Referents in the Palimpsests of Jazz: Disentangling Theme from Improvisation in Recordings of Standard Jazz Tunes[*]

Sean R. Smither

ABSTRACT: Jazz analysts have long struggled with the ways in which tunes can be accounted for in analyses of musical structure. When analyzing the utterances jazz musicians make in an improvised performance, it is difficult to disentangle the musical elements related to what Jeff Pressing termed the "referent"—the improviser's conceptualization of the tune—from those more freely improvised in the moment. Complicating this problem is the fact that standard jazz tunes themselves are not fixed structures with essential, immutable musical components; no definitive version exists of any given tune. Instead, tunes are flexible and malleable, permitting infinite variations.

In this article, I develop a methodology that provisionally disentangles jazz improvisations from the tunes on which they are based. I begin by theorizing the structure and function of various tune-referents before outlining a theory of referent defaults. I then present two case studies, one on melody and one on harmony, that examine the relations between different performances in order to arrive at a postulated referent for use in further analysis. Finally, I draw on anthropologist Timothy Ingold's concept of textility to illuminate the nuanced ways that jazz improvisers engage with referents.

1. The Problematics of Analyzing Standard Jazz Tunes

[1.1] Standard jazz tunes (from this point onward, simply "tunes")—the compositions on which many jazz improvisations are based—are central to modern jazz practice. From jam sessions to the conservatory classroom to the jazz club stage, the tune is one of the most common frameworks for jazz improvisation. When jazz musicians play a tune, they participate in a living tradition grounded in Black American musical aesthetics, in which musical works are continually reinterpreted. The spirit of revision that animates this chain of reinterpretations, which Henry

Louis Gates, Jr. (1988) terms "Signifyin(g)," is characterized by troping, transformation, inversion, intertextuality, and "repetition, with a signal difference" (51).[1] When Signifyin(g) on a tune, jazz musicians provide a sense of familiarity to their audiences, all while playing with, and in many cases fundamentally altering, that tune's musical structure.

[1.2] When analyzing the utterances musicians make in an improvised performance, it is frequently difficult to disentangle the musical elements related to the tune from those that were more freely improvised in the moment. One issue complicating this problem is that informed listeners carry with them their own ideas about how a tune goes, and they rely on these intuitions to make sense of perceived transformations. Another is that transformations of jazz tunes reflect an important aesthetic principle in jazz improvisation: without a sense of what "the tune" is, listeners lack a point of comparison for perceiving and comprehending transformations. While no analytical method can fully account for the many ways that individual listeners might develop their sense of a tune's identity, I argue in this article that a careful methodology can theorize the processes that underlie this comparative aspect of listening. In developing such a methodology, I am not interested in determining or problematizing the ontological status of works in jazz *per se*, nor do I wish to explicate the process by which ascriptions of work identity are made. Instead, my focus is on how subjective conceptualization of a tune's musical structure—what Jeff Pressing (1984, 1998) termed a "referent"—affects the way that musical utterances are both generated and interpreted. For Pressing, a referent is "an underlying formal scheme or guiding image specific to a given piece, used by the improviser to facilitate the generation and editing of improvised behaviour on an intermediate time scale" (1984, 53). As such, referents provide an essential lens through which to view jazz improvisation and analysis.

[1.3] Due to the way that pre-composed and improvised elements blend together in performance, the referents that underpin jazz-tune performances can be difficult to determine.[2] Benjamin Givan (2002) compares the performance of a jazz tune to a palimpsest, a manuscript that has had its content partially scraped away to make room for new text, leaving only traces of the original text. Givan writes:

> A jazz improvisation is like a palimpsest in sound. Beneath the music that reaches our ears lies a theme that simultaneously inspires and constrains the performer. From time to time traces may appear on the music's surface that, like ghostly pentimentos, provide us with clues to the improviser's underlying conception of the theme . . . [their] "model," or "referent." (2002, 41)[3]

In this article, I take Givan's observation as the starting point for a methodology that aims to provisionally disentangle improvisations from the referents on which they are based. I begin by theorizing the structure and function of jazz tune-referents and then outlining a process wherein multiple recordings are compared to determine prototypical melodic and harmonic segments (*referent defaults*), which can be used to postulate a referent for analysis. I next demonstrate the utility of this method in two case studies: the first of these examines melodic referent defaults in Duke Ellington and Billy Strayhorn's "Satin Doll," while the second focuses on harmonic referent defaults in Richard Rodgers and Lorenz Hart's "Isn't It Romantic?" Finally, I illuminate the nuanced ways that jazz improvisers engage with referents by drawing on anthropologist Timothy Ingold's (2010) concept of textility.

[1.4] Despite their centrality in the jazz tradition, there is surprisingly little agreement on what exactly tunes are; indeed, the complex ontology of jazz has seen an increasing amount of scholarly attention in recent years. In his 2017 article, Brian Kane advances a view of jazz tunes not as abstract works but as networks of performances. Writing against what he terms a "realist" account of jazz works typical of analytical philosophy, Kane argues that a jazz tune's identity is contingent on the many relations established between different versions.[4] Music philosopher Eric Lewis, in his 2019 book *Intents and Purposes*, advocates for an ontological account of jazz and other African American musics based on George Lewis's (1996) notion of Afrological aesthetics. Eric Lewis's theory is sensitive to the intentions of improvisers and carefully delineates what is at stake—culturally, legally, and economically—in what might otherwise seem like banal ascriptions of work identity.

[1.5] Theorists and analysts of jazz have likewise struggled with the ways in which tunes can be accounted for in analyses of musical structure.[5] No definitive version exists of any given tune because tunes are not fixed structures with essential, immutable musical components.[6] Instead, tunes are flexible and malleable, permitting infinite variations.[7] Analyzing a tune without reference to a particular performance is inherently problematic. When faced with analyzing a performance of a tune, analysts can choose to represent the musical structure in several different ways. One approach is to simply select a published or otherwise widely available lead sheet. While doing so ensures that there is a citable source for the chord changes, the particular realization of the melody and harmony are likely to vary substantially in many cases from the lead-sheet representation. To avoid this disconnect, many authors opt instead to work directly from a transcription of a recording. There are two common ways that transcriptions are used to represent tunes: lead-sheet style transcriptions and full-texture transcriptions. Creators of lead-sheet style transcriptions begin with either a particular performance of a tune or an "authoritative recording" (Martin 2018b, [5.16]) of it, then transcribe an idealized version of the melody and changes into a lead-sheet format with (often simplified) melody and chord symbols.[8] In addition to prioritizing a particular instantiation over other versions that may also be representative of a tune's structure, lead-sheet transcriptions may fail to provide the backdrop of expectations against which listeners are hearing the performance. This is because, in some cases, chord symbols may be drawn from other sources such as fakebooks or copyright deposits, failing to attend to the particularities in recordings; in other cases, details of melody and harmony may be left entirely unattributed.[9] As we will see, lead-sheet transcription can also be approached in a more nuanced way, wherein multiple recordings are consulted and an effort is made to present a provisional referent for a tune. In all cases, lead-sheet transcription requires the transcriber to distill a complex musical surface into an abstract set of chord symbols, pitches, and rhythm; it is therefore necessarily a reductive and interpretive act.

[1.6] Alternatively, to avoid dealing with the inherent challenges of determining chord symbols from a recording, some authors opt for a full-texture transcription that seeks to capture as many aspects of its harmony and melody as possible.[10] Although this approach may at first seem advantageous in circumventing the "underlying tune" problem by foregrounding instead the actual utterances of the musician(s), it invites other dilemmas. In addition to the well-established uncertainties and ambiguities associated with the subjectivity of transcription,[11] this kind of analysis often fails to take into account the implied backdrop of the tune; significant transformations of the tune by improvisers may not be acknowledged because they are understood as simply being part of the unfolding performance. That is to say, there is no distinction made between tune and performance. For example: if an improviser were to substitute a common chord for a less-common, alternate harmonization, the more common chord—which listeners are likely expecting and against which they are likely to hear the unfolding performance—would not be listed; only the alternative harmonization would be acknowledged.[12]

[1.7] The purpose of this discussion is not to criticize jazz analysts for insufficiently accounting for the ambiguities of tune identity. The problematics of analyzing jazz are well-established, and it is all too easy to become paralyzed by them. Moreover, as is well known, analyses depending on incomplete or ad-hoc representations of tunes are in many cases convincing and are certainly better than avoiding analyses of tunes and their performances altogether.[13] Nonetheless, I believe jazz analysts would benefit from the development of a clear, explicit methodology for establishing exactly what is being analyzed and how that object of analysis is determined.

[1.8] Instead of basing jazz analysis on the problematic products of transcription, this article advocates for the use of a provisional musical structure devised for use in analysis that represents an informed approximation of a tune's melodic, harmonic, and formal structure, which I term a *postulated referent*. Postulated referents can be specific to a given performance—and therefore an approximation of a referent for that particular performance—or they can be more general, in the case of analyzing a tune in the abstract. In either case, a postulated referent relies on the analysis of multiple versions of a tune. The requirement that multiple versions of a tune are surveyed is crucial because postulated referents ultimately simulate (and analytically stand in for) an improviser's referent, which is influenced over time by exposure to many different renditions of a tune.

Critically, a postulated referent is not the analyst's own referent, nor is it meant to be an authentic representation of a specific improviser's referent (which is, in most cases, ultimately unknowable). Postulated referents, rather, are methodically crafted to serve as a grounding foil for analysis, a means for distinguishing between "the tune" and transformations of that tune.

[1.9] In what follows, I will present a method for determining a postulated referent. There are a number of precedents to this method in which theorists have set out to create a provisional, idealized rendering of the tune involving a composite of several sources that are carefully weighed against one another.[14] For example, in detailing his process for examining Charlie Parker's compositional output, Henry Martin writes:

> The transcriptions and explanatory examples in this book are based on comparisons between various print versions and authoritative recordings (when available). In each case, I tried to arrive at a form of the piece that showed its most essential work-determinative properties. I also consulted other performances by Parker of the piece in question to see how committed he was to small inconsistencies or to try to hear certain parts more clearly. There will generally be differences among the choruses and (if relevant) the different takes. In such latter cases, I generally favored the master take, but used the other takes to help decide between essential and ad hoc elements. The same can be said for sections of pieces that are repeated within the same recording. An AABA tune, played twice, features six competing A sections. Which one, then, accurately designates "the actual A section" of the piece? Rather than being a problem, the opportunity to compare several A sections can be helpful in deciding upon the essential material, particularly the chord symbols of the "ideal changes." (Martin 2020, 25–26)[15]

Similarly, Steven Strunk (2003, 2005) creates composite lead sheets based on comparison of various published lead sheets, recording transcriptions, and copyright deposits. "When these disagreed, as they did frequently," Strunk writes, "I took all sources into consideration, generally giving greatest weight to my hearing of the recording" (2005, 302–3).[16] The philosophy behind these approaches is well articulated by Chris Stover (2013), who argues that to perform analysis is to "creatively define the analyzed object"—the tune—upon which the multiplicity of possible analyses are put to work in order to discover the "identity-as-multiplicity of a piece of music" (2–3).[17] The approach in the present article similarly aims not to create an ideal or composite lead sheet, but rather to postulate an underlying structure for a given performance, pulling apart the utterances of a performance and the implied musical structures on which they are based.

[1.10] In preparation for discussing this approach, it is necessary to lay out a few boundary conditions. This article concerns tunes that are typically played in a head–solos–head form. This is the most common overarching form in jazz improvisation, in which the melody and chord changes (together "the head") are played at the start and end of the performance, with improvised solos taking place in between.[18] While both the solos and heads typically share a basic—but flexible—harmonic framework, the melodic content of a referent is only stated outright during the head. Some improvisers use the head melody as a launching-off point for their solos, though others disregard the melody.[19] Head melodies are often more easily remembered (and transcribed) in more vivid detail than harmonies, especially in the dense context of extended harmony typical of jazz practice. This provides us with clear, concrete transformations to identify and analyze. It is also uncommon for a tune's melody and harmony to be heavily abstracted in the head because the head serves in part as a means of (re)familiarizing listeners with the tune. By contrast, the solo sections often feature more extensive harmonic alterations. Such alterations may be understood as transformations of the referent or as replacing parts of referents, with some transformations or replacements later becoming parts of the referent itself.[20] Either way, accounting for harmonic transformations in the solo sections significantly complicates the determination of referents; because of this, my focus in this article is primarily upon the head rather than the solos. The ways in which referents develop during solo sections may, however, serve as fertile ground for future studies of jazz referents.

[1.11] The present study shares some similarities with the burgeoning field of corpus studies.[21] Similar to corpus-based research, I propose an analytical method that references a dataset (defined below as an *avant-texte*) and then uses information gleaned from that dataset to gain a sense of what is and is not common. There are important differences, however. Although there will always be an inevitable degree of subjectivity involved in any research, studies of large corpora often seek to circumnavigate this problem by ensuring that the dataset is as large as practically possible and can therefore statistically capture information about the entire dataset as reliably as possible. My aims in this present study are different: rather than capturing what is most or least common among all versions of a tune, I seek to gain a sense of how individual improvisers conceptualize tunes based on their experience with particular versions. There are several important aspects of this process that large-scale corpus studies cannot easily capture. First, improvisers are usually only familiar with a small, personalized selection of recordings of a given tune. Second, improviser's conceptualizations are filtered through their own understandings of musical structure, as mediated by their own training and lived experience. Perhaps most important, however, is that there is no existing method that would allow corpus studies to distinguish between elements that are part of a tune and those that are not—that is, corpus studies cannot distinguish between layers of the palimpsest. By considering how individual improvisers come to conceptualize tunes, this article endeavors to develop such a method.

[1.12] Because I am primarily interested in how individual improvisers conceptualize musical structure, it is important to acknowledge the role of subjectivity and self-examination in this article. [22] Throughout the discussion to follow, I will rely on my own lived experience as a jazz musician and educator to explain in detail the processes by which improvisers sift through recordings and determine which aspects are, to them, part of the implied referent and which represent departures from that implied referent.[23] This emphasis on my own knowledge and experience serves two complementary purposes, the first being to acknowledge that determinations of referents are subjective and cannot be easily captured on a larger scale. The other is to partially document the phenomenon of intersubjectivity, which stems from certain conceptual and theoretical apparatuses being shared throughout the jazz community.[24] In order to both highlight the subjective nature of the process and avoid making universalizing claims, I will describe the conceptualizations that guide my thought processes. While my subjective observations are not representative of how all jazz musicians will conceptualize musical structure, they should be read as neither atypical nor especially personal.

2. Representing Referents

[2.1] Referents, as formulated by Jeff Pressing, represent a wide-ranging category, which may include "a musical theme, a motive, a mood, a picture, an emotion, a structure in space or time, a guiding visual image, a physical process, a story, an attribute, a movement quality, a poem, a social situation, an animal—virtually any coherent image which allows the improviser a sense of engagement and continuity" (1984, 346). In practice, however, Pressing treats referents in musical improvisation as musical structures or motives that serve as a source of musical material. When referents have a time-keeping dimension, Pressing characterizes them as "in-time," as opposed to "out-of-time"; examples of in-time referents include a chord progression with a defined harmonic rhythm, a repeating theme/variations format, or a song form. Despite the centrality of referents to improvisation, Pressing does not devote much space to discussing what referents are or might be; he instead uses them as a way of qualifying different kinds of improvisational processes. The closest he comes to a comprehensive description of them is in his list of various types of improvisations and the referent types underlying them. Ornamented melodies, for example, take a melody as a referent; "melody types" (as typified by Indian *rāga*, Arabic *maqām*, Persian *dastgāh*) take pitch collections and/or sets of melodic conventions as a basis for melodic construction; thoroughbass derives its referent from a composed bass line along with figures; and theme and variation form takes a harmonic progression, melody, and various rhythmic features as a referent. A variety of different types of referents are used in jazz practice, including standard tunes (often represented by lead sheets), big-band charts, written arrangements of tunes, motivic material, and flexible ostinati.[25] Tunes, the primary focus of this article, are arguably the most common kind of

referent in mainstream jazz history and practice. My decision to focus on tunes is not meant to imply that other kinds of referents are less valuable or interesting. It rather reflects that fact that owing to the central role tunes play in much mainstream jazz practice and education, they represent a useful starting place for theorizing referent structure and function. Furthermore, as I will argue, conceptualizing tunes as referents helps clarify how tunes influence musical structure in jazz.

[2.2] Among the most common ways of representing jazz tunes is a lead sheet, which features only a melody and chord changes. Jazz improvisers frequently make use of lead sheets; thus, they can serve as referents. However, the musical content of a lead sheet is understood by most jazz musicians to be a fixed rendition of an inherently flexible structure, offering a possible but not definitive interpretation of the tune. Lead sheets may therefore differ substantially from an improviser's referent, which is often a more personal conceptualization of a tune's structure. Referents may also evolve and adapt as a single, live performance unfolds, particularly if an improviser notices that another musician is using a specific set of chord changes or a well-known melodic variant.

[2.3] Referents are grounded in the network of experiences an improviser has with the tune over time. In my previous work on this subject, I drew on the literature of genetic criticism and musical sketch studies and theorized this network as an *avant-texte*.[26] To be specific, the instantiations of a tune—performances, recordings, lead sheets, arrangements, and so on—and the relations between those instantiations together comprise an improviser's *avant-texte*. An improviser's referent for a given standard will be deeply influenced by their *avant-texte* and can be continually developed and revised as the improviser becomes familiar with more versions. **Example 1** shows a diagram of *avant-texte*–referent relations; a continuous loop sets the tune in an endless process of becoming.[27] Because referents are in constant dialogue with the *avant-texte* that informs them, and because the *avant-texte* is a continuously evolving collection of sources with which the improviser is familiar, referents are often in a state of flux. The plurality of the *avant-texte* informs the (flexible, always evolving) singularity of the referent.

[2.4] Whether or not they are improvisers, listeners will develop referents for the tunes they come to know. Unlike improvisers, whose referents are put to use as a central aspect of the improvisational process, non-improvising listeners are more likely to use their referents for comparison, to recognize a tune and understand how it is transformed in a performance.[28] Among the core claims of this article is that listeners—both improvisers and non-improvisers—sift through performances of tunes, comparing how the tune is represented in a performance to their own referent of the piece. Incongruities that emerge between a listener's referent and the sounding music can be sites of musical meaning and expressivity. This experience will necessarily differ somewhat between improvisers—whose referents are involved in poietic processes—and non-improvising listeners, whose referents serve an esthesic function.[29] I focus primarily on improvisers' perspectives in this article for a number of reasons. Doing so opens up several useful lines of inquiry into how conceptualizations of tunes proliferate and change over time; in addition, it enables us to closely engage with the mechanics of referent formation and use. Improvisers use referents in traceable ways: the use of a referent may result in a recorded performance that can be analyzed. Examining referents from an improviser's perspective thus enables us to consider both the poietic and esthesic processes.

[2.5] In addition to tunes, arrangements constitute a central (related) category of referent in modern jazz practice. For this present article, I define an arrangement as anything about a given performance that is fixed before that performance begins, as agreed upon by members of the ensemble.[30] Arrangements vary widely in complexity: in some cases, every utterance of a performance, down to the finest level of detail, may be arranged, while in others very few details may be predetermined. Arrangements often involve a notated score, especially those organized for a large ensemble; however, this is not always the case. Small-ensemble arrangements especially may be communicated verbally or aurally. Whereas written big-band arrangements often feature ontologically thick, complex harmonizations of the melody, countermelodies, horn textures, solis, and so on, small-ensemble arrangements are often comparatively thin,[31] perhaps featuring a

particular melodic rhythm, contrapuntal line and/or harmonization for the melody, specified chord changes, and ensemble "hits" that the rhythm section emphasizes together.[32] Even in such cases, minor deviations from the arrangement—especially creative ones such as reharmonizations, melodic embellishments, and antiphonal interpolations—may be considered acceptable or even desirable. Nonetheless, the arrangement retains an identity separate from, but intertwined with, the tune.

[2.6] An arrangement represents a special kind of referent, one with specific conditions attached that may constrain the kinds of improvisational decisions the performer makes and the ways those decisions are interpreted.[33] A performer, in this case, may develop two referents for the same tune: a *tune-referent* and an *arrangement-referent*.[34] It is important here to distinguish between these two referent types, because arrangements are typically performance- or group-specific and therefore represent a different kind of knowledge structure from tune-referents. For example, being familiar with Gerald Marks and Seymour Simons' popular tune "All of Me" is different from knowing the details of the Count Basie Orchestra's well-known arrangement of the same tune. If "All of Me" is called at a jam session, there will generally be no expectation to follow any particular arrangement; the referent that players refer to will instead rely strongly on each improviser's individual knowledge of the tune. Conversely, if an ensemble is following an arrangement, the referent that players use will be based on the arrangement and thus less flexible. Under such conditions, an utterance that does not follow the arrangement-referent is unambiguously considered by both the player and the ensemble to be an error rather than an intentional improvisational decision.[35]

[2.7] Whereas an arrangement referent is understood by the improviser to be a special case constituted by arrangement features, a tune-referent stands apart from this as a set of defaults (discussed in more detail below), representing what the improviser considers to be "the tune itself." As such, tune-referents are closely related to the rest of an improviser's knowledge base (Pressing 1998, Berkowitz 2010), which comprises the collection of learned formulas and gestures, techniques, music-theoretical knowledge, and so on, that aids an improviser in generating improvised utterances.[36] The structural qualities of a referent are arguably inseparable from the ways of knowing that help us define those structural qualities in the first place.[37] Referents are often composed of patterns from the knowledge base, ordered and applied in specific ways.

[2.8] Despite the inherent difficulties associated with studying referents, there are several reasons why we might wish to engage with them. As Givan argues, "an awareness of the omnipresent model [referent] is a sine qua non of competent performance—and a vital, if not essential, element of informed listening—in most jazz styles that emerged between 1920 and 1950" (2002, 41). If we are interested in understanding how an improviser arrives at particular improvisational decisions, or how a listener makes sense of those improvisational decisions, an understanding of what might constitute the improviser's referent is a crucial piece of the puzzle. As we listen to and analyze jazz, we attribute creative choices to improvisers based on the relation between their utterances and the assumed musical structure of the underlying tune. These creative choices can be made more clear if we can arrive at an understanding, however provisional, of the improviser's referent. By sketching out a postulated referent based on a given performance, we can gain a clearer sense of what a listener might hear as the tune or arrangement in that performance. This inferred referent provides a basis for comparison between the tune and the sounding improvisation: transformations in the unfolding improvisation are made salient in relief against the inferred referent. This process of dialogic comparison is a central feature of several African American aesthetic frameworks, including Gates's Signifyin(g) (1988) and Samuel A. Floyd's Call–Response (1991, 276), and as such is a core concern for most jazz musicians and audiences. Put simply, we can only make sense of a transformation if we know *what* is being transformed. While we can never truly know what exactly constitutes an improviser's referent in any given performance, a postulated referent makes no claim of being definitive. Rather, a postulated referent is simply what a listener might reasonably infer as the possible musical structure of the tune or arrangement informing the performance.

3. Referent Defaults

[3.1] To construct a postulated referent, we will need to pin down a musical structure for a given performance. One concrete way that we can begin to do this is through what I term referent *defaults*. My adoption of this term is inspired by its use in *Formenlehre* writings, especially those by James Hepokoski and Warren Darcy.[38] Their Sonata Theory has many resonances with jazz ontology: their dialogic approach to the analysis of form seeks to understand how prototypes emerge from the relationships between individual nodes of a large network of eighteenth-century sonatas that share certain compositional procedures and formal scripts.[39] Defaults comprise one of the core tenets of this dialogic framework and are conceived in Sonata Theory using a hierarchical level system:

> First-level defaults were almost reflexive choices—the things that most composers might do as a matter of course, the first option that would normally occur to them. More than that: not to activate a first-level-default option [. . .] would require a more fully conscious decision—the striving for an effect different from that provided by the usual choice. An additional implication is that not to choose the first-level default would in most cases lead one to consider what the second-level default was—the next most obvious choice. If that, too, were rejected, then one was next invited to consider the third-level default (if it existed), and so on. (Hepokoski and Darcy 2006, 10)

Because they are the most common, first-level defaults will usually register to listeners as unmarked, while second-level defaults are slightly more marked, and third-level defaults are more marked still.[40] While the frequency with which a particular option occurs within a given corpus may affect whether and to what extent that option is understood as a default, defaults are not merely measures of frequency. Hepokoski and Darcy imbue the implementation of defaults with an air of compositional automaticity and reserve the act of deviation from defaults for moments of creative intentionality. Although the authors highlight the creative agency of the composer, defaults are not compositional acts but rather exist in the domain of the prototype. By identifying multiple levels of defaults, Hepokoski and Darcy ensure that the prototypes they develop are not overly limited and are able to contain multiple concrete exemplars.

[3.2] The terminology borrowed from Hepokoski and Darcy carries much the same meaning when applied to tune-referents. In this context, defaults describe the most thoroughly internalized, automatic version of a particular passage of a given tune. Improvisers may store in memory multiple concrete exemplars as part of their referent, which may be weighted in terms of first-, second-, and third-level defaults (and so on). **Example 2** shows my personal set of harmonic defaults for the chord in m. 6 of Jerome Kern's "All the Things You Are." In the example, I consider G^7—V^7 of the C major key that follows—to be the most straightforward option. In order of likelihood, this is followed by a more embellished minor ii–V progression leading to C major, and then the tritone substitute of G^7, $D\flat^7$. These exemplars do not exhaust the harmonic possibilities in this measure, but instead represent the options that, to me, will most clearly preserve the identity of the tune.

Unlike in Hepokoski and Darcy's theorization, referent defaults in my approach need not always be arranged hierarchically: in some cases, there are simply multiple variations that are weighted similarly, with no one variation seeming any more definitive or basic than any other. For example, in Richard Rodgers and Lorenz Hart's "Have You Met Miss Jones" (**Example 3**) my harmonic default for m. 2 is evenly weighted between an applied dominant chord (D^7) and a passing diminished seventh chord ($F\sharp^{\circ 7}$).[41] Since these two chords share so many chord members, jazz musicians typically treat the two as effectively equivalent; neither seems especially preferable or more identity-preserving in this case.

[3.3] Several criteria will contribute to whether and how a listener organizes a family of defaults hierarchically. One is the frequency with which a particular default occurs in an *avant-texte*: features that occur frequently would seem to suggest that other musicians also consider the choice as a default, while rarer choices are more likely to correlate with individualistic expressions. If a listener is repeatedly exposed to the passing diminished $F\sharp^{\circ 7}$ chord in "Have You Met Miss Jones," they may come to regard it as the more default choice. Another related factor is the pervasive, knowledge-base influence of common schemas. In "Have You Met Miss Jones," the passing

diminished chord may be given less weight if one prefers to hear these chord changes as a I–vi–ii–V schema, familiar from many tunes, including but not limited to rhythm changes and turnaround schemas.[42] Music-theoretical knowledge can likewise condition judgments of hierarchy. For example, some musicians learn that descending-fifth motions of an implied fundamental bass underlie passing diminished progressions; in this case, the $F\sharp^{\circ 7}$ is seen as a variant of the more fundamental D^7 chord. Others may be taught that a fully diminished seventh chord is functionally equivalent to—and therefore essentially interchangeable with—the dominant seventh flat nine chord a major third below, due to the latter chord containing all pitch classes of the former. In this case, the two choices may be seen as equivalent and therefore unweighted.[43] Finally, stylistic preferences may guide such judgements. For instance, if a listener is more familiar with or more partial to pre-bebop styles, the passing diminished chord may be given more weight, given its relative prevalence in pre-1945 jazz.[44]

[3.4] In tune-based jazz as in sonata theory, referent defaults are grounded in the similarities between various instantiations of the prototype, are conditioned by subjective understandings of musical structure, and are particular to a given composer/improviser.[45] The fact that different individuals have different—but often overlapping—*avant-textes* and ways of conceptualizing musical structure means that referent defaults are not necessarily shared.[46] As such, referent defaults do not always tell us anything definitive about how a piece will be performed. Returning to Example 2, if I play measure 5 of "All the Things You Are," I may use any of my defaults for the G^7, or I may play something different. All these defaults indicate is that, for me, G^7 is the most straightforward option, with the second- and third-level defaults close behind.

[3.5] I argue that listeners subconsciously sort segments of melodies and harmonies as they listen and then use these determinations to help build and refine their referent defaults. Melodic segments may be sorted into categories like those shown in **Example 4**. (Harmonies, as will be discussed in more detail in Section 5, may be sorted by perceived structural dependency.) The determinations appearing towards the left side of the spectrum have greater impact on tune-referent formation, while those appearing towards the right side of the spectrum are less likely to be heard as fundamental to the tune. Segments that are categorized as somewhere in the middle are more ambiguous and may be heard only as second- or third-level defaults. These determinations are likely to be strengthened by the broadness of one's familiarity with many versions of the tune, which is to say that the fewer versions a listener has heard, the less confidently such determinations can be made. Initially, a listener may privilege the first version with which they become familiar. Yet as the listener's *avant-texte* grows, that first version will become better contextualized, and more nuanced defaults may start to emerge.

[3.6] The melodic spectrum in Example 4 resembles a similar continuum of "levels of intensity" advanced by saxophonist Lee Konitz (Berliner 1994, 67–71), which runs from interpretation to improvisation. It similarly resonates with the varying degrees of freedom in improvisation described by Leslie Tilley (2019) in her theorization of formulaic improvisation.[47] Like Konitz's and Tilley's continua, the spectrum in Example 4 suggests that utterances may be heard as representing a pre-composed musical idea, as an untethered improvisation, or as something in between. If a melodic utterance seems to correspond with the most straightforward way of playing a melody, I label this as a "tune-referent default" (shown in blue). In cases where an arrangement is used, listeners may instead hear utterances as part of the arrangement, and therefore as "arrangement defaults" (shown in purple), rather than as representative of an underlying tune-referent. Both of these categories indicate that the analyst hears no embellishment of the tune. The next category to the right, "small alterations/embellishments" (shown in green), indicates that the analyst hears some minor alterations to an implied referent, and is therefore at a level of remove from the referent. Such alterations may include small rhythmic/metric displacements, melodic ornaments, a substituted pitch here or there, and so on. "Paraphrase," colored in yellow, indicates a greater sense of remove from the referent while still suggesting some attachment to the original passage. Notes and even entire gestures may be added or removed, provided that the resulting utterances are still recognizable as a variant of an implied referent default. The remaining two categories, "fills and interpolations" (in orange) and "unrelated (no clear relation to referent)" (in red), describe utterances that are distinct from the material of the implied referent. "Fills and

interpolations" describe any utterances that fill in rests in the tune's melody; these utterances do not represent the tune, but they also do not disrupt the tune's presentation. And last, "Unrelated" utterances replace segments of the tune's melody with melodic material that bears no clear resemblance to the tune. It is important to emphasize that these determinations represent how an analyst or listener hears and understands the sounding music in relation to an implied referent. If an individual hears an utterance as representative of the improviser's referent—and therefore representative of the improviser's conceptualization of the tune's identity—then the utterance may be more likely to shape the individual's own referent defaults. Admittedly, the lines between these categories are fuzzy, and making such determinations is necessarily subjective. Nevertheless, these determinations can help to explain how individuals decide what in a given performance they hear as part of "the tune." If an individual learns a tune by hearing performances of it (rather than reading a score)—something which is arguably the case for most listeners—these determinations help to crystallize that individual's referent for the tune.

4. Melodic Referent Defaults in Ellington and Strayhorn's "Satin Doll"

[4.1] As I have argued, referents are built over time and depend on the individual's *avant-texte*. To provide a glimpse into this process, in this section I will demonstrate how my own referent for Duke Ellington and Billy Strayhorn's standard tune "Satin Doll" relates to the versions of the tune with which I am familiar. There are several advantages in choosing to examine my own referent. First, I can readily assess my own understandings of musical structure. To return to Example 2 above, I understand V^7 as a first-level default in part due to my music-theoretical training: like most jazz musicians, I hear the ii in a ii–V as embellishing the V, and hence I think of V as being the simpler, more structurally significant chord.[48] Likewise, my theoretical and historical knowledge of the tritone substitution both condition me to think of the tritone sub as substituting for the more common and basic V^7 chord.[49] Second, I can readily access my own knowledge of and memory for various versions of the tune. Likewise, I am able to reflect on what I consider important aspects of tune identity, which in turn helps me to clarify what musical features I might or might not privilege as determinants of a tune's identity. So, in Example 2, I reported hearing the G^7 as a first-level default in part for musical-structural reasons, but also because I have repeatedly heard this particular choice amongst the versions in my *avant-texte*. Finally, I am privy to my own listening habits and as such can determine if there were any particular recorded versions I tended to listen to more or less than any others; features that appear more frequently in my listening habits may be more likely to crystallize in my referent as higher-level defaults.

[4.2] Written in 1953, "Satin Doll" was one of the last popular hits for Ellington and Strayhorn. Its chord changes involve a number of well-known schemas, primarily ii–Vs in the A sections and a stock bridge, sometimes called a "Montgomery–Ward bridge," in the B section.[50] The melody is simple and catchy, relying on only a few motives, though the 1953 premiere recording by Ellington's orchestra thickens this melody through Strayhorn's lush harmonizations.[51] Perhaps because of how simple and familiar the harmonic patterns are, performances do not tend to depart significantly from the chord changes of the original version. Conversely, the sparse melody has been adapted in a variety of ways. This makes the tune an optimal case study for determining melodic referent defaults.

[4.3] **Example 5** lists the nine recordings of the tune with which I am most familiar. They span a wide array of performance formats, from duo to big band, but are not necessarily representative of the many versions of the tune that exist. My first-level referent defaults for the tune are shown in lead-sheet form in **Example 6**. There are no lead sheets in my *avant-texte*, because I did not reference a lead sheet when learning the tune. This is not an uncommon practice amongst jazz musicians. Because most well-known lead sheets tend to include errors or idiosyncrasies, improvisers typically rely on recordings and even on-the-fly performances to learn a tune.[52] If a lead sheet is used, it is mostly as a launching-off point, with recordings being given more weight. Nonetheless, my referent defaults feature a musical uniformity similar to an edited fakebook lead sheet. In some ways, both referents and lead sheets may be likened to an "averaged out" rendition of the tune. This "averaging out" of different versions is in both cases weighted by various

preference rules and broader aesthetic goals. One common goal of both referents and fakebook lead sheets is the recognition and privileging of clear motivic and harmonic parallelisms. For example, the rhythms of mm. 1 and 3 in Example 6 are identical. While these particular rhythms in this tune are not always represented in this way (as discussed in more detail below), the rhythms of mm. 1 and 3 are typically similar or identical within a given rendition of "Satin Doll," a reflection of the transpositional motivic relationship between them. Nonetheless, there are several crucial distinctions that must be made between fakebook lead sheets and referent defaults. Fakebook lead sheets often use straightforward, "averaged out" melodic rhythms and harmonies. This supports the primary goal of fakebook lead sheets, that being to provide visual clarity and simplicity so that improvisers can quickly read a melody, altering and embellishing it on the fly. It has a notable disadvantage, though, which is that many lead-sheet melodies sound awkward when played as written. A referent default, on the other hand, serves as a kind of minimally acceptable starting point. Although flexible and changeable, a referent default represents the tune as an improviser might most simply play it. Although the defaults are drawn from a listener's *avant-texte*, they do not necessarily represent a clear midpoint between different entries in the *avant-texte*.

[4.4] As one might expect, my lead-sheet representation differs from Ellington's premiere 1953 recording, transcribed in **Example 7**. Most of these differences are small: a note here or there is a bit early or a bit late, a harmony is substituted with a common reharmonization, and so on. Although these minor differences may seem insignificant, it is worth noting that they could pose problems in the context of a performance. If two improvisers with different referents improvise together, the differences between their referents may need to be reconciled, lest the resulting performance come across as messy and disorganized.[53] The implications of such minor differences can likewise extend to debates regarding authenticity, creativity, originality, and even musicality.

[4.5] In order to figure out what is responsible for the differences between the lead sheets shown in Examples 6 and 7, let us more closely examine the performances from my *avant-texte* in Example 5. Transcriptions of the first A and B sections of each recording are shown in **Example 8**. Some segments of these recorded melodies represent attempts to play the melody straightforwardly; other segments embellish the melody, and others still simply depart from the melody entirely with flights of improvisation.

[4.6] **Example 9** categorizes segments of the A-section melodies according to how I perceive them relating to my referent in terms of the color-coded categories of Example 4. The majority of these A-section melodies seem to represent the tune straightforwardly (see blue coloring). In cases where there is an arrangement that the ensemble is following, features of the arrangement are colored purple. This can usually be deduced by multiple players in the ensemble playing the same exact melodic rhythms together (especially when the melody is harmonized), as in the Ellington and Basie recordings, or when there are stop-time passages or rhythmic hits played by the entire ensemble, such as in the Jimmy Smith and Wes Montgomery recordings. It is true that events of this type might be seen to blur the boundaries between tune-referent defaults and arrangement-referent defaults. However, the two types of defaults serve a similar purpose, namely presenting the melody in a more-or-less fixed manner; thus, my system categorizes them in a similar way.[54] A few passages feature small alterations and embellishments to the melody (colored in green). Erroll Garner's ornate take, for example, is replete with such alterations. Other possibilities include more openly paraphrased melodies (colored yellow), such as those played by Clark Terry in his performance with Oscar Peterson, and interpolations that fill in the space left in the last two measures of the phrase (colored orange).

[4.7] Although none of the A sections feature unrelated improvisational flights replacing the melody, this technique—colored in red—is much more common in the B sections shown in **Example 10**. The extent to which these B-section melodies represent referent defaults is more polarized than in the A section. For the most part, the B section is either played straight (as in the Ellington, Fitzgerald, Johnson, Montgomery, and Basie versions) or is heavily altered using a variety of techniques from across the spectrum; see, for example, the multicolored Smith, Garner, Terry/Peterson, and Tyner versions.

[4.8] With the aid of these determinations, we can postulate a referent for analysis. Take, for example, guitarist Kenny Burrell's rendition of the B section on Jimmy Smith's recording (**Example 11**). My analysis of Burrell's interpretation includes only a few short passages of what I hear as referent defaults (based on comparisons with the corresponding passages in Example 10), while the rest is made up of alterations, short fills, and improvised additions. How might these determinations shape a postulated referent? If we are hoping to gain a sense of Burrell's melodic referent default, we can discard the passages marked "unrelated" (colored red in Example 11) and "fills" (colored orange), neither of which is likely to shed light on Burrell's conception of the tune's melody. The strategy, rather, entails concentrating on the excerpts categorized as small alterations/embellishments (in green) and paraphrases (in yellow, though none of these exist in the Burrell excerpt); and comparing these passages to similar renditions in the *avante-texte*. For example, the rhythms of the passages I have labeled as "referent defaults" (in blue) are the same as those of J. J. Johnson's recording, which emphasizes the "and" of 2 and 4 at the climax and nadir of each segment. Since these rhythms tend to be consistent in most renditions of the B sections in Example 10, we might conclude from this that these rhythms represent a reasonable referent for this passage.[55] Combining these rhythms with the harmonic idiosyncrasies of Smith's recording, together with Smith's more straightforward rendition of the A section, we can postulate a referent for the performance (Example 10, bottom staff). Importantly, this postulation does not claim to represent Burrell's actual referent for "Satin Doll," nor does it purport to be the most widely held referent for this segment amongst audiences. Instead, it is the referent that this passage of this recording subjectively implies when in dialogue with the other recordings from my *avant-texte*.

[4.9] By carefully comparing existing versions of the tune—or in other words, by disentangling the layers of the jazz-tune palimpsest—we are able to fashion together a postulated referent representing an estimation of the musical structure the improvisers are starting from. While a postulated referent is by definition speculative and provisional, it is a useful resource for specifying what we mean when we refer to "the tune" in the course of an analysis, especially when "the tune" serves as a comparison point for transformations occurring in the sounding music.

5. Harmonic Referent Defaults in Rodgers and Hart's "Isn't It Romantic?"

[5.1] Referent defaults become significantly more complex and difficult to work with when we consider harmonic variation between versions.[56] Whereas fakebook lead sheets represent tunes as a singular melody and set of chord changes, in practice harmonies vary considerably between performances. While a comprehensive account of harmonic practices in jazz is out of the scope of this article, it is worth discussing here some of the ways that jazz harmony may be conceptualized by improvisers, in order to shed light on the role harmony plays in tune-referents.

[5.2] Many accounts of jazz improvisation rest on the assumption that one of the fundamental activities performed by jazz musicians is fitting a melody to a static chord progression.[57] It is easy to see why this view is so prevalent: tunes are, after all, often described as consisting of a melody and chord changes, and once the performance has moved from the head to the solos section, the chord changes remain as the primary improvisational constraint. Indeed, the notion of *the* chord changes can overly reify the concept, putting undue weight on the fixity implied by that telling definite article. This reification is furthered by lead-sheet representations of tunes, where the repeated visual experience of reading discrete chord symbols in a score reinforces the idea that a tune's very identity is based on fixed sequences of chords.[58]

[5.3] While improvisers do often speak about chord changes as though some fixed, "correct" version of the changes exists,[59] reharmonization is a ubiquitous part of jazz harmonic practice. There are many kinds of reharmonization techniques, ranging from simple one-to-one chord replacements (e.g., tritone substitutes) to lengthier and more elaborate designs (e.g., "Coltrane changes"), to more idiosyncratic approaches.[60] Reharmonization is often cast as a process that begins with a given chord progression that improvisers alter through chord substitutions and interpolations. There are two notable problems with this view, however. First, as we have seen, there is no single definitive set of chord changes for a given tune. The distinction between reharmonization and harmonic default can usually only be unambiguously made with regard to

the contrast between an improviser's referent and the performance that results from it. Second and more substantially, the harmonic content of a tune is, I argue, better understood not as a sequence of chords but rather as part of a larger harmonic-metric-formal complex, wherein harmonic utterances are defined by the role they play in a larger harmonic-formal plan rather than in relation to a static chord progression.

[5.4] My account here is influenced by Dariusz Terefenko's (2004) work on phrase models in standard tunes.[61] Terefenko defines a phrase model as a description of a phrase's underlying melodic, contrapuntal, and harmonic structure. "In the case of standard tunes," he writes, "there appear to be a finite number of typical phrase models, each with its own distinctive melodic structure, essential jazz counterpoint, and supporting harmonies" (Terefenko 2004, 3).[62] Terefenko provides thirteen distinct phrase models, each represented as a quasi-Schenkerian, deep-middleground structure supplemented with harmonies in the form of Roman numerals. Each phrase model is divided into a tripartite scheme comprising an "initial projection" followed by a "harmonic departure" and finally "cadential closure." These phrase models may be truncated, as for example when a tune's bridge skips the initial projection of a stable tonality and begins instead with a harmonic departure, or when an opening phrase avoids cadential closure. Consider Terefenko's fourth phrase model, shown in **Example 12**. The accompanying table below the model explains what key areas are emphasized during the harmonic departure, if one occurs, in select examples. (Note that the "harmonic departure" section is left unspecified in the model itself.) Although they are not necessarily designed to capture how improvisers conceptualize the musical structure of tunes, Terefenko's phrase models serve both to pin down features that listeners are likely to consider essential and to relate those features to each other in a holistic fashion. Phrase models may be thought of as being akin to modules in a larger prototype, where each module contains certain melodic and harmonic referent defaults. Terefenko's model is notable for 1) refusing to separate harmony from melodic and contrapuntal elements, 2) linking those elements to the notion of a prototypical musical phrase, and 3) zooming out to more general characterizations of tonal movement and formal function as applied to such phrases. Terefenko is thus able to move beyond oversimplified conceptions of tunes as chord sequences, towards a nuanced modeling that more closely approximates the kinds of structures an improviser must consider on an "intermediate time scale" (Pressing 1984, 53).

[5.5] Like Terefenko's approach, Schenkerian accounts of jazz also center on hierarchical conceptualizations of harmony.[63] For example, Henry Martin (1988) argues that many circle-of-fifths-based harmonic progressions result in "prolongation-by-arrival," generating a clear hierarchical relationship between pairs of chords at various structural levels; Martin's analysis of Jerome Kern's "All the Things You Are" is shown in **Example 13**. The resulting hierarchy ensures that certain harmonies are more structurally essential than others and therefore act as harmonic anchors. Improvisers can move between structural levels based on the degree of harmonic detail they wish to use. A similar conception is expressed by George Russell in his description of distinct improvisational styles associated with tenor saxophonists Lester Young and Coleman Hawkins: "Coleman Hawkins would be a local steamboat that stopped at every town and conveyed the local color. Each town would be a chord . . . Lester Young would be an express steamboat stopping only at larger cities – tonic resting points to which other towns lead" (qtd. in Wilson 1983, C20). Decisions to improvise nearer to the harmonic foreground or middleground may be influenced by concerns of style and intensity, but also by cognitive load. Where expressing every foreground harmony can be cognitively demanding, improvising on a simpler middleground structure may reduce the amount of attention required in the improvisational moment, allowing the improviser to allocate attentional resources to other demands.

[5.6] Another hierarchical approach informing my method is put forth by Benjamin Geyer (2021). Taking inspiration from Steven Strunk's (1979) layered approach to bebop harmony, Geyer examines how the harmonic plan of a tune is layered within a metric and formal hierarchy. For Geyer, formal containers "mark the boundaries of harmonic motions . . . from a *departure chord* (towards the beginning of a container) to an *arrival chord* (towards the end of a container)" (2021, 103, emphasis in original). These departure and arrival chords are "essential chords" that, similarly to Terefenko's phrase models, may be used to capture harmonic motion at the phrase level as

shown in **Example 14**. Geyer's containers strongly link abstract harmonies to a regular time-span tree without implying the outer-voice contrapuntal structure that characterizes Terefenko's phrase models.[64]

[5.7] For Geyer, departure and arrival chords become foundational in a larger hierarchy, with harmonic structural levels coordinated to levels of the metric hierarchy. In his analysis of Ellington's "Just Squeeze Me" (**Example 15**), Geyer shows a chain of embellishment appearing as one moves up to the smaller time-span levels of the metric hierarchy. The essential F^6 chord is embellished by its dominant, C^7, which in turn is embellished by the ii^7 chord, Gm^7, which in turn is embellished by *its* applied dominant, D^7. Commenting on this hierarchical approach, Geyer writes:

> As jazz musicians improvise over this part of "Just Squeeze Me," they will usually play the first and last F^6, which make up the essential harmonic motion as arrival and departure chords. Beyond that, there is a lot of room for flexibility in how musicians will elaborate this essential motion into a foreground progression. The D^7, as the shallowest elaboration, can simply be omitted with very little effect. Or the same kinds of operations that we labelled with curved arrows [dominant-tonic relations] and square brackets [ii–V schemas] can be applied in all kinds of interesting ways. (2021, 107–8)

Like Martin's hierarchical derivation, Geyer's theorization encompasses several structural levels of harmony. Both Geyer's and Terefenko's works are largely pedagogically oriented, suggesting that these level-based approaches reflect how jazz musicians tend to conceptualize musical structure. In the analysis that follows, we will utilize these level-based approaches to compare several versions of Richard Rodgers and Lorenz Hart's "Isn't It Romantic?," which in turn will allow us to create postulated referents based on referent defaults at multiple structural levels.

[5.8] Richard Rodgers and Lorenz Hart's "Isn't It Romantic?" was first introduced in the 1932 film *Love Me Tonight* and has since been recorded by a variety of both jazz and popular acts. Because many of the better known vocal renditions by singers such as Ella Fitzgerald, Johnny Hartman, and Mel Tormé feature elaborate large-ensemble orchestration and relatively little improvisation, I will instead focus on an *avant-texte* of small-ensemble recordings that make use of fewer arranged parts and treat the harmonic structure of the tune more loosely (**Example 16**).[65] This more limited comparison will allow for closer attention to the ways in which structural levels compare between versions.

[5.9] **Example 17** compares my transcriptions of the harmonic foregrounds of the opening head of each recording.[66] In each transcription, harmonies were determined based on piano voicings and bass lines, and are meant to represent the harmonies a listener might deduce from the sounding recording, *not* the referents of the individual players. **Example 18** shows how the foreground of the opening A section of Oscar Peterson's recording may be derived from deeper structural levels.[67] (Structural levels for the opening head of each recording may be found in the **Appendix**.) At each level, harmonies that derive their meaning from others are reduced out as follows: applied chords dependent on their target chords are denoted by a curved, solid arrow; ii chords elaborating V in a ii–V schema are grouped together with a bracket; and tritone substitutes functioning like the dominant chords for which they stand in are denoted by a curved, dashed arrow. At deeper levels of structure, these chords are replaced by the harmonies from which they derive their meaning. The resulting middleground structures are not suitable for performance, nor do they themselves represent the harmonic content of a referent. Rather, referent defaults emerge at or near the foreground level and are underpinned by deeper levels of middleground structure. The harmonic aspect of an improviser's referent is therefore multi-layered and involves coordinating movement between structural levels with the formal and metric time-spans to which they are tethered.

[5.10] Instead of relying on multiple layers to compare the harmonic content of postulated referents, we can adapt the spectrum from Example 4 to show how foreground harmonies are dependent upon those from deeper structural levels; this new harmonic spectrum of relations appears in **Example 19**. This spectrum enables us to more easily trace the derivation of harmonies

from the middleground to the foreground. The spectra in Example 4 and Example 19 are similarly structured—in that the left side of each spectrum represents something more fundamental to the referent than the right side—and therefore offer comparable ways of thinking about how performances relate to a postulated referent. Despite this, it is important to emphasize that these relationships are not determined in the same way for melody and harmony. In contrast to the spectrum from Example 4, which is designed to show how melodic utterances relate to a postulated referent, the spectrum in Example 19 shows distance from a particular middleground harmony.[68] Each harmony at a given structural level is understood to be dependent upon a harmony at a lower structural level, meaning that red harmonies are dependent on those that are orange, orange harmonies depend on those that are yellow, yellow harmonies depend on those that are green, and green harmonies depend on those that are blue. Blue harmonies represent the lowest level of structure, in this case the middleground harmonies at the level of the measure. While it would be possible to use a still deeper structural level as the (blue) point of comparison, this middleground serves as a convenient comparison point because discrepancies at this level are relatively uncommon.

[5.11] Using the most common features from these middlegrounds as a basis of comparison, we can create a provisional set of referent defaults common to these five recordings.[70] **Example 20** shows this multilayered postulated referent and compares it against the foreground harmonies of each recording. The top row of Example 20 shows middleground harmonies at the level of the measure, while the fifth row shows the shared defaults at the foreground level. The tune most typically features a harmonic rhythm of two chords per measure, with only Betty Carter's and Chet Baker's renditions departing from this harmonic rhythm for more than a measure or two. A question mark ("?") appears in the table where there is an expectation of a chord change due to the harmonic rhythm, but not for any particular harmony. In cases where there are two defaults but one is more common than the other, they are indicated in the table as first- and second-level defaults. Although there is significant variation between the foreground harmonies, the middleground defaults do not provide a sufficient alternative as they oversimplify the harmonic motion. In cases where there are two choices but neither is more common, they are marked in the table as unranked defaults. The middleground does, however, serve to coordinate the foreground defaults, ensuring that variations at the foreground are underpinned by shared departure and arrival harmonies.

[5.12] There are a few places where notable discrepancies from the shared middleground bubble up to the musical surface, revealing how seemingly small improvisational choices can have an impact on multiple measures. For example, the C section most often begins with an Fm chord, but the Oscar Peterson rendition begins instead with $A\flat M^7$ before moving halfway through the measure to Fm^7. Whereas the other recordings all precede the C section with C^7 (the applied dominant of Fm), Peterson's performance instead features a ii–V progression leading to $A\flat$. While both $A\flat$ and Fm are predominant harmonies in the tonic key of $E\flat$, serving to lead to the dominant $B\flat^7$ chord in the deep middleground, the choice to move to $A\flat M^7$ instead of Fm^7 results in a different set of foreground harmonies just before this arrival point. Other foreground harmonic choices are salient but do not ultimately affect the underlying middleground structure.[71] For example, the Bill Evans Trio's second A section features extensive foreground reharmonization by means of a chain of applied dominants (mm. 21–22), and then a chain of applied tritone substitutes (mm. 23–24). Each chain of resolutions is set up to arrive on a structurally significant dominant seventh chord at the middleground level. A striking instance of the same technique occurs in the opening measures of Oscar Peterson's rendition, where the initial tonic chord is withheld and replaced by a chain of applied tritone substitutes.

[5.13] A few passages use established harmonic schemas. The A sections often (but not always) feature I–vi–ii–V schemas, and ii–Vs appear repeatedly at various structural levels in all versions. The C section features a descending stepwise line in the bass, sometimes referred to as a CESH (Chromatic Embellishment of Static Harmony) schema in mm. 27–28, corresponding with the climax of the melody, that is realized in varying ways.[72] CESH schemas typically elaborate a single harmony through a descending or ascending voice-leading line. When this voice-leading line appears in or is moved to the bass voice, improvisers will sometimes harmonize each bass note of the resulting walkdown. Four of the five recordings feature the bass line C–B♭–A–A♭, with all

five performances landing on G in the bass on the downbeat of m. 29. The Chet Baker Quartet moves first from Cm to Cm/B rather than Cm/B♭, delaying the arrival of the bass note A to the second half of m. 28. This in turn prompts bassist Bob Whitlock to play an A♭ on beat four of m. 28, implying an applied tritone substitute (sometimes harmonized as such by pianist Russ Freeman in later choruses) and completing the semitone descent to G. Conversely, the Betty Carter and Bill Evans Trio recordings both keep the B♭ in the bass in m. 27 but harmonize it with a different chord, retaining the walkdown but dispelling the static harmony of the CESH.

[5.14] Although "Isn't It Romantic?" appears in both the fifth and sixth editions of *The Real Book*, Vol. 1, the harmonies found in the lead sheets in each of these fakebooks differ from those in our *avant-texte* (**Example 21**).[73] Although these lead sheets mostly rely on the same middleground structure as the recordings, they also feature idiosyncrasies that are not especially common. For example, both feature a passing diminished chord in the second half of m. 3, which does not match the unranked referent defaults (although as discussed above it commonly substitutes for the second chord of a I–vi–ii–V schema). More striking is the prominent use of A♭M^7 in m. 9, which also leads the editors to include a ii–V to A♭ in m. 8 instead of the more common motion to Fm. Because the second A section is not distinguished from the first in either lead sheet, this ii–V in Ab major later leads to Fm in m. 25. This succession results in an unconventional "back-door" ii–V in place of the more common motion through C7, the applied dominant of Fm.[74] The chords listed at the start of m. 16 in each lead sheet are likewise not found in any of the recordings examined above, and are likely used to harmonize a note in the melody, usually written in this measure as D♭ or C♯, that resolves up to D. The fact that these lead sheets contrast sharply with the postulated referent in Example 20 reinforces the importance of *not* relying on well-known lead sheets as a starting point for analysis.

[5.15] The postulated referent in Example 20—and the method used to arrive at it—has many advantages. First, it requires careful comparison between different versions of the tune. This ensures that we are aware of which chord changes in a given version may be unusual in relation to other versions. Second, examining multiple layers of harmony allows us to identify the larger-scale ramifications of surface-level harmonic idiosyncrasies in the tune. And finally, unlike when using fakebook lead sheets, the postulated referent responds to the specific melodies and harmonies of the versions in our *avant-texte*. Through furnishing the postulated referent in Example 20 and comparing it to recordings in the *avant-texte*, we get a glimpse into how different versions of "Isn't It Romantic?" interact with the potential expectations of improvisers and listeners. Harmonic transformations, like those discussed above in the Oscar Peterson, Bill Evans, and Chet Baker recordings, are easily identifiable through this process of comparison. The postulated referent therefore ensures that there is an appropriate, carefully worked-out point of comparison for further analysis.

6. Coda: The Textility of Jazz Tunes

[6.1] Tunes are central to the jazz tradition, in that they remain the most common basis for jazz performances, and learning a wide variety of tunes is considered an important part of many jazz musicians' training. Yet tunes are not synonymous with musical works. The role played by tunes in the ontology of jazz is fundamentally different from that played by the work concept in the Western art tradition. Jazz improvisations are not usually conceived of as *realizations* of tunes, nor are tunes generally considered as the locus of critical attention in a jazz performance. Instead, they simply serve as one part, albeit an important part, of an improvised performance. Most listeners are not as interested in the tune as they are with what improvisers *do* with the tune.

[6.2] In their article on the role of notation and annotation in the performance of music, Emily Payne and Floris Schuiling (2017) seek to rein in the methodological ramifications of the performative turn insomuch as it has made scholars disregard the specificity offered by notation. Proposing Timothy Ingold's (2010) notion of *textility* as a way forward, this pair of authors highlight Ingold's metaphor of the weaver:

the weaver does not shape threads into a pre-established form, but lets this form emerge by binding together separate threads. That is to say, even with a pre-established design, the process of making is not so much a matter of "moulding" the material into shape, but of negotiating the motion and the tension of the threads, the various elements of the loom, and the particular characteristics of the fabric. What Ingold calls the "textility" of creative practice is meant to shift attention to the materials used in creative work, and the "tactile and sensuous knowledge of line and surface" that comes with handling them. (Payne and Schuiling 2017, 441)

Jazz musicians playing tunes are likewise weavers: they do not shape musical utterances to fit a particular musical-structural model but allow the sounding music to emerge from an ongoing negotiation with the fabrics of the tune and the utterances of other improvisers.[75] As listeners, we are left with the resulting form and a suggestion of the processes that led to its shape. Those processes can often seem opaque, but tracing them is an important and necessary goal if we are to understand the role musical structure plays in improvised musical traditions.

Sean R. Smither

The Juilliard School
60 Lincoln Center Plaza, New York, NY 10023
ssmither@juilliard.edu

Mannes School of Music, The New School
55 W 13th St, New York, NY 10011
smits279@newschool.edu

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Footnotes

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1. For Gates, Signifyin(g) is a rhetorical practice central to Black literary and musical aesthetics, encapsulated by tales of the "Signfiying Monkey" and originating in a trickster figure, Esu Elegbara, that appears in various forms in many African and Afro-Diasporic cultures. For more on "Signifyin(g)" and its relationship to music, see Gates (1988, 51–64), Floyd 1991, Walser 1993, Monson 1994, Michaelsen (2013, 14–27), Meyers 2015, and Lewis (2019 250–55). Gates adapts the concept of "double-voicedness" from Mikhail Bakhtin, though notes that it is "indigenously African" (1988, 22).
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2. For more on the ways that flexible and fixed elements interact in ontologies of musical works, see Cook 2001.
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3. A similar argument is made by Henry Martin when he writes that "an improvised solo can often show how the improviser interprets the piece" (2012, 3). Martin's larger scale study of Charlie Parker's approach to thematic improvisation (1996) similarly argues that the underlying tune is referenced in oblique ways throughout an improvised solo, even when improvised material seemingly avoids direct reference to the tune.
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4. Kane's critique of a realist ontology is mostly based on the work of philosopher Stephen Davies (2001) and builds on the work of music scholars Georgina Born (2005) and José Bowen (1993, 2015), as well as on that of art historian Whitney Davis (1996). Kane 2024 expands on and historicizes these philosophical arguments.
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5. For an explanation of the conceptual distinctions between "tune" and similar terms like standard, composition, and work, see Smither (2020, 3–10).
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6. Something like a definitive version may emerge as an example of what Henry Martin (2018b, [5.16]) terms an "authoritative recording." According to Martin, authoritative recordings hold more weight than other versions and are often conceptualized by improvisers as a kind of Urtext, thanks to the fact that the tune's composer is closely involved in the production of the recording. Authoritative recordings became increasingly commonplace during the era of hard-bop and post-bop in the late 1950s and early 1960s, but earlier eras of jazz musicians may also have had a similar experience with well-known recordings of popular songs that they would have been expected to base their performances on.
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7. Paul Berliner's ethnographic work here is instructive. His many conversations with expert jazz musicians emphasize the sense of possibility most musicians ascribe to tunes (Berliner 1994, 63–94).
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8. For example, see Strunk 1999, Waters et al. 2016, and Salley 2007. As Pellegrin (2022, 83n50) notes, this can also prove problematic when musicians intentionally depart from certain harmonies throughout a performance.
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9. Scholarship featuring chord changes and melodies that are unattributed is especially problematic, because it may tacitly suggest that the representation provided is definitive, as though the details of melodic and harmonic structure found in jazz tunes emerge from an uncontested well of shared knowledge. Even when presenting tunes with widely agreed-upon structural features, some explanation of how the representation of structural features is arrived at—more specifically, acknowledgment and discussion of the ambiguities involved—is warranted.
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10. This approach is perhaps epitomized by the work of Steve Larson (1999, 2002, 2009), who frequently analyzed full-texture transcriptions in detail, with little overt reference to the tune as a separate entity.
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11. For an extensive overview of jazz transcription's problematics, see Rusch, Salley, and Stover 2016.
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12. Many analysts use a combination of published lead sheets and transcriptions depending on what aspects of a tune or tune-performance they are trying to capture. Employing these approaches in combination, however, does not diminish the problems inherent in either.
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13. Indeed, many analysts are able to circumvent these problems in convincing ways. One approach is to avoid delineating a clear melodic/harmonic outline for a given tune, highlighting instead common structural features such as voice-leading lines at the structural middleground that are less dependent on whether or not certain surface transformations are present. See for example Salley 2012, and Pellegrin 2022. Moreover, analyses are not automatically invalidated by lacking a clear source of reference for a tune's structure: many analytical observations would remain convincing regardless of the way that a tune is represented. Nevertheless, such analyses are troubled by the ambiguities that tunes present and could be clarified and enriched by a thorough, transparent explanation of methodology.
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14. Martin (1996, 5–6) introduces the term "ideal changes" to capture a provisional, idealized set of chord changes.
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15. A similar process, also inspired by Martin's notion of "ideal changes," is adopted in McClimon (2016, 3–6).
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16. Strunk (2003, 40–43) provides a more detailed glimpse into this process in his analysis of Wayne Shorter's "Yes and No."
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17. This approach is further developed under a Deleuzean framework in Stover (2017).
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18. Baker (2021, 85–92) provides a helpful overview and formal theorization of head–solos–head form.
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19. This claim is in some ways an oversimplification, since different improvisers will need to prioritize different aspects of the referent based on their role in the ensemble. For those playing or singing the melody in the head, the melodic content of a referent will likely take precedence over the harmony—although the harmony may still be relied upon, especially if the melody is treated flexibly or if any melodic utterances are added. Similarly, for those providing accompaniment, while the harmonic content of the referent will naturally be more crucial, the melody may still play a role in making particular accompanimental decisions. Formal layout, closely intertwined with melody and especially harmony, is paramount for all improvisers. For more on ensemble roles and their interactions, see Hodson 2007. It should also be emphasized that how a referent is used can differ drastically when head–solos–head form is substantially altered or deviated from. This is often the case in more recent approaches to adapting popular songs in late twentieth- and early twenty-first-century jazz. For a thorough exploration of these complications, see Baker (2021, 25–80).
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20. An interesting example of this occurs in Bill Evans and Jim Hall's recording of "My Funny Valentine" on *Undercurrent* (1962), where the duo begins to refer to an alternative set of harmonies first used by the Miles Davis Quintet in the tune's A section. Their significance goes far beyond fleeting intertextual reference; in fact, the changes are consistently used as part of the referent for most of the remainder of the solos.
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21. For an overview of corpus studies in music theory, see White 2023. In recent years, there have been a number of notable advances in corpus studies surrounding jazz analysis, specifically. Broze and Shanahan 2013 and Salley and Shanahan 2016 both use a database drawn from the iRealB application, a collection of collaboratively edited lead sheets from an online forum, for analyzing harmonic trends in jazz tunes over time. Two large research projects, Pfeiderer et al. 2017 and Dig That Lick (http://dig-that-lick.eecs.qmul.ac.uk/), have made impressive strides in terms of evaluating and making accessible tools for analysis and music information retrieval (MIR), especially the analysis of solos (mostly drawn from the Weimar Jazz Database). For an overview of the latter project, as well as a thoughtful critique of corpus approaches to jazz analysis, see Stover 2021.
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22. While my subjective observations are not tantamount to a comprehensive autoethnographic approach, such self-examination is nonetheless central to the methodology advocated in this article. For an overview of autoethnography and related methodologies, see Ellis 2004 and Ellis, Adams, and Bochner 2011.
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23. It should be noted that, like most jazz musicians, my own lived experience involves talking to many other jazz musicians about aspects of musical structure (especially in my capacity as an educator). This perspective accounts for at least some degree of intersubjectivity, in the sense that I am often aware of whether my own conceptualizations are representative or unusual relative to the improvisers with whom I have conversed.
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24. For an in-depth explanation and problematization of the notion of "jazz community," see Prouty 2012.
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25. For more on big band charts, see Geyer 2019. Antares Boyle (2021) examines flexible ostinati in the improvisations of pianist Craig Taborn. While Pressing characterizes free jazz as lacking a referent (1984, 346), free jazz and related practices do not necessarily preclude the use of composed material entirely; in many cases, it may be more accurate to simply say that free jazz does not rely on "in-time" referents. For example, see Marc Hannaford's (2019, 36) discussion of how composed materials and improvisation interact in the music of Muhal Richard Abrams.
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26. For an in-depth discussion of *avant-textes* in jazz, see Smither 2021. The term *avant-texte* was coined by Jean Bellemin-Noël (1972) to refer to the network of drafts and unfinished versions of a work of literature that pre-date the published work. The concept is central to genetic criticism and appears in musical sketch studies as well. For an overview of the field of genetic criticism, see Deppman, Ferrer, and Groden 2004.
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27. The diagram in Example 1 appears as Figure 5 in Smither (2021, 175).
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28. The specificity of a listener's referent can vary widely and will depend in part on their own musical training or lack thereof. An accomplished jazz musician who is listening to a performance is likely to have a very developed referent of a well-known tune, while a listener who has little or no musical training may only have a general idea of what, to them, sounds like a typical performance of a tune.
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29. The terms poiesis and esthesis are borrowed from the work of Jean-Jacques Nattiez, who in turn adopted them from semiologist Jean Molino; see Nattiez 1990. As Robert Hodson argues, the fact that improvisers are also listeners has important ramifications for our understanding of the creative process in jazz, because the poietic and esthesic become enjoined in a feedback loop (2007, 15–16).
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30. This of course does not resolve all ambiguous cases, especially since it is not always clear to the audience what is or is not arranged. Arrangement features can also, if they become commonly adopted, transcend their original arrangement contexts to become referent defaults, as described below. An especially ambiguous case in this regard is the status of sub- and countermelodies that are replicated in multiple performances by different artists. See, for example, the distinctive, descending contrapuntal line added to the A section of Miles Davis's "Nardis" by Bill Evans in his arrangement of the tune on *Explorations* (1961), which is an arrangement feature that has since been replicated in many lead sheets and subsequent recordings.
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31. I borrow the notion of ontological "thickness" and "thinness" from Stephen Davies (2001), who uses the terms to describe works that are relatively more (thick) or less (thin) predetermined.
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32. In the early history of large jazz ensembles, "head arrangements" were often learned aurally and were not notated—i.e., they were essentially "arrangements" stored in musicians' "heads" (Giddins and DeVeaux 2009, 205). While most contemporary big bands follow written scores to some extent, arrangements do not need to be written down in order to be understood as arrangements, nor is the use of arrangements limited to big bands. A good example of a relatively small ensemble that frequently followed tight arrangements was Art Blakey's Jazz Messengers. See for instance their 1959 recording of "Come Rain or Come Shine," which features specific melodic rhythms and many ensemble hits over the course of its head.
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33. The line between tune and arrangement features can be blurry. For example, if an ensemble frequently plays a given arrangement, the improvisers' tune-referents may eventually come to mirror the arrangement.
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34. Features that might often be thought of as arrangement features, especially ensemble hits, may sometimes be considered essential to a tune's identity. Take, for example, the rhythm section hits in Joe Henderson's "Inner Urge," which punctuate phrases and subphrases of the melody. In my experience, these hits are often considered by improvisers to be essential, and failing to perform them in a jam session could evince a lack of knowledge of the tune.
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35. Errors typically arise from a set of expectations about what the agreed-upon structure is, but they can also emerge from a discrepancy between intention and realization. For example, an improviser may intend to play a particular utterance but fail to correctly execute it. Similarly, many jazz musicians rely on audiation to generate their improvisations by hearing a particular projection, then playing that projection. Failure to execute the projected or audiated utterance may likewise be understood as an error. In each of these cases, the error is not necessarily known to anyone but the improviser and can be corrected or "covered up" by incorporating the sounding utterance into the ongoing improvisation. Conversely, a departure from an arrangement is likely to be audible to other musicians in the ensemble—provided they are familiar with the arrangement and what was supposed to be played—and perhaps even to the audience if the utterance in question diverges from synchronized aspects of the arrangement. For more on errors and what they communicate about jazz ontology and referent knowledge, see Love (2016, 2017).
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36. Used in this way, the term "knowledge base" originates in Pressing 1998. Berkowitz 2010 substantially expands upon Pressing's notion.
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37. If an improviser has, for example, been taught to conceptualize harmonic structure through the popular (but controversial) framework of chord-scale theory, their knowledge of *what* the referent is and *how* to improvise over it become intertwined. Chord-scale theory generally conceptualizes chords and scales as vertical and horizontal expressions of the same musical object, entailing a relatively fixed conception of each chord in a set of chord changes. A musician who is taught how to improvise mostly under this rubric has a knowledge base primarily composed of various scales that fit over certain chords and a referent composed of chords over which those scales fit, along with a melody defined through chord-scale relationships. For more on how particular kinds of knowledge affect ways of knowing through improvisation, see Goldman 2016. The vast number of conceptualizations that this kind of perspective opens up is discussed in Stover 2013.
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38. Sometimes called the "new Formenlehre" (Riley 2010), this literature represents a renewed analytical engagement with concepts of classical form and is typified by the work of Caplin 1998, Hepokoski and Darcy 2006, Schmalfeldt 2011, and Monahan 2015.
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39. Many of the core concepts in Hepokoski and Darcy's work are drawn from psychology, particularly prototype theory (see Rosch et al. 1976). For more on the relationship of prototype theory to music theory, see Zbikowski (2002).
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40. For more on markedness and its relationship to musical meaning and expression, see Hatten (1997). What Hepokoski and Darcy controversially refer to as "deformations" represent an especially marked choice that deviates substantially from defaults.
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41. For more on passing diminished chords in jazz, see Terefenko [2014] 2018 (67–68). These chords may also be conceptualized as applied chords (e.g. vii$^{\circ7}$/V). In the case of "Have You Met Miss Jones?", this conceptualization highlights the shared resolution of both D^7 and F$\sharp^{\circ7}$ to Gm^7 while somewhat downplaying the passing bass motion (F–F$\sharp$–G).
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42. For more on the I–vi–ii–V progression, see Helm 2022. For more on turnarounds as schemas, see Smither 2019b.
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43. These views are expressed in several influential textbooks, including Levine (1995, 84–88) and Nettles (1987b, 30–32). This conceptualization is derived from the common assertion that fifths-based progressions form the foundational syntactic background of most standard tunes (Levine 1995, 23; Nettles 1987a, 38). This notion is most comprehensively theorized in Martin 1988.
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44. Other criteria may contribute to judgements of hierarchy. A combination of ethnographic work and cognitive research could help to uncover more about how these processes are shaped; however, such concerns are outside the scope of the present study.
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45. Hepokoski and Darcy use the term "deformation" to describe deviations from defaults, which has come to be viewed as controversial due to the word's association with disability (Straus 2006). Although Hepokoski and Darcy are careful to clarify that their use of the word is meant to be imbued with positive connotations of creative agency, other terms with less negative weight can reasonably be used to describe this relationship in a more neutral way. For this reason, I have opted not to adopt the term here.
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46. This perspective differs in some ways from corpus studies, as defaults are not determined by a network of pieces alone but rather by an individual's engagement with a partially shared corpus (their *avant-texte*). Both Sonata Theory and the theory of referent defaults might be characterized as corpus-informed, however, as both seek to understand how existing networks of pieces influence compositional/improvisational decision making.
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47. It is evident from Berliner's explanation that Konitz sees these levels as part of an educational process. Berliner notes that "success at one level provides the conceptual grounding and 'license' musicians need to graduate to successive levels, each increasing its demands upon imagination and concentration" (1994, 67). Tilley's (2019, 28–43) discussion is based on a variety of ethnographic and cognitive sources, including Berliner's account of Konitz's spectrum.
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48. For a detailed examination of how each chord in a ii–V–I prolongs the chord that follows it, see Martin (1988, 10–15). For more on ii–V progressions in jazz, see McClimon 2017, Salley and Shanahan 2016, Terefenko 2009, and Smither (2019a, 2019b).
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49. Martin (1988), for example, conceptualizes the syntactic background of jazz harmony as a continuous chain of dominant-tonic relations, which runs parallel to an identical chain of dominants shifted by a tritone to form a kind of double helix structure. This same parallel structure, where tritone substitutes are understood to arise from an underlying dominant chain, can also be found in McClimon 2017. For more on tritone substitutes and their relationship to other harmonies, especially augmented sixth chords, see Biamonte 2008.
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50. Many jazz standards are composed partly of stock patterns or schemas; see Salley and Shanahan 2016, Salley 2018, and Smither 2019b. These patterns have sometimes been identified in

jazz pedagogical manuals, such as in Coker, Knapp, and Vincent 1997.
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51. Despite the existence of a clear first recording by the author of the tune, this 1953 recording has not tended to serve as an authoritative recording, with both lead sheets and future performances departing markedly from the distinctive arrangement.
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52. The way that jazz musicians learn tunes is discussed at length in Chapter 3 of Berliner 1994.
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53. A certain degree of flexibility is, however, expected in performances of jazz tunes, and not all harmonies or melodic interpretations need to be standardized throughout the ensemble. In certain cases, the messiness of conflicting harmonies or melodic interpretations can be understood to affirm that the performance has not been worked out in advance, suggesting a level of spontaneity that may be desirable. In other cases, tensions between referents may be more noticeable and even jarring; in these cases, improvisers may feel more inclined to either decide on an arrangement beforehand or to work out a solution in the course of the performance.
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54. Some arrangements, however, like the triplets in Wes Montgomery's rendition or the turnaround fill in Jimmy Smith's recording, are quite clearly marked from the tune and are unique to those performances, making them less likely to be understood as *referent* defaults.
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55. Although there are no recordings of Burrell and Johnson playing "Satin Doll" together, the two did record together on a few occasions later in the 1960s. It is not inconceivable that Burrell was aware of Johnson's recording of the tune and was influenced by it.
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56. In part because of the propensity in jazz for harmonic variation, no other subject in jazz has received as much theoretical attention as harmony. For an overview and critique of recent approaches to harmony in jazz scholarship and education, see Stover (2014–2015).
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57. For example, Johnson-Laird (2002, 424–30) sees jazz improvisation as largely a process of fitting melodies into existing "chord sequences." Indeed, for Johnson-Laird, referents consist only of static chord sequences. Pressing (1988, 144–145) refers to repeating chord progressions as well, even if his broader theory of improvisation has room for various kinds of ornamented melody and melody types (1984, 348).
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58. This is not to suggest that improvisers are unaware that chords may be interpolated or substituted, but rather that improvisers may assume that the chord symbols written on the page represent a clear and objective set of defaults from which to start.
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59. See for example Eitan Wilf's (2014, 1–2) observation of a student at Berklee College of Music being chided by a faculty member for not knowing the changes to Miles Davis's "Four," and subsequently being corrected with an explanation of an exact chord sequence.
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60. For more on Coltrane changes, see Santa 2003, Waters 2010, and Waters (2019, 21). Although reharmonization remains an understudied art, especially within academic circles, courses on the subject are taught at major university and conservatory programs, including Berklee College of Music and the School of Jazz at the New School. For more on reharmonization in jazz, see Terefenko (2004, 2010) and McClimon (2016, 2017).
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61. Built on the work of David Beach (1995), Terefenko's phrase models, which are described in detail in his 2004 dissertation, also appear in his later published textbook (2018).
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62. It is worth noting that Terefenko's phrase models are primarily centered around the repertoire known as the Great American Songbook and cannot necessarily be said to extend to tunes that depart from this style.
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63. True Schenkerian middlegrounds are often too specific to accommodate the flexibility of harmonic variability in jazz referents because middlegrounds are typically derived from a larger texture. However, abstract harmonic middlegrounds based on chord changes alone appear frequently in the work of Henry Martin (1988, 1996, 2018a) as well as Steven Strunk (1979).
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64. The time-span element of Geyer's theorization is based in part on the generative approach found in Lerdahl and Jackendoff 1983, as well as that of Love 2012.
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65. "Isn't It Romantic?" appears as a bonus track on the 1993 reissue of *Inside Betty Carter*, originally released in 1964. The recording is in B♭, but has been transposed to E♭ in all examples for the sake of comparison.
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66. Measures 31–32 sometimes feature turnarounds, but these appear after the more important tonic arrival chord in m. 31 and have been omitted for the sake of clarity.
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67. Despite many similar principles between the two approaches, these level-based reductions are not strictly Schenkerian. Most Schenkerian approaches to jazz analysis begin with a transcription and use the full texture to determine structural relationships, sometimes with modifications to orthodox Schenkerian theory. For an overview of the arguments for and against strict applications of Heinrich Schenker's theories to jazz and the stakes involved, see McFarland 2012. My reductive analyses are instead based on relations between foreground harmonies and therefore do not directly take into account contrapuntal or voice-leading considerations. Contrary to most Schenkerian practice, where foreground and background are depicted vertically lower and higher, respectively, I have adapted Geyer's (2021) inverted vertical organization, wherein surface details are shown at the top level, with "deeper" structural levels written progressively lower.
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68. The dependency relations shown on this spectrum often (but not always) manifest as what Henry Martin terms "prolongation by arrival" (1988, 12–15).
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69. Further gradations could be added to the spectrum if an analyst wishes to show deeper relationships.
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70. Further gradations could be added to the spectrum if an analyst wishes to show deeper relationships.
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71. The distinction between salience and structure in jazz harmony is theorized in Pellegrin 2022.
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72. For more on CESH schemas, see Smither 2019b.
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73. *The Real Book* was initially an illegal, underground publication featuring lead sheets transcribed by its anonymous authors; the fifth edition is the most popular and widely circulated of these

underground editions. The sixth edition (2004) is published by Hal Leonard, who obtained copyright permissions for including lead sheets of most of the same tunes. Because the initial editions of *The Real Book* featured many well-known errors and idiosyncrasies, the sixth edition sought to correct these. Although some of these errors were corrected in the Hal Leonard collection, many others remain and others still were introduced. In addition, the underground fifth edition remains widely circulated alongside the legal sixth edition. Examining the differences between these lead sheets can sometimes be revealing of the biases involved in representing tunes, especially chord changes. For more on the history of *The Real Book*, see Kernfeld (2006).
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74. A "back-door" ii–V results from the use of the dominant seventh chord a whole tone below its resolution, the "back-door dominant," often analyzed as ♭VII. For more on back-door dominants, see Terefenko ([2014] 2018, 138).
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75. Several recent approaches to group interaction in jazz help to shed light on these negotiations; see especially Michaelsen (2019, 2013) and Givan (2016). For a different adaptation of Ingold's ideas to jazz improvisation, see De Souza (2022, 227).
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