpeggio (P.17) and then uses a Dorian scale and sequence (P.18) before transitioning to a sequence and pentatonic scale (P.19). In the A^2 section, the musician employs an Am7 arpeggio (P.20) and a chromatic passage with Dm scale (P.21).

In the B section, Adderley uses an Em7 pentatonic scale (P.22) and Ab Mixolydian scale (V7 implicature) (P.23) before employing a sequence with Gb triad (P.24) and anticipation (P.25) for an effective transition to the final A section.

In the A^3 section, Adderley employs a chromatic passage (P.26) and a G7 Mixolydian scale with a sequence (P.27) before concluding the chorus with a closure phrase using G7 Mixolydian scale (P.28). Overall, the soloist employs various pragmatic and jazz improvisation techniques to create a compelling and coherent musical expression.

4.8 Discourses and conversations

To fully understand the discourse of the soloists, their individual development in conversation with other musicians and the collective discourse's contribution to the song, it is important to consider the context in which they performed. For example, Davis opened the discussion of "So What" with his first solo, followed by Coltrane and Adderley. Each musician's place in the conversation can be seen as part of the context, and their strategies and resources can be analyzed through the musical meta-structure and illocutive force. However, it is essential to note that the development of the discourse was primarily a result of the musical ideas expressed (locutionary force) and triggered by the accompanying musicians, who reacted through musical phrases and speech acts (perlocutionary force). Although this exploratory research only considered Davis's solo and the transcription of all the musicians, both Coltrane and Adderley also developed their musical speech in response to the other members of the combo. Their perlocutionary reactions were influenced by the discursive exposition of each soloist, and they developed a unique conversation recorded in the recording.

It is worth noting that the perlocutionary response of the musicians during Davis's solo does not have the same reaction as in Coltrane's solo. If the musicians' musical response during Davis's solo were interchanged with Coltrane's solo, we couldn't speak of a jazz conversation. This would be the equivalent of "improvising" with a recording and backing track. Jazz is a social art form that requires the other to respond and react. Finally, the discursive development of each solo also enters into dialogue with the other soloist's discourse, influencing how they react and "give an opinion." Each soloist's illocutive force is differentiated by the discursive options they developed at the time.

In the analysis of Davis's improvisation, the predominant use of the Dorian scale and fourth or fifth intervals demonstrates his adherence to the rules established by the scale. The analysis also takes into account the pragmatic components, such as musical vocabulary, to establish the level of utterance represented musically. However, the analysis does not consider the interaction with other musicians, which also influences the improvisation. Additionally, interpreting Davis's speech as his opinion of "So What" helps to establish the locutionary and illocutionary force of his statement. In contrast, the analysis of Coltrane's improvised solo in "So What" highlights the use of various musical elements, such as pentatonic scales, arpeggios, and sequences, to create a sophisticated and intricate solo. Coltrane also employs rhetorical devices, such as sequencing techniques, enclosures, chromaticism, and passing tones, to generate tension, release, and variation in his solos. These elements are similar to those used by a speaker to create emphasis or persuasion in their speech.

The analysis of Adderley's jazz improvisation shows that he uses various harmonic and melodic devices, such as the Dorian mode, triad pairs, chromatic passages, and closures, to create interest and variation in the line. These elements contribute to a complex and varied harmonic and melodic palette. From a speech act perspective, each of these devices can be seen as a type of illocutionary act that serves a specific purpose in the improvisation. For example, the use of a sequence and anticipation in his phrases can be seen as an interrogative illocutionary act that creates interest in the line. For the most part, the three analyses demonstrate how jazz musicians use different musical elements and rhetorical devices to create interest, variation, and tension in their improvisations. Each analysis focuses on different aspects of the improvisations, with the analysis of Davis's improvisation highlighting the use of discursive tools and the Dorian

scale, the analysis of Coltrane's improvisation focusing on a wider range of musical elements and rhetorical devices, and the analysis of Adderley's improvisation emphasizing the concept of illocutionary acts in speech act theory. In jazz, improvisation is often a collaborative process, with musicians interacting with each other and responding to each other's ideas. The interaction between musicians affects the direction and development of the improvisation, and thus, it is an important factor to consider in analyzing jazz improvisation.

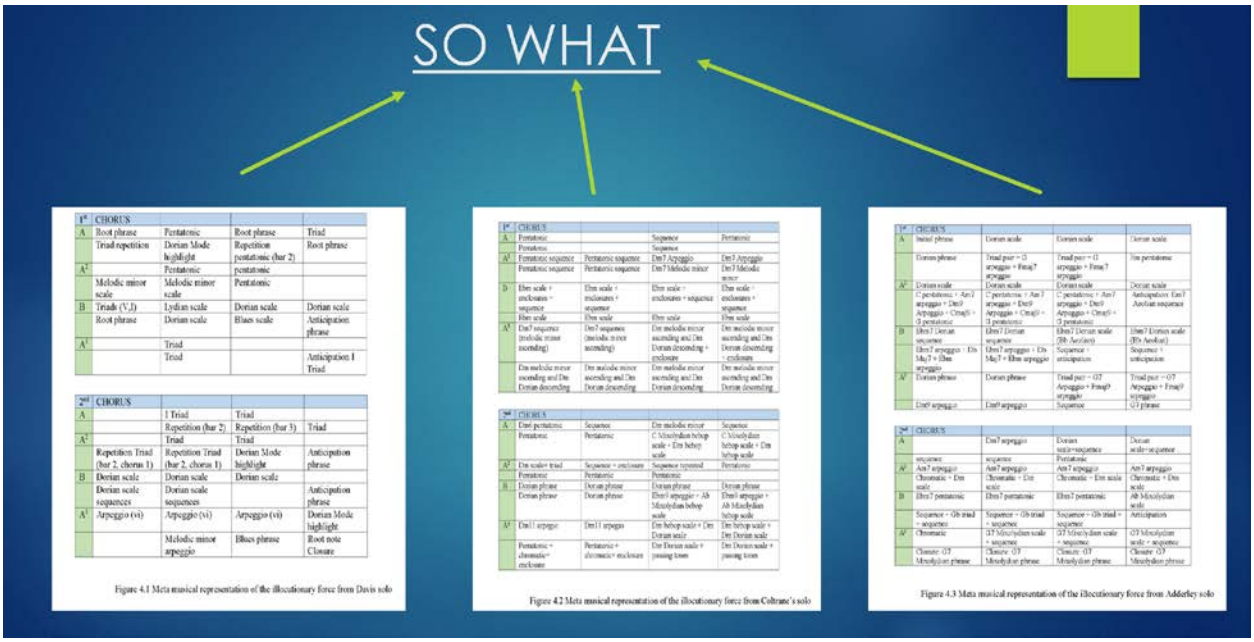

Figure 4.8: Pragmatic meta-musical structure of Davis's, Coltrane's, and Adderley's speech on "So What"

4.9 Summary

How do the soloists' speeches contribute to the song according to the Grice maxims enumerated in Chapter 2? Grice's maxims are a set of conversational principles that can be applied not only to verbal communication, but also to nonverbal forms of communication such as music. Here are some ways that Grice's Maxims can be applied in jazz improvisation:

1. Maxim of Quantity: In jazz improvisation, it is important to provide enough musical ideas to keep the improvisation interesting and engaging, but not so many ideas that the

solo becomes cluttered, overwhelming, or incoherent. It is important to strike a balance between providing enough material to keep the improvisation moving forward, and not overloading the listener with too much information.

2. Maxim of Quality: In jazz improvisation, it is important to play with accuracy and precision, while also expressing creativity and originality. It is essential to have a good understanding of the underlying harmonic structure and melody of the tune, so that the improvisation is grounded in the original composition.
3. Maxim of Relevance: In jazz improvisation, it is important to stay connected to the underlying harmonic structure and melody of the tune, while also exploring new musical ideas. The improvisation should be relevant to the tune being played and should contribute to the overall musical conversation.
4. Maxim of Manner: In jazz improvisation, it is important to communicate clearly and effectively through your playing. This involves using musical phrasing, dynamics, articulation, and other expressive techniques to convey your musical ideas. It is also important to listen to the other musicians in the ensemble, and to respond to their ideas in a clear and respectful manner.

In conclusion, Grice's maxims are not limited to verbal communication and can be applied to various forms of communication, including music. Jazz improvisation is a perfect example of how these conversational principles can be utilized in nonverbal communication. The four maxims of Quantity, Quality, Relevance, and Manner are essential in creating a meaningful and engaging improvisation that contributes to the overall musical conversation. By striking a balance between providing enough material, playing accurately while expressing creativity, staying relevant to the tune being played, “So What” in this case, and communicating effectively through musical phrasing and dynamics, jazz musicians can create a cohesive and expressive improvisation that captivates their listeners.

4.10 Results

Analyzing the soloists’ (Davis, Coltrane, and Adderley) texts with Grice's maxims:

1. Maxim of Quantity: The information provided about the musical composition seems to be sufficient for the analysis. Each section seems to have just the right amount of information, neither too much nor too little. The phrases and sequences are succinct, and they serve their purpose of transmitting the melodic, rhythmic, and harmonic structure of the composition.

2. Maxim of Quality: There is no evidence to suggest that the analysis is false or lacking in adequate evidence. In addition, since "So What" is an important referent in the history of jazz and jazz studies, these discourses provide accurate and truthful information. In the given texts, there is no obvious violation of this maxim. The texts provide an accurate description of the musical elements present in each section of the composition.

3. Maxim of Relevance: The analysis is relevant to the topic of the musical composition and provides insights into its structure and use of musical motifs.

4. Maxim of Manner: This maxim requires speakers to communicate in a clear, concise, and orderly manner. In the given texts, the phrases and sequences are clearly described, and the musical devices used are well-defined. However, some additional information, such as the rhythm, timbre, and tempo of the phrases, would be useful to provide a more complete description of the composition.

In general, the given transcriptions seem to satisfy Grice's maxims. The soloists provided musical devices in each section of the composition, and scales, phrases and sequences uttered seem to be relevant to the musical context of the improvisation part over the main theme structure. Furthermore, if we consider the history of jazz, the practice of jazz improvisation has been totally pragmatic since its beginnings. According to Berliner:

> Published solos have been available at least since the twenties. Melrose Brothers of Chicago established an early prototype with its two 1927 collections of Louis Armstrong improvisations, *50 Hot Choruses for Cornet* and *125 Jazz Breaks for Comet*. Similar publications of performances by Charlie Parker, Miles Davis, Dizzy Gillespie, John Coltrane, and other masters have increased over the past few decades, as have those appearing along with analysis in scholarly articles and theses. Since the mid-thirties, specialized trade magazines such as *Metronome* and *Down Beat* have also featured transcribed solos, accompanied in some instances by brief discussions of their merits.

> Enthusiastic learners spread the influence of these publications among their circles. Baker brought an early book of Gillespie solos to his band leader, who selected material from its contents for the band and featured it during halftime performances at football games.[64]

Evidence of the pragmatics of jazz can be found in its history. Berliner and the improvisational method books he refers to establish a jazz discourse developed through practical use, which has been reinforced with academic formalism in jazz studies. The evidence indicates that although pragmatic linguistic theories can be applied to jazz as a musicological practice, jazz itself had already developed its own pragmatic practice at least 70 years before pragmatic studies acquired scientific rigour. Thus, jazz improvisation constitutes a series of speech acts whose analog can be found in the acts of improvisation to which we refer in this research.

4.11 The pedagogical standpoint

The shared characteristics between pragmatics and jazz improvisation have a functional approach that considers all levels of language analysis present in both fields, including syntactic, and semiotic aspects beyond the perspective of transformational generative grammar proposed by Chomsky. This allows us to focus our research and its contribution on the development of jazz studies and its pedagogical perspective. Once information has been collected from the different levels of analysis (Level 1, 2, 3), it must be put into practice using templates. The primary focus of learning in jazz studies lies in jazz combos, which consist of a rhythmic and harmonic section (piano, bass, guitar, and drums) and a melodic section (saxophones, trumpets, etc.). The data collected can be used in the template for pedagogical discussions at both the combo level and individual instrumentalist level. As a paradigm, "So What," written by Davis and recorded by several musicians in a jazz combo format, provides relevant discourse from each soloist for both professional musicians and apprentices.

Therefore, the analysis and analytical tools developed in this research contribute significantly to the development of musical vocabulary within the language of jazz. While Baker's proposed template was used in this research, it is worth highlighting the context created by all musicians for the development of musical discourses and conversations, whose contributions can be appreciated in the transcription with additional elements obtained from

[64] Berliner, *Thinking in Jazz*, 34

speech acts and appreciation or suggestion that can be interpreted and put into practice using Grace's maxims. The valuable insights of the pragmatic aspects of jazz improvisation, can be applied to the development of pedagogical materials and strategies for teaching jazz. By understanding the language used in context and the illocutionary strategies employed by the musicians, educators can help students develop their own musical voice and engage in meaningful musical conversations with others.

In conclusion, the template presented below reflects the valuable information obtained from the pragmatic-musical analysis conducted in this study. The primary contribution, as reflected in the transcription provided in Appendix B, is the analysis of the speech acts used by the musicians during the recording of "So What." This analysis sheds light on the language used in context, such as the intentions or illocutionary strategies employed by the musicians to convey meaning through their musical discourse.

Moreover, the analysis of the speech acts also highlighted the importance of context and situational factors in shaping the musicians' language use. For example, the musicians adapted their language use to the changing dynamics of the musical conversation, responding to cues from other musicians and adjusting their strategies to achieve their communicative goals. This highlights the dynamic and interactive nature of jazz improvisation, where the musicians co-create meaning through their musical discourse.

The information in the template: Miles Davis solo part

ARTIST INFO:

ARTIST	Miles Davis	**RECORDING COMPANY**	Columbia Records
ALBUM	Kind Of Blue	**DATE:**	1959

SONG INFO:

SONG: SO WHAT	**FORM**: AABA	**MODAL/TONAL:** MODAL
KEY CHANGES: Dm, Ebm	**STYLE**: Medium Jazz	**Tempo**: ♩ = 135
INSTRUMENTS:	**MUSICIANS**:	
Trumpet:	Miles Davis	
Alto Sax:	Julian "Cannonball" Adderley	
Tenor Sax:	John Coltrane	
Piano:	Bill Evans	
Guitar		
Bass:	Paul Chambers	
Drums:	Jimmy Cobb	
SOLO:	Miles Davis	from bar 43 to 105
II-V, Turnbacks, Cycles.		none
Melodic/ Rhythmic Patterns.	Sequences	Bars: (43, 48), (45,46,86,87) (75,80), (81,83) (47,88)
Other Formulae: (I VI II V) Half step-Step progressions		Bar 58 (V-I)
Scales		Dorian, minor pentatonic, Melodic minor, bebop, Ionian scale
Other:	Arpeggios	C, Am7, Dm, Dm7

Performance Practice:

Simple to complex, Complex to simple.	Simple to complex
Vertical, Horizontal.	Horizontal
Chord Referential, Thematic referential.	Dm7, Dorian
For Use of sequence, Call and Response.	
Use of quotes (what and where)	Repetition of his phrases
Use of substitutions: Tritone, Back door.	Bar 58 (V-I)
Rhythmic Practices: double time, half time, asymmetrical grouping.	
Melody: Folk-like, wide expressively, Narrow expressively, Riff-like, Bebop, Quartal, Other.	Quartal style

Vocabulary:

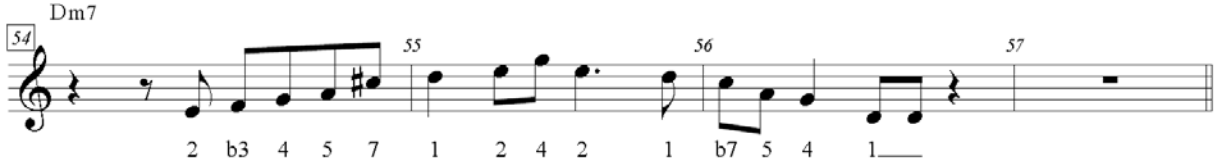

Figure 4.9: Analytical template for “So What,” including the main vocabulary (lick) uttered within the context of a Dm chord

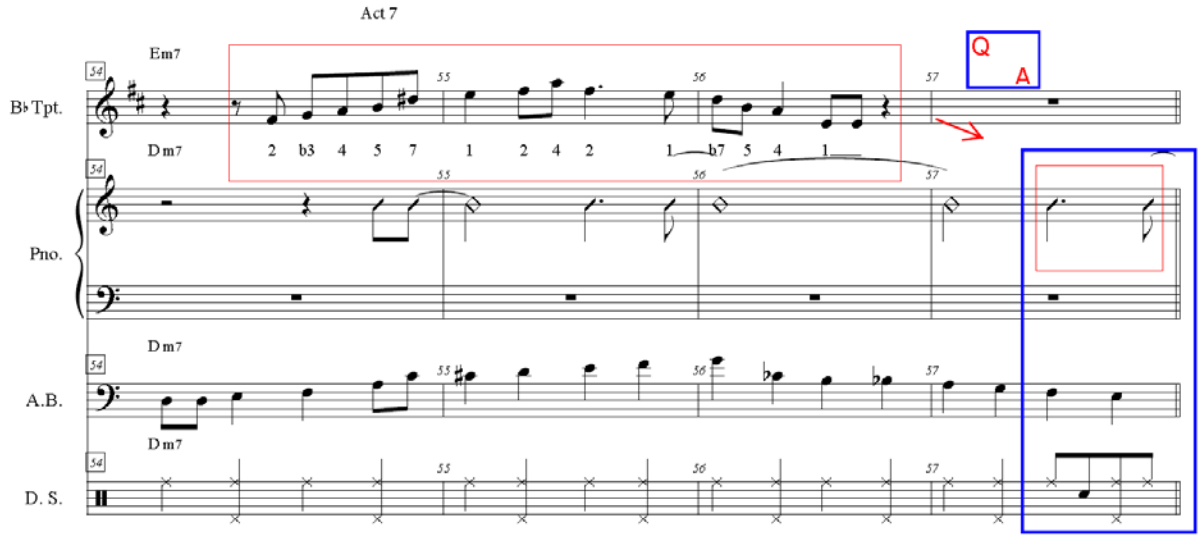

Figure 4.10. Vocabulary over Dm chord with all music parts

1st	CHORUS			
A	Root phrase	Pentatonic	Root phrase	Triad
	Triad repetition	Dorian Mode highlight	Repetition pentatonic (bar 2)	Root phrase
A^2		Pentatonic	pentatonic	
	Melodic minor scale	Melodic minor scale	Pentatonic	
B	Triads (V,I)	Lydian scale	Dorian scale	Dorian scale
	Root phrase	Dorian scale	Blues scale	Anticipation phrase
A^3		Triad		
		Triad		Anticipation I Triad

2nd	CHORUS			
A		I Triad	Triad	
		Repetition (bar 2)	Repetition (bar 3)	Triad
A^2		Triad	Triad	
	Repetition Triad (bar 2, chorus 1)	Repetition Triad (bar 2, chorus 1)	Dorian Mode highlight	Anticipation phrase
B	Dorian scale	Dorian scale	Dorian scale	
	Dorian scale sequences	Dorian scale sequences		Anticipation phrase
A^3	Arpeggio (vi)	Arpeggio (vi)	Arpeggio (vi)	Dorian Mode highlight
		Melodic minor arpeggio	Blues phrase	Root note Closure

Figure 4.11. Pragmatic meta-musical structure of Miles Davis's speech on "So What," highlighting the musical strategies used by Davis

CHAPTER 5: CONCLUSION

In conclusion, the relevance of pragmatics to the study of jazz improvisation has been demonstrated at least at the exploratory level. Additionally, the generative transformational grammar has been applied, meeting Chomsky's proposals. During improvisation, the musical discourse of each musician occurs through the utterances that take place on the instrument used as an extension of their musical thoughts, which, in turn, enters into dialogue with other musicians following the established parameters of the conversation. The musical meaning, unlike a natural language, is found in pragmatic elaboration under syntactic support. Jazz musicians execute their musical thoughts as an extension of what they think about the given theme ("head") by applying the musical vocabulary they have acquired to the context that emerges in pragmatic performance with an ensemble.

Jazz improvisation starts as an individual practice until it gains meaning and significance for the musician, and then becomes more valuable when the vocabulary ceases to be a personal cognitive exercise and reaches the realm of interaction with other musicians in specific contexts. The more exposure one has to jazz music, the greater the acquisition and variability of the jazz language. Jazz is pragmatic in a linguistic sense, as its conditions are conducive and comparable to the context in which pragmatics develops, that is, speech acts. Moreover, the jazz genre has particular linguistic characteristics that could garner greater attention and recognition from jazz scholars. Jazz improvisation is a highly valued aspect of the genre and is often seen as a key element of what makes jazz music unique and special. The historical evidence shows that jazz performance has been entirely pragmatic since its beginning. The evidence indicates that, despite applying pragmatic linguistic theories to jazz as a musicological practice, jazz has already developed its own pragmatic practice at least 70 years before pragmatic studies acquired scientific rigour.

The analogy to speech acts can be found in the improvisational acts I analyze in this research. Jazz improvisation focuses initially on its internal musical logic, but the musical meaning of jazz is found in pragmatic elaboration under syntactic support. Further studies could be done from a pedagogical perspective to understand the cognitive processes involved in learning natural languages. The pragmatic process of improvisation is inherent in jazz music. Jazz improvisation is a collaborative process in which the musicians' contributions to the

conversation are evaluated based on their musical significance, and musical meaning is found in the pragmatic elaboration of syntax. Consequently, the acquisition of a jazz vocabulary is essential to the development of improvisation skills, which are honed through interaction with other musicians and the jazz environment. The pragmatic nature of jazz is evident in linguistic, neurological, and professional studies, and it offers unique insights into the cognitive processes involved in language acquisition.

Lastly, the concept of improvisation acts may be introduced to shift the focus of jazz studies toward the improvisational process. Jazz has been a pragmatic practice since its inception, as evidenced by the availability of published solos and transcriptions. The history of jazz and its improvisational traditions demonstrate that it has already developed its own pragmatic practice long before linguistic pragmatics became a rigorous scientific discipline. Jazz improvisation is a unique and valued aspect of the genre that reflects the collaborative, creative, and communicative nature of music.

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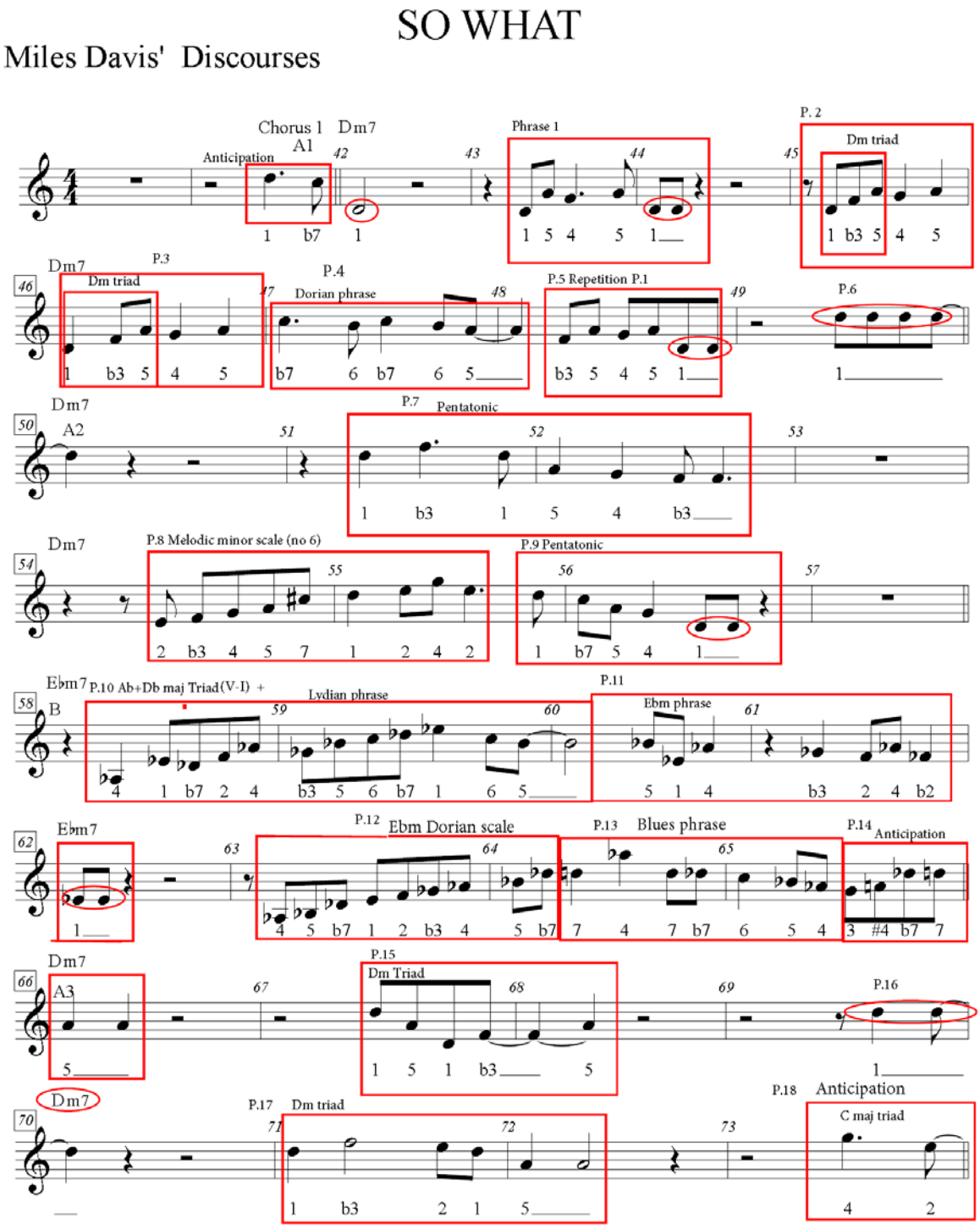
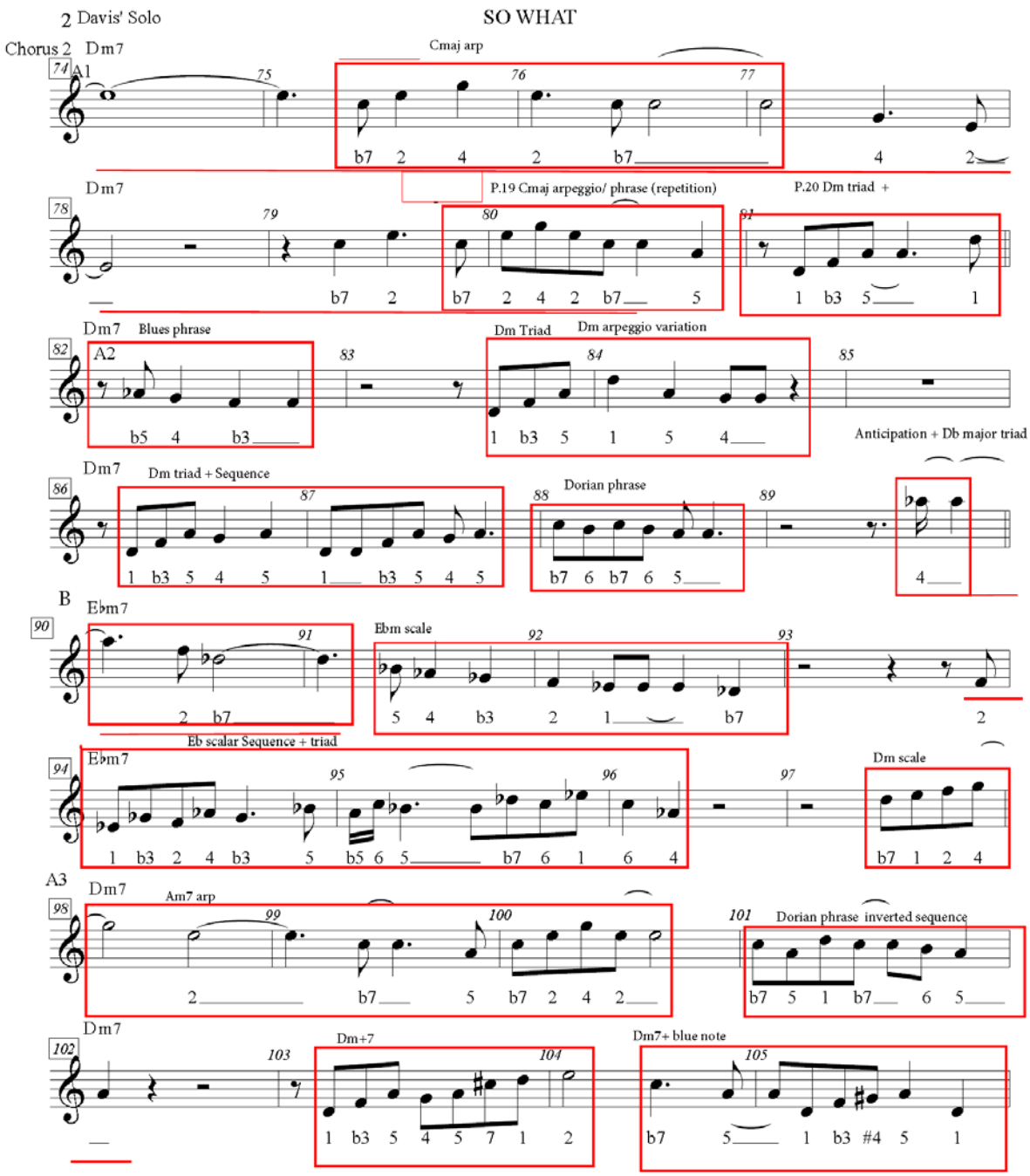
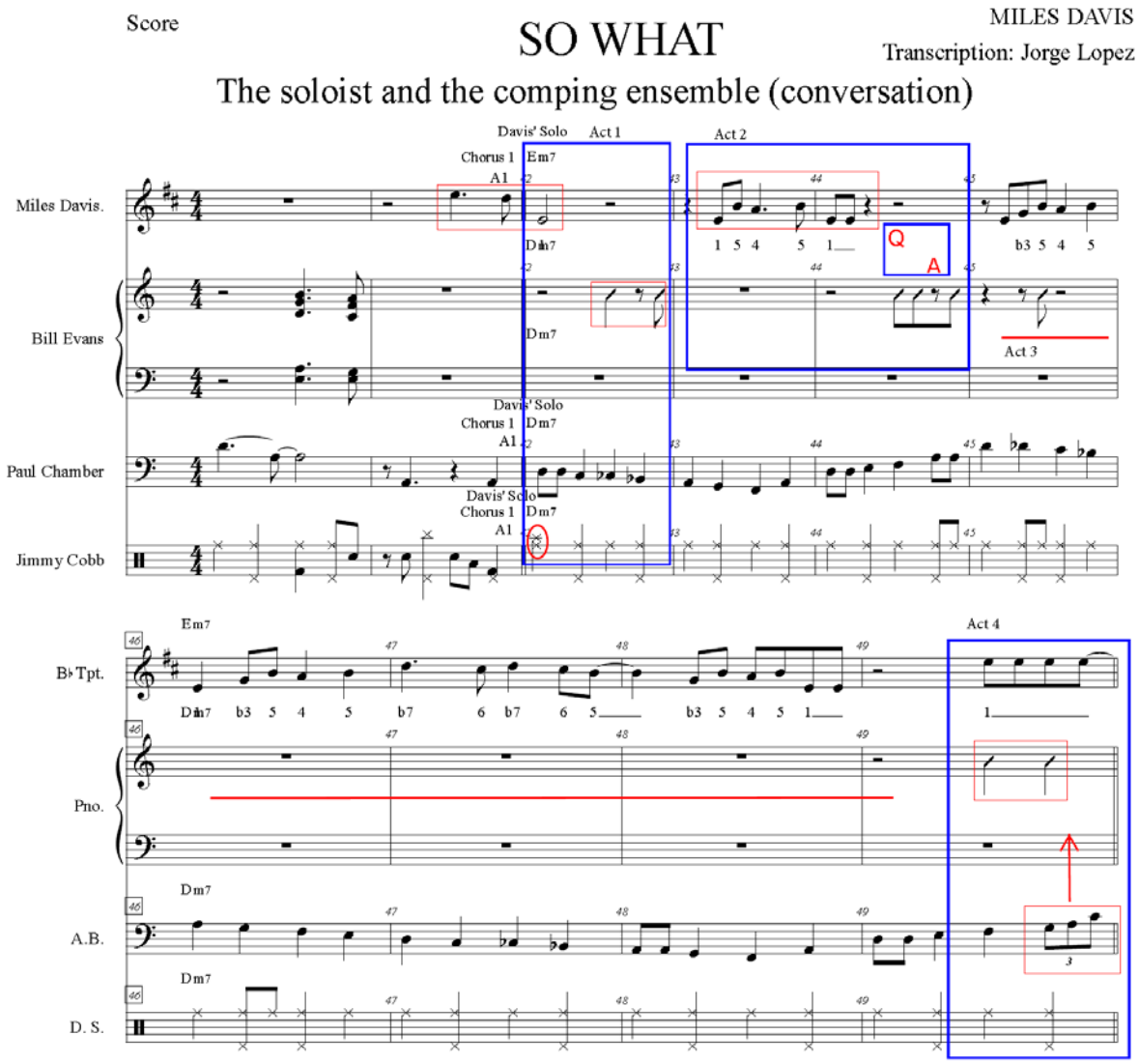
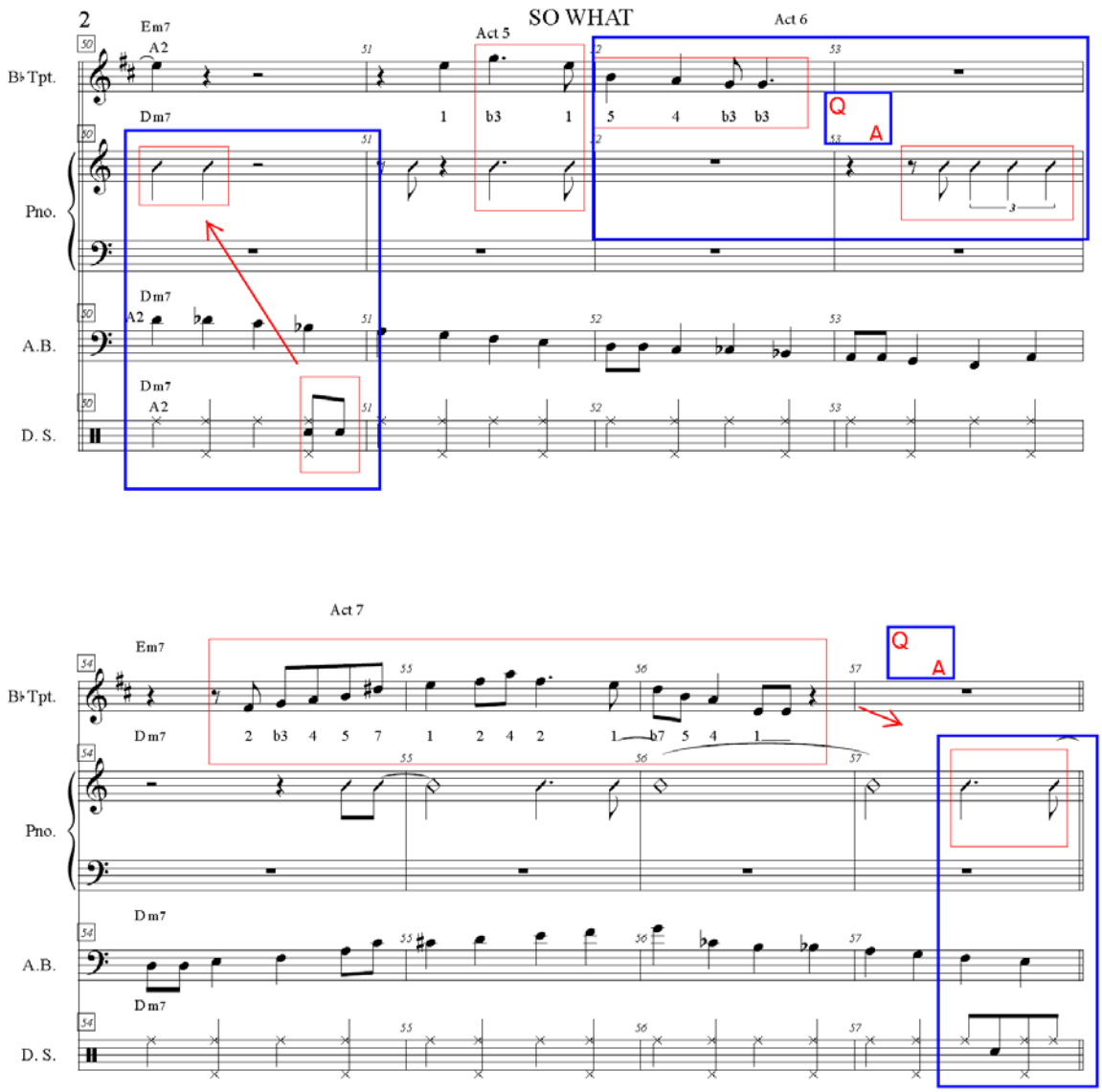
APPENDIX A: Transcription of Davis's solo

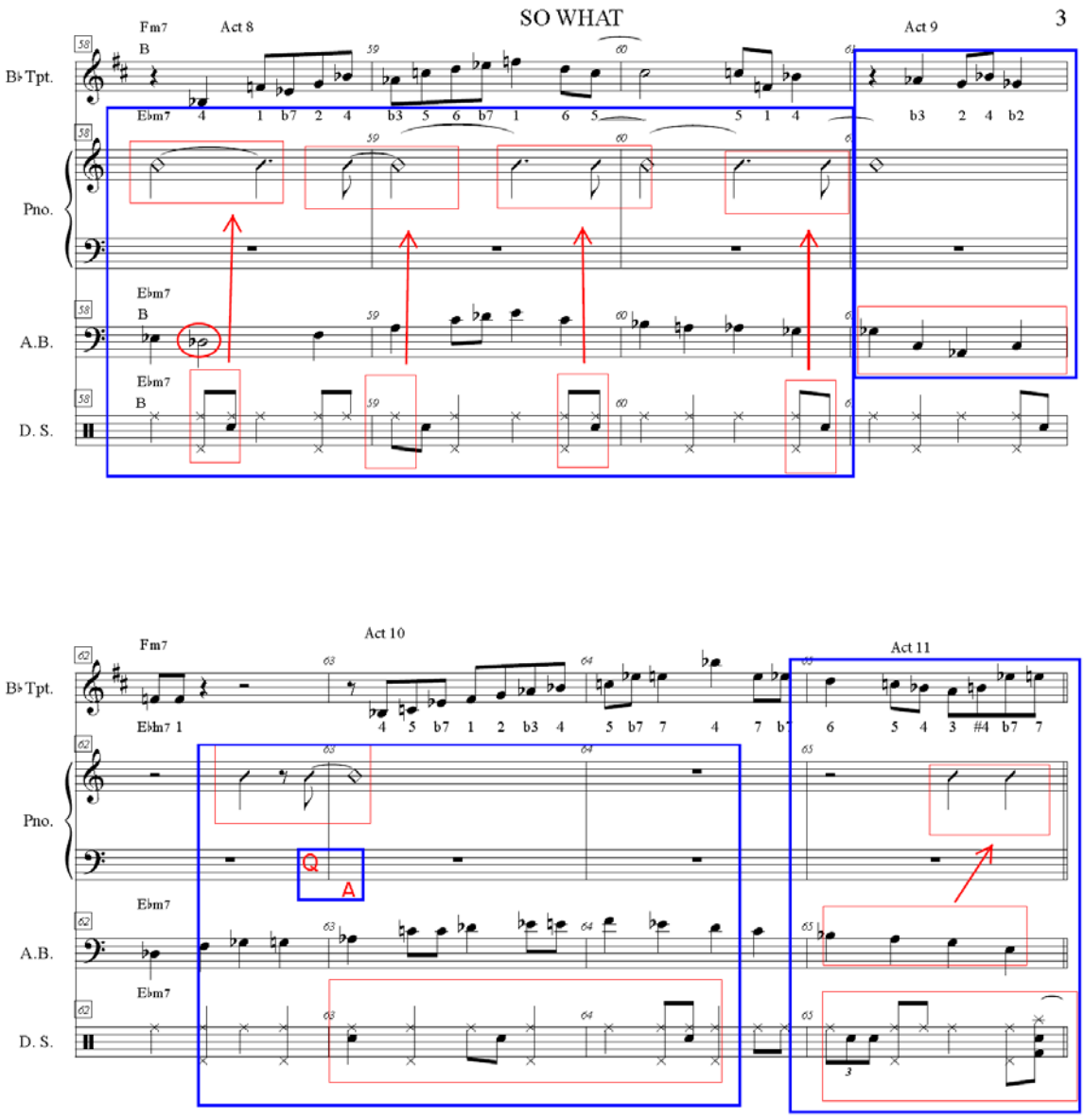


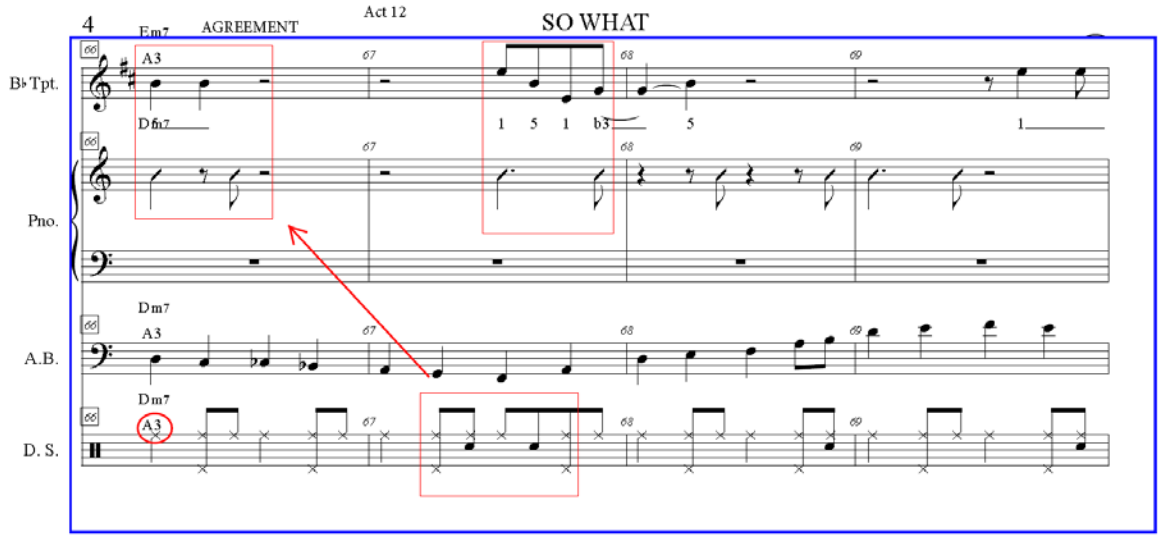

2 Davis' Solo
SO WHAT
Chorus 2
Dm7
A1
Cmaj arp
P.19 Cmaj arpeggio/ phrase (repetition)
P.20 Dm triad +
Blues phrase
A2
Dm Triad
Dm arpeggio variation
Anticipation + Db major triad
Dm triad + Sequence
Dorian phrase
B
Ebm7
Ebm scale
Eb scalar Sequence + triad
Dm scale
A3
Am7 arp
Dorian phrase inverted sequence
Dm+7
Dm7+ blue note

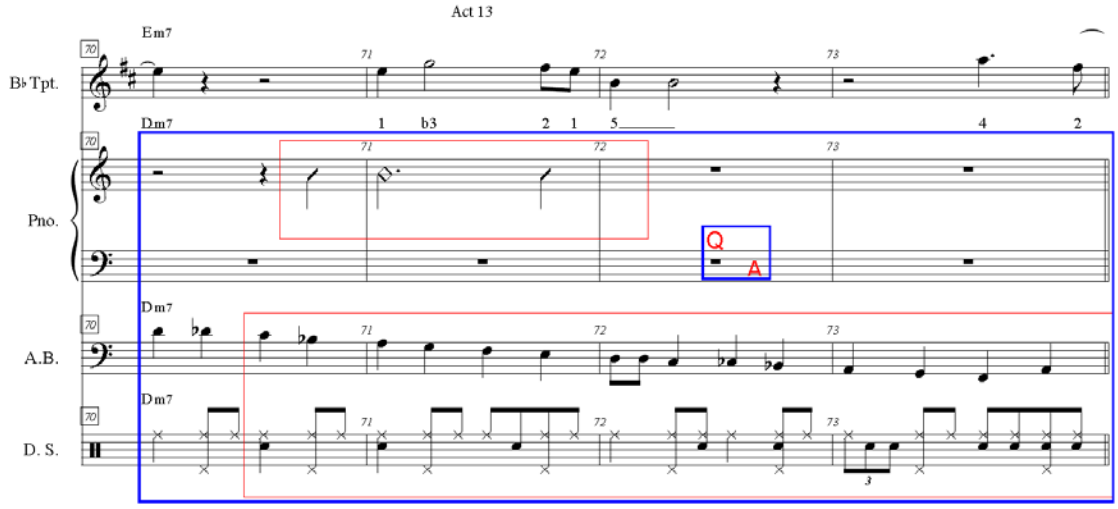
APPENDIX B: The soloist and the comping ensemble (conversation)

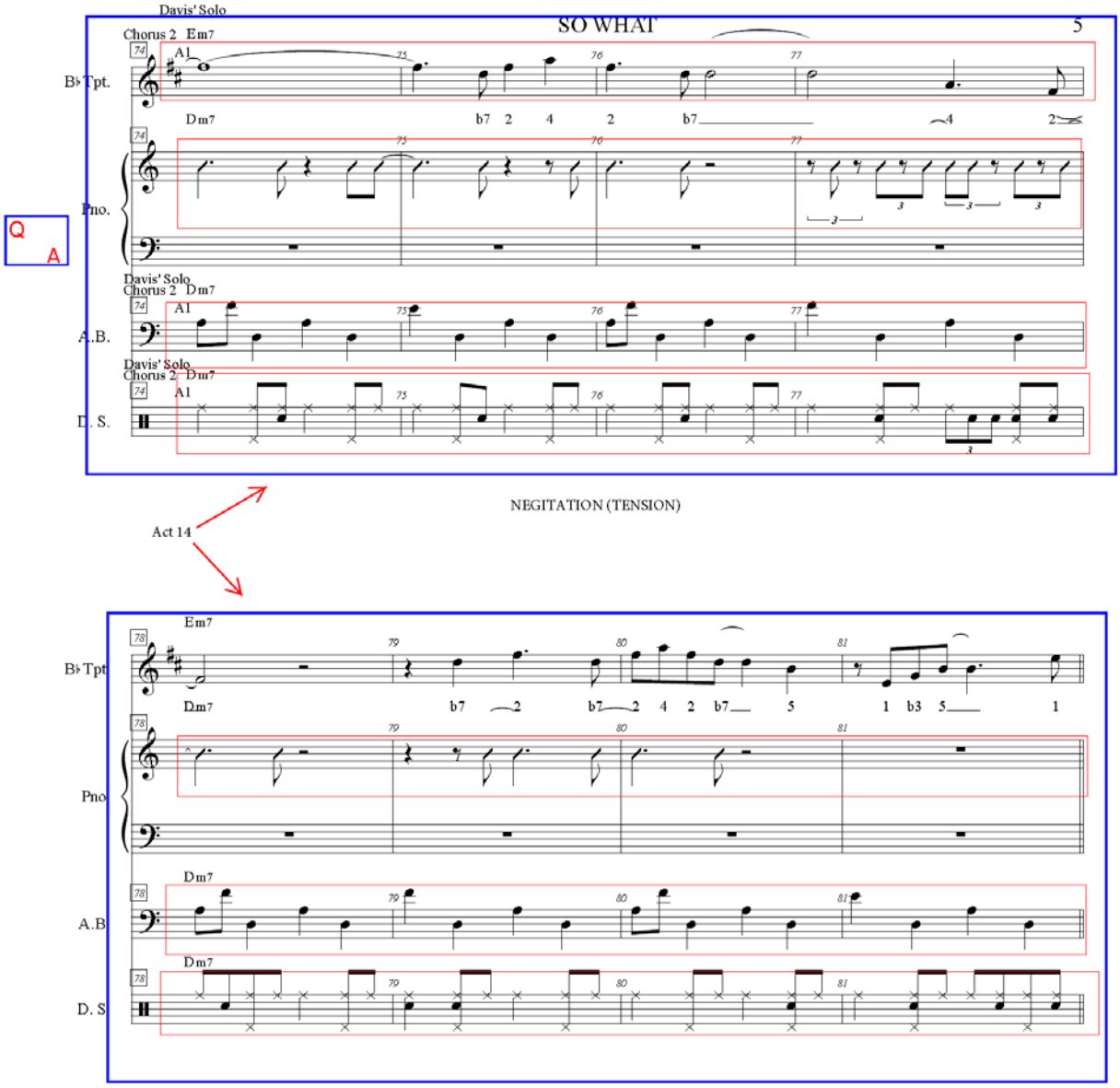


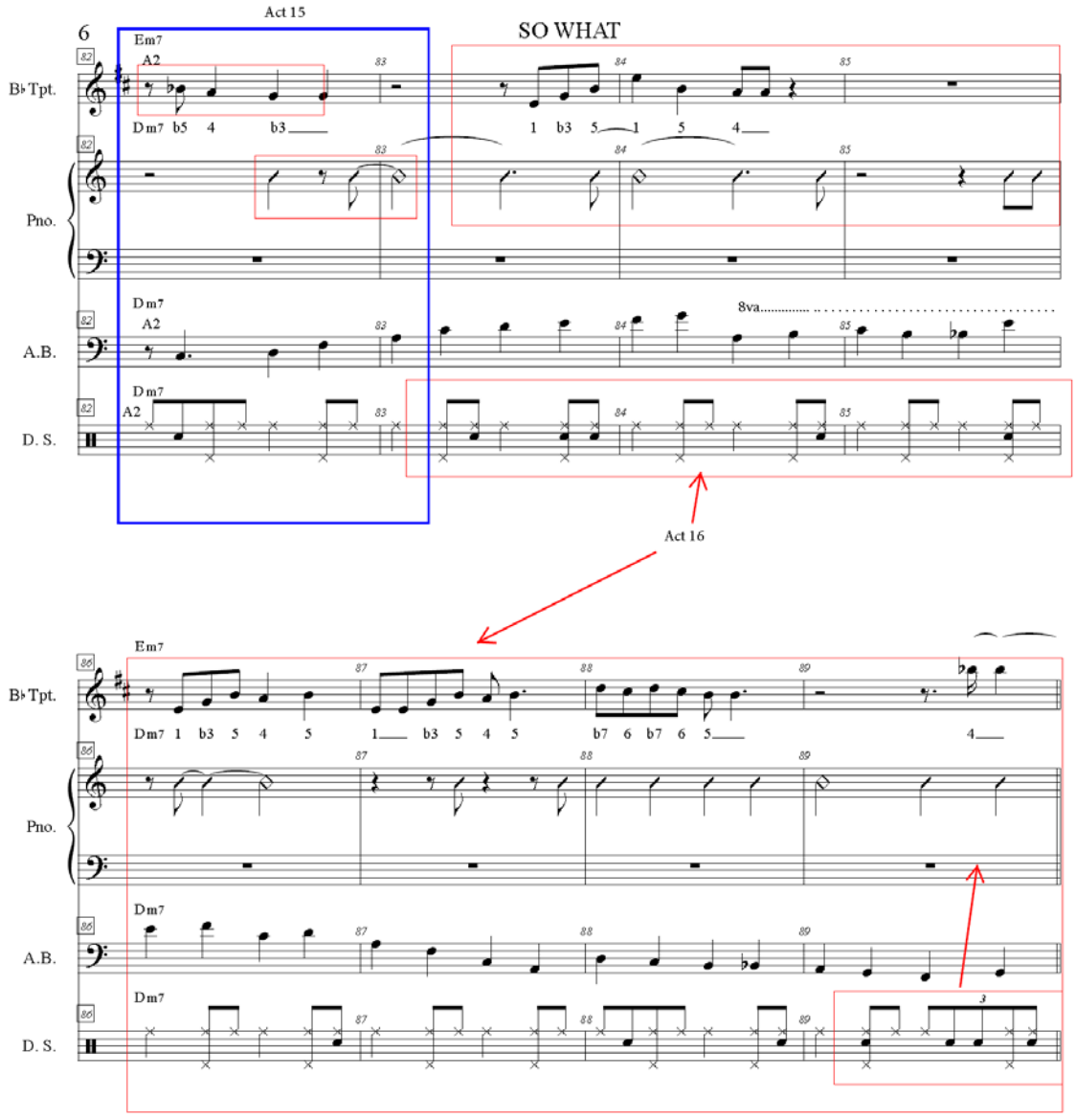

2
SO WHAT
Act 5
Act 6
Act 7
B♭Tpt.
Pno.
A.B.
D. S.
Em7
Dm7
A2
Q
A

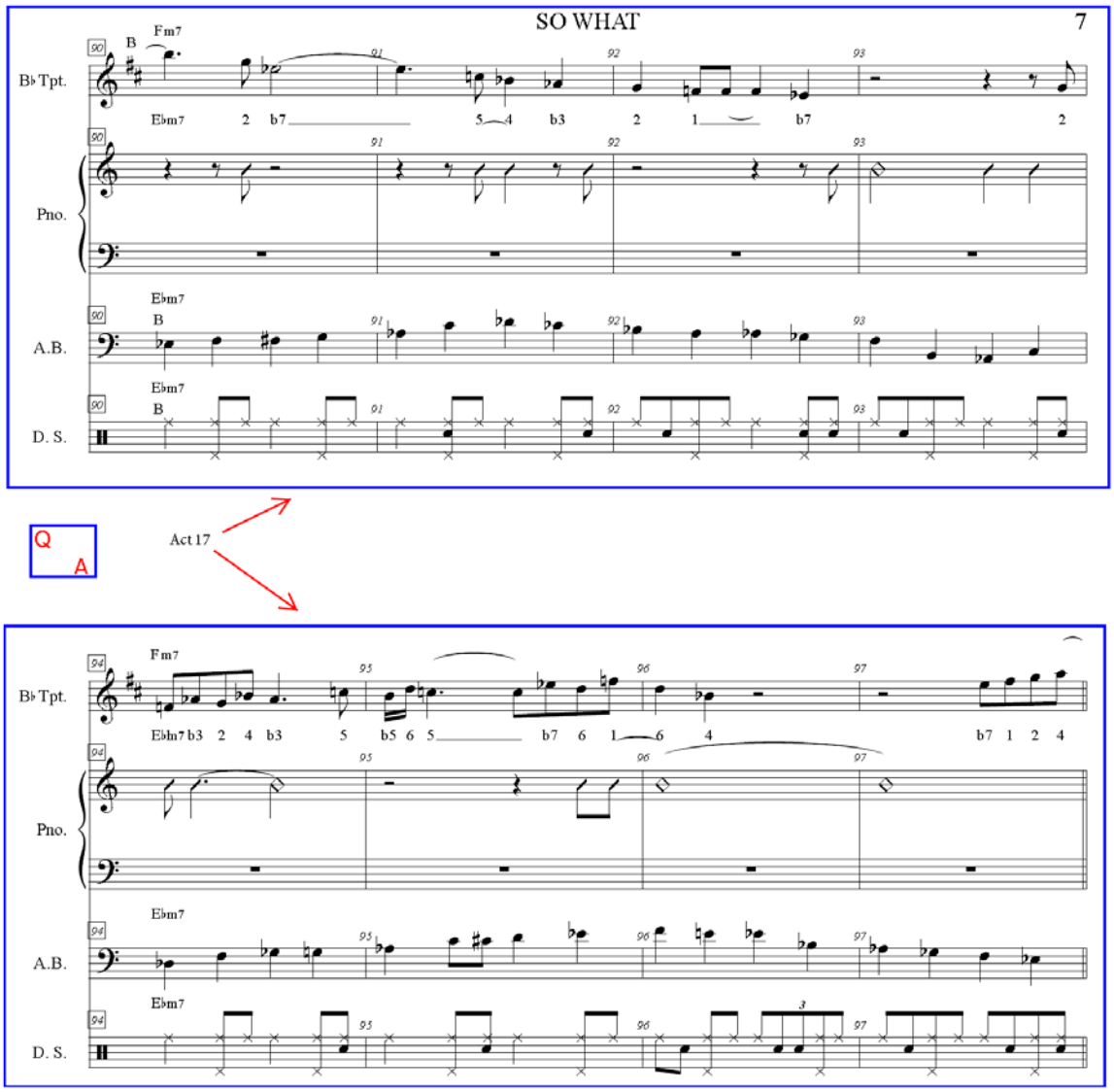

SO WHAT
3
Act 8
Act 9
Act 10
Act 11
Fm7
Ebm7
B
B♭ Tpt.
Pno.
A.B.
D. S.
Q
A

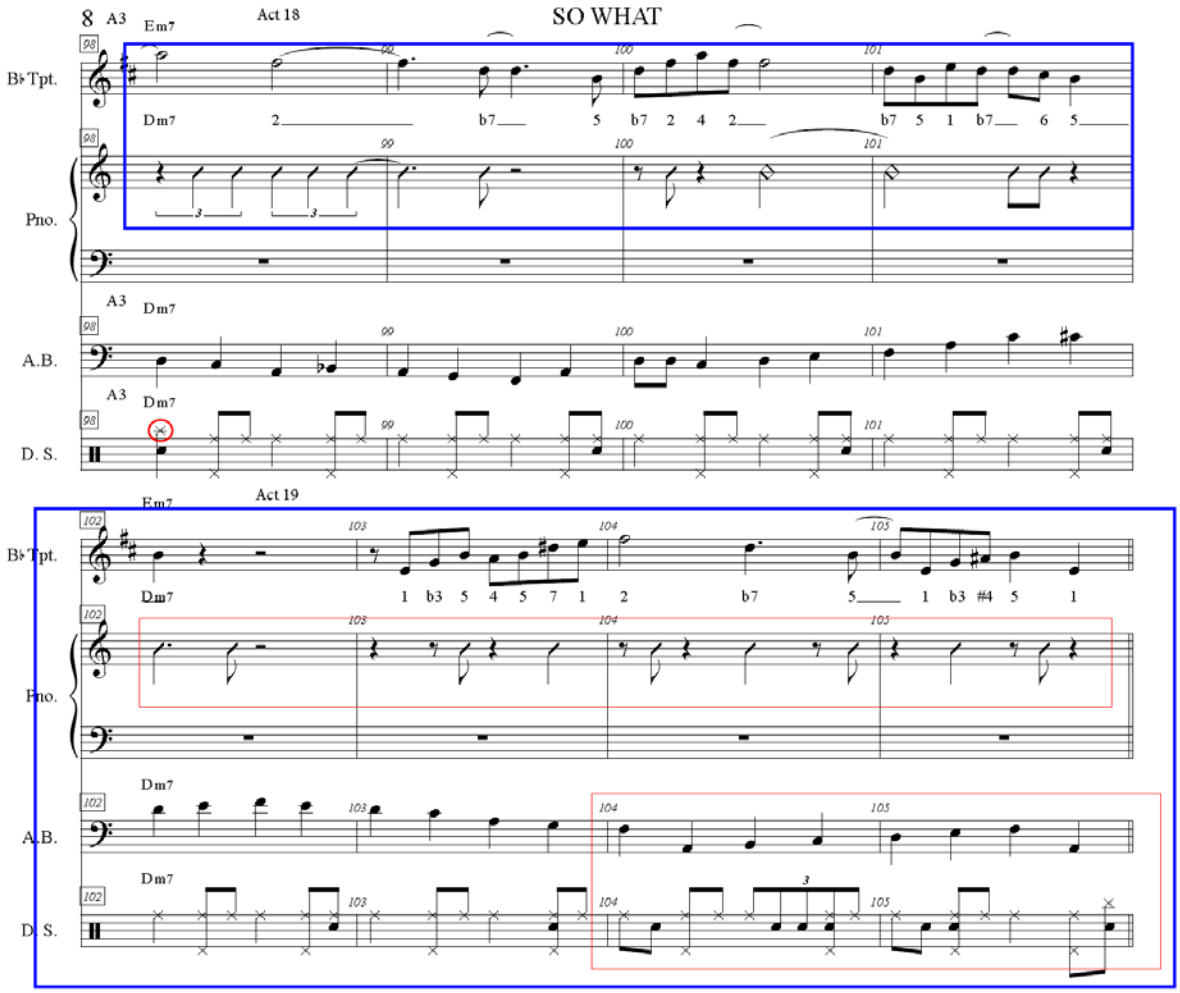

4
AGREEMENT
Act 12
SO WHAT
B♭ Tpt.
Pno.
A.B.
D. S.
Em7
A3
Dm7
1 5 1 b3 5 1


Act 13
B♭ Tpt.
Pno.
A.B.
D. S.
Em7
Dm7
1 b3 2 1 5 4 2
Q
A

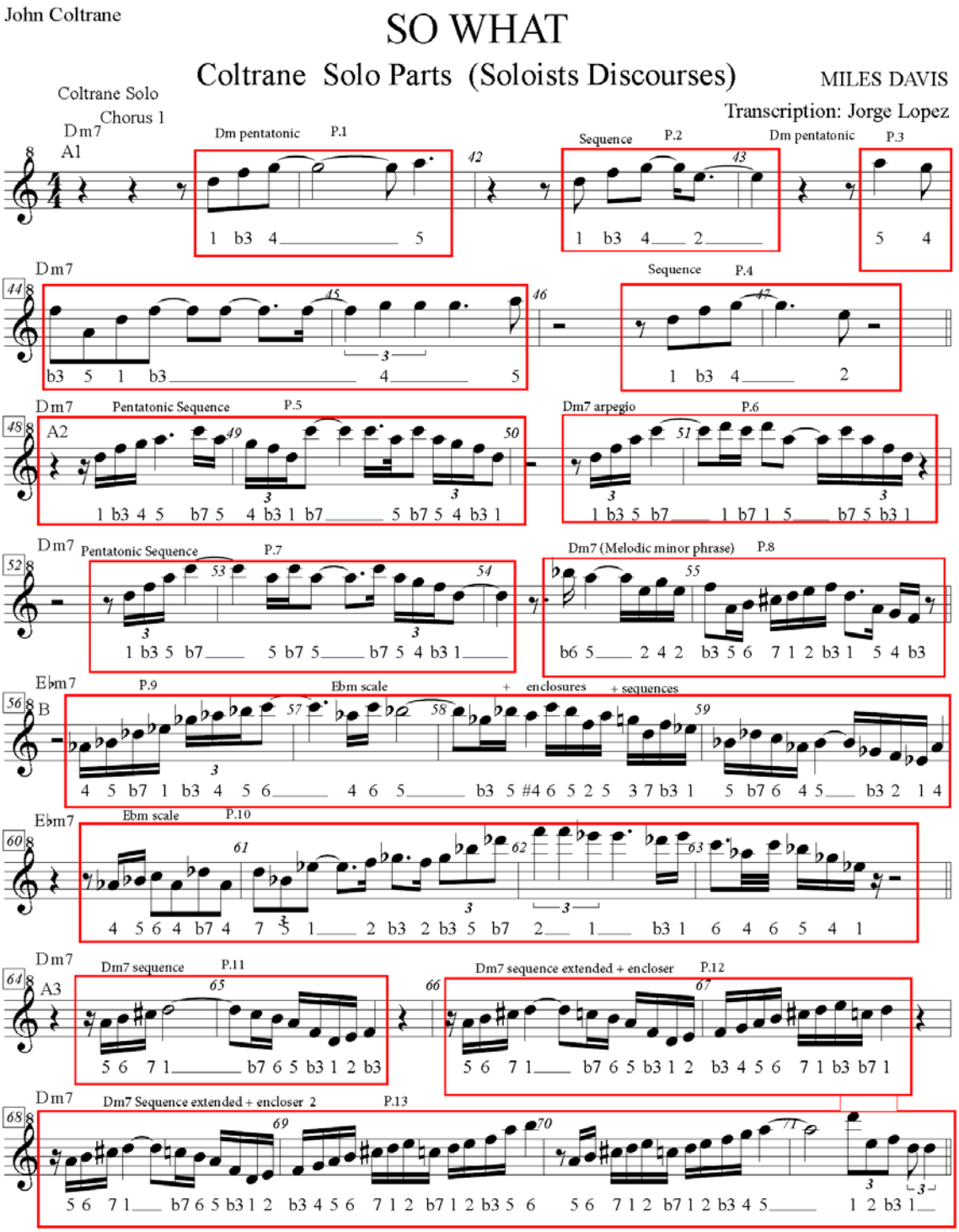

SO WHAT
5
Davis' Solo
Chorus 2 Em7
A1
B♭Tpt.
Dm7
b7 2 4 2 b7 4 2
Pno.
Q
A
Davis' Solo
Chorus 2 Dm7
A1
A.B.
Davis' Solo
Chorus 2 Dm7
A1
D. S.
NEGITATION (TENSION)
Act 14
Em7
B♭Tpt
Dm7
b7 2 b7 2 4 2 b7 5 1 b3 5 1
Pno
Dm7
A.B
Dm7
D. S

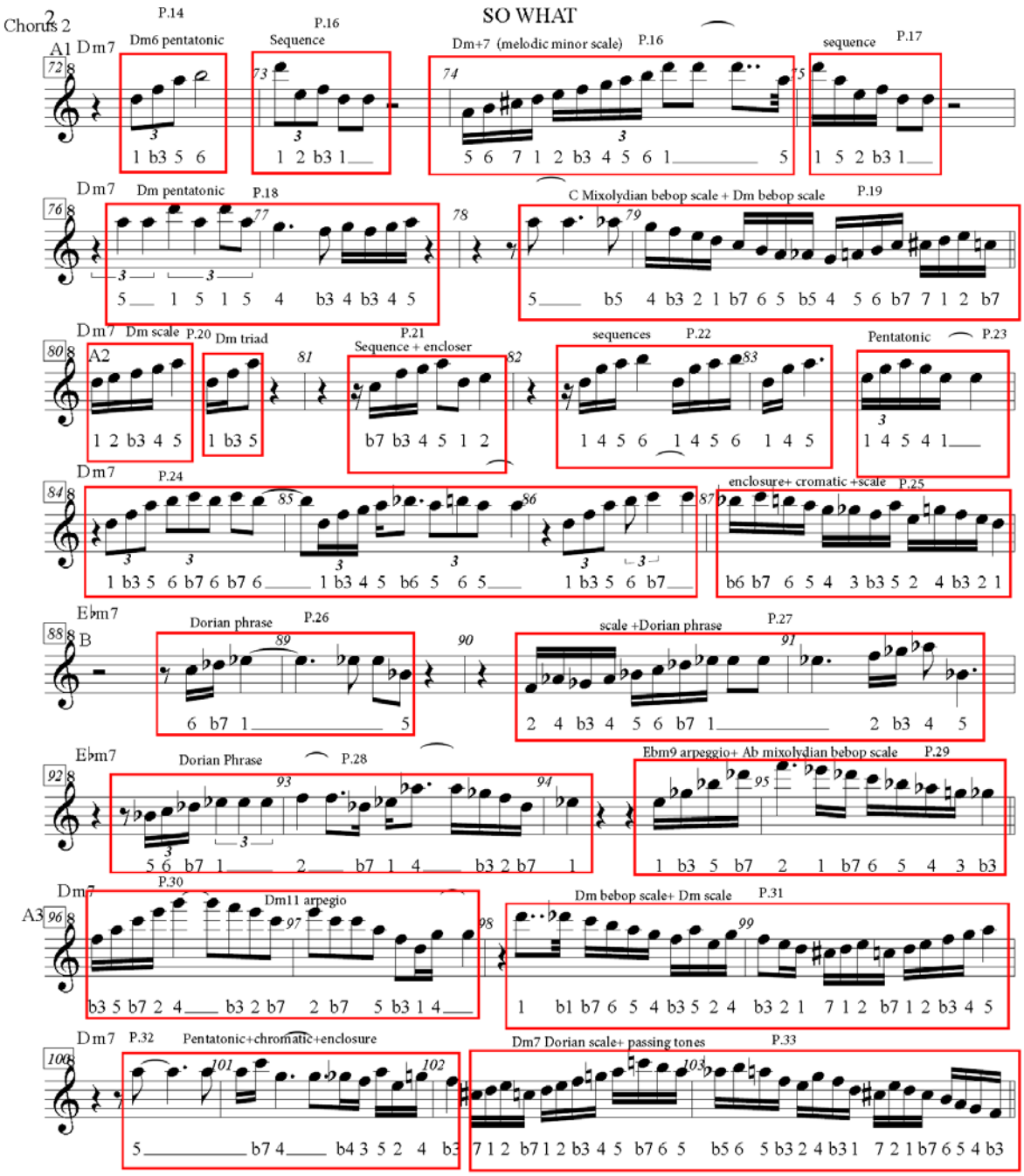

Act 15
6
SO WHAT
Em7
A2
B♭ Tpt.
Dm7 b5 4 b3
1 b3 5 1 5 4
Pno.
Dm7
A2
8va
A.B.
Dm7
A2
D. S.
Act 16
Em7
B♭ Tpt.
Dm7 1 b3 5 4 5 1 b3 5 4 5 b7 6 b7 6 5 4
Pno.
Dm7
A.B.
Dm7
D. S.


SO WHAT
7
B♭ Tpt.
Pno.
A.B.
D. S.
Fm7
E♭m7
Act 17
Q
A

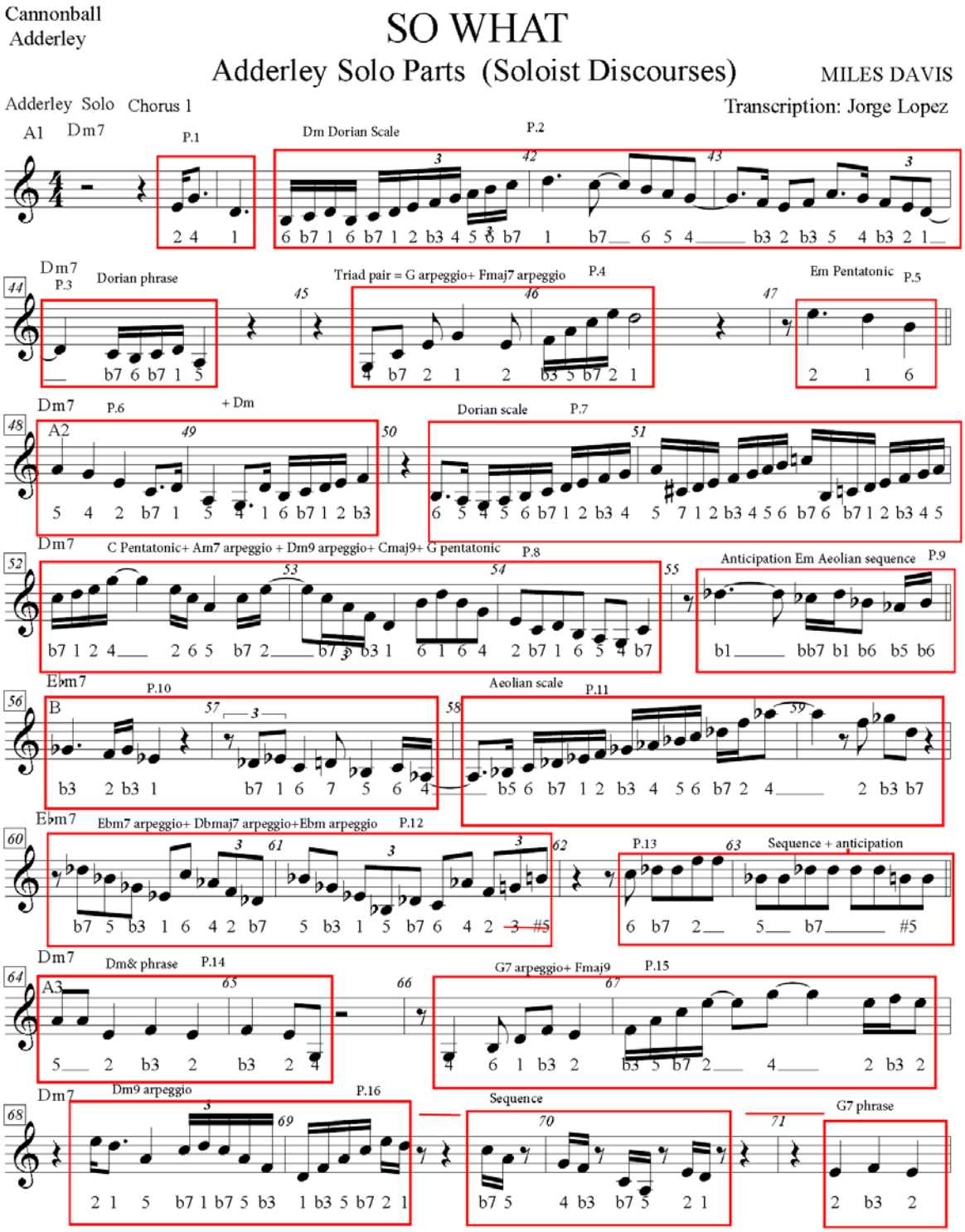

SO WHAT
Act 18
Act 19
A3
Em7
Dm7
B♭Tpt.
Pno.
A.B.
D. S.

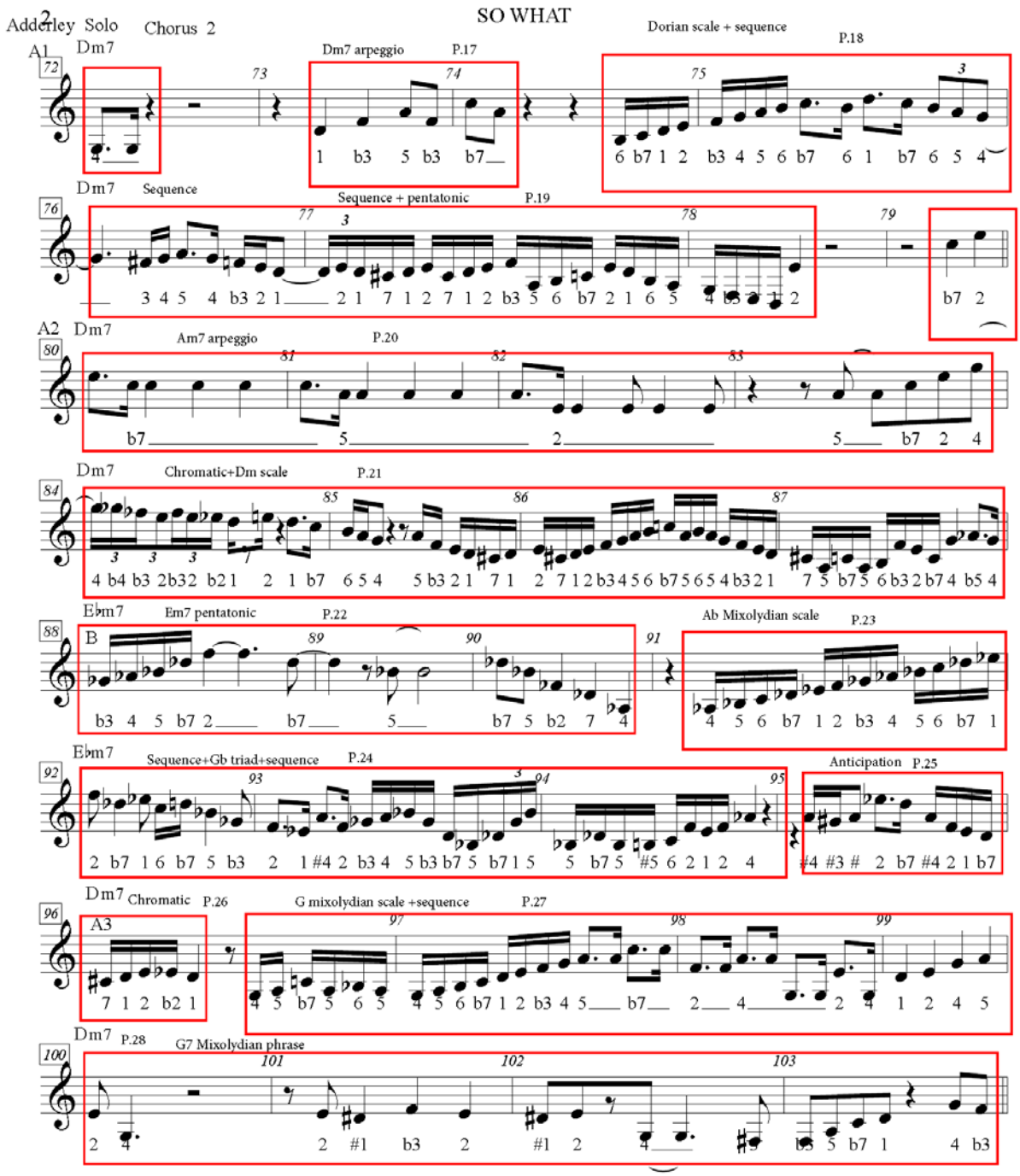
APPENDIX C: Transcription of Coltrane solo parts (soloist discourses)




2
Chorus 2
SO WHAT
A1
Dm7
P.14
Dm6 pentatonic
P.16
Sequence
Dm+7 (melodic minor scale)
P.16
sequence
P.17
1 b3 5 6
1 2 b3 1
5 6 7 1 2 b3 4 5 6 1 5
1 5 2 b3 1
Dm7
Dm pentatonic
P.18
C Mixolydian bebop scale + Dm bebop scale
P.19
5 1 5 1 5 4 b3 4 b3 4 5
5 b5 4 b3 2 1 b7 6 5 b5 4 5 6 b7 7 1 2 b7
Dm7
Dm scale
P.20
Dm triad
P.21
Sequence + encloser
sequences
P.22
Pentatonic
P.23
A2
1 2 b3 4 5
1 b3 5
b7 b3 4 5 1 2
1 4 5 6 1 4 5 6 1 4 5
1 4 5 4 1
Dm7
P.24
enclosure+ cromatic +scale
P.25
1 b3 5 6 b7 6 b7 6 1 b3 4 5 b6 5 6 5 1 b3 5 6 b7
b6 b7 6 5 4 3 b3 5 2 4 b3 2 1
Ebm7
B
Dorian phrase
P.26
scale +Dorian phrase
P.27
6 b7 1 5
2 4 b3 4 5 6 b7 1 2 b3 4 5
Ebm7
Dorian Phrase
P.28
Ebm9 arpeggio+ Ab mixolydian bebop scale
P.29
5 6 b7 1 2 b7 1 4 b3 2 b7 1
1 b3 5 b7 2 1 b7 6 5 4 3 b3
Dm7
A3
P.30
Dm11 arpegio
Dm bebop scale+ Dm scale
P.31
b3 5 b7 2 4 b3 2 b7 2 b7 5 b3 1 4
1 b1 b7 6 5 4 b3 5 2 4 b3 2 1 7 1 2 b7 1 2 b3 4 5
Dm7
P.32
Pentatonic+chromatic+enclosure
Dm7 Dorian scale+ passing tones
P.33
5 b7 4 b4 3 5 2 4 b3
7 1 2 b7 1 2 b3 4 5 b7 6 5 b5 6 5 b3 2 4 b3 1 7 2 1 b7 6 5 4 b3

APPENDIX D: Transcription of Adderley solo parts (soloist discourses)




SO WHAT
Adderley Solo
Chorus 2
A1
Dm7
Dm7 arpeggio
P.17
Dorian scale + sequence
P.18
Dm7
Sequence
Sequence + pentatonic
P.19
A2
Dm7
Am7 arpeggio
P.20
Dm7
Chromatic+Dm scale
P.21
Ebm7
B
Em7 pentatonic
P.22
Ab Mixolydian scale
P.23
Ebm7
Sequence+Gb triad+sequence
P.24
Anticipation
P.25
Dm7
A3
Chromatic
P.26
G mixolydian scale +sequence
P.27
Dm7
P.28
G7 Mixolydian phrase