

Animating the “Outside”: a Tripartite Model of Analysing 1960s Jazz

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Abstract

The revolutionary change in jazz improvisation of the 1960s featured a sudden increase in the degree and duration of departure from pre-composed forms. This practice, commonly known as “outside” playing, has generally been interpreted in musicology and music theory through the lens of “dissonance.” Black radical scholars claim a different, Afrological ontology of dissonance, distinct from the Eurological ontology and philosophy that underpins most mainstream music theory. In this thesis, I argue that a music-theoretical focus on outside playing’s technical dimension has produced a Eurological attunement in discussions of 1960s jazz, neglecting its interactive dimension and cultural practice. Benjamin Givan’s alternative conception of “apart” playing foregrounds interactivity through layers of relationships between musicians working in a group dialogue with composed materials (the “referent”). Black radical discourse more strongly foregrounds the cooperative togetherness that “apart” playing requires, and resists the necessity for resolution and unity. I adopt Fred Moten’s use of “appositional” playing to reflect both these dimensions of improvisational practice and its cultural resonances.

I develop new animated music-theoretical tools that innovatively redeploy the Neo-Riemannian *Tonnetz* to illuminate the dynamic nature of “appositional” playing outlined above. My rationale is anchored in Eric Isaacson’s argument for advantages of animation over still images in engaging temporal relationships. Two case studies investigate strategies within John Coltrane and Ornette Coleman’s ensembles for problematising the referent, developing evidence supporting the sonic phenomena listeners have regularly identified as “transcendence” and “freedom” in their music.

These case studies demonstrate the unique advantage of animated tools for investigating the technical and interactive layers of “appositional” playing, and for tying this evidence to the music’s socio-cultural moment.

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**Animations are hyperlinked to individual files throughout this thesis. In case of
disruption, the online parent folder can be accessed manually at:

[https://www.dropbox.com/sc/fo/prvxzh4ytrz75tbl1mu5r/AMPz_vtFguK8DdZzMIS7Dc4?
rlkey=20o7rn11yl263z4smirug7jge&st=b20ekz52&dl=0](https://www.dropbox.com/sc/fo/prvxzh4ytrz75tbl1mu5r/AMPz_vtFguK8DdZzMIS7Dc4?rlkey=20o7rn11yl263z4smirug7jge&st=b20ekz52&dl=0)

Declarations

Statement of Originality

I, Timothy Nicholas Garrett Clarkson, certify that the content of this thesis is my own work. This thesis has not been submitted for any other degree or purpose. I certify that the intellectual content of this thesis is the product of my own work, and that all assistance received in preparing this thesis and all sources have been acknowledged.

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Timothy Clarkson, signed 08 May 2026

As supervisor for the candidature upon which this thesis is based, I can confirm that the authorship attribution statements above are correct.

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Introduction

The problem of 1960s jazz and *outside* playing

The revolutionary musical change in jazz improvisation of the 1960s featured a sudden increase in the degree and duration of departure from pre-determined composed forms. Commonly referred to as *outside* playing, jazz improvisors use a range of strategies to superimpose substitute harmonies or rhythms over pre-agreed forms to create and resolve tension. It is simultaneously an improvisatory practice and a nexus of aesthetic and socio-cultural meaning, especially potent for 1960s musicians. Improvisors in Afrodiasporic musics of North America have always repurposed existing forms and their harmony, not only embellishing but re-forming and co-constituting new expressions that challenge the boundaries of their underpinning composition. For decades, jazz's aesthetic of the blues, the expressivity of its bent pitches, dissonances, and instruments imitating vocal cries had placed it as Western Art Music's "other."¹ The free jazz movement— at the time coined the "New Thing"—lead an explosion of far more flexible interactive relationships and ways of improvising tension and release.

This new interactivity and disruption of form did more than increase the music's complexity. It also amplified jazz's racial and cultural stakes that had built through the preceding decades. These musical moves resonated with, fuelled and were fuelled by the tensions of the civil rights movement of the 1960s. The Black Arts Movement found

¹ Vijay Iyer, "Beneath Improvisation," in *The Oxford Handbook of Critical Concepts in Music Theory* (2020), 762.

within free jazz a broad resonance of Black cultural identity, becoming a rallying point for activism. The rising Black Nationalist Movement saw in the “New Thing” a rallying point not only for Black experience, but for musical and social power through creativity, invention, and a force for change. For both musicians and audiences, transgressing an established jazz aesthetic was bound to socio-cultural representations of freedom, resistance, and identity. *Outside* playing carries particular meaning by breaking traditional relationships with composed forms—also known as the *referent*²—and redrawing the governing limits on improvised expression.

In the decade following the 1959 eruption of Ornette Coleman from Texas on to the New York scene, the loosening or severing of the tethers to the referent exploded in both their degree and variety. Coleman introduced a radical shift from accepted ways of organising jazz group improvisation, inaugurating the protean stages of free jazz. His willingness to not only superimpose harmony far more adventurously, but abandon the composed form divided the New York jazz scene. During his band’s debut residency at the Five Spot, Coleman would sometimes re-invent the harmony to such an extent that other musicians questioned whether he knew the songs, and if he knew how to play properly.³ Don DeMichael, editor of *Downbeat*, proclaimed in 1961:

² Sean R. Smither, “Conceptualizing Tunes: Avant-Textes, Referents, and the Analysis of Musical Structure in Jazz” (Rutgers University - School of Graduate Studies, 2020).

³ Francis Davis, “Ornette’s Permanent Revolution,” *The Atlantic Monthly*, 1985; John Litweiler, *Ornette Coleman: The Harmolodic Life* (London: Quartet, 1992), 38, 45, 88.

His is not musical freedom; disdain for principles and boundaries is synonymous not with freedom but with anarchy... [Coleman] has been made a symbol of musical freedom when he is the antithesis of that freedom.⁴

Coleman's transgression of accepted norms—then codified and perfected in 1950s bebop—was divisive amongst musicians, but won over the likes of musician and theorist George Russell. Russell describes his simultaneous admiration and trepidation in a discussion with Coleman:

So when I finally met you in 1959 in the school of jazz in Lennox, it was the worst dreams came true. I heard your music and knew that here was a music that was frightening in its implications. That they would have to learn new disciplines, and I think in that sense you influenced everybody.⁵

The conundrum for musicians and critics of whether Coleman was a charlatan or genius hinged on the interpretation of Coleman's innovations as either refiguring jazz's meanings or betraying them.⁶ For critics, he was tearing down the artistic

⁴ Don DeMichael, quoted in Janna K. Saslaw, "Far Out: Intentionality and Image Schema in the Reception of Early Works by Ornette Coleman," *Current Musicology* (New York), Spring 2000, 100.

⁵ *Ornette: Made in America*, directed by Shirley Clarke (Milestone Films, 1985), 77 minutes, <https://www.flicks.com.au/movie/ornette-made-in-america/>.

⁶ John Tynan, "Ornette: The First Beginning," *Down Beat*, n.d.; Howard Mandel, "Ornette Coleman, Questions and Conjectures," in *Miles, Ornette, Cecil* (Routledge, 2007), 124.

achievements of Black artists and traditions, and the hard-won ground for jazz's seriousness as an art form.⁷ For musicians, Coleman's repurposing of bebop language outside its harmonic constraints produced new creative possibilities that became foundational for many jazz musicians in the decades since.

Despite Coleman's innovations, he was unable to realise them musically via his efforts alone. By prioritising interactive contributions of ensemble members over pre-composed ideas, Coleman allowed room for the blurring or even dissolution of the referent during improvisation.⁸ The resulting freedom of harmony, rhythm, and form relied on the active contributions of the entire ensemble. With band members less prepared to relinquish standard pathways and treat the referent as malleable, the results are an interactive disconnect as evident on his first album in 1958, *Something Else!!!*. The marked change towards a new kind of musical freedom over Coleman's subsequent several albums is in no small part due to the collaborators upon whom he settled. Bassist Charlie Haden played a crucial role, especially once Coleman omitted chordal instruments from the band. Haden describes his first rehearsal encounter with Coleman in 1958:

...he said to play on the changes until he left them, and then just follow him. At first I thought he meant he would play on the written changes for a little while, but then I realised he would be creating a new set of changes almost right away. So I discarded his changes and followed him.... Sometimes the changes he had

⁷ Saslaw, "Far Out."

⁸ Eric Charry, "Freedom and Form in Ornette Coleman's Early Atlantic Recordings," *Annual Review of Jazz Studies* 9 (1997): 261–94.

for the written parts didn't always fit, so I would look for the right note, even if it wasn't the root of the tonal centre.... Sometimes I would play what I was hearing instead of what he had written and he usually accepted it.⁹

Through this kind of collaboration, any ensemble members' contribution could wholly redirect the performance in new musical directions that are impossible whilst remaining within the bounds of the composed form. Coleman's innovations were to some degree harmonic and rhythmic, but more significantly were a new way of *interacting*.

For collaborators such as Haden and pianist Paul Bley, this processual revelation brought previously unimagined freedom.¹⁰ Coleman's eventual articulation of a theory of Harmolodics is ultimately a strategy and philosophy of interaction. He views the kind of musical freedom described above as both representative of, and enacting, personal and racial freedom. For other musicians such as Cecil Taylor, Albert Ayler and John Coltrane, Coleman's collaborative approach provided a path towards abstraction, where transgressing established jazz boundaries and norms became another, yet richer palette of meanings.

In contrast to Coleman, John Coltrane affected radical change from an established career in mainstream jazz by testing the limits of harmonic and rhythmic superimposition. In the late 1950s, Coltrane was most famous for his virtuosic and exhaustive harmonic substitutions, famously coined by Ira Gitler as his "sheets of

⁹ Ethan Iverson, "Interview with Charlie Haden," *DO THE M@TH*, April 10, 2016.

¹⁰ Iverson, "Interview with Charlie Haden"; Paul Bley, *Stopping Time: Paul Bley and the Transformation of Jazz* (Montréal: Véhicule Press, 1999), 45.

sound.”¹¹ From 1959, he augmented bebop-style chromaticism and substitution with the interpolation of major third cycles derived from his composition, “Giant Steps.” In his classic quartet and until his death in 1967, Coltrane systematically pushed the boundaries of ensemble polytonality and polyrhythm. The ensemble sound was particularly characterised by dense, sustained interaction between Coltrane, pianist McCoy Tyner and drummer Elvin Jones. The density of the Coltrane Quartet’s superimposition and stretching of the referent to its limits lead critics to label his music “angry jazz” or even “anti-jazz.”¹²

This “anti-jazz” interpretation was at odds with Coltrane’s gentle persona and stated spiritual agenda “to be a force for real good.”¹³ His 1964 album *A Love Supreme* was simultaneously an apotheosis of *outside* playing, and unequivocally declared the spiritual quest intended by his music. Coltrane’s pan-spiritual belief was that reaching for the highest levels of harmonic and rhythmic freedom was a transformative personal practice in sound, and that “[o]nce you become aware of this force for unity, you can’t ever forget it.”¹⁴

However, this goal again necessitated the full commitment to interactive exchanges by his fellow ensemble members. Amongst their unique contributions, author Salim Washington singles out drummer Elvin Jones. “Much of what we think of as

¹¹ Ira Gitler, “Liner Notes to *Soultrane*, John Coltrane,” Prestige, 1958.

¹² Frank Kofsky, *Black Nationalism and the Revolution in Music*, 2nd printing, A Merit Book (New York, NY: Pathfinder, 1970), 194.

¹³ Kofsky, *Black Nationalism and the Revolution in Music*, 241.

¹⁴ John Coltrane, *Liner Notes to Meditations*, Impulse!, 1965.

‘sounding like Coltrane’ is actually not even possible without the type of accompaniment that Jones innovated.”¹⁵ Even before his classic quartet with Elvin Jones, McCoy Tyner, and Jimmy Garrison, Coltrane articulated how his development of harmonic tension in Thelonius Monk’s band relied on interactive tension with bassist Wilbur Ware:

Yeah, the bass player, ... I count on him, you know... He plays things that are kind of, you know, they’re foreign... He’s playing around, and under, and over – building tension, so when he comes back to it you feel everything suck in.¹⁶

The feeling of “suck[ing] in” refers to the moment jazz musicians experience playing in contradiction of a composed form, then finding in a moment of coming together again. Superimposition of alternative chord changes here is clearly not a sole practice, but rather an interactive and collaborative one.

In light of Coltrane’s comments, it is unsurprising he gravitated towards collaborators who innovated their own ways to facilitate new interactive strategies. In a 1995 interview with Dr Billy Taylor, Coltrane’s pianist McCoy Tyner describes his development of an individual aesthetic of quartal voicings, specifically for their tonal

¹⁵ Salim Washington, “Don’t Let the Devil (Make You) Lose Your Joy’: A Look at Late Coltrane,” in *John Coltrane and Black America’s Quest for Freedom: Spirituality and the Music*, ed. Leonard L. Brown (Oxford University Press, 2010), 141.

¹⁶ John Coltrane, *Coltrane on Coltrane: The John Coltrane Interviews*, ed. Chris DeVito (Chicago: Chicago Review Press, 2010), 19.

ambiguity and flexibility for interaction.¹⁷ Tyner further describes the layered roles of ensemble members, starting with bassist Jimmy Garrison:

[McCoy Tyner]: He was like a pivot, he kept the band centred, *anchored*. So whatever y’know, polyrhythms Elvin was doing and I was playing y’know different kind of harmonies I was trying to stick with Elvin and we’d do some things together, and... he was always there kind of anchoring it. And then if John, and so there was a kind of harmonic freedom cause y’know, I was moving, so, so John could do different things he wanted to do, and I would let them play, he and Elvin would have reached a certain *point* [gesturing upwards]

[Billy Taylor]: Just the two of them

[MT]: Just the two of them, it was up here...it was unlimited...just amazing.¹⁸

Tyner makes clear that the stratospheric heights of Coltrane’s solos were reliant upon the ensemble’s collaboration enabling more intricate musical interactions.

The particular kinds of outside improvisation evident across Coltrane and Coleman’s ensembles are two of many interwoven threads in this fruitful period of jazz history. As two of the most influential figures of 1960s jazz, they have already attracted a significant amount of academic attention. By focussing on their illustrative capacity for

¹⁷ McCoy Tyner, “Oral History Interview with McCoy Tyner: Louis Armstrong Jazz Oral History Project,” interview by Billy Taylor, April 24, 1995, New York: Schomburg Centre for Research in Black Culture.

¹⁸ Tyner, “Oral History Interview with McCoy Tyner: Louis Armstrong Jazz Oral History Project.”

interaction and outside playing more broadly, I particularly draw attention to their social networks of collaboration. From this perspective, Coleman and Coltrane lead their group in confronting the quandary of musical freedom. Their different strategies for problematising the referent present unique challenges for the group to collaboratively navigate and resolve.

These solutions can be broadly construed in terms of maximisation and disruption. Coltrane *maximises* the referent by exhaustively extracting from it every implication and possibility. In a quest for transcendent musical solutions, his ensemble superimposed layer upon layer of outside playing and abstraction. By contrast, Coleman *disrupts* the referent by calling its status into question. He explicitly invited alterations to the referent from amongst the ensemble, treating it as a starting point from which the ensemble could depart or progress at a different rate, eventually dispelling with any agreed form or harmony during improvised sections. Interactive contributions of any musician were welcomed as a valid point of departure, spinning off into new musical paths that may or may not utilise the referent as foundational.

Both Coltrane and Coleman express freedom and spirituality grounded in Black experience, whose cultural expression draws on their specific conception and theorisation of technical materials. Their contrasting strategies create different relationships to the referent—maximisation vs disruption—that enact different interactive relationships and consequently create different socio-cultural meanings. A music-theoretical view faces the challenge not only of outside playing's technical complexity, but of integrating with it multiple interactive and socio-cultural perspectives that are crucial to its understanding. How we listen for these relationships and interpret their meanings has a chequered history in music theory.

This thesis develops a music-theoretical framework that leverages animation to unpack how sounds are oriented towards each other in 1960s jazz. This approach specifically responds to analytical manoeuvres in music theory that have neglected outside playing's socio-cultural complexity by reducing interpersonal interactions to maps of dissonance. Music theory traditionally gathers a composition's parts under a unified whole, because compositions are usually the carefully crafted product of one mind. By contrast, jazz improvisation occurs through real-time decision making by musicians to create congruous and incongruous musical gestures, negotiating resolution through time. As the above discussion demonstrates, preserving traces of the agency of individuals who constitute the improvisational act are key to understanding jazz interactivity.

In Chapter 1, I provide a technical and socio-political history of outside playing. I apply George Lewis's distinction between "Eurological" and "Afrological" modes of thought to ontologies of dissonance. I contrast the Eurological ideas of Schoenberg, Schenker, and Adorno with Black radical scholars such as Fred Moten, James Gordon Williams, and Elsa Barkley Brown. Building on Moten's terminology, I reframe Benjamin Givan's term "apart playing" to specifically describe technical relationships and propose the term "appositional playing" to encapsulate an Afrological view of outside playing. I then establish two different strands of appositional playing, revolving around Coltrane and Coleman by demonstrating their entanglements of technical, interactive and socio-political meaning. By explicitly identifying these three thematic concerns, I lay the foundation for a tripartite model that integrates these layers of the music.

In Chapter 2, I build the case for animation in music theory by tracing the literature addressing interactive and technical perspectives on appositional playing,

specifically focusing on Coltrane and Coleman. As a theoretical solution to the problems presented by this literature, I turn to David Lewin’s “transformational attitude” to pivot towards analysis that prioritises motion and action. I subsequently theorise a synthesis of the Neo-Riemannian *Tonnetz* with Dmitri Tymoczko’s theory of “macroharmony” to develop a theoretical apparatus capable of showing relationships between multiple simultaneous of varying cardinalities. I argue that animation helps access the temporality of interactions, drawing on Eric Issacson’s argument for the advantages of animation over still images. Finally, I introduce my animated methodology that I apply in two case studies in the following chapters.

Chapter 3 and 4 develop the core case studies of John Coltrane and Ornette Coleman. Chapter 3 animates Coltrane’s solo on “Pursuance” from the album *A Love Supreme*. The *Tonnetz* animation shows Coltrane’s convergent and divergent interaction with pianist McCoy Tyner. Through simultaneous but contrasting strategies, they maximise the form’s opportunities by superimposing layers of harmonic abstraction and swiftly coordinated oscillations between *apart* and *together*. Chapter 4 animates Ornette Coleman’s solo on “Peace,” from the album *The Shape of Jazz to Come*. As a transitional example on the verge of free jazz, the animation shows how Coleman’s *harmolodic* conception of “freedom” prioritises interaction, raising it status to rival the referent. The animation also reveals the complex relationship between the audible music and the inaudible processes underpinning it.

By integrating the tripartite layers of complexity in 1960s oppositional playing, the case studies demonstrate two very different treatments of the referent. Coltrane and Coleman—by prioritising contrasting kinds of interaction afforded by their technical materials—manifest very different social meanings. My hybrid methodology affords a

interactive view of the music that integrates its technical details, and a better perception of the social stakes.

Chapter 1: Listening to Jazz “Afrologically”

Interpreting Dissonance in Black Musical Space

In order to examine *outside* playing’s theorisations and meanings, it is necessary to first take a moment to consider how ‘dissonance’ is treated in jazz commentary. Dissonance is often taken as somewhat of a proxy for *outside* playing, but requires a couple of pertinent distinctions. Dissonance is most commonly intended as an audible characteristic, or alternatively in the sense that music can be socially dissonant with “the ways in which [subordinated social groups’] identities have been constructed, framed, and interpreted.”¹ By contrast, *outside* playing is a practice enacted primarily through group interaction, often—but not always—resulting in audible dissonance. In the critique below, I disentangle some important perspectives on dissonance as a characteristic and as a site of agency, process, and practice. Examining the philosophies and assumptions underpinning music-theoretical methods is the precursor to my intervention using animation.

Long before the 1960s, jazz’s aesthetics were entangled in the genre’s racially-based critique, and the social resistance it mounted in response. In a 1941 interview, Duke Ellington responded to a question about dissonance in his music:

¹ Ajay Heble, *Landing on the Wrong Note: Jazz, Dissonance, and Critical Practice* (New York: Routledge, 2000), 9; see also Ronald Michael Radano, *Lying up a Nation: Race and Black Music* (Chicago: University of Chicago Press, 2003), 26.

That's the Negro's life... That's us. Dissonance is our way of life in America. We are something apart, yet an integral part.²

For Daniel Matlin, this famous quote sews together two perspectives in tension throughout Ellington's life and music: his valuing of "black apartness" on the one hand, and his "integrationism" on the other.³ Ellington simultaneously raised the public recognition of Black expression as an art form, while managing commercial success in a white-dominated marketplace. Simultaneously, he expresses the value of black music—"an integral part"—by tying its unique contribution to American art specifically to its dissonance imbued with expression of Black experience.

Despite its origins in Black experience, jazz has always existed in a racially and musically hybridised space. If, as George E. Lewis states, nothing about jazz improvisation is "ethnically essential," why should African American cultural expression remain at the centre of global jazz discourse? For Lewis, jazz is culturally centred within an Afrodiasporic improvised practice, whose musical values and logics contrast with European conceptions of improvisation and indeterminism.⁴ For Travis Jackson, the answer is twofold: the persistence of Black artists being held as foundational for jazz musicians worldwide, and the Afrodiasporic cultural values that not only underpin jazz

² Mark Tucker, ed., *The Duke Ellington Reader* (New York: Oxford University Press, 1993), 150.

³ Daniel Matlin, "'Something Apart, Yet an Integral Part': Duke Ellington's Harlem and the Nexus of Race and Nation," *Modern Intellectual History* 19, no. 2 (2022): 502.

⁴ George E. Lewis, "Improvised Music after 1950: Afrological and Eurological Perspectives," *Black Music Research Journal* 16, no. 1 (1996): 93.

practice but are baked into its ways of meaning.⁵ Lewis's famous formulation of "Afrological" vs "Eurological" improvisation elucidates the broad cultural and musical values underpinning contrasting improvisational traditions. Afrodiasporic cultural practice retains the pre-eminence of the sonic identity and personal contribution of improvisors, and the "generation, manipulation, and transformation of sonic symbols."⁶ By contrast, Lewis's Eurological improvisation uses aleatoric methods to both de-emphasise sonic identity and avoid symbolic references. For Lewis, Afrological and Eurological "refer to social and cultural location" and are theorised as historically emergent.⁷ The aspects of referentiality and sociality within Afrological improvisation carries particular resonances for African American musicians:

New improvisative and compositional styles are often identified with ideals of race advancement and, more importantly, as resistive ripostes to perceived opposition to black social expression and economic advancement by the dominant white American culture.⁸

⁵ Travis A. Jackson, *Blowin' the Blues Away: Performance and Meaning on the New York Jazz Scene* (University of California Press, 2012), 116; Travis A. Jackson, "Jazz Performance as Ritual: The Blues Aesthetic and the African Diaspora," in *African Diaspora: A Musical Perspective* (Routledge, 2003), 32–33.

⁶ Lewis, "Improvised Music after 1950," 94.

⁷ George E. Lewis, "Gittin' To Know Y'all: Improvised Music, Interculturalism, and the Racial Imagination," in *The Improvisation Studies Reader* (Routledge, 2014), 297.

⁸ Lewis, "Improvised Music after 1950," 94.

Lewis's distinction between Eurological and Afrological as "musical logics" is a useful frame to problematise music theory's treatment of dissonance. The discussion of Ellington above reflects two broad senses of dissonance in the literature: as an acoustic characteristic, and as "a symbolic challenge to the prevailing musical and social order."⁹ A music-theoretical preoccupation with the former has led to a neglect of critical reflection on its role in the latter. In order to elucidate the implicit values imported within music-theoretical perspectives, I use the terms Eurological and Afrological not only to refer to Lewis's distinction of musical logic and its attendant cultural signification, but also the broader philosophical perspectives that underpin those logics and subsequently play out in musical theories.

More than simply adapting music-theoretical tools, the music theorist's philosophical and ontological foundations crucially affect interpretation. Jesse Stewart expresses the consequence of a hierarchical view of dissonance for interpreting jazz's socio-political dimension:

If we accept, as I do, the proposition that systems of musical logic are never neutral or natural, but rather always carry traces of the social values and ideologies that led to their construction, we might regard the system of tonal harmony that has underpinned—and continues to underpin—the vast majority of Western music as a symbolic expression of a social order from which there is no escape: dissonance only exists as a temporary aberration that ultimately

⁹ Jesse Stewart, "Improvised Dissonance: Opening Statements," in *The Improvisation Studies Reader* (Routledge, 2015), 214–15.

serves to reaffirm and strengthen the prevailing musical/social order.¹⁰

In order to engage in ethical music theory and analysis, it is necessary to consider what ontological assumptions underpins our theories, how this foundation determine what we listen for, and the conclusions we subsequently draw. Speaking at a broad aesthetic level, classical and jazz musics have undergone a similar historical arc with respect to dissonance disrupting tonal convention. Both have grown from a more consonant, tertian harmonic foundation that later increases in complexity, embracing atonal strategies as a widespread response to various musical and social problems. Jazz's hybrid origins include a substantial adoption and adaptation of European song forms, enhancing its harmonic similarities with late-nineteenth-century classical composition. This harmonic commonality can be true without downplaying the profound differences between European classical music and jazz's Afrodiasporic foundations: the blues and blues tonality,¹¹ group improvisation, interactivity, and rhythmic primacy that differentiate them both stylistically and culturally.

Nonetheless, both genres share a common historical concern with the limitations of music's aesthetics and form, and the music's ability to be charged with power for utopian vision and resistance. At their respective historical points, the musicians who developed a wholesale challenge to systems of tonality share a period

¹⁰ Stewart, "Improvised Dissonance," 214.25/05/2026 8:24:00 AM

¹¹ Gerhard Kubik, "The Blues Tonal System," in *Africa and the Blues* (Jackson, USA: University Press of Mississippi, 2008); Asher Tobin Chodos, "The Blues Scale: Historical and Epistemological Considerations," *Jazz Perspectives* 11, no. 2 (2018): 139–71.

of disruption during which resistance to political, institutional, and cultural injustices manifests through a break with previous styles which are tied to political or racial oppression, and/or commodification under capitalism. Classical and jazz musicians both embraced dissonance as a locus of socio-political resistance, but employed very different underlying musical philosophies and ontologies to achieve it.

Black radical scholars such as Fred Moten, Saidiya Hartman, James Gordon Williams, Samuel A. Floyd draw on the same, broadly Marxist, foundations that underpin classical commentators such as Theodor Adorno and post-Adornian thinkers Carl Dahlhaus and Susan McClary. These authors share a concern for the dialectical relationship between music and society. Moten specifically builds on Adorno's position as a point of departure, a connection that Michael Gallope describes: "Between the two is a common discontent with the fate of the Enlightenment and the allegedly emancipated subject of liberal democracy, a common sense of the overwhelming violence and domination that human history has wrought, and an allied commitment to aesthetics and art as a privileged site of obscure utopian potential." However, Gallope also pinpoints Moten's more radical angle that "transfigures much of what he adapts from Adorno."¹²

My reason for constructing an apparent binary comparison between jazz and classical is not ultimately to reinscribe aesthetic or harmonic similarities and differences, but to situate music theory writ large. Music theory as a discipline is in flux, emerging from its Euro-centric foundations and— especially currently—reconsidering

¹² Michael Gallope, "Black Art As Unmappable Dissent: 'Black and Blur,'" *Cultural Critique*, no. 111 (Spring 2021): 196.

what stylistically and culturally specific theories might look like.

“Eurological” and “Afrological” Ontologies of Dissonance

Mainstream music theory has historically leveraged tools derived from classical music in order to explain jazz’s dissonances. Despite the broad harmonic similarities described above, mainstream theory often remains an uncomfortable fit for jazz’s interactional dimensions. These include group improvisation, multiple individual agencies rather than a single composer, and its attendant differences in jazz cultural values that guide where we look for the musical *work* being done. Classical music theory has historically assumed a more conservative posture than even twentieth-century classical composers it was intended to explain.¹³ Jazz theorists, by contrast, grapple with two challenges: both with the music’s philosophical radicalism and deciding what to keep or reinvent from mainstream theory’s Eurological foundations.

I am therefore framing a simultaneously music-theoretical, but also philosophical-cultural problem. In fact, the surface aesthetic similarities and the common tools used to engage them often obscure deeply different philosophical and ontological claims about the nature of the music’s resistant politics of dissonance. Classical music theorist David Lewin’s classic statement claims the ultimate purpose of analysis is to “hear the piece better.”¹⁴ However, radical Black scholars like Moten,

¹³ Richard Taruskin, *The Oxford History of Western Music: Volume 5: Music in the Late Twentieth Century* (Oxford University Press, 2009), 454.

¹⁴ David Lewin, “Behind the Beyond: A Response to Edward T. Cone,” *Perspectives of New Music* 7, no. 2 (1969): 63.

Hartman, Floyd, and Williams present two challenges for jazz listening's executing of Lewin's aim: what qualifies as the "piece," and what precisely we are *listening for*. The first clue toward an ontological rift is Lewin's hearing of the "piece," a term that for him specifically means composed music. The "piece" as it generally applies to jazz includes an unfixed assemblage of improvisational gestures that reconfigure its compositional aspects and alter the performance's content. Consequently, the "piece" is constituted by additional kinds of artistic labour than a pre-composed musical object. Moten et. al. make substantially different claims for a different ontology within which dissonance—and music theory—operates. This altered frame of reference is a problem for how we conventionally hear and interpret dissonance in improvised jazz. Music theory is still in the process of developing the theoretical lenses and tools to inhabit new philosophical positions, whereas musicology and radical Black scholars have wrestled with these issues more deeply and for longer. This topic remains contested territory in both musicology and music theory, with ongoing debate surrounding many claims about *what* and *how* improvisation means

Without diverging too far from my proposed music-theoretical solutions, I will outline some relevant differences between Eurological and Afrological interpretations of dissonance. To draw this contrast, I will outline three historically significant thinkers who are emblematic of larger strands of philosophical and ontological positions on dissonance. Arnold Schoenberg is representative of the Second Viennese School's "emancipation of dissonance" and provides a view as both composer and theorist. I will briefly cover the compositional realities of emancipation and atonality particularly for Schoenberg, then introduce Schoenberg's account of that history as a prelude to Theodor Adorno. Adorno then provides a view of that history that is more foundational

for modern historical perspectives, and is more exemplary of a Eurological attitude toward dissonance. He not only interprets Schoenberg, but his dialectics and artistic 'surplus' remain foundational for a contemporary and historically situated view of art and society. His conceptual terrain then bridges between European philosophy and Fred Moten's Black radical philosophy, which builds directly on Adorno's dialectics.

I foreground Fred Moten as a key theorist of an Afrological perspective on dissonance, specifically the position of radical Black scholars in the Marxist tradition. Moten shares Adorno's concern for music's relationship to society, and is emblematic of Afrodiasporic cultural philosophy's reformation of music's socio-political dimension. He builds on, rather than contradicts, Adorno's dialectical position and materiality of sound as a foundation from which to articulate a different ontology underpinning how society and music relate. He proposes not a different dissonance, but a different ontology of sound. My purpose is not to excavate each perspective in exhaustive detail, but elucidate two of the most significant contrasting ontologies of dissonance that necessarily underpin what music theory is trying to achieve.

The historical focal points for both jazz and classical are necessarily their periods of transition from chromatic-but-tonal towards poly- or a-tonal music, and its consequential disruption of form. Lewis's Afrological vs Eurological improvisation critiques the synchronic 1960s philosophical differences between jazz and composers such as Glass, Reich, Cage, and Stockhausen. Diachronically however, the 1960s jazz transition from tonal via dissonant to non-tonal music shares more of its harmonic foundation and philosophical issues with late-nineteenth to early-twentieth-century classical music.

Eurological Emancipation of Dissonance: Schoenberg and Adorno

Classical music's most significant reckoning with the deconstruction of tonality is generally centred on Schoenberg's "emancipation of dissonance." Schoenberg sought to erase the hierarchy of notes by exposing and educating the listener's ear to readily accept dissonance as a new normal. His ultimate goal was to bring dissonant harmony into the musical fold such that dissonances retain their own power of animation beyond the force of tonal resolution.

Schoenberg distinguishes consonance and dissonance through their "comprehensibility" for audiences. The term, emancipation of the dissonance, refers to normalising dissonance for the audience, by "treat[ing] dissonances like consonances and renounc[ing] a tonal centre."¹⁵ Whereas irregularity was previously animated by its exception to a norm of regularity, emancipated irregularity exists in its own right and, according to Dahlhaus, "is no longer an element in the construction of the form."¹⁶ The accepted European theorisation of dissonance in the nineteenth century claims triads as normative, consonant, and "natural."¹⁷ Under this view, the symbolism of tonal

¹⁵ Arnold Schoenberg, *Style and Idea: Selected Writings of Arnold Schoenberg*, ed. Leonard Stein (New York: St. Martin's Press, Inc., 1975), 216–17.

¹⁶ Carl Dahlhaus, *Between Romanticism and Modernism*, trans. Mary Whittall (University of California Press, 1980), 61.

¹⁷ James McGowan, "'Consonance' in Tonal Jazz: A Critical Survey of Its Semantic History," *Jazz Perspectives* 2, no. 1 (2008): 75–76; Theodor Adorno, *Philosophy of New Music* (1949), 32; Fred Moten, *Black and Blur* (Durham and London: Duke University Press, 2017), 56.

narrativity generally derives from a deviation from norms, and its ultimate resolution to them, often referred to as “progression-towards-a-goal.”

Schoenberg shares with many of his classical contemporaries the positive liberatory impulse of tonality’s disruption. During his early period, he intended his emancipation not as an erasure of historical styles, but as more inclusive of musical possibilities. According to Lydia Goehr, Schoenberg was against politics that might use music as “slogans of revolution or radicality,” instead advocating for “evolution, ‘not revolution.’” Goehr describes Schoenberg’s view of himself as a lonely visionary, the “genius” composer whose intuition grasps truths he knows “‘compositionally’ but not ‘cognitively.’”

Emancipation through normalisation ultimately relies on an understanding of what is considered normal and abnormal. Here, Schoenberg shares one underpinning assumption with Heinrich Schenker, perhaps the greatest proponent of structural consonance as the ‘natural’ foundation against which dissonance operates. For Schenker, dissonance creates the necessity to move. However, Joseph Straus identifies the dilemma that, “[d]issonance is needed (for expressive purposes, and to propel the music forward), but simultaneously stigmatized as undesirable and threatening to the integrity of the structure.”¹⁸ Ultimately, Schoenberg does not erase this hierarchy, but instead expands the definition of “normal.” This treatment is borne out in his later theorisation through a desire to make orderly and systematic that which was originally transgressive. This desire—to bring to heel, finding systems to explain, contain, and

¹⁸ Theodor W. Adorno and Susan Gillespie, “On Some Relationships between Music and Painting,” *The Musical Quarterly* 79, no. 1 (1995): 70.

codify—is common to many European modernist philosophies.

Schoenberg's post-1923 period and later theoretical writings on dodecaphony display the tension between transgressive composition urges and theoretical constraint.¹⁹ After a period of mostly hiatus from 1911–1923, Schoenberg articulates a radically altered desire for greater containment and systemisation of his compositional approach. About the role of the composer, Schoenberg says:

He must find, if not laws or rules, at least ways to justify the dissonant character of these harmonies and their successions.... I laid the foundations for a new procedure in musical construction which seemed fitted to replace those structural differentiations provided formerly by tonal harmonies. I called this procedure *Method of Composing with Twelve Tones Which are Related Only with One Another* [emphasis in original].²⁰

For Schoenberg, dissonance is ultimately a relational harmonic category. Even when emancipated, dissonances remain within a system of pitch relations. It ceases to require resolution, but remains intelligible within a pitch structure. Schoenberg and Schenker share the European philosophical view of the individual composer as a singular “genius,”²¹ who inscribes into a musical work some greater, abstract, or pre-

¹⁹ Susan McClary, *Feminine Endings: Music, Gender, and Sexuality* (University of Minnesota Press, 2002), 108.

²⁰ Schoenberg, *Style and Idea: Selected Writings of Arnold Schoenberg*, 218.

²¹ Lydia Goehr, “Dissonant Works and the Listening Public,” in *The Cambridge Companion to Adorno*, 1st ed., ed. Tom Huhn (Cambridge University Press, 2004), 226.

existing truth. This historically bounded concept of the “work” has been detailed at length in Goehr’s famous volume on the topic.²²

This Eurological framework—wherein dissonance’s emancipation and uncertain relationship to consonance animates the “work”—is a backdrop for Lewin’s aim to “hear the piece better.” Lewin seeks to improve dissonance’s comprehensibility, in his case by developing its phenomenology for the listener. This kind of situated perspective that sees audible phenomena in relation to the person doing the perceiving and their social context has its roots in Theodor Adorno’s aesthetic theory. Specifically, Adorno’s dialectics provides an important foundation for modern understandings of music’s relationship to society, in a line of post-Marxian thought. This is a foundation shared by many Black radical scholars, though they develop his ideas further and in explanation of Afrological music. What follows is a discussion of Adorno as generally representative of both a European philosophical perspective and a Eurological attitude towards dissonance, before turning to Moten’s transformation of these ideas.

Adorno’s historically situated, dialectical position broadens beyond Schoenberg’s concerns. While he celebrates Schoenberg’s music for its rationalisation of dissonance into a formal system, for Adorno, it is the reciprocal relationship between music and its societal context that enables music’s political critique. Under Adorno’s dialectical view, dissonance is never absolute, but a relative quality. Even in Adorno’s most radically different interpretations from Schoenberg’s, dissonance operates either by creating tension that demands resolution (as in tonal music), or as an emancipated

²² Lydia Goehr, *Imaginary Museum of Musical Works: An Essay in the Philosophy of Music* (Oxford, United Kingdom: Oxford University Press, Incorporated, 1992).

dissonance that becomes a new norm. Even when emancipated, however, dissonance's critical power remains defined by what it negates. Adorno says, "Although art revolts against its neutralization as an object of contemplation, insisting on the most extreme incoherence and dissonance, these elements are those of unity; without this unity they would not even be dissonant."²³ Dissonance, for Adorno, ultimately indexes consonance even when emancipated. He shares this Eurological drive towards unity and resolution at a conceptual if not an aesthetic level with Schoenberg's need to find order in the tonal chaos.

Despite Adorno's dissonance being dialectical, he ultimately privileges form over sonic material. For Adorno, the flaws of society are immanently "sedimented" in the music, as reflected in the abstraction of modernist European composition. Social problems and contradictions crystallise, leaving a mute imprint in music's abstract layers as compositional problems. These sediments form a large part of Adornian 'surplus': that which exceeds the sum technical elements of the music and makes it art, but paradoxically requires analysis to read sociality in its technical form.²⁴ He says, "All forms of music, not just those of expressionism, are sedimented contents. In them survives what is otherwise forgotten and is no longer capable of speaking directly. What once sought refuge in form subsists anonymously in form's persistence."²⁵ This abstract

²³ Theodor Adorno, *Aesthetic Theory*, trans. Robert Hullot-Kentor (London, New York: Continuum, 1997), 157.

²⁴ Theodor Adorno, *Essays on Music* (Berkeley, Los Angeles, USA: California University Press, 2002), 103.

²⁵ Adorno, *Philosophy of New Music*, 37.

formulation of music's value builds upon Marx's insistence that commodities cannot speak.²⁶ This is foundational for Adorno's position that music's abstraction is the best vehicle to critique society by capturing modernity's instrumentalisation of capitalism.

Adorno's sees music's overt dissent and protest as ineffective, instead asserting that the "sediments" of society should operate almost subliminally.²⁷ Music's materiality is repressed in favour of an operation on the listener at a more disembodied, subconscious level. For Adorno, music's critical power is grounded in aesthetic autonomy. Only through its technical rigour and structural complexity can music resist commodification and ideological capture. For Adorno, music is the non-conceptual art par excellence, saying, "Its power over the subject intensifies in parallel with the increasing autonomy of the work."²⁸

This autonomy is tied specifically to music's notated form that distinguishes worked out, planned, and inscribed artworks from base entertainment. He argues that, "[w]ithout writing [there can be] no highly organized music; the historical distinction between improvisation and *musica composita* coincides qualitatively with that between laxness and musical articulation."²⁹

²⁶ Karl Marx, *Capital: The Process of Production of Capital*, vol. 1, ed. Fredrick Engels, trans. Samuel Moore and Edward Aveling (1887; Moscow, USSR: Progress Publishers, 1995), 35; Fred Moten, *In the Break: The Aesthetics of the Black Radical Tradition* (Minneapolis, USA: University of Minnesota Press, 2003), 213.

²⁷ Goehr, "Dissonant Works and the Listening Public," 243.

²⁸ Adorno, *Aesthetic Theory*, 15.

²⁹ Adorno and Gillespie, "On Some Relationships between Music and Painting,"

Adornian musical critique operates via historical negativity towards its previous state. He writes in *Negative Dialectics*, “What we differentiate will appear divergent, dissonant, negative for just as long as the structure of our consciousness obliges it to strive for unity.”³⁰ Dissonance and its resultant formal contradictions work immanently, by contradicting the logic of consonance, and therefore forms that derive from a drive towards consonant resolution.³¹

For Adorno, music confronts societal alienation for the listener by exposing the unreconciled tensions of modernity. The alienation of music’s dissonant sonorities and forms for those who are willing—and educated enough—to listen, illuminates the dissonance of society and their unsatisfactory place in it.³² The sedimentation of social contradiction in form grounds Adorno’s concern for the technical details of the music, requiring an educated listener ready to perceive those details.³³ If the music indeed sediments social conditions, then its technical details are where those contradictions are inscribed, rather than its surface content.

However, Adorno’s position results in one of the great unsolved aspects of his dialectics: the relationship between autonomy and sociality. If the height of abstract and autonomous art operates via its own internal logics and its ‘surplus’ evades capitalism, then how it is possible to read its social details? Adorno ultimately leaves

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³⁰ Adorno, quoted in Goehr, “Dissonant Works and the Listening Public,” 223.

³¹ Adorno, quoted in Moten, *Black and Blur*, 56.

³² Adorno, *Philosophy of New Music*, 11.

³³ Goehr, “Dissonant Works and the Listening Public,” 229.

this question with only partial answers, with this topic subject to ongoing debate. At the end of his life, Adorno was still in the process of developing a “material theory of musical form” (*materiale Formenlehre*) the purpose of which was a universal understanding of how form embeds social details and how they might be read.³⁴

Adorno’s partial answers include form as a site of the ‘surplus’, which “terminates in the truth content, mediated through the work’s technical structure.”³⁵ He asserts that “accessing music’s social content must be done via “conceptually mediated knowledge of its elements and their configuration.”³⁶ However, by his own theory the most autonomous music carries the most concentrated social charge paradoxically because it refuses to dissolve into social function. Adorno’s physiognomic reading of Mahler is his most practical social reading, however, the problem remains structural: the very autonomy that generates the ‘surplus’ and allows art to resist commodification also makes that ‘surplus’ opaque to any method that does not go beyond the immanent.

While the details of Adorno’s theory remain unclear, it plays a significant part in Julian Horton’s 2020 philosophy of analysis. Horton proposes *technical autonomy*—the self-referential ‘surplus’ generated by musical thought—as a form of *communicative*

³⁴ Theodor W. Adorno and Max Paddison, “On the Problem of Musical Analysis,” *Music Analysis* 1, no. 2 (1982): 185; Theodor W. Adorno, *Mahler: A Musical Physiognomy*, trans. Edmund Jephcott (Chicago and London: University of Chicago Press, 1992), 44.

³⁵ Adorno and Paddison, “On the Problem of Musical Analysis,” 177.

³⁶ Adorno, *Philosophy of New Music*, 100.

rationality, whose deployment “seek[s] intersubjective consensus about technical autonomy’s critical meaning.”³⁷ His solution remains the subject of live debate: while Adorno established that the ‘surplus’ is the site where social content is concentrated and that analysis is its necessary medium, the procedure for moving from formal description to social critique remains contested.

Adorno’s search for a “material theory of form,” as with Schoenberg’s theoretical writings, pursues the need for a governing system under which a normalised dissonant palette operates. This concern for wholeness is common to philosophical positions of both European philosophy and mainstream music theory (both tonal and atonal). Music theory’s Eurological foundations highlight its more conservative position even than many composers, for whom pushing the boundaries and social norms has historically been more important.³⁸

Ultimately, Adorno’s ontology of dissonance exemplifies a Eurological perspective and philosophical stance, contained within a system of twelve pitches. The sounds of consonance and dissonance resist from within this system because for Adorno, society and all its aspects including music operate under the state of capitalism. Abstract, autonomous art is best placed to evade capture by capitalism and enact critique, but ultimately operates within its boundaries.

³⁷ Julian Horton, “On the Musicological Necessity of Musical Analysis,” *The Musical Quarterly*, ahead of print, October 29, 2020, 82.

³⁸ McClary, *Feminine Endings: Music, Gender, and Sexuality*, 109; Taruskin, *The Oxford History of Western Music*, 454.

Afrological Dissonance: Moten's Ontology of Dissonance and "Noise"

Radical Black scholars argue for deeper differences between jazz and classical music than aesthetic and political issues. Rather, they claim a more expansive ontology of how music and dissonance overflow the boundaries of societal and musical systems. For Moten, Black experience and expressions exist outside the economic and political systems from which it is excluded by society. Dissonance—of societal Black experience—is foundational, and includes musical and non-musical sounds as forms of expression that pre-exist music and persists “in the break.”

For Moten, the phrase names the ongoing condition produced by historical rupture, sonic interruption, and genealogical severance: a space where origin, ground, and resolution are historically unavailable, yet where black performance generates improvisation, sociality, and resistance.³⁹ The break—with its multifaceted ruptures in history, identity, genealogy, and agency—is not a moment to be overcome but a site to be inhabited, in which sound, relation, and thought persist without closure. Where Adorno sees dissonance as constellations of sound existing within the system of society, Moten's dissonance is a pre-existing experience and expression that *exceeds* and *precedes* the system. From the perspective of this more expansive Black dissonance, *musical dissonance* is but one part and one expression of that broader, dissonant experience.

Moten arrives at this position through Cedric Robinson's concept of the Black radical tradition. This idea means that Black resistance cannot be understood from within the categories that Western political thought offers it. Instead, he builds on

³⁹ Moten, *In the Break*, 1–2, 5–7, 14, 18, 21–22, 68, 139–40.

Nathaniel Mackey's poetics of an "insistent previousness," in which "Blackness" names something that precedes and exceeds every category assigned to contain it. In contrast to Adorno's subliminal and abstract materiality, Moten draws on Hortense Spiller's theorisation of "theft of the body" and Saidiya Hartman's analysis of slavery's bodily violence to locate materiality firmly in the raw material of bodies and sensory experience. Hartman provides the foundational link for Moten between Black life and utterances, both musical and non-musical. She sees the "noise" of black life, of "sonic tumult and upheaval" through the lens of "resistance as music," not music as a form of targeted resistance.⁴⁰ This move for Hartman locates music within Black experience, not Black experience within music.

Drawing on these ideas, Moten replaces European modernism's theorisation of dissonance as historically emancipated form with a theorisation of Black expression through the concept of "noise." He conceptualises noise as irreducible *phonic materiality*: a "phonic substance" that pre-exists and exceeds categorisation, something that acts on and through people, and is "irreducible to any interpretation but antithetical to any assertion of the absence of content."⁴¹ It is that expression which is irreducible to its constituent components, acts directly on people in ways that are not categorical, abstractable, or extractable. In the context of Black music, phonic materiality constitutes an improvisatory resistance that neither resolves nor normalises, but persists "in the break." While Adorno's dissonance enacts abstraction

⁴⁰ Saidiya V. Hartman, *Wayward Lives, Beautiful Experiments: Intimate Histories of Social Upheaval* (W. W. Norton & Company, 2019), 257.

⁴¹ Moten, *Black and Blur*, 30.

in art and so evades capitalist capture, Moten’s dissonance is part of a broader, more capacious Black resistance that pre-exists music, refuses capture altogether, and is irreducible to the system.⁴² While Moten’s materialism is in dialogue with capitalism, it is not bounded by it.

Moten illustrates phonic materiality and the resistance of noise most vividly through his reading of Aunt Hester’s beating in Frederick Douglass’s *Autobiography of a Slave* (1845), a scene that features repeatedly in Black avant-garde art. Gallope provides this succinct summary of Moten’s invocation:

Aunt Hester—who could not have been an artist because of her enslaved, dehumanized, subjugated, and commoditized life—can instead be reheard as a foundational utterance for black radical aesthetics. By suturing the black avant-garde to the horrible spectacle of Aunt Hester’s “incalculable” suffering, Moten stages a materialist reading of black aesthetics as staging an escape from subjugation.⁴³

Of Moten’s key points, Hester’s scream illustrates several. According to Gallope, her “scream’s diffusion is ‘nonparticulate’—it does not break out into discrete elements and relations.”⁴⁴ It is also not expressive in a conventional sense, not symbolic or formalised, and not analysable as a sign. Hester’s scream nonetheless expresses something, and she is therefore a literal “commodity who speaks,” contradicting Marx.

⁴² Gallope, “Black Art As Unmappable Dissent: ‘Black and Blur,’” 194.

⁴³ Gallope, “Black Art As Unmappable Dissent: ‘Black and Blur,’” 194–95.

⁴⁴ Gallope, “Black Art As Unmappable Dissent: ‘Black and Blur,’” 201.

Further contradicting both Marx and Adorno, her scream precedes meaning, formal music, exchange-value, and is irreducible to systematic representation.

Thus, Black performance is grounded in the *object's resistance*: a resistance that is not silent but phonic. Sound is where objecthood exceeds capture by meaning, value, or subjectivity, and whose phonic materiality Moten describes via terms such as: “shriek,”⁴⁵ “scream,”⁴⁶ “breath,”⁴⁷ and “grain.”⁴⁸ This materiality is not metaphorical as it might be read for Adorno: sound *does work* against regimes of exchange, visibility, and representation. Aunt Hester’s scream produces meaning outside of intelligible syntax, and yet the audience is refused both a distanced, contemplative analysis and the sovereign listening subject presupposed by European aesthetics. Instead, noise directly confronts the listener and demands participation, not comprehension and legibility. Moten says, “The object resists, the commodity shrieks, the audience participates.”⁴⁹ Noise is not a failure of music but the site where resistance becomes audible.

Like Adorno’s conception of ‘surplus’, noise carries the sonic trace of its history—in this case slavery, capture, refusal—within sound.⁵⁰ However, where

⁴⁵ Moten, *In the Break*, 14, 22; Moten, *Black and Blur*, 9.

⁴⁶ Moten, *In the Break*, 96, 216; Moten, *Black and Blur*, ix, 3.

⁴⁷ Moten, *In the Break*, 95, 108, 118; Moten, *Black and Blur*, 222, 254; Fred Moten, *The Universal Machine* (Durham and London: Duke University Press, 2018), 194.

⁴⁸ Moten, *In the Break*, 104, 107.

⁴⁹ Moten, *In the Break*, 12.

⁵⁰ Gallope, “Black Art As Unmappable Dissent: ‘Black and Blur,’” 197.

Adornian surplus sees social sediments embedded in the organisation of abstract form, Moten’s surplus resists antiblackness by amplifying Black sociality.⁵¹ Moten urges us to “listen to the way a black commodity—a person— speaks, and screams, in the form of art.”⁵² Noise is not “too much sound” or “failed pitch” but a generative surplus.

Moten writes consistently of expressive “excess” in which improvisation without words does not carry less meaning, but rather excessive meaning.⁵³ By exceeding categorical boundaries, noise is not restricted to literal screams but instead embedded throughout jazz’s musical sounds and improvisation. “This surplus lyricism—think here of the muted, mutating horns of Tricky Sam Nanton or Cootie Williams—is what a lot of people are after when they invoke the art and culture—the radical (both rooted and out there, immanent and transcendent) sensuality—of and for my people.”⁵⁴ Throughout Moten’s writings, improvisation performs a key role not as stylistic freedom, but a mode and act of production under constraint, between capture and refusal. “That’s what jazz is—in the break that is and breaks the climax. Tarrying, lingering, (productive) of bone-deep listening.”⁵⁵

In *Black and Blur*, Moten responds to Adorno’s view of the artistic whole and the ‘work’. In particular, Adorno’s statement that, “a whole composed of parts that follow each other for a reason, and only to this extent is it a whole...” Moten’s revolutionary

⁵¹ Moten, *Black and Blur*, 38.

⁵² Gallope, “Black Art As Unmappable Dissent: ‘Black and Blur,’” 197.

⁵³ Moten, *In the Break*, 59, 63, 109, 118, 120, 153, 173, 184, 197.

⁵⁴ Moten, *In the Break*, 26.

⁵⁵ Moten, *Black and Blur*, 84.

intervention is to posit improvisation as the mechanism that achieves Adorno's aspirations for notation: bridging between artistic conception and its conjuring into the real world's messy and human reality. Rather than notation as the vehicle, Moten wishes us to "consider improvisation as precisely that material graphesis which is, for Adorno, essential to the syntax, the articulation of individual detail, that makes the organized whole a possibility."⁵⁶

Moten's alternative frames the "break" as something never to be overcome, dwelling in rupture rather than resolving it, and refusing the need for closure: inhabiting rupture as a condition of possibility rather than a problem to be solved.⁵⁷ Rather than an Adornian sedimentation of social contradiction, Moten rejects a linear historical account in favour of a history that is recursive, broken, and replayed:

If we return again and again to...a passionate response to passionate utterance, horn-voice-horn over percussion, a protest, an objection, it is because...it is the ongoing performance, the prefigurative scene of a (re)appropriation—the deconstruction and reconstruction, the improvisational recording and reevaluation—of value, of the theory of value, of the theories of value. It's the ongoing event of an antiorigin and an anteorigin...⁵⁸

Via this manoeuvre, Moten enacts a fugitive sociality that refuses the "call to order" that we find in Adornian universality. He resists demands to contain an expansive organise

⁵⁶ Moten, *Black and Blur*, 81.

⁵⁷ Moten, *In the Break*, 1–2, 5, 14, 18, 22.

⁵⁸ Moten, *In the Break*, 14.

noise into music, disorder into legible forms, or Black sociality that persists outside the system.⁵⁹ As for Adorno, political critique for Moten operates immanently, but not abstractly. Moten's larger ontological dissonance is already political as historical residue of violence, capture, and resistance. Moten here draws on Édouard Glissant's phrase: "Noise is essential to speech. Din is discourse."⁶⁰ Politics is therefore not represented but *sounded*. Moten's musical, or small "d" dissonance is essential to his large "D," ontological Dissonance.

Further, for Moten, Black sociality enacts its fugitive voice through a multi-layered conception of being in (an) *ensemble*.⁶¹ Moten's conception implores us to hear beyond the "illusion of singularity"⁶² that can be heard in the coordination of the group. The togetherness-of-process that constitutes improvising "in the break" manifests variously as cuts between rhythms, convergences and divergences, call and response, oscillation, material interplay, and entanglement to name but a few. Riffing on Mingus's cover of Ornette Coleman, Moten lays out these layers and levels of meaning he intends:

This dispossession, this refusal, this objection...is, therefore, productive of new singularities (which is to say new ensembles). Blackness is the production,

⁵⁹ Stefano Harney and Fred Moten, "The Undercommons: Fugitive Planning and Black Study," *Research Collection Lee Kong Chian School Of Business*, March 1, 2013, 8–10.

⁶⁰ Édouard Glissant, quoted in Moten, *In the Break*, 7.

⁶¹ Martha Feldman, "Fugitive Voice," *Representations*, no. 154 (2021): 12.

⁶² Moten, *In the Break*, 139.

collection, and an arrangement of new singularities (which is to say new ensembles). Diaspora is an archive (gathering, set) of new things productive of new things (which is to say new ensembles).⁶³

Here, Moten is resistant to the idea of dissonance in Black music as “oppositional,” even to the extent of contradicting artists’ opinions on their own music. He asserts specifically that, “the art itself resists any interpretation in which these elements are opposed, resists any designation, even those of the artists themselves, that depends upon such oppositions.”⁶⁴ Instead of *opposition*, he prefers the term *aposition*⁶⁵ to encompass improvisational *apart-but-together-ness* that affords relation without synthesis, improvisation without reconciliation, and entangled agency “caught in the interval.”⁶⁶

Moten’s arguments ultimately contain two different stories about dissonance: the aesthetic challenging of diatonicism, and challenging the whole system ontologically. His ontology presents two key ideas: that the former cannot be tackled without taking into account the latter, and that their claims should not be conflated. Taken together, Moten reconfigures Adorno’s dialectics into an Afrological ontology in which “noise” and “dissonance” occupy a deeper level. Whereas Adorno only considers dissonance within a tonal system, Moten situates this small d ‘dissonance’ within a much larger picture of large ‘D’ ontological dissonance. Moten’s Dissonance is

⁶³ Moten, *Black and Blur*, 117.

⁶⁴ Moten, *In the Break*, 129.

⁶⁵ Moten, *In the Break*, 34, 174; Moten, *Black and Blur*, 87, 140, 260.

⁶⁶ Moten, *Black and Blur*, 68.

foundational and precedes musical systems, and we have to restrict our gaze to focus on events only within the system.

In his conception of ensemble above, Moten provides a key pivot for the re-imagination of jazz music theory. This ontology—based in ensemble and multiples—is resistant to the philosophical implications of the single-composer works that underpin Eurological philosophies of dissonance. Martha Feldman articulates the challenge for musicology, which has:

nevertheless only begun to challenge the liberal inheritance of voice that has dogged academic and popular discourse: the autonomous voice of the violin virtuoso, the great composer, or the diva whose vocality is waiting to be excavated by the enlightened subject in whom it dwells.⁶⁷

These musicological challenges--grappling with autonomy, single vs multiple voicedness, and the enlightened interpretative listener—are even more acute for music theory. In Chapter 2, I discuss music theory's apparatus is currently ill-equipped to deal with simultaneous multiples of many types, and of harmonic spaces in particular.

Moten recontextualises Adorno's unresolved analytical dilemma of how to read social details from the technical details of autonomous art. Moten insists that Black performance cannot be captured by (current) analytic frameworks, and demands we engage in improvisatory reading and listening. Here, he frames paradox that resembles Adorno's:

That black radicalism cannot be understood within the particular context of its

⁶⁷ Feldman, "Fugitive Voice," 13–14.

genesis is true; it cannot be understood outside that context either. In this sense, black radicalism is (like) black music. The broken circle demands a new analytic (way of listening to the music).⁶⁸

Urging us to remain open to analytic failure—the “breakdown of the breakdown”—he sees the value in engaging with and lingering in the “break” through listening-and-analysis-as-encounter. “This resistance to analysis that is carried out in and by the complexity of the object is everything.”⁶⁹ Although Moten critiques the current state of Black music analysis and exposes its limits throughout his writing, I do not think his critique strictly dictates that analysis can never be useful. Instead, he provides a substantial challenge to its authority. Moten has confirmed verbally that he believes strongly in the necessity of analysis, but queries its conditions to become more rigorous and attentive, taking into account its separate ontological claims.⁷⁰ Additionally, Moten values its role in utopian drive: in order to reach somewhere in the future that we can’t imagine yet, we can only get there through that analytic mode.⁷¹

Despite Moten’s warnings about the precarity of analysis, he provides a more substantial pathway towards a socially-engaged analysis than Adorno. If for Moten,

⁶⁸ Moten, *In the Break*, 24.

⁶⁹ Moten, *In the Break*, 140.

⁷⁰ This position is shared by Dylan Robinson, despite his transformative cultural goals that run parallel to Moten’s.

⁷¹ Verbal communication during Q&A, Fred Moten and Dylan Robinson, “Musicological Society of Australia: Philosophy of Sound and Music Study Group Special Session,” March 20, 2026.

sounds are already political before their formation as music, and politics is not represented but sounded, then autonomy is no longer a barrier to hearing its social contents. If the listener is implicated rather than distanced, then their experience of dissonance's formation is more available for direct interpretation. To ignore the technical details, differences, and changes in the music is to defang its historical contextual power. The question becomes what ontology and assumptions we subscribe to, and how much we are prepared to suspend pre-conceptions, improvise in our "bone deep listening."⁷² Whether the music theorist accepts Moten's challenge to analysis or treats it with caution, Moten makes abundantly clear we should not mistake the small 'd' dissonance of musical sounds with the large 'D' Dissonance of the expressive ontology within which it resides.

Moten's alternative paradox between irreducibility and phonic materiality leaves us in a different position than Adorno's dialectic between autonomy and sociality. As we will see later in this chapter, jazz musicians of the 1960s consider the musical *work* to be done by the technical materials they deploy. Under Moten's view of "refusal" and the precarity of analysis, how do we engage the "noise" aspects of 1960s jazz that specifically play out through their technical materials? If the music materially enacts resistance, how do we listen for and analyse its plurality without observing the specifics interactions between ensemble musicians? How do we decide when to cede analytical agency and centre the voices of artists to disrupt music theory's Eurological predominance, and when to side with Moten's overruling of their claims? Moten's large scale philosophical position doesn't address this challenge, as theory and analysis is

⁷² Moten, *Black and Blur*, 84.

not his ultimate focus.

One of the most significant challenges in interpreting Black music of the 1960s is the decade's diversity of approaches toward *outside* playing and their expanded prevalence. Listening to improvisation demands that we listen intently for the relational dynamics of—amongst other things—*outside* playing. Our listening experience is shaped by perception, which is in turn shaped by what we focus on. In the field of ecological dynamics, it is accepted that our previous entrainment and mental focus—*skilled intentionality*—does not only affect interpretation of a stimulus, but perception itself.⁷³

Consequently, leaving our hearing those relationships unsubstantiated by evidence renders us vulnerable to explanations unfounded in Black ontologies and risks repeating mistakes of the past. Additionally, Moten's distinction between compositional vs ontological dissonance roughly maps onto Eurological vs Afrological. My distinction between small 'd' and large 'D' dissonance highlights that Moten subsumes both compositional and ontological dissonance under a single word. As a result, it becomes harder to focus only on analysis because Moten is ultimately concerned with the broader philosophical terrain. A sole focus on Moten's ontological 'big D' Dissonance risks missing its traces, that we find within the 'small d' dissonance of group negotiation and *outside* playing. However, the reverse case is even stronger. Given music theory's capacity for substantiating something of 'big D' Dissonance, it is important not to

⁷³ Anna Einarsson and Tom Ziemke, "Exploring the Multi-Layered Affordances of Composing and Performing Interactive Music with Responsive Technologies," *Frontiers in Psychology* 8 (September 2017): 1–12.

reduce dissonance to its purely technical dimension, as in Eurological conceptions. The narrower scope of Eurological dissonance as described above risks eliding Moten's 'big D' Dissonance altogether. For both these reasons, music theory must find a way forwards that engages with both the music's philosophical and social issues, *and* its technical details.

Theory has the potential to focus our hearing (after Lewin) on the relationships, noise, and dissonance in musical relationships so we can better zoom out and listen for ontological Dissonance. Moten's central point is that analysis cannot contain or fully explain the social content of noise as only musical sounds. However, I argue that a self-reflexive, porous analysis is a necessary tool to guide our ears through the complexity towards his lofty deeper listening goal: not replacing one dissonance with another, but point from the music's technical details toward its deeper social resonances.

Moten's Resonances with Other Jazz Scholars

Both Moten's ontology and rich conception of ensemble find specific agreement with other Black radical scholars, and some key broader resonances with other jazz scholars. This section briefly outlines Moten's connection to the social commentary of Elsa Barkley Brown, and ontological resonances with the analytical posture of James Gordon Williams. I then broaden to Ajay Heble and Jesse Stewart's more mainstream scholarly views of the social purpose of jazz dissonance, before revisiting Ellington's famous quote in light of these issues.

A central directive of Moten's is to open our interpretation to other registers of Black voices. Elsa Barkley Brown's characterisation of "gumbo yaya,"—a creole term for everyone talking at once during social gatherings—emphasises principles aligned with

Moten. Brown describes families talking over each other in free-rolling cacophony, because their histories connect and overlap, and “[t]o relate their tales separately would be to obliterate that connection.”⁷⁴ Brown makes the direct comparison to jazz group improvisation, as musicians simultaneously make contrasting or conflicting contributions, but while staying in relationship to each other; listen and respond to what each other are doing while also attending to their own improvisation. Considering alternative registers of Black voices such as “gumbo yaya” and Moten’s expressive “excess” can have material consequences for how we interpret what musical work dissonance and *outside* playing are doing.

James Gordon Williams draws on Moten’s improvising “in the break,” by attaching a dissonance without need of resolution to the sociality and expressivity of Black musical space. Specifically, its inclusivity of plural and diverse—not necessarily congruent—experiences. By emphasising the plurality of the ensemble experience Williams reinterprets aesthetic dissonance in terms of interaction and contribution to a plural whole. This relational view stretches even beyond Black expression:

Improvised Black musical space is the ontologically unfixed assemblage of Black tonal indeterminacy, a repository of oppositional dissonance, the spatial luminescence of Blackness manifested in the improvised expression of humanity. While Black musical space extends from Black lived experiences, it is

⁷⁴ Elsa Barkley Brown, “‘What Has Happened Here’: The Politics of Difference in Women’s History and Feminist Politics,” *Feminist Studies* 18, no. 2 (1992): 297.

not about exclusion.⁷⁵

Williams's embrace of a more radical ontology is sometimes disguised within broader remarks about Eurological and Afrological aesthetics. Referring to a Terence Blanchard tune he says, "It is not goal-oriented in the sense of reaching a grand cadence, because infinite deferrals are preferred over resolution in the Black music imagination."⁷⁶ What seems here like a surface contrast with nineteenth century aesthetics actually contrasts jazz and classical ontologies *within* tonal practice. Williams also argues that differences run deeper than merely aesthetic norms, claiming:

The African American music tradition is never about perfection in the conventional sense of the European aesthetic. It is about asymmetry, trial by fire, disavowal of the monochromatic, and joyfully coloring outside the lines. If an improviser has attained perfection, then there is no more story to tell and therefore nothing to live for.⁷⁷

Williams shares Moten's desire for ontological intervention, because Black musical space is not grounded in the aesthetic autonomy of an abstract, closed object. According to Williams, "[t]he theory of Black musical space is not about reducing

⁷⁵ James Gordon Williams and Robin D. G. Kelley, *Crossing Bar Lines: The Politics and Practices of Black Musical Space* (Jackson, United States: University Press of Mississippi, 2021), 28.

⁷⁶ Williams and Kelley, *Crossing Bar Lines*, 50.

⁷⁷ Williams and Kelley, *Crossing Bar Lines*, 67.

improvised music to “essential markers” because Black musical space has no such markers... It can never be in vogue because it is not a style.”⁷⁸ Maintaining this firm connection with its social context prevents analysis—including Williams’ own—being lead down a “formalist rabbit hole.”⁷⁹ He frames Black music similarly to Moten: not as symbolic or overt representation of resistance (though this is a significant part particularly of 1960s jazz), but as a much broader and sustained enactment of it.

Even for scholars outside of the Black radical tradition, unstable structure and meaning gives way to “ensemble” and enaction of relationships. Jazz ties together all manner of bent pitches, expressive wails, polytonality and polyrhythm in a culturally varied practice. According to Ajay Heble’s extensive writing on the politics and identity of jazz dissonance, jazz cultural practice “accent[s] dissonance and variance rather than fixity, stability, or stasis.” He argues that the ‘natural’ state of jazz is one of constant flux and dissonance, that belongs to the kind of negotiation, juxtaposition and paradox that reflects life alongside other people. For how we subsequently hear and interpret that dissonance, he advocates adapting our conception to jazz’s social context: “Specifically, the changing ideology of dissonance...reminds us of the need to interpret both the production and the reception of jazz in terms of the material and cultural conditions of its historical moment.”⁸⁰ It is not neat, and the circle need not be squared. Heble resonates, albeit less radically than Moten, with the latter’s expansive Black sociality by suggesting that a traditional reading of aesthetic dissonance as symbolic

⁷⁸ Williams and Kelley, *Crossing Bar Lines*, 155.

⁷⁹ Williams and Kelley, *Crossing Bar Lines*, 73.

⁸⁰ Heble, *Landing on the Wrong Note*, 21.

relies on a presumption of narrative closure, and a normative framework against which deviations are measured.

Heble instead argues that atonality and jazz's plurality constitute a "revolt against stable meanings" which instead convey "social relations."⁸¹ His more relational conception includes polyrhythm, normally theorised as a type of rhythmic dissonance. Under this view, the "architectural landscape of jazz—its use of syncopation, polyphony, and polyrhythm as structures of sound—show[ing] not so much what jazz means but how it means."⁸² Jazz's dissonance is oriented towards "process rather than closure," as a musical practice rather than aesthetic characteristic.⁸³ The "how it means" is contained in the drawing and re-drawing of relationships that call into question the stability of inside and outside, of norms and prescribed conclusions, disrupting these at every turn.⁸⁴ The pivot from specific meaning and expressive content towards unstable meanings accords with Moten's calls to listen deeply for Black sociality.

One final aspect of sociality is relational intent of aesthetic dissonance, an issue raised by Williams and emphasised explicitly by Jesse Stewart. For Stewart, free jazz achieves cohesion and cooperation not through producing sounds that are consonant with each other, but that perform a consonant role in the performance. In fact, for free

⁸¹ Heble, *Landing on the Wrong Note*, 30, 52.

⁸² Heble, *Landing on the Wrong Note*, 38.

⁸³ Heble, *Landing on the Wrong Note*, 57.

⁸⁴ Roger Fagge, "The Politics, Aesthetics and Dissonance of Music in Everyday Life," *Jazz Research Journal* 13, nos. 1–2 (2019): 16.

improvisation, settling on something stable and consonant is usually the least interesting strategy, as it quashes interactive responses. Rather, maintaining a level of musical interest means retaining a degree of musical dissonance as a baseline that in turn requires some kind of response.⁸⁵ This idea accords closely with Ornette Coleman's unique use of playing in "unison" under his Harmolodic theory, referring specifically *not* to the same pitches, but to the shared *purpose or reasons* for what is being played. Coleman's unique deployment of "unison" will be explored further in Chapter 4.

Through an Afrological lens, as exemplified by Moten in particular, we now have more precision in what we are looking for in the music: its sociality, multiplicity, refusal, paradox, and ensemble. *Outside* playing is a particularly concentrated site of sociality, interaction and multiplicity, particularly as it emerged with such musical consequence and political weight during the 1960s. A more interactive perspective is necessary to make sense of its acoustic characteristics and social meaning, both because of its multiple-voiced social construction and the necessity of listening for its sociality outlined above. Crucially, while a Eurological conception of dissonance does not fully capture *outside* playing either technically or interactively, neither do the range of music-theoretical tools currently in common use. The important distinction between what is occurring in the music technically vs interactively necessitates further analytical nuance. For example, taking Stewart's point about interaction intent further, playing *outside* does not necessarily produce audible dissonance, nor does producing dissonance necessitate playing *outside*.

⁸⁵ Stewart, "Improvised Dissonance," 215.

In the following section, I argue that taking on an interaction-focused view of jazz practice provides an alternative to Eurological and primarily technical accounts of the music by directing our attention to the actions, agency, and positionality of musicians. I do not propose privileging interaction over all other concerns, but instead integrating interaction with technical and socio-cultural aspects of the music. Similarly, I will not attempt to contribute new theories to the human-agential event-space of mutual improvisation, beyond what is manageable to bring together with technical analysis while simultaneously addressing social-cultural concerns.

As the reader may have already realised, the terms *inside* and *outside* popular in jazz parlance carry as much hierarchical baggage as do Eurological conceptions of dissonance. In the same way that a Eurological conception of dissonance relies on a norm of consonance, *outside* relies on a norm of *inside*. I thus begin my argument by problematising the *outside* and *inside* of jazz improvisation, providing some alternatives while fleshing out their historical context.

Afrodiasporic Origins: Playing Apart, Playing Appositionally

Pivoting from a Eurological conception towards an Afrological interactional focus requires exploring relational conceptions of improvisation in general, and *outside* playing in particular. Benjamin Givan provides one alternative framework, tracing *outside* playing as a continuation of Afrodiasporic musico-cultural practice tracing its origins to West African drum circles. He terms it “apart playing,” drawing on the foundational work of Black art historian Robert Farris Thompson. Givan reads jazz ethnographies of improvised interaction against Thompson’s theorisation of “apart

playing” in West African music and dance.⁸⁶ Givan demonstrates how modern jazz extends on an Afrodiasporic tradition of communal music-making that, beyond a merely aesthetic choice toward dissonance or complexity, operates via close cooperation and relationship.

Particularly in West African drum circles, interlocking can occur on the scale of phrases that jazz musicians might identify as call-and-response, or on a small scale, independent parts form hocketing rhythms that combine to form a groove.⁸⁷ Thompson describes a practice that “depends not only on playing apart, but on voices and bodies interacting in such a way that they overlap and interlock in movement and voice.”⁸⁸ The resultant groove forms a constant bed of cyclic rhythm from which a soloist improvises something of their own, their personal, unique contribution. That uniqueness contrasts with the underlying fixed groove, instead deviating out of sync and then returning, “both connected to and detached from the fundamental level of temporal organization.”⁸⁹ The further the soloist can stretch that relationship, the more coordination and trust is

⁸⁶ Robert Farris Thompson, “An Aesthetic of the Cool: West African Dance,” *African Forum* (New York) 2, no. 2 (1966): 85–102.

⁸⁷ Benjamin Givan, “Apart Playing: McCoy Tyner and ‘Bessie’s Blues,’” *Journal of the Society for American Music* (Cambridge, England, United Kingdom) 1, no. 2 (2007): 258.

⁸⁸ Roger Abrahams et al., *Blues for New Orleans: Mardi Gras and America’s Creole Soul* (Philadelphia, United States: University of Pennsylvania Press, 2006), 48–49.

⁸⁹ Givan, “Apart Playing,” 259.

required with fellow drummers. Thus, in this musical culture, being able to play further apart and then reunite with the groove is an embodied demonstration and enactment of connectedness and community.

Jazz culture continues both the cultural valency of “connectedness” and interactive elasticity of *apart* playing in the common conception of *outside* playing. Jazz musicians often describe an “elastic band” relationship in which they pull apart from other musicians seeing how far they can stretch the connection, and then snap back together, sometimes referred to as “sucking in.”⁹⁰ As Givan argues, in the same way West African drum circles draw temporal relationships through rhythm, jazz expands these relationships to pitch.⁹¹ Thus, common modern jazz devices like harmonic substitutions can perform the same function of articulating temporal relationships. A broader conception includes timbre, intonation, and—during the 1960s—wholesale disruption of form by destabilising the referent. Jazz has always contained elements of playing *apart*, evidenced by the much-written-about metric controversy surrounding Louis Armstrong’s 1928 introduction to “West End Blues.”⁹² However, during the 1960s, the degree and duration of the practice become rapidly heightened, and multiple band members beyond the soloist begin to contribute *outside* information simultaneously. Especially for free jazz, musicians can play *apart* from one another, or *apart* from

⁹⁰ Coltrane, *Coltrane on Coltrane: The John Coltrane Interviews*, 19.

⁹¹ Givan, “Apart Playing,” 258.

⁹² Brian Levy, “Harmonic and Rhythmic Oppositions in Jazz: The Special Case of John Coltrane and His Classic Quartet,” *Jazz Perspectives* 12, no. 1 (2020): 58.

composed musical materials, without a preconceived norm to which we expect they resolve. As we saw from Stewart above, free jazz performers often proceed with misalignment of musical materials and dissonance as the norm, where interactive responses to each other are foregrounded over and above an increasingly problematic conception of what *inside* might be.

By drawing on Thompson, Givan de-emphasises the inside-outside hierarchy by foregrounding *apart* relationships. While Givan emphasises throughout its embodiment of connectedness and community, there are alternatives to *apart* that further foreground the *extreme togetherness* that *apart* playing requires of musicians.

Some African music scholars such as Meki Nzewi and Kofi Agawu critique terminology they argue must go further to undo “clash and conflict” narratives about African music.⁹³ For example, Nzewi objects to terms like “cross rhythm” as separating what are in fact layers of *one* integrated aspect of the music, regardless of how many people render those layers.

There is no cross rhythm occurring between two or more inter-relating ensemble parts. When the grammar of pulse is understood, it becomes clear that “cross rhythm” is a misrepresentation of the principle of inter-rhythm or complementary layering of structurally differentiated themes constituting an

⁹³ Kofi Agawu, *Representing African Music: Postcolonial Notes, Queries, Positions* (Oxford, UK: Taylor & Francis Group, 2003), 163; Meki Nzewi, *A Contemporary Study of Musical Arts: Informed by African Indigenous Knowledge Systems Volume 4* (Centre for Indigenous Instrumental African Music and Dance, 2007).

ensemble sound.⁹⁴

Nzewi here uses the term “inter-rhythm,” and elsewhere develops terms such as “melorhythm” or simply “ensemble components.” Agawu holds similar objections to terms like “polymeter” and “polyrhythm” applied to African music. He eventually accepts “polyrhythm” as a useful descriptor, however, theorises “polymeter” as polyrhythm within a single meter, under a “single Gestalt.”⁹⁵

Agawu diagnosed the philosophical issue as a Western misrecognition of an “irreducibly plural social existence,” an “always-already connected ethos that mediates all relevant modes of expression, spiritual as well as physical.”⁹⁶ For him, what manifests as ‘cross rhythm’ etc is a “musical manifestation of a deeper societal impulse.”⁹⁷ A communal ethos “to join rather than divide...unify rather than splinter”⁹⁸ underpins African social and, according to Nzewi, “therefore ensemble philosophy.” Nzewi clarifies the depth of his meaning by saying, “a community/family/ team does not

⁹⁴ Nzewi, *A Contemporary Study of Musical Arts*, 81.

⁹⁵ Agawu, *Representing African Music*, 187.

⁹⁶ Kofi Agawu, “The Communal Ethos in African Performance: Ritual, Narrative and Music among the Northern Ewe,” *Revista Transcultural de Música* (Barcelona, Spain) 11, no. July (2007): 1–2.

⁹⁷ Kofi Agawu, “An African Understanding of African Music,” *Research in African Literatures* 32, no. 2 (2001): 192.

⁹⁸ Agawu, “The Communal Ethos in African Performance,” 1.

work together at cross purposes.”⁹⁹ When soloists step forward, it is the chorus and not the solo that is the principle organising structure. Rather, the chorus “sends” the solo, while the soloists remains responsible to the chorus and the group.¹⁰⁰ However, communality doesn’t have to limit individual agency, but instead, “provides a forum for the performance of individuality through the enabling but also critical mechanisms of social interaction.”¹⁰¹

Agawu uses the metaphor of individual “fingers of a hand” which, despite being of “different heights” are “functionally coordinated” and work towards the same ultimate purpose. He argues that the only limitation on creativity is the “human dimension” of an “ethical responsibility” for what is produced with an “always-connected ideology.”¹⁰² This ethical responsibility towards the group whilst contributing as a soloist is what Givan ultimately describes in his illumination of *apart* playing.

For the kinds and degrees of *apartness* we find in jazz improvisation, the issue is how to reconcile genuine technical descriptions of the music with their interactional intent. As Givan describes, the further *apart* musicians play, the greater the demonstration of trust and connectedness between them. Agawu and Nzewi agree that acts of extreme technical *apartness* are actually acts of extreme cooperative *togetherness*. Complicating this issue for jazz are the political meanings that musicians

⁹⁹ Nzewi 1997, quoted in Agawu, *Representing African Music*, 187.

¹⁰⁰ Agawu, “The Communal Ethos in African Performance,” 8.

¹⁰¹ Agawu, “The Communal Ethos in African Performance,” 1.

¹⁰² Agawu, “The Communal Ethos in African Performance,” 9.

intent by purposefully stretching the limits of playing *apart*. Musicians in the 1960s purposeful destabilise the previously stable elements, discussed in the following sections. Therefore, we need terminology that enables both purposes of *apart-but-together*.

As established above, Moten uses *appositional* to capture two concepts at once: technical musical relationships of apartness that don't require unification, but also the social refusal in his ontology of Black dissonance.¹⁰³ In the former sense, he uses *appositional* to describe parallel, coexistent relationship, describing his purpose as engaging an "extra substance or content held in the generative, appositional, copresent nonconvergence of the ensemble of the senses and the ensemble of the social."¹⁰⁴ In the latter sense, his multivalent and layered conception of words uses *appositional* to elicit the idea of oppressed culture that despite disappearance or suppression does not cease to exist but finds fugitivity in its refusal and persistence. This is the relational theme of his prose throughout *In The Break*:

Whereas a powerful strain of postcolonial theory structures itself as the reversal of that direction and its gaze, I'm interested in the discovery of a necessary appositionality in this encounter, an almost hidden step (to the side and back) or gesture, a glance or glancing blow, that is the condition of possibility of a genuine aesthetic representation and analysis—in painting and prose of that

¹⁰³ Moten, *In the Break*, 21–22, 34, 87, 124, 174–75, 239; Moten, *Black and Blur*, viii, 2, 30, 33, 76, 87, 140, 186, 239, 247, 260, 277, 296.

¹⁰⁴ Moten, *In the Break*, 174.

encounter.¹⁰⁵

Apart vs Appositional

I am reticent to invent new terminology, not least because of the long history of white scholars imposing terminology and Eurological theorisation on Black music. Further, the theorisation and discussion of Black ontology by Moten, Williams, Hartman runs far deeper in ontological and philosophical scope than the music-theoretical endeavour of this thesis. It is therefore more ethical to draw on those authors' terminology for an appropriate alternative that de-emphasises the "apart" aspects of apart playing in favour of its togetherness and cooperation. Consequently, for the remainder of this thesis, I adopt Moten's use of *appositional* to refer to the practice of *apart* or *outside* playing alongside encapsulating the interactional dimension of musicians' contributions, their operation in parallel simultaneity, and Afrological interpretation that relinquishes the need for resolution. It should be assumed by the reader that *appositional* infers the *apart-but-together-ness* of the discussed theorisations of Moten, Agawu, and Nzewi, specifically embracing the paradox that the further *apart* musicians play, the more *together* they in fact are playing. I then retain the term *apart* only as a technical description of relationships between musical materials.

Using Moten's term points towards intention, despite the inability to read these through analysis. It also distinguishes the complex discussion of Black voices and interpretation from the technical musical relationships of *apartness* that is such a distinguishing feature of 1960s jazz. When referring to both technical *apartness* and its

¹⁰⁵ Moten, *In the Break*, 34.

relational dimension, I will use *appositional* as the more all-encompassing term for the practice as a whole. The use of *outside* will then only be invoked to contrast meanings grounded in normative, Eurological conceptions of dissonance and *apartness*.

Beyond the theoretical and philosophical debates outlined above, jazz's particular interactional dimensions, strategies, and socio-political meanings require their own situating in jazz's history and cultural values. Prevailing assumptions about jazz and improvisation more broadly are complicit in racial stereotypes and prejudices about Black music practice.¹⁰⁶ A turn towards listening for interaction necessitates considering the musical and social values held by the jazz community, particularly its foundations in Afrodiasporic aspects of Black culture. In particular, I will address selected strands of socio-political meaning, how 1960s jazz musician locate meaning specifically in the deployment of technical materials, and their distinctive relationship to composed materials and their disruption. I will then bring together the technical, interactive, and socio-cultural dimensions in a tripartite conceptual model that frames the analyses in chapters 3 and 4.

Blackness, the “Blues Aesthetic,” and Interaction

From its beginnings, jazz was subjected to a litany of racial stereotypes whose legacy continues to undermine understandings of Black musical expression. Audiences and commentators, when hearing improvised dissonance, often interpreted it as a product of hedonistic, immoral or primitive Black music. Jason Bivins writes:

Musical performance, ostensibly a “natural” outlet for black expressivism, has

¹⁰⁶ Iyer, “Beneath Improvisation.”

been cited as evidence of the sorts of ontological enthusiasms rendering African Americans unfit for other kinds of public discourse or participation.¹⁰⁷

The stereotype Bivins articulates is not only historic but persists to this day in US public discourse.¹⁰⁸ The perception of unthinking expression proffered by white America denigrated jazz and its performers was paralleled by others from assimilationist sentiment within African American church communities. The kind of primitive and hedonistic images associated with jazz were frowned upon from within a religious impetus towards uplifting and sanctification to effect change to circumstances. Permeating American culture, this idea is captured by what Anthony Braxton terms “the reality of the sweating brow.” This fecund conception, further theorised by Jason Bivins, frames jazz as:

...often understood to be music played by sweating, cathartic, emotionally exuberant black performers who, as critic Gene Santoro writes, “aren’t supposed to think, just sort of squirt out carefree improvised noises with a Sambo grin: that’s their natural talent as well as their preordained upper limit of cultural achievement.”¹⁰⁹

Braxton’s “reality of the sweating brow” captures the struggle to overcome the

¹⁰⁷ Jason C. Bivins, *Spirits Rejoice!: Jazz and American Religion* (Oxford University Press, Incorporated, 2015), 260.

¹⁰⁸ John McWhorter, “Opinion | She Crossed a Line That Even the Saltiest Speech Should Avoid,” Opinion, *The New York Times*, April 3, 2025.

¹⁰⁹ Bivins, *Spirits Rejoice!: Jazz and American Religion*, 256.

Black experience of primitivist tropes, and limiting assumptions about improvisation's artistic merits more broadly. This stereotype was perpetuated by associating jazz's expressive means with its status as mere entertainment, and of the debase and corrupting kind. Within the same "calls, cries and hollers"¹¹⁰ rooted in the blues, and the dissonance that incensed critics, was the foundation of an alternative, black aesthetic that used those same elements to speak back to racism and segregation.

Jazz's pluralistic socio-cultural meanings, much like its dissonances, are best understood not solely through its resistance to aesthetic norms, but via its relationality. Jazz embeds layers of referential relationships, not only pointing to its external conditions, but also its own history, traditions and key innovators. For Travis Jackson, musicians' connection to these traditions—including the critique or transformation of them—forms a cluster of key values within jazz practice, theorised under the term "blues aesthetic." Through the term had been previously used by others ground jazz's aesthetic in US Black history,¹¹¹ Jackson theorises it more fully, drawing on numerous interviews with jazz musicians in a close examination of how meaning is constructed in the music.

¹¹⁰ Samuel A. Floyd, *The Power of Black Music: Interpreting Its History from Africa to the United States* (New York: Oxford University Press, 1997), 48.

¹¹¹ For the use of "blues aesthetic" prior to Jackson, see for example: Amiri Baraka, "The 'Blues Aesthetic' and the 'Black Aesthetic': Aesthetics as the Continuing Political History of a Culture," *Black Music Research Journal* 11, no. 2 (1991): 101–9; Floyd, *The Power of Black Music*; Cat Moses, "The Blues Aesthetic in Toni Morrison's the Bluest Eye," *African American Review* 33, no. 4 (1999): 623–37.

A blues aesthetic... is the sum of the reflective and normative assertions that musicians have made regarding processes of performance, interaction, and evaluation. In the simplest terms, [a blues aesthetic] is constituted by (learned) practices derived from and continually fed by the interaction between African American musics and culture and others.... Novelty is not among the primary concerns of the participant motivated by a blues aesthetic; *creativity, distinctiveness, and interactivity are*. These concerns manifest themselves in the ways in which performers sometimes reinforce and sometimes push against the frames that surround jazz performance [emphasis added].¹¹²

Jackson identifies common expectations and values of the blues aesthetic amongst jazz musicians, which mediates a variety of cultural expectations. In the quote above, these characteristics entangle improvisors' connection to Afrodiasporic history and tradition, the necessity to create unique expressions of identity and authenticity by "playing yourself" through the instrument, and collective invention in which risk-taking is valued.¹¹³ Those concerns include having an individual voice; developing the ability to balance and play with a number of different musical parameters in performance; understanding the cultural foundations of the music; being able to "bring something to the music"; creating music that is "open enough" to allow other musicians to bring something because of or despite a given musical structure or context; and being open to transcendence to "the next level" of performance: the spiritual level, broadly

¹¹² Jackson, *Blowin' the Blues Away*, 126.

¹¹³ Jackson, *Blowin' the Blues Away*, 232.

interpreted.¹¹⁴ All these characteristics are important for the musician's ability to communicate with listeners and other performers, individually and collectively.¹¹⁵ Being "open enough" encompasses group interaction, and for musician Steve Wilson is akin to going to church and a state of being spiritually "ready to receive."¹¹⁶ While Jackson intends the "next level" in the sense of "a form of communion in which participants share aspects of their identities and understandings" and not necessarily transcendence philosophically or spiritually, for many musicians the former plays a role in attaining the latter.¹¹⁷

The above sense of uniqueness and "bringing something" is implicit in Afrodiasporic meaning-making, of which appositional playing is perhaps the most obvious kind. For Jackson, the primary concerns of "creativity" and "distinctiveness" necessitate differentiation from, rather than unity with, underlying musical structures and the status quo of "how the music usually goes." Introducing new material necessitates other musicians to be "open enough" to collectively reach the "next level", requiring "interactivity," the final primary concern of the 'blues aesthetic' outlined above.

For Jackson, while not being "coded" to any one racial group, the widely held value of the "blues aesthetic" derives from the leading cultural role and innovation of African American artists, and the esteem with which they are held worldwide by jazz

¹¹⁴ Jackson, *Blowin' the Blues Away*, 122.

¹¹⁵ Jackson, *Blowin' the Blues Away*, 109.

¹¹⁶ Steve Wilson, quoted in Jackson, *Blowin' the Blues Away*, 123.

¹¹⁷ Jackson, *Blowin' the Blues Away*, 122.

musicians.¹¹⁸ Jackson claims through extensive interviews with musicians that the “necessity of having an individual sound, the notion of balance, and the importance of the blues are seen by some musicians as products of a larger African American musical or performative sensibility.”¹¹⁹ The importance, even among the international jazz community, of African American modes of social meaning keep its history of US political resistance at its centre. For Jackson, the “embeddedness” of jazz in African American culture warrants maintaining a dialectic with African American sources of that cultural meaning.¹²⁰ Similarly, for Loren Kijikawa, “black music is not simply a voice from the margins but rather a set of deeply embedded cultural forms that pervade a variety of racialized contexts.”¹²¹

Jackson’s emphasis on “creativity, distinctiveness, and interactivity” culminates for Ingrid Monson in the value of “saying something.”¹²² This linguistic analogy alludes to the discursiveness of improvisors’ unique contributions, commenting through and on composed forms, harmonic progressions and rhythms. Monson draws on Henry Louis Gate’s *The Signifying Monkey*, which articulates black signification on literary forms

¹¹⁸ Jackson, *Blowin’ the Blues Away*, 126.

¹¹⁹ Jackson, *Blowin’ the Blues Away*, 116.

¹²⁰ Jackson, *Blowin’ the Blues Away*, 127.

¹²¹ Loren Kijikawa, “The Sound of Struggle: Black Revolutionary Nationalism and Asian American Jazz,” in *Jazz/Not Jazz: The Music and Its Boundaries*, ed. David Ake et al. (University of California Press, 2012).

¹²² Ingrid T. Monson, *Saying Something: Jazz Improvisation and Interaction* (University of Chicago Press, 1996), 2.

through irony, intertextuality and double-voiced discourse.¹²³ She particularly explores “conversational” interaction, or call-and-response dynamics as important carriers of meaning. For Monson, “saying something” valuable in jazz circles—either purely musical or about identity, politics and race—is necessarily multi-layered. One challenging aspect of this layering is the nexus of its political and musical complexity in group interaction. The former retains Blackness at its centre with dissonance “something apart, yet an integral part” of jazz’s culturally Afrodiasporic plight, while the latter is further complicated by the wide range of positions and ideologies held by its musicians. Meanwhile, jazz’s musical complexity cannot be dealt with in isolation, because embedded within the musical practice of “saying something” is “signifying” on existing structural forms, be they musical, socio-political or institutional.

For both Monson and Jackson, cultural signification is enacted not through a broad positionality of aesthetic alterity, but specifically in the personal agency expressed during group interaction. The “blues aesthetic[’s]” primary concern with “creativity, distinctiveness, and interactivity” centres both dissonance and playing *apart* on the enaction of relationships. It is the distinction between technical *apartness* and the various formations of appositional relationships that requires further attention.

A focus on interaction liberates us from a Eurological preoccupation with dissonance, by broadening our gaze from the mapping of tensions towards grappling with why sonic tensions in jazz are socially meaningful. By refocusing our gaze on the perceived agency of musicians, we can engage richer layers of meaning that emerge from the drawing and redrawing of musical and socio-political positions through

¹²³ Monson, *Saying Something*, 87.

musical time. In listening for relationships, it is important that we do so as Heble advocates above, “in terms of the material and cultural conditions of its historical moment.”¹²⁴

Listening for Relationships

Leading up to the 1960s, both the technical and political dimensions of the music intensify. During the preceding bebop period, jazz practitioners already spontaneously recomposed harmonic progressions during improvisation. As in other periods of jazz, the stylistic and technical changes were not merely aesthetic but designed in response to the socio-political conditions of musicians. However, what is often perceived as a 1960s break with tradition and sudden proliferation of appositional playing can also be viewed as a continuous evolution of bebop, energised by an escalation of the preceding period’s socio-political conditions.

The musical intensification of bebop through the late 1950s emerged in a climate of real-world assaults on African American musicians’ livelihoods and artistic legitimacy.¹²⁵ For the African American musicians at bebop’s centre, financial necessity was aligned with a politics that, according to Amiri Baraka, “had more than an accidental implication of social upheaval associated with it.”¹²⁶ Baraka explains how

¹²⁴ Heble, *Landing on the Wrong Note*, 21.

¹²⁵ Iain Anderson, “This Is Our Music: Free Jazz, the Sixties, and American Culture,” in *This Is Our Music* (University of Pennsylvania Press, 2007), 122.

¹²⁶ Amiri Baraka, *Blues People : Negro Music in White America* (New York, NY Morrow, 1970), 188.

white bebop musicians and audiences who immersed themselves in bebop counterculture and “hip talk” could choose to do so, whereas “the young Negro musician of the forties began to realize that merely by being a Negro in America, one was a nonconformist.”¹²⁷

Bebop formed a tipping point that allowed many musicians to consider themselves artists rather than entertainers. They engaged in politics of self-determination and positioned themselves against mainstream jazz as “explicitly experimental.”¹²⁸ While jazz musicians had always to some degree improvised appositionally from the harmony (or rhythm) of the composed form, bebop musicians spontaneously reharmonised compositions to a greater degree than mainstream artists. They overlaid more polyrhythms, chordal substitutions, and emphasised upper chordal extensions and their chromatic alterations. This musical nonconformity that began as a dual strategy for financial survival and artistic identity took on a heightened sense of politics as the Civil Rights Movement built in momentum.

Some jazz artists aligned themselves with the rise of Black Nationalism and the fight for civil rights, in the lead up to the 1960s political and cultural revolution. A more overt civil rights agenda amongst in some jazz circles reflected emerging leadership from Martin Luther King and Malcolm X, and a broader push towards more vocal civil disobedience and protest. Black artists during the late 1950s increasingly wore their political on their (album) sleeve. Perhaps the most overt examples of protest are Charles Mingus’s 1959 *Fables of Faubus* and Max Roach’s *We Insist! Freedom Now*

¹²⁷ Baraka, *Blues People*, 171.

¹²⁸ Lewis, “Improvised Music after 1950,” 95; Baraka, *Blues People*, 171.

Suite in 1960. Roach in particular leans into growing community sentiment of African-ness as important to African American identity, woven together with a civil rights solidarity with South Africa and the African continent more broadly.¹²⁹ Musicians taking a range of political positions not only overtly reference civil rights issues, but musically resist the formal, tonal, rhythmic and ensemble roles of jazz from all preceding decades.

1960s jazz is complicated further by the intensification of numerous elements at once: dissonance, abstraction, politics, changing ensemble roles and appositional playing. Understanding how these dimensions come together requires reaching beyond their technical elements or aesthetic characteristics, toward interactive relationships after Monson and Jackson. Throughout the bebop period, it is possible to understand the technical level of *apart* playing either harmonically as chordal substitutions, chromatic ornamentation and blues gestures, or rhythmically as polyrhythm and displacement. In the 1960s move toward abstraction, musicians increased the degree and duration of divergence from the referent. More extended arcs of divergence produce their own sequences and logics, that rival the importance the referent to determine the course of musical events. Expanding and overlaying these strategies layers together greater degrees of rhythmic and harmonic complexity, obscuring a traditional music-theoretical understanding of underlying logics of deviation and substitution.¹³⁰

¹²⁹ Scott Saul, *Freedom Is, Freedom Ain't: Jazz and the Making of the Sixties* (Cambridge, United States: Harvard University Press, 2003), 93; John Litweiler, *The Freedom Principle: Jazz after 1958* (Poole, England: Blandford Press, 1985), 130.

¹³⁰ Levy, "Harmonic and Rhythmic Oppositions in Jazz," 55.

This highly interactive process blurred traditional ensemble roles of soloist and accompanist, particularly driven by artists such as Ornette Coleman who overtly welcomed all ensemble members to play apart from the referent. Bobby Bradford articulates the revelatory effect of Coleman opening up towards appositional interactions:

Bird and Sonny [Rollins] would use the device of playing half a step above the key for one phrase, just to add that little taste of piquancy, but Ornette would go out and stay there – he wouldn't come back after one phrase, and this would test your capacity for dissonance. I was very impressed by the fact that he had the courage and the audacity to test Charlie Parker's law, partly because I was at the stage of worshipping Bird. That's when I began to think of him as a genius.¹³¹

What is striking in Bradford's change in thinking is the pivot from devices of dissonance to a communication of purpose. A Eurological assessment of the half step upwards might focus on the move *outside* the referential harmony, perhaps its technical characteristics and how it resolves. Indeed, Bradford refers in the quote above to this move typical of the bebop status quo as "Charlie Parker's law." The alternative Bradford sees in Coleman is the opportunity to express "courage and audacity," by challenging the status quo and the tolerances of the ensemble members, forcing them to respond by test[ing] your capacity for dissonance." In the discomfort of Ornette's tendency—as Bradford expresses it—to "go out there and stay out there," lies the opportunity to

¹³¹Bobby Bradford, quoted in Val Wilmer, *As Serious As Your Life: Black Music and the Free Jazz Revolution, 1957–1977* (Allison & Busby Limited, 1977), 88.

display courage, in the same way that only fear affords an adventurer the opportunity for bravery. This interpretation has the capacity to turn our attention from the dissonances themselves to the appositional, relational dimension of how others might respond. This is where a singular music-theoretical interpretation of a musical event splinters into a multiplicity (or multiverse) of possibilities. Orienting our analytical posture towards interaction and the affordances it manifests enables us to move beyond the mapping of tensions into a deeper and more socially attuned kind of analysis.

A 1995 interview with John Coltrane's pianist McCoy Tyner, provides insight into expressions of relationality through appositional playing in the ensemble. In this section, interviewer and fellow pianist Dr Billy Taylor starts from his hearing of the role of bassist Jimmy Garrison, before moving through how Tyner, Coltrane and drummer Elvin Jones layer their contributions:

BT: Jimmy had a way of playing ... a really foundation kind of thing. You worked really well with him the way you played on piano... what did that do for you?

MT: He picked the right notes. You know he wasn't a very busy bass player, but he knew the function of his instrument... He was like a pivot, he kept the band centred, anchored. So whatever y'know, polyrhythms Elvin was doing and I was playing y'know different kind of harmonies I was trying to stick with Elvin and we'd do some things together, and... he was always there kind of anchoring it.

And then if John, and so there was a kind of harmonic freedom cause y'know, I was moving,... so John could do different things he wanted to do, and I would let them play, he and Elvin would have reached a certain point [gesturing upwards]

BT: Just the two of them

MT: Just the two of them, it was up here... it was unlimited... just amazing.¹³²

According to Tyner, Garrison assumed the role common for bass players of “anchoring,” which we can likely interpret applying to both the time feel, meter, and form of the referent. Tyner’s implication is that Garrison’s role facilitated Tyner’s partnerships first with Elvin Jones to superimpose rhythmic abstraction between them, and secondly with Coltrane to superimpose harmonic abstraction. Tyner in turn plays a facilitative role in Coltrane’s ability to stretch further harmonically, saying, “I was moving... so John could do different things he wanted to do.” There is a sense here of Tyner initiating motion or perhaps breaking inertia, in order for Coltrane to achieve “harmonic freedom”. There is also a sense of both indeterminant discovery and a purpose to the journey undertaken. Tyner says of Coltrane and Jones that he “would let them play,” until they reached a “certain point.” Notably, Tyner doesn’t refer to back-and-forth or conversational gestures that take turns. Instead, multiple allegiances and valencies of interactions are at play simultaneously, resembling Brown’s invocation of gumbo yaya. Tyner’s words also allude to how harmonic and rhythmic abstraction intermingle, fuel each other, and overlap, with distinct aspects playing out more prominently in each relationship in the quartet.

The sense of unique contribution—central to Jackson’s “blues aesthetic”—is palpable from Tyner, as well as the kind of conversational exchanges that animate Monson’s work. An interactional analytical posture shifts the stakes from an account of what happened to a pondering of what each contributor might have done. Further in the

¹³² Tyner, “Oral History Interview with McCoy Tyner: Louis Armstrong Jazz Oral History Project.”

same interview, Tyner speaks about the purpose of this music-making as communicating an invitation to the audience to co-constitute the open-ended exploration. Taylor speaks about moving the audience emotionally, that they might not know what is happening, but know that something is certainly happening. Tyner replies in response:

MT: And that's the purpose of music, is you don't have to know what it is. I mean, sometimes we don't know what it is... We might know what it is, but we don't know why we're playing it.

BT: How'd that happen?

MT: How'd that happen. And the audience picks up on that. That's why it's good to remember that they're always there...even though we're in our little world, we don't mind visitors. [both laugh]

BT: Come on in!

MT: [both laughing] Come on in, have a seat.¹³³

Palpable in Tyner's description is the capacity for musicians to be surprised even by what they themselves are playing. There is a warm mutualism here, in which audiences are invited into the interactive group exploration of the unknown, just as musicians can be as surprised as the audience at where the music goes.

Abstraction and the Referent

Focusing on interaction and therefore relationship, intent, and meaning, calls into

¹³³ Tyner, "Oral History Interview with McCoy Tyner: Louis Armstrong Jazz Oral History Project."

question ‘inside-outside’ dynamics and the requirement for resolution as a norm. In doing so, my argument has thus far taken at face value the “referent” as more or less interchangeable with “form” or pre-composed structure in general. However, the conception of a “referent” in the literature is distinct from “form” by encapsulating two key aspects: the amalgamation of many versions of a composition held as authoritative by musicians, and its instability as a fixed structure even within conventional jazz practice. In this section I problematise the referent as a fixed structure, particularly through Sean Smithers’ conception of “avant-texte,” and its subsequent implications for analysis.

Even in mainstream jazz improvisation, referents—and particularly jazz standards—often have no one definitive version. Instead, jazz musicians are often familiar with several different famous recordings and arrangements that may add new introductions or codas, change the key or the composition’s harmony. The “original” version of many jazz standards is not in the jazz genre, but a show tune or popular song, with jazz musicians often altering their harmony and/or their form. Musicians form a view of what constitutes the composition from an amalgamation of these versions, possibly containing optional reharmonisations, or multiple possible endings besides the primary one. Each musician may then be familiar with a different list of versions, and form a slightly different conception of what the referent actually is.¹³⁴ This is

¹³⁴ Sean R. Smither, “Referents in the Palimpsests of Jazz: Disentangling Theme from Improvisation in Recordings of Standard Jazz Tunes,” *Music Theory Online* 30, no. 3 (2024); Sean R. Smither, “All the Things Tunes Are: Avant-Textes and Referents in Jazz Improvisation,” *Jazz Perspectives* 13, no. 2 (2021): 159–85.

especially true for the pool of jazz standards, that act as a touchstone of common repertoire between musicians.

Sean Smither conceptualises the referent as a network, by drawing on the literary scholarship's sub-field of genetic criticism, and the conception of an "avant-texte." The term is a literary conception of a "network of sketches, edits, and drafts that represent the genesis of a text."¹³⁵ For Smither, all the related versions of a composition with which musicians may be familiar are conceptualised as a network of avant-textes, with their various degrees of difference and similarity. Some versions may be formalised into notated "lead sheets" that are widely circulated, while others remain as recordings. Crucially, the social element of group improvisation introduces to this network each ensemble member's personal history of experience with that tune. This includes the shared history within one particular group of musicians of how events have previously unfolded.¹³⁶

Smither articulates how avant-textes become referents in a two-stage "cyclical and processual" process.¹³⁷ Whereas in literature there is generally a definitive final version, a jazz referent remains an amalgamation of the different versions with which they are familiar, or choose to view as more definitive than others. Musicians then draw on a particular subset of the avant-texte network to form their own referent, which may differ from those held by others in the ensemble. Using these different referents, musicians improvise and negotiate resolutions to any disagreement between in real

¹³⁵ Smither, "All the Things Tunes Are," 162.

¹³⁶ Smither, "All the Things Tunes Are," 181.

¹³⁷ Smither, "All the Things Tunes Are," 175.

time. Through group interaction and negotiation, the musicians enact a performance of the tune that constitutes a new version. If this version is widely known, it may be added to the pool of avant-textes for many musicians, or may be added to the ensemble’s own performance history. Importantly, this closes the loop in an iterative cycle that constantly repeats, shown in Figure 1.1.

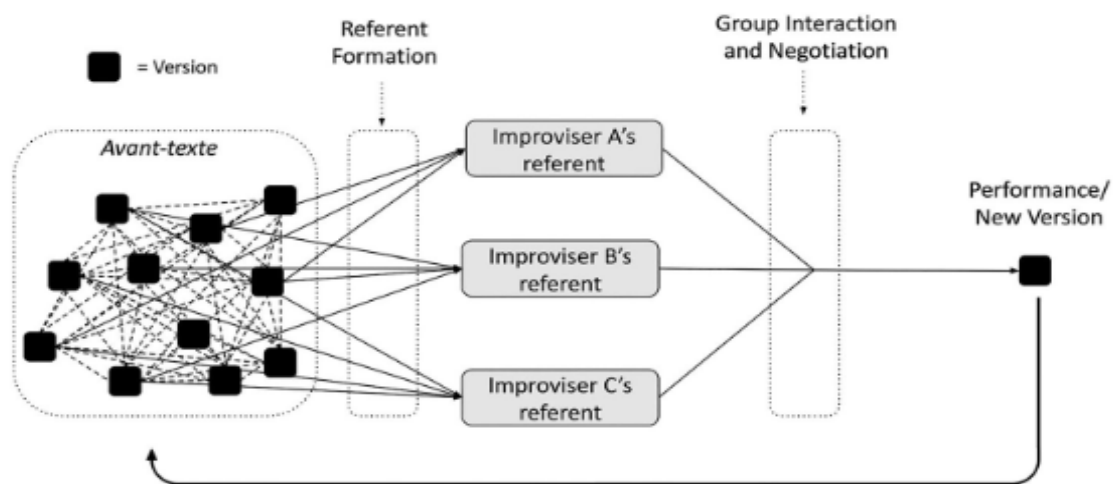


Figure 1.1: Smither’s Example 6 – A cyclical, processual model of the jazz tune concept.¹³⁸

The referent’s instability, rather than a drawback, can be creatively leveraged for interaction by musicians. Tension between different possible versions creates greater opportunities—embedded within the referent itself—for multiple pathways of temporal negotiation. These inherent instabilities are then amplified as a porous boundary emerges between what might be considered an alternative referent version, conventional chordal substitutions or polyrhythms and Coleman’s tendency to “go out there and stay out there.”¹³⁹

¹³⁸ Smither, “All the Things Tunes Are,” 175.

¹³⁹ Bobby Bradford, quoted in Wilmer, *As Serious As Your Life: Black Music and*

Smither's conception of a network-referent is aimed toward the treatment of jazz standards within conventional jazz practice, but can be further nuanced for appositional playing. The box indicating "group interaction and negotiation" contains all of improvised jazz practice, within which technical *apartness* plays a more significant role in 1960s jazz. As Smither suggests, this negotiation conventionally involves interaction in a more contained sense, using rhythmic devices and harmonic substitutions within the loose bounds of the referents held mentally by each musician, and negotiating their discrepancies towards a coordinated end goal. The more unbounded *apositions* exemplified by Coltrane and Coleman pushes Smithers's diagram further in two respects. Firstly, the assumption implicit in the diagram—consistent with the conventional jazz practice on which Smithers focuses—is that negotiation is ultimately in service of reaching agreement and resolution. As suggested by Jackson and Williams above, Black musical space and socio-political resistance may seek resolution, but may equally maintain an aesthetic goal of dissonance or contradiction. This goal doesn't, however, prevent the resultant formation of a new version: in fact it likely assists in creating a version that is more highly unique. Secondly, Smithers's "referent formation" is destabilised by two practices particularly relevant to Coleman: group-sourcing of an explicitly negotiable referent, and the omission of a referent during solos.¹⁴⁰ The former is a difference in the degree of discrepancy and malleability, but the latter introduces the referent as instead preceding and/or following improvised sections that omit pre-agreed form or harmony.

the Free Jazz Revolution, 1957–1977, 88.

¹⁴⁰ Charry, "Freedom and Form in Ornette Coleman's Early Atlantic Recordings."

In doing so, free jazz introduces a formal *apartness* that reaches beyond Smithers' focus on conventional jazz practice. Free jazz, instead of a layering abstraction on a nominally intact form, omits a referent during solos resulting locally emergent form, drawn from the syntax and flow of interaction. Whilst in this case there is no synchronic relationship between composed and improvised material, there is still a diachronic one. Marc Hannaford argues that for free improvisation, any composed materials that preceded or follow improvised sections are still known to the musicians and are improvised out of or into. Musicians can project this diachronic relationship in both temporal directions. For Hannaford, initial composed materials establish aesthetic parameters for subsequent improvisation. Subsequently, group processes provide their own emergent form that "not only shape their performance into a set of collective sequences; they may do so to form arresting relationships with upcoming notated material."¹⁴¹ Conversely, when composed material forms a very small part of the performance compared to lengthy and involved improvisations, it is also possible for composition to only sets the scene and provide a starting point. 1960s jazz artists leverage diverse combinations of formal and harmonic/rhythmic *apartness* that redraw their relationships to the referent.

A richer conception of the referent adds further possible positionalities to the numerous positionalities already discussed between musicians and composed materials. A referent-as-network engenders possibilities for interaction at a structural

¹⁴¹ Marc Edward Hannaford, "One Line, Many Views: Perspectives on Music Theory, Composition, and Improvisation through the Work of Muhal Richard Abrams" (PhD thesis, Columbia University, 2019), 78.

level. Our understanding of *appositional* playing and everything it means is challenged because this conception transforms what the referent is and consequently our relationships to it. The referent is thus a major locus of what musicians are wrestling with—the site of negotiation—such that their *apartness* from it or interactive solutions to its problems presents a defining quandary.

Until the 1960s and the “New Thing,” improvised abstraction was limited to harmonic and rhythmic superimposition without calling into question the referent wholesale. While most salient for Ornette Coleman’s disruption of form, Coltrane gradually moved closer towards true free improvisation late in his career. Their differences, explored further in Chapters 3 and 4, constitute different music-theoretical premises.

The technical and interactive complexity outlined above couples with the critical potential of the “blues aesthetic” to afford a unique richness of social meanings. Givan’s emphasis on “connectedness and community” becomes more powerful in light of its escalation in the 1960s, variety of practice and increased socio-cultural weight. Taken together, Givan’s relational conception, Smithers’ and Hannaford’s referent-as-network, and diachronic improvisation ‘into’ and ‘out of’ provides a framework from which to unpack a rich variety of relationships and positionalities between musicians, the referent, and its socio-cultural consequences.

The question is, what precisely is the relationship between the musical sounds and processes of *appositional* playing and its meanings? As I mention in the introduction, one of the major aims of this thesis is to engage more explicitly with *appositional* playing and provide clarity of the music’s interactive processes and how their theorisation subsequently evidences socio-cultural interpretation. In the following

paragraphs I attempt to unravel some of the socio-cultural meanings of appositional playing embedded within broader discourses about the music's aesthetic and social dimension. The case studies focus on John Coltrane and Ornette Coleman as exemplars of two particular, contrasting solutions to the issues presented by destabilising the referent.

Socio-political Meanings of Playing *Appositionally*

Despite being one of the most distinguishing features of jazz improvisation from other improvised practices around the world, discussion of appositional playing is often couched in other terms. As 1960s commentators and musicians grapple with many aspects of jazz's aesthetic meanings all at once, appositional playing is encapsulated within a broader sense of aesthetic and socio-political apartness or dissonance. The aesthetic sense, conventionally interpreted as *outside*, is grounded in the technical misalignment of musical materials while the latter is in socio-political resistance to societal forces. It yields themes of resistance, freedom, self-determination, personal and spiritual transformation, and utopian ideals all intermingle with undercurrents of religiosity and revealed higher truths.

John Coltrane stated his ultimate goal was “to be a force for real good.”¹⁴² His well-documented pan-spiritual quest was to be closer to the Creator, in a personal process of devotion and personal transformation. Grounded ostensibly in a Christian religiosity, Coltrane concurrently explored a wide range of eastern religions and musics, Buddhism, and transcendental philosophies, whose influence permeates his imagery

¹⁴² Kofsky, *Black Nationalism and the Revolution in Music*, 241.

and commentary. For Bivins, this process provided a turning point of purpose as “Coltrane’s life was shaped by the proposition that human thought, behavior, and experience of the divine could not only be accompanied by sound but realized through it.”¹⁴³ Coltrane was adopted as a symbol of the Black Arts Movement, and performed for at least one of its fundraisers in 1965.¹⁴⁴ However, he generally distanced himself from Baraka and others’ turn towards militancy, instead expressing that jazz “does not have to worry about a lack of positive and affirmative philosophy.”¹⁴⁵

“Transcendence” is the quality most consistently attributed by audiences and musicians to the music of his career post-1960.¹⁴⁶ Coltrane’s spiritual intent and its devotional, meditational basis are clear in his increasingly spiritually themed titles, especially from the period of 1964’s *A Love Supreme*. Central to his philosophy of freedom through personal transformation were states of love, spiritual communion, and meditation, also endorsing Ayler’s mystical efforts to move the music “into even higher frequencies.”¹⁴⁷

¹⁴³ Bivins, *Spirits Rejoice!: Jazz and American Religion*, 135.

¹⁴⁴ Tony Whyton, *Beyond a Love Supreme : John Coltrane and the Legacy of an Album* (Oxford University Press, Incorporated, 2013), 83.

¹⁴⁵ Coltrane interview with Ben Ratliff, quoted in Bivins, *Spirits Rejoice!: Jazz and American Religion*, 136.

¹⁴⁶ Washington, “‘Don’t Let the Devil (Make You) Lose Your Joy’: A Look at Late Coltrane,” 130.

¹⁴⁷ John Coltrane, quoted in Bivins, *Spirits Rejoice!: Jazz and American Religion*, 34.

Within a few short years of *Giant Steps* in 1959, Coltrane felt he had exhausted the possibilities of the ultimately constricting compositional use of ‘Coltrane changes’ and their rapid major-third cycles.¹⁴⁸ Instead, the Quartet gradually gravitated towards simpler harmonic backgrounds and drones. A simpler referent afforded the ensemble greater freedom to superimpose layers of harmonic colours over an agreed harmonic background. Research has only recently revealed the extent to which his dense and often opaque improvisations post-1965 systematically deployed the symmetrical harmonic strategies developed in his earlier career.¹⁴⁹ Though not explicitly part of the “New Thing,” Coltrane performed with and was influenced by members of the free jazz scene, especially avant-garde reedist Eric Dolphy, who performed as the “fifth member” of Coltrane’s quartet until his death in 1964. In Coltrane’s later performances—free from harmonic or rhythmic restraints—his sometimes 40-minute solos took the band to ecstatic heights that resembled ritual and shamanist fervour. Saxophonist Dave Liebman remembers, “cats started to put their hands up to the ceiling and the whole

¹⁴⁸ Coltrane, *Coltrane on Coltrane: The John Coltrane Interviews*, 100.

¹⁴⁹ For exploration of systematic multi-tonic strategies of late Coltrane, see: John O’Gallagher, “Pitch-Class Set Usage and Development in Late-Period Improvisations of John Coltrane,” *Jazz Perspectives* 12, no. 1 (2020): 93–121; John O’Gallagher, “Analysing Pitch Structure in Late-Period Recordings of John Coltrane: Interstellar Space and Stellar Regions” (PhD thesis, Birmingham City University, 2021); Jeffrey Jay Bair, “Cyclic Patterns in John Coltrane’s Melodic Vocabulary as Influenced by Nicolas Slonimsky’s ‘Thesaurus of Scales and Melodic Patterns’: An Analysis of Selected Improvisations” (University of North Texas, 2003).

place stood up. It was like those holy-roller meetings.”¹⁵⁰

Though Coltrane seldom spoke publicly about musical mechanics, we know from his peers, theoretical diagrams and his engagement with theoretical texts that his spiritual ideas had technical specificity.¹⁵¹ Manifesting these ideas relied on the entire ensemble for their musical realisation by layering together many kinds of *apartness*. Salim Washington points out that among the unique contributions of each ensemble member, drummer Elvin Jones stands out. “Much of what we think of as ‘sounding like Coltrane’ is actually not even possible without the type of accompaniment that Jones innovated.”¹⁵² The heart of the Coltrane’s transformative process hinged on multiple layers of polytonal and polyrhythmic freedom, realised communally through group interaction in extended states of ritual-like exploration.

Pianist McCoy Tyner was also integral to Coltrane’s spiritual quest, but spiritually

¹⁵⁰ Dave Liebman, quoted in Bivins, *Spirits Rejoice!: Jazz and American Religion*, 138.

¹⁵¹ For commentary about Coltrane’s systematic technical approach, see for example: Bair, “Cyclic Patterns in John Coltrane’s Melodic Vocabulary as Influenced by Nicolas Slonimsky’s ‘Thesaurus of Scales and Melodic Patterns’: An Analysis of Selected Improvisations”; David Liebman, “John Coltrane’s Meditations Suite: A Study in Symmetry,” *Annual Review of Jazz Studies* 8 (1996): 167–81; David Demsey, “Chromatic Third Relations in the Music of John Coltrane,” *Annual Review of Jazz Studies* 5 (1991): 145–80.

¹⁵² Washington, “‘Don’t Let the Devil (Make You) Lose Your Joy’: A Look at Late Coltrane,” 141.

and philosophically motivated by his Muslim faith. That Tyner had converted to Islam aged 17 seemingly never presented any conflict with Coltrane’s broadly Christian philosophy. Tyner’s musical philosophy shared many characteristics with Coltrane of devotion, spiritual attunement, and open-ended possibilities. He believed that pursuing the kind of high-level connections between musicians—necessary for such intense and sustained appositional playing—could fuse social harmony with universalist ummah ideas of “rapport with the cosmos.”¹⁵³

Many jazz musicians from the 1930s onwards converted to Islam, which provided the “opportunity to locate their subjectivity in a different prophetic salvation history.”¹⁵⁴ The Islamic ummah served a similar function of race-neutral brotherhood that, in the context of racial oppression, provided a site of chosen alternative identity to public figures such as Black civil rights leaders, athletes and musicians by way of example. Many artists renamed themselves under Islam as acts of resistance, while the sense of a united community provided a “model for communication and receptivity to the divine.”¹⁵⁵ Yusef Lateef, who also converted to Islam, wrote a 1981 text called *Repository of Scales and Melodic Patterns* and contains polytonal collections of synthetic multi-octave scales. Far beyond a technical resource, Lateef invokes polytonality’s spiritual power, calling it “autophysiopsychic” music, that is, music from

¹⁵³ Christopher W. Chase, “Prophetics in the Key of Allah: Towards an Understanding of Islam in Jazz,” *Jazz Perspectives* 4, no. 2 (2010): 179.

¹⁵⁴ Chase, “Prophetics in the Key of Allah,” 157.

¹⁵⁵ Bivins, *Spirits Rejoice!: Jazz and American Religion*, 43.

one's physical, mental, and spiritual self.”¹⁵⁶

While Coltrane's oppositional playing was a process of personal spiritual transformation, Coleman's was a form of activism aimed at external conditions. “Freedom” is the quality persistently attributed to Ornette Coleman, who is given among the most concrete—if idiosyncratic—theorizations how sound not only represents but enacts “freedom” through his theory of Harmolodics. While I explore this in greater detail in Chapter 4, it is worth briefly considering his interpretation of oppositional playing. Coleman sees freedom and equality in society as directly analogous to equality and freedom of pitches, of keys, and of interaction in improvisation. He directly equates disrupting status-quo hierarchies of harmony, melody, rhythm and timbre to resistance of institutional and societal hierarchies. Of Harmolodics, he says that “applied to the particulars of music, this means that harmony, melody, speed, rhythm, time and phrases all have equal position in the results that come from the placing and spacing of ideas.”¹⁵⁷ Within a decades-long and somewhat patchy explanation of Harmolodics, he elsewhere expresses melody as the master trope, with harmony, form, etc., being freely malleable in service of great melody. To achieve this, he required rare and specific musicians who were willing to upend conventional organisation and be far bolder in their willingness to tread uncertain ground.

Coleman welcomed all ensemble members' contributions as equally valid,

¹⁵⁶ Yusef Lateef, quoted in Bivins, *Spirits Rejoice!: Jazz and American Religion*, 42.

¹⁵⁷ Nathan A. Frink, “Dancing In His Head: The Evolution of Ornette Coleman's Music and Compositional Philosophy” (University of Pittsburgh, 2016), 93.

where anyone could introduce *apart* information which might alter the course of the performance. His assertion that “all notes should be equal”¹⁵⁸ plays out most obviously through ensemble interaction, in which tonal multiplicity is introduced by and resolved through the contributions of all ensemble members. In contrast to Coltrane’s maximisation of a well-defined referent through superimposition, Coleman’s openness extends to group-sourcing of the referent with alterations to harmonies made freely and playfully.¹⁵⁹ In a 1960 interview, he expressed this looseness with harmonies as “...trying to express a broader musical truth. Chord changes are like being in jail. You can play inside them, but you can’t break out. I want to break out.”¹⁶⁰ For Coleman, harmonic freedom had a specifically socio-political dimension, saying in 1967, “music is classless, but race, knowledge and life-condition are not.”¹⁶¹ Coleman’s enactment of more broadly conceived freedom through music is articulated by biographer John Litweiller as “[f]reedom from conventional modes of thought and conclusions about every aspect of life.”¹⁶² The potential to confront extra-musical freedom and hierarchies specifically through improvised sounds was still clear in 2007 when Coleman said, “The only thing that I’m trying to do right now, honest to God, is to free myself to the supreme

¹⁵⁸ John F. Szwed, *Crossovers : Essays on Race, Music, and American Culture* (Philadelphia, United States: Philadelphia : University of Pennsylvania Press, 2005), 212.

¹⁵⁹ Iverson, “Interview with Charlie Haden.”

¹⁶⁰ “Interview with Ornette Coleman,” *Down Beat*, 1960.

¹⁶¹ Ornette Coleman, “To Whom It May Concern,” *Down Beat*, June 1, 1967.

¹⁶² Litweiler, *Ornette Coleman: The Harmolodic Life*, 19.

order of ideas - not style, not colour, not notes, not rhythm,” and wanted explicitly to “remove the caste system from sound.”¹⁶³

Coleman’s version of freedom was endorsed by musician and theorist George Russell, whose Lydian Chromatic Concept of Tonal Organisation (LCC) underpins much jazz harmonic theory. Russell disdained the abstract idea of freedom, instead arguing that unique individual expression requires “a fuller awareness of tonal, rhythm, psychological laws.” Tonal freedom for him was an apotheosis of manifesting improvised music: “[e]verything is under a law....I believe in levels. The thing called freedom is one of the higher objective laws of tonality.”¹⁶⁴ Through the LCC he sought to bring together implicitly polytonal ideas by uniting horizontal quality with vertical tonal gravity. Russell considers the affective purpose of the music to be implicit in technical processes, and the shared purpose of all art: “to fuck you up.”¹⁶⁵ Similarly, Coleman-collaborator and pianist Cecil Taylor and sees improvising freedom as creating order from within rather than from external structures, in a dialectic between musical ideas. Taylor says, “This is not a question, then, of ‘freedom’ as opposed to ‘nonfreedom’, but rather it is a question of recognizing ideas and expressions of order.”¹⁶⁶

¹⁶³ Andrew Purcell, “Free Radical,” Music, *The Guardian*, June 29, 2007.

¹⁶⁴ George Russell, quoted in Bivins, *Spirits Rejoice!: Jazz and American Religion*, 233.

¹⁶⁵ Robert Rusch, “Interview with George Russell,” in *Cadence* 3, nos. 7 and 8 (December 1977): 16, quoted in Bivins, *Spirits Rejoice!: Jazz and American Religion*, 24.

¹⁶⁶ Cecil Taylor, *Liner Notes of Fly! Fly! Fly! Fly! Fly!*, MPS Records, 1981.

Russell and Taylor's representations of "freedom" above are emblematic of a broader pivot from critique towards the utopian potential of jazz's abstraction. There is broad discourse among musicians and writers of transformation and transcendence born of looking within. Transcendence is variously attributed to the realms of the personal, the religious, and the search for new futures both real and imagined. Baraka articulates Black musical expression's critical turn towards the future when he says,

The art describes our lives, whether statically or as a continuum. It still might sound like "social protest," just describing what you see on 125th Street, New York City, or the Central Ward of Newark, in the space of an hour. The music "calls" also, and it does project a future. Forwards history. "The sun's gonna shine in my back door one day," or "Swing Low, Sweet Chariot," both point an end to slavery.¹⁶⁷

Jazz musicians articulate a wide-ranging and fecund conception of the music's power to manifest transcendence of—and challenges to—social conditions. For saxophonist Archie Shepp who recorded with Coltrane, the political resistance to institutions manifests directly in music's cultural resistance. Shepp says: "Jazz has always been about freedom, and if that means breaking away from European musical traditions, then that's what we have to do."¹⁶⁸ For Amiri Baraka, whose advocacy connected jazz to the Black Arts Movement, the musical and political senses of being

¹⁶⁷ Amiri Baraka, *Digging: The Afro-American Soul of American Classical Music* (Berkeley, United States: University of California Press, 2009), 107.

¹⁶⁸ Ekkehard Jost, *Free Jazz* (New York: Da Capo Press, 1974).

apart are inseparable, necessitating an appositional aesthetic to avoid its sanitisation:

To depoliticize the African American Aesthetic is to disconnect it from the real lives of the Afro-American people and instead make an offering to the seizers, that is— we must understand that not only our history aesthetically is contradictory to the so-called Northern cradle, but certainly as slaves and now an oppressed nation, the slave/slave master contradiction is the most serious of all... Without the dissent, the struggle, the outside of the inside, the aesthetic is neither genuinely Black nor Blue—but the aesthetic of submission—whether for pay or out of ignorance or ideological turpitude.¹⁶⁹

Baraka’s rhetoric of “Black” here invokes racial identity and experience, and “Blue” points to the “blues aesthetic” after Jackson, specifically its connection to tradition and expressive signification. In Baraka’s polemic, to remove the politics of dissent from the music is to sanitise it, necessitating recognition of the differences in both aesthetic and values put forward by European music. But he conversely makes the political argument that the music also requires the struggle and a sense of the *outside* to be present in order not to fall culturally and ideologically short. While he is not referring directly to appositional playing per se in its music-theoretical sense, aesthetics of dissonance and *apartness* as practice are certainly central to his sense of musico-political meaning. This is an illustrative example of the challenge mentioned earlier of appositional playing often being couched in other terms, described imprecisely or entangled with other ideas.

¹⁶⁹ Baraka, *Digging*, 27.

Charles Mingus--the most overt example of civil rights activism amongst 1960s jazz artists—is grounded in a different aesthetic than Coltrane and Coleman. Rather than reaching towards the ultra-modern, Mingus always sought to invoke the blues, gospel, and shouts, in a raucous and rollicking swing. His music involves appositional playing certainly, but is more heavily grounded in audible dissonance through layering of polyphonic composed melody and countermelody. Sometimes reaching cacophonous heights, his ensemble would often interweave or layer adventurous improvisation through dense composition, but grounded more in raucous and bluesy simultaneity than stretching the limits of the referent like Coltrane and Coleman. Mingus nonetheless shared a connection between the music's technical dimension and its political core.¹⁷⁰

From the perspectives orbiting Coltrane and Coleman described above, it is clear that 1960s jazz is more complicated and diverse than previous traditions. We cannot talk about appositional playing in a singular way, either theoretically or politically. The music of Coltrane and Coleman map onto different politics: not only in their relationships between technical and political dimensions, but also their strands of practice enacting distinct agendas. Coltrane's maximisation of the referent through an exhaustive approach to its interactive potential is a process of personal and spiritual transformation. By contrast, Coleman's destabilisation of musical hierarchies aims at both a representation and enactment of societal freedom. These constitute very different—if culturally and musically closely connected—solutions to problematising the referent's limits, in service of Black expressions of resistance and transformation.

¹⁷⁰ Bivins, *Spirits Rejoice!: Jazz and American Religion*, 71.

Additional points emerge from the discussion above that underpin the music-theoretical enquiry to follow. Firstly, the socio-political weight attached to appositional improvisation overlaps with broader concerns about abstraction, dissonance, and alterity. Musicians commonly see abstraction as the means of accessing “higher levels,” not only musically but also spiritually. Playing appositionally not only sounds the dissonant experiences of musicians, but also their unique identity through various expressive registers, and their ambitions for personal and societal change.

Secondly, socio-cultural meaning is embedded in group interaction, where technical musical relationships are inseparable from—and an enactment of—interpersonal relationships. It is by leveraging the affordances of specific technical materials that improvisors create different kinds of relationships, both between musicians and with composed materials. Interaction is where these relationships are drawn and re-drawn, and it is interactive appositionality that enables ‘signifying’ on musical forms, traditions, and expectations.

Thirdly, jazz is a technical musical culture, in which close engagement with and theorisation of musical materials intertwines with their potential for action.¹⁷¹ Jazz musicians engage in explicit and non-explicit theorisation. We have seen examples in this chapter of musicians for whom order of technical materials are a direct conduit to expressing levels of order spiritually or psychologically. In their subsequent

¹⁷¹ For further elaboration of the predisposition of jazz theory toward action, see

Chris Stover, “Mapping Jazz’s Affect: Implications for Music Theory and Analysis,” in *Artistic Research in Jazz: Positions, Theories, Methods*, ed. Kahr, Michael (New York: Routledge, 2021), 21.

improvisations, says Chris Stover, they are “acting as theorists in that they are speculating about—and empirically testing—structure and meaning in the music they are right in the middle of articulating.”¹⁷²

The technical emphasis by jazz musicians provides a challenge for many of the socio-historical accounts covered in this chapter, which rarely engage the music as *music*. A focus on the extra-musical dimensions of politics and social meaning often neglect how the actual music conveys the claimed meaning. The reverse critique, of music theory’s frequent omission of the music’s socio-political dimension, is addressed in Chapter 2.

Lastly, jazz musicians often conceive of their socio-political intentions *through* the music’s technical dimension. Reconciling musicians’ perspectives with the music they produce is complex, because their perspectives are multifaceted, specifically with tripartite complexity. The technical, interactive, and socio-cultural aspects of 1960s jazz and especially oppositional playing are deeply intertwined in both its production and reception, requiring different lenses to examine these various aspects.

A Tripartite Conceptual Model

This chapter has established the importance of integrating the technical, interactive, and socio-cultural aspects of the music. This aim closely aligns with Monson, for whom these categories must also speak to each other, integrating ethnography and analysis. I argue, similarly to Monson, that interaction is the crucial bridge between technical

¹⁷² Chris Stover, *Reimagining Music Theory: Contexts, Communities, Creativities* (New York: Routledge, 2024), 47.

description of the music and its various meanings: the layer in which the agency of group improvisation is expressed. Moving from a Eurological towards an Afrological, interactionist perspective necessitates a music-theoretical shift and development of new tools in order to make room for interaction.

I argue that when one of these categories is omitted, incomplete, or does not remain in dialogue with the others, the resulting account insufficiently engages the music's tripartite complexity. Without the socio-cultural dimension, the sounds have no history, and technical claims risk becoming disembodied. Without interaction there is no group agency, and sounds do not enact relationships between people. Conversely, both socio-cultural meaning and interaction suffer without adequate substantiation of their technical details: we have seen in this chapter how musicians directly implicate technical elements of the music in constructing certain kinds of meaning. Both technical and interactive dimensions are crucial: without both layers, 1960s artists cannot sound the meaning of their particular historical moment. This model therefore requires methodological hybridity to integrate all three elements.

I assemble this tripartite model of appositional playing in 1960s jazz through my animated methodology, discussed in the following chapter. Under this model, animation provides a tool to simultaneously engage the music's technical and interactive relationships. Harmonic relationships between musicians, or between musicians and referent, can be viewed through time to better understand their interactive dimension. The analytical categories of technical and interactive information then form two categories of evidence that support socio-cultural claims about the music.

In Chapter 2, I focus on *harmonic* appositionality, necessarily held in dialogue

with rhythm and other musical parameters. As a technical medium, the Neo-Riemannian *Tonnetz* enables the layering and interpretation of multiple musicians playing conflicting harmonies simultaneously. It enables clarification of positions of technical *apart-* and *together-ness*, grounded in a music-theoretically robust technical framework. The *Tonnetz* also affords integration of single-note and chordal information to assess their various harmonic implications more easily than staff notation or conventional harmonic analysis. Overall, to confront the substantial challenge of integrating tripartite strands I advocate for a self-reflexive music-theory. One that takes seriously jazz musician and musician-theorist perspectives on the music, whilst critically examining theoretical tools to better reflect the Afrological values held by the jazz community and the champions of its philosophical/ontological depth such as Moten and Williams.

Chapter 2: A Music-theoretical Response to Appositional

Playing

Chapter 1 established how an Afrological approach to appositional playing in 1960s jazz reveals its breadth of socio-political meanings and tripartite complexity. This chapter surveys existing music-theoretical responses to appositional playing, making the case for music-theory animation as a tool to integrate all three layers. Firstly, I address current scholarship on interaction, then technical perspectives on Coleman and Coltrane specifically. David Lewin’s “transformational attitude” and Jonathan De Souza’s development of how this attitude manifests specifically in jazz provide a conceptual framework for integrating technical and interactive layers. I identify the challenges for both transformational theory and current visual representation to represent harmonies of multiple musicians in ongoing interactions. After identifying challenges for both transformational theory and current visual representation, I advocate for a synthesis of the Neo-Riemannian *Tonnetz* and Dmitri Tymoczko’s theory of “macroharmony.” Finally, I introduce my animation of multiple musicians on the *Tonnetz*, which affords new possibilities for attuning our listening to interaction and relationships, that help clarify our understanding of the music’s socio-cultural meanings. The meanings specific to Coltrane and Coleman will then be discussed in greater depth in the case studies in Chapters 3 and 4.

To date, it remains a challenge for jazz scholarship to fully integrate technical, interactive, and socio-cultural layers. This challenge stems from the music’s inherent complexity, the different lenses required, and the historic disciplinary divisions between

music theory and musicology. The inevitable result is that one primary lens usually dominates, and the other two are somewhat neglected. This observation is not intended to undervalue decades of detailed scholarship upon whose efforts my contributions rest. Rather, I intend to point out the magnitude of the challenge, but also the opportunities to bring together kinds of knowledge whose scholarly history has struggled to speak to each other's concerns.

Jazz musicians' perspectives prove instructive toward speaking across disciplinary boundaries. One advantage of the perspective musicians bring is that their practice forces them to confront many layers of complexity at once, with a healthy disregard for institutionally enforced boundaries of knowledge. Good improvisation as upheld by the jazz community requires musicians to deal with technical particulars, deploying them in flexible interaction with other musicians, while maintaining a sense of their personal "why," which often involves upholding the importance of traditions and connection to musical and cultural lineages. This sense of grounding in tradition whilst being prepared to "bring something" unique to the performance legitimises contributions to the jazz community.¹

Perspectives on Interaction

Ingrid Monson presents perhaps the most integrated view of tripartite complexity in the scholarly literature. Her influential monograph, *Saying Something: Jazz Improvisation and Interaction*, was published during the height of the New Musicology, which initiated a cultural turn in scholarship that critiqued formalist and organicist attitudes toward

¹ Jackson, *Blowin' the Blues Away*, 109.

music.² One of the strengths of Monson's work is her nuanced embedding of analytical examples within the epistemologies of Black musical culture. By artfully drawing on Black literary theory, these analyses profoundly illuminated "conversational" interaction in jazz and its "signifying" (in Henry Louis Gates's sense) on existing forms to create new meanings.

Benjamin Givan argues that, despite a consensus on the necessity and pervasiveness of interaction in jazz, the concept remains "somewhat undertheorized."³ In "Rethinking Interaction in Jazz Improvisation," Givan expands Monson's contribution to mapping "conversational" interaction by theorising an expanded variety of types and scales of interaction. Givan categorises Monson's "call and response" as "motivic-interaction" and further distinguishes between small-scale adjustments performers make to each other (micro-interaction) and large-scale management of intensity, style, and ensemble roles (macro-interaction).

Through a broader conception of what constitutes interaction and what musical processes it involves, Givan nuances the assumption that jazz musicians always see interaction as desirable. Through interviews with musicians primarily in mainstream jazz, he establishes the diversity among musicians' expectations surrounding aesthetic goals, balancing unique contributions on the one hand with maintaining defined ensemble roles on the other. Many famous mainstream bandleaders prefer musicians accompanying the soloist to maintain an anchoring role to facilitate maximum freedom

² Monson, *Saying Something*.

³ Benjamin Givan, "Rethinking Interaction in Jazz Improvisation," *Music Theory Online* 22, no. 3 (2016): para. 1.

for the soloist, while some soloists prefer not to be “fed” ideas so they can pursue their own expressions of agency.⁴ Although this sentiment generally holds true, the more musicians play appositionally, the more other ensemble members also require and depend on the soloist to negotiate and adjust their envisaged goal. By disrupting ensemble roles beyond the scope of standard practice, the soloist playing further apart makes any pre-conceived aesthetic goal of the soloist becomes harder to keep in sight. Pre-1960s mainstream jazz commonly holds relatively defined roles of soloist and accompanist, while the destabilisation of these roles and their active resistance and negotiation is a characteristic change for innovators post-1960.

Whereas Givan nuances our categories of interaction, Garrett Michaelsen broadens the number of domains in which we see musicians interacting. He uses Mikhail Bakhtin's theory of linguistic "dialogism" to theorise musical gestures as “utterances,” which Michaelsen applies to appositional playing by characterising them as either “convergent” or “divergent.” In his study of interaction in the 1965 Miles Davis Quintet, Michaelsen theorises four categories of divergence: the interpersonal, the referent, ensemble roles, and style, each with its own norms and expectations against which divergence can be measured. Much like Monson’s, this linguistic conception of interaction emphasises the context-dependency of meaning, as utterances “must be understood to be in dialogue with previous utterances and to provoke future utterances.”⁵ For Michaelsen, convergent and divergent gestures across different

⁴ Givan, “Rethinking Interaction in Jazz Improvisation,” para. 6.

⁵ Garrett Michaelsen, “Making ‘Anti-Music’: Divergent Interactional Strategies in the Miles Davis Quintet’s *The Complete Live at the Plugged Nickel 1965*,” *Music Theory*

domains can pull in similar or contrary directions. For example, a convergent utterance in one category may be simultaneously divergent in another. By co-occurring or acting at cross-purposes, musicians create a diverse array of relations through which they manifest abstraction.⁶ By tracing the Miles Davis Quintet's moves in each of these domains, Michaelsen facilitates a richer, multi-layered hearing of appositional playing.

Brian Levy's analytical posture comes perhaps the closest to embracing the idea of dissonance-as-norm, presented in Chapter 1. While Givan and Michaelsen primarily theorise interaction itself, Levy explores how the John Coltrane Quartet employs dissonance of appositional playing by layering of harmonic and rhythmic "oppositions." Levy suggests that traditional musicological "symbols of unity" leave us with an under-developed language to deal with disunity. Taking a technical view of rhythm and harmony in turn, he builds a picture of characteristic rhythmic and harmonic devices that amongst the ensemble form a foundational layer of abstraction from the referent. Levy argues that by establishing an agreed on ongoing aesthetic at one level of opposition, the rhythm section provides as a starting point that frees Coltrane to superimpose even higher levels of abstraction.⁷ For Levy, layering these oppositions—each with their own internal logic—create the phenomenon of abstraction. Indicative of the challenge of approaching appositional playing both music-theoretically and Afrologically, Levy's more nuanced technical view of interaction is subject to the kind of

Online 25, no. 3 (2019): para. 10.

⁶ Michaelsen, "Making 'Anti-Music,'" para. 49.

⁷ Levy, "Harmonic and Rhythmic Oppositions in Jazz," 57, 83.

“clash and conflict” critique by Nzewi, Agawu, and Moten. This issue will be explored further in the Coltrane case study in Chapter 4.

Stephen Rush—while not explicitly theorising interaction in the same way as Monson, Givan, and Michaelsen—contributes substantially to understanding its importance for Ornette Coleman. In *Free Jazz, Harmolodics, and Ornette Coleman*, he provides a detailed account of Coleman’s theory of Harmolodics as both improvisational strategy and philosophy of music-making. Rush’s book explicates Harmolodics for practitioners, using extensive interviews with Coleman to substantiate his theory as a means of enacting relationships through interaction. Rush also evidences how Coleman sees the intertwining of interaction with technical materials and social meanings of his music.

Taken together, the four authors above provide a framework for examining interaction in general, and appositional playing in particular. Broadening our gaze to include the wide range of ways musicians play appositionally—harmonically, rhythmically, timbrally etc—is a crucial part of an Afrological hearing of jazz and actively listening for relationships. Bringing together various domains and types of interaction with its manifestation through dynamics of convergence and divergence makes it possible to begin connecting the music’s complexity to its complex political resonances.

Technical Perspectives and Jazz’s Eurological Theory Problem

Given the technical complexity that appositional playing introduces between a musician and the referent, there is a perhaps unsurprising historical focus on individual soloist strategies. Focussing on soloists simplifies analysis, because it permits

extrapolation from a referent—itself a complex topic—rather than considering the full panoply of improvised musical events. The resulting strand of research might be termed “taxonomical.” These approaches serve to document the broad array of soloist strategies, which are in turn important for engaging their sonic identity and individuality. Despite their potential for revealing compelling connections between individual improvisors, taxonomical studies have nonetheless historically neglected interaction and the reciprocal influence of other ensemble members on the soloist. The reverse critique of social-historical scholarship is also valid: that it rarely directly engages music, as music.

Appositional playing is a significant strand within taxonomical accounts of improvisator choices. Published analyses of jazz begins with Gunther Schuller in his 1958 article, “Sonny Rollins and the Challenge of Thematic Improvisation.”⁸ As a classical performer who collaborated extensively with jazz musicians, Schuller operated in a musicological environment heavily dominated by Western Art Music and its formalist study. In addition to authoring many liner notes for jazz albums, he was largely responsible for establishing jazz as a worthy subject of rigorous study in tertiary institutions.⁹ Rollins’s bebop style—even as a more conventional example than many

⁸ Gunther Schuller, “Sonny Rollins and the Challenge of Thematic Improvisation,” *The Jazz Review* 1(1) (1958): 6–21.

⁹ Kenneth E. Prouty, “View of The ‘Finite’ Art of Improvisation: Pedagogy and Power in Jazz Education,” *Études Critiques En Improvisation* 4, no. 1 (2008): 1.

1960s innovators—provided rich theoretical fodder for Schuller to distinguish jazz melodic and harmonic relationships from a classical conception.

Although Schuller’s European analytical lens has sustained much criticism, his approach has nevertheless remained foundational for scholarship on pre-1960s jazz.¹⁰ Theoretical engagement with improvisors remained in the music-theoretical disciplinary minority through the 1980s, diversifying in approach through the contextual turn of the New Musicology in the 1990s. Classical music theories were gradually extended and brought into dialogue with jazz pedagogy to codify various aspects of jazz theory. Efforts such as Barry Kernfeld’s 1981 thesis, “Adderley, Coltrane, and Davis at the Twilight of Bebop: the Search for Melodic Coherence (1958-59)” declares Kernfeld’s agenda of advocating for jazz’s legitimacy, but through established—and as was the norm at the time—classically derived theories.¹¹ In establishing foundations for jazz analysis, Kernfeld uses common frameworks of phrase, motive, prolongation, and ornamentation. Brian Levy argues that, while useful, these devices alone omit

¹⁰ For Schuller’s influence and an extensive critique of his 1958 analysis, see Benjamin Givan, “Gunther Schuller and the Challenge of Sonny Rollins: Stylistic Context, Intentionality, and Jazz Analysis,” *Journal of the American Musicological Society* 67, no. 1 (2014): 167–237; Paul Steinbeck, review of *Review of A Power Stronger than Itself: The AACM and American Experimental Music*, by George E. Lewis, *Journal of Music Theory* 51, no. 2 (2007): 334.

¹¹ Kernfeld Barry Dean, *Adderley, Coltrane, and Davis at the Twilight of Bebop: The Search for Melodic Coherence (1958-59)* (Ann Arbor, Mich: University Microfilms International, 1981).

relationships between ensemble members, while Smither argues that this kind of analysis takes the status of the referent for granted as a fixed structure. The history of “taxonomies” in the wake of Schuller is subsequently one of slowness to respond to musicology’s concerns about social and historical context. As a result, there is a trend for the technical literature to neglect interaction or socio-cultural resonances, as a converse to the critique made in Chapter 1 that socio-historical accounts rarely engage the music’s technical details in significant depth.

Technical Perspectives on Coltrane and Coleman

Given the many volumes that have been written about Ornette Coleman and his profound influence and politics of freedom, it is surprising how little literature engages the music directly. Coleman’s analytical neglect contrasts the large number of articles and theses offering technical analyses of Coltrane. In many ways, Coleman’s Harmolodics is the more revolutionary approach, at least until Coltrane’s final three years 1965-67 when his ensemble reached levels of appositional playing commensurate with what Coleman’s ensembles established years earlier. Several key scholarly efforts show the stakes involved in more fully connecting Coleman’s theory of Harmolodics to his practice and its politics. This section outlines some of the key authors discussing technical aspects of Coleman’s playing, while a systematic engagement with Coleman’s theory of Harmolodics appears in the Chapter 4 case study.

Ekkehard Jost begins an effort to steer away from taxonomies in his seminal 1974 book *Free Jazz*. Although he argues that “European musical terms can be applied only in

a very limited sense to free jazz,”¹² Jost nonetheless relies on conventional classical music theory to articulate how jazz is constituted differently in its deployment of tonality, atonality, rhythm and form. He grapples with numerous artists, but most significantly with Coleman’s resistance to the referent and its subsequent omission.

Jost develops the idea of “motivic chain association” describes the way Coleman’s phrases are structured not according to keys or cadences, but by the conclusion of one forming the germ of the next.¹³ A string of horizontal melodic iterations prioritise motivic connections, while pivoting freely between keys and obscuring or disrupting form.¹⁴ Jost never mentions Harmolodics by name, largely because Coleman worked with its principles since 1959, but only named it publicly from 1972.¹⁵ Jost nonetheless articulates one of the key mechanisms of Coleman’s theorisation: melody as a master trope, in whose service all the normally hierarchical musical elements are treated as equals. Typical of this period of scholarship, Jost gives a broad biographical overview of several artists, establishing their musical perspectives, approaches and some of their socio-cultural allegiances.

In the early 1990s, Steven Block applied set theory to the free jazz of Coltrane, Coleman, Cecil Taylor, and Anthony Braxton. Among this broader group, Block demonstrates that appositional playing presents a range of atonal and non-tonal relationships that are far more systematic than listening alone can reveal. Some

¹² Jost, *Free Jazz*, 74.

¹³ Jost, *Free Jazz*, 50.

¹⁴ Jost, *Free Jazz*, 50.

¹⁵ Litweiler, *Ornette Coleman: The Harmolodic Life*, 57, 147.

technical relationships are obvious such as transposition transformations, but many are less obvious: for example inversion, pitch-class transposition (rather than pitch transposition), and set-class saturation.¹⁶ For Block, these systematic musical structures provide evidence for musicians' claims of well-practised and theorised technical materials that resemble twentieth-century compositional transformation operations.

Contrastingly, Eric Charry approaches Coleman's disruption of the referent via a corpus study of the solo forms through his early period of 1958–1962. Charry's 1997 article compares Coleman's composed forms to the form during improvisation. He shows a gradual shift from intact, standard jazz forms through gradual stages of obscuring the referent until its frequent omission during solos by 1961.¹⁷ Charry's transcribed examples outline the relationships between rhythm section and referent, providing a nuanced view of a gradual stretching of the ensemble-referent relationship. This study and its claims have been foundational for the work of several musicological authors, yet has received very little music-theoretical engagement since.

Rush's aforementioned 2017 book demonstrates how Coleman and others enact Harmolodic ideas of interaction and freedom are enacted through "pan-tonality."¹⁸ Rush

¹⁶ See both Steven Block, "Pitch-Class Transformation in Free Jazz," *Music Theory Spectrum* 12, no. 2 (1990): 181–202; Steven Block, "Organized Sound: Pitch-Class Relations in the Music of Ornette Coleman," *Annual Review of Jazz Studies* 6, no. 1 (1993).

¹⁷ Charry, "Freedom and Form in Ornette Coleman's Early Atlantic Recordings."

¹⁸ "Pan-tonality" is the term used by jazz theorist George Russell to distinguish

provides a much-needed update and wide-ranging commentary on Coleman's music, augmenting his interactive and cultural commentary with short analytical examples. Its technical contributions points towards the sounded music as a substantiation of the technical and interactive principles of Harmolodics.

In other technical literature, there are but a handful of theses that taxonomise Coleman's melodic vocabulary or focus on the composed abstraction of his compositions. Most of the remaining work on Coleman focuses on the politics of freedom with only a cursory engagement with the recorded music.¹⁹

By contrast, Coltrane has received much more sustained technical attention. Lewis Porter's landmark 1997 book, *John Coltrane: His Life and Music*, provides an extensive narration of Coltrane's extensive recorded oeuvre punctuated with analytical vignettes. Porter's ambitious book brings together a great deal of Coltrane's context, his philosophical, religious, and musical perspectives with analysis, all in one location. It is still regarded as the definitive account of how Coltrane's philosophy and religion played

Coleman's approach from European atonality, though Schoenberg also used the term during the early twentieth century to describe his early emancipatory compositions. See George Russell and Martin Williams, "Ornette Coleman and Tonality," *The Jazz Review*, June 1960; Edward Pearsall, *Twentieth-Century Music Theory and Practice* (Oxford, United Kingdom: Taylor & Francis Group, 2011), 2.

¹⁹ For examples, see Maria Golia, *Ornette Coleman: The Territory and the Adventure* (Reaktion Books, 2020); Frink, "Dancing In His Head: The Evolution of Ornette Coleman's Music and Compositional Philosophy"; Howard Mandel, *Miles, Ornette, Cecil: Jazz Beyond Jazz* (Florence: Taylor and Francis, 2010).

out in specifically musical terms. His expansive music-theoretical appetite covers tonality, scales, harmonic superimposition, form, rhythm, and timbre. The book also gives a substantive ethnographic account of Coltrane's artistic conception, that of his colleagues, and their social context. His largely motivic and harmonic analysis makes some connections between Coltrane's philosophies and aesthetic. This relationship is foregrounded in Porter's discussion of *A Love Supreme*, which connects Coltrane's musical transcendence to the transposition of the album suite's central melodic motive relentlessly through twelve keys.

While Porter sews together many technical and social threads, there remains further scope to connect the technical details to interactive dynamics. It is here that Brian Levy encounters Porter, diagnosing a more fundamental problem: a primary concern with "symbols of unity," while neglecting an "astonishing degree of discord and opposition."²⁰ From a technical perspective, when appositional playing is such a substantial part of the music, Levy argues that focusing on ways the music aligns or "coheres" is looking for the wrong kind of glue holding the music together. For him, states of opposition in 1960s jazz are at least as significant as states of alignment.

While Levy's framing of "opposition" was addressed in the previous section on interaction, Coltrane's music during his late period (1965–67) nonetheless presents a particular challenge. The density, speed, and complexity of his improvisation reaches its maximal extent of harmonic and rhythmic superimposition, increasingly over a constant drone rather than harmonic progressions.²¹ This period is regarded by many as the

²⁰ Levy, "Harmonic and Rhythmic Oppositions in Jazz," 83.

²¹ Lewis Porter, *John Coltrane: His Life and Music* (University of Michigan Press,

spiritual and technical end-point of Coltrane’s quest for musical and spiritual transcendence, and perhaps for this reason has historically been dismissed or engaged only for its spiritual or aesthetic dimensions.²² The music’s density renders listening alone inadequate for surmising how he achieves such all-encompassing, transcendent musical affect. Nevertheless, several authors have recently mounted music-theoretical attempts.

Jeff Bair’s 2003 thesis was the first to establish two important theoretical points about Coltrane’s late period. Firstly, that the reputation for Coltrane’s systematic engagement with Nicolas Solonimsky’s *Thesaurus of Scales and Melodic Patterns* is substantiated by ethnographic and analytical evidence; and secondly that even at their most aesthetically dense, his improvisations retain surprisingly systematic harmonic structures. In particular, he continues to use key centres in major thirds derived from his “Giant Steps” period, and numerous other symmetrical concepts. Bair’s work was the first sustained study of his late period to show that the surface appearance of reckless abandon—easily interpreted through the “reality of the sweating brow” as “angry-jazz” or “anti-jazz”—is in fact astonishingly highly structured. Further, even his most adventurous passages build directly on the musical materials of his earlier, more mainstream innovations and relate to his famous music-theoretical diagrams. Saxophonist Dave Liebman’s earlier 1996 article traces this theme of symmetry through Coltrane’s 1965 Meditations Suite, in which his intimate knowledge of Coltrane’s music shines, but is never theoretically developed to the extent that Bair achieves.

1997), 209.

²² O’Gallagher, “Analysing Pitch Structure,” ii.

Other music-theoretical efforts to dispel the “chaotic myth”²³ about late Coltrane have turned to set theory. John O’Gallagher’s 2020 article and 2021 thesis employ a contemporary and more varied conception of set theory to focus entirely on Coltrane’s late period.²⁴ His hybrid methodological approach centres on Rahn’s 1980 set theory, augmented by a pluralistic use of “post-tonal analysis, functional harmony, jazz harmonic approaches, jazz improvisational practices, and voice-leading approaches.”²⁵ Examining Coltrane’s late period, O’Gallagher substantiates systematic deployment of specific symmetrical scales and governing pc-sets. He confirms Bair’s assertion of prominent major third cycles, while adding further details on Coltrane’s deployment of octatonic sets. This practice includes transpositional transformation, registral distribution, and voice leading characteristics, with much greater detail and scope than Block’s initial work. There is some allusion to interaction between instruments in O’Gallagher’s 2020 article, but only insofar as they inform the coordination of pc-sets.

Both Block and O’Gallagher’s analyses—besides primarily engaging Coltrane’s improvisation alone—are theoretically grounded more in set theory than transformations per se. Though substantial technical contributions in their own right, they ultimately give a sense more of what the music *is* than what it is *doing*. Bair, Liebman, Block, and O’Gallagher substantiate jazz’s technical musical culture and

²³ O’Gallagher, “Analysing Pitch Structure,” 271.

²⁴ O’Gallagher, “Pitch-Class Set Usage and Development in Late-Period Improvisations of John Coltrane”; O’Gallagher, “Analysing Pitch Structure.”

²⁵ O’Gallagher, “Analysing Pitch Structure,” 277.

musicians' theorisation, but don't explicitly set up transitions towards integrating this information with the remainder of the ensemble.

In order to make this pivot, it is necessary to develop theoretical tools that are suited to illuminate interaction. This includes both the suitability of the technical apparatus to engage with multiples and simultaneity, but also its underpinning values compatible with an Afrological hearing of the music.

Lewin's "Transformational Attitude"

Transformational analysis provides one alternative that possesses both diverse visual methods to assist with complexity, and underlying values oriented towards motion and action. Its well-developed mathematical foundations are leveraged best through its diverse array of visual metaphors and mappings of movement that extend traditional theories of harmony and rhythm. I refer here to transformational analysis particular as it has been applied to harmony, within which is nestled its perhaps best-known appearance as Neo-Riemannian Theory (NRT). NRT and transformational analysis more broadly have been applied very sparingly to improvisation, and not to appositional playing specifically. However, several authors have suggested transformational analysis's potential for studying jazz. In particular, Steven Rings sees NRT's advantage for "interpretive pluralism," attributed to its flattened hierarchy, ambivalence towards tonal function and foregrounding of movement.²⁶

²⁶ On Neo-Riemannian values, see Steven Rings, *Tonality and Transformation* (Oxford University Press, 2011), 20; Dmitri Tymoczko, *A Geometry of Music: Harmony and Counterpoint in the Extended Common Practice* (New York: Oxford University

David Lewin was not only foundational in recuperating and redeveloping Hugo Riemann's theory toward its modern form in the 1980s, but also holds substantial influence for analysts more broadly. His phenomenological framework commits to prioritising musical perception over theoretical premises, so as not to restrict our conception of how sounds operate.²⁷ In particular, he uses his perceptual model—the “p-model”—as a technology to explore the ways in which perception constantly revises musical relationships through processes of retention, protention, implication, realisation, and denial.²⁸ Lewin explicitly critiques the limitations of the “Euclidean/Cartesian score-plane” for its ontology that suggests reified objects with only a singular function. By pre-conceiving a musical event as a thing that is instead of contextually determined multiple possible hearings, he asserts, “we begin trying to deny and suppress various of our perceptual phenomena...not realizing that our conceptual tools are inadequate for the analytic task at hand.”²⁹ Instead, the p-model's perceptual basis allows for multiple ways a musical event can be heard, based on its many possible contexts:

Press, Incorporated, 2011); Dmitri Tymoczko, *Tonality: An Owner's Manual* (Oxford University Press, 2023).

²⁷ Brian Kane, “The Madeleine and the Rusk: From Morgengruß to ‘Phenomenology,’” in *David Lewin's Morgengruß: Text, Context, Commentary*, ed. David Bard-Schwarz and Richard Cohn (Oxford University Press, 2015), 136.

²⁸ Kane, “The Madeleine and the Rusk,” 137.

²⁹ David Lewin, “Music Theory, Phenomenology, and Modes of Perception,” in *Studies in Music with Text*, ed. David Lewin (Oxford University Press, 2006), 81.

[O]ur model enables us to bypass certain false dichotomies in analytic discourse, dichotomies that arise when we implicitly but erroneously suppose that we are discussing one phenomenon at one location in phenomenological space-time, when in fact we are discussing many phenomena at many distinct such locations.³⁰

Lewin's phenomenology is largely post-Husserlian, in that he maintains not only the grounding of listeners' perceptions in a context of intentions and expectations, but their embodiment. Brian Kane interprets that for Lewin, music-making and perception are active processes of doing and not just understanding, and thereby "makes a gesture toward the necessity of developing music theories that link perception with creation."³¹

This embodied perception is perhaps best captured in Lewin's notion of adopting a "transformational attitude." This position reconsiders harmonic function as motion between a musical space (s) and a particular goal (t). Through his oft-cited, "If I am at s and wish to get to t, what characteristic gesture ...should I perform in order to arrive there?", Lewin implores us to take "the attitude of someone inside the music, as idealized dancer and/or singer."³² In his explication of Riemann's potential—recuperated and transformed under NRT—he argues that Riemann missed the most profound

³⁰ David Bard-Schwarz et al., eds., "Morgengruß by David Lewin," in *David Lewin's Morgengruß: Text, Context, Commentary* (Oxford University Press, 2015), 79.

³¹ Brian Kane, "Excavating Lewin's 'Phenomenology,'" *Music Theory Spectrum* 33, no. 1 (2011): 27.

³² David Lewin, *Generalized Musical Intervals and Transformations* (Oxford University Press, 2007), 159.

implication of his own theory: “that he was conceiving 'dominant'...as something one *does* to a [sound] [emphasis in original].”³³ Lewin thereby reframes theoretical function as action, with the focus becoming motion through time and querying the agency that underpins motion(s).

Lewin’s emphasis on agency—positioning oneself “inside” the music, and the action orientation of “characteristic gestures”—helps us to hear jazz through relationships rather than function. After all, Lewin’s position of analytical multiplicity and the embodied shaping of perception by skilled intentionality resonates very closely with research on improvisation and on embodied cognition.³⁴

However, for Kane, there remains a tension even within Lewin's own writing between his advocacy for a perceptual/embodied analysis and some of his own formal and mathematical writings. Although his self-reflexive methodology makes bold strides in centring perception and multiplicity, for Kane, “it will not get you into the promised land of a music theory that models the perpetual link between perception and creation—closer, but still no cigar.”³⁵ Despite trying to reorient ourselves to a view “inside the music”, Lewin himself notes the incompleteness of his project, saying that, “[t]his link in the chain of perception-and-creation is missing in the perceptual theories we have so far considered, including my own p-model...Perhaps the link can

³³ Lewin, *Generalized Musical Intervals and Transformations*, 177.

³⁴ Einarsson and Ziemke, “Exploring the Multi-Layered Affordances of Composing and Performing Interactive Music with Responsive Technologies,” 8.

³⁵ Kane, “Excavating Lewin’s ‘Phenomenology,’” 34.

eventually be forged...”³⁶ This problem is both more complicated and more important for jazz. More complicated, because appositional playing introduces multiplicity beyond the compositions that Lewin is considering. More important, because of the increased imperative to refocus our music-theoretical gaze toward listening for agency.

Adapting Lewin’s “Transformational Attitude” to Jazz

De Souza’s 2022 article attempts to bridge the gap between Lewin’s explanation of the “transformational attitude” and its application to jazz. Through the case study of George Garzone’s improvisation method—the Triadic Chromatic Approach (TCA)—De Souza explicitly seeks to clarify what constitutes a view “inside the music” in an improvisational context. He outlines the transformational mathematics through which Garzone’s TCA accesses *apart* sounds: chromatically linked, more or less randomly selected triads in non-consecutive inversions. De Souza then adopts a probabilistic perspective on the TCA, demonstrating that it tends to land on all 12 tones sooner rather than later, offering many opportunities to achieve resolution to a given harmony, regardless of how distant they become.

De Souza considers how the entrainment of the TCA plays out during improvised interaction. For Garzone and many fellow TCA practitioners, moving from the “rules” to a musically intuitive approach requires the rules to recede and allows results to emerge. De Souza draws on Tim Ingold’s anthropological analogy of basket weaving to characterise how materials act on the weaver as much as the weaver acts on the materials: “[t]o improvise is to follow the ways of the world, as they open up, rather than

³⁶ Lewin, “Music Theory, Phenomenology, and Modes of Perception,” 100.

to recover a chain of connections, from an end-point to a starting-point, on a route already travelled.” In the same way, the moves of the TCA, however entrained, are not meant to be performed in a pre-conceived manner but are the (basket weaving) fabric with which the improviser intuitively works. According to De Souza,

It is about following melodic pathways as they unfold; it is, in Garzone’s words, about “coming around the corner.”... This method focuses on process over product, but a set of techniques that help to cultivate a musical orientation, a certain improvisational attitude.³⁷

For De Souza, Garzone’s improvisational strategy reveals a conflict between the local and general level. In a duo setting with guitar, the two musicians do intend to “find each other” eventually, but on a local level they “prioritized the ‘characteristic gesture’ itself.”³⁸ In contrast to starting with an end-goal (t), De Souza posits that improvisation may have no end-goal, an ill-defined goal or multiple goals. In this emergent process, musicians can’t know, except in general terms, what lies “around the corner” past which they can’t see. De Souza sums up the improvisational view from “inside the music” by saying, “truly inhabiting a space means giving up pretensions to an all-seeing Cartesian view, accepting the limits of perspective.”³⁹

³⁷ Jonathan De Souza, “Melodic Transformation in George Garzone’s Triadic Chromatic Approach; or, Jazz, Math, and Basket Weaving,” *Music Theory Spectrum* 44, no. 2 (2022): 227.

³⁸ De Souza, “Melodic Transformation,” 228.

³⁹ De Souza, “Melodic Transformation,” 228.

De Souza ultimately diagnoses Lewin's problem as follows:

[w]hile the intervallic attitude derives measurements from fixed points, the transformational attitude must prioritise action.... The characteristic gesture, in this view, is not derived from s and t; rather, it can reveal them.⁴⁰

De Souza's improvisational perspective downplays measuring distance in favour of exploring the path. In other words, De Souza is interested in following each "characteristic gesture" to see where it leads and how it moves, rather than measuring the dimensions of the motion as a *fait accompli*.

De Souza's reorientation closely aligns with the earlier discussion in this thesis about listening for agency, and the vital aspect of listening for how it might otherwise have gone. He emphasises the contingency of the path that emerged in this specific instance, thereby bringing the analyst into closer alignment to the listener, who, in the moments after leans in wondering, "how will others respond to *that*?"⁴¹

⁴⁰ De Souza, "Melodic Transformation," 228.

⁴¹ This reorientation of analysis produces further alignment between the positions of listener-analyst and musicians. Under a hermeneutic view, production and reception is commonly divided into three parts: creation or *poiesis*, the trace (generally held as the neutral object), and its reception or *esthesis*. In contrast to compositional analysis which is generally divided into *poietic* and *esthetic* processes, the musicians themselves are listening and responding as they create. This practice leads Hodson and Lewis to argue that, because musicians respond to what they hear in real time, listening and *esthesis* is embedded within *poiesis* in group improvisation (Hodson 2007, 16,

De Souza's "action first" approach means that, in relation to apart playing, dissonance is treated as an emergent quality, not an *outside* that necessitates squaring with an *inside*. In fact, as De Souza points out throughout his analysis, appositionality is entirely the point of Garzone's approach. De Souza advocates not for Lewin's "distance between s and t" as a measurement, but for the "transformational attitude [that] remains open to multiple pathways."⁴² By deprioritising fixed points and instead

Lewis 1996, 109). Therefore, the listener's perspective is an inseparable part of jazz musicking. Furthermore, Steinbeck asserts that jazz performers are in some sense perpetually listening and analyzing, but an analysis that is "always oriented toward action" (Steinbeck 2017, 17). Consequently, theory is embedded within the entrainment and skilled intentionality of decision-making, leading Chris Stover to characterize jazz theory and practice as "complexly intertwined" (Stover 2021, 29). The consequence of the embedding of esthesis within the poiesis of jazz group improvisation is an alignment of the listening posture of the analyst with that of the improvising musicians. Care needs to be taken not to claim hearing in the same way as the musicians, made clear by the degree to which perception is shaped by skilled intentionality (Einarsson and Ziemke 2017, 8). However, this entanglement weighs in favour of the legitimacy of De Souza's position: following "characteristic gestures" without "pretensions to an all-seeing Cartesian view, accepting the limits of perspective."

⁴² De Souza, "Melodic Transformation," 228.

foregrounding action, “[t]he characteristic gesture...is not derived from s and t; rather, it can reveal them.”⁴³

Limitations of Current Transformational Approaches to Jazz

Transformational theory and NRT’s contribution to the jazz literature are mostly grounded in their prioritisation of motion and destabilisation of hierarchies.⁴⁴ However, there remain underpinning assumptions within these theories that don’t fully address the political-aesthetic implications of Black radical music, particularly the discourse on noise discussed in Chapter 1. Embedded in these theories is an underlying drive to find the kind of formalisable relations between sounds and harmonies that Black radical authors argue the music resists and exceeds. For Lewin, coming to terms with the “characteristic gesture” is still grounded in a destination of some kind of resolution. Even for De Souza, there is an implicit goal of “finding each other” that, while explicitly stated by Garzone, omits other states of being that *don’t* seek unification or being found. This is not to claim that harmonic resolution is not a common element of jazz improvisation, or that Garzone is mistaken in his goals. Rather, I point out that transformational analysis and NRT, via their formalisable relations, reveal an underlying commitment to formal coherence as a driver of aesthetic value. The critique of Moten and others discussed in Chapter 1 compels a degree of caution about what elements of expression—of noise, excess, or refusal—are missed or misinterpreted within a formalised system.

⁴³ De Souza, “Melodic Transformation,” 228.

⁴⁴ Rings, *Tonality and Transformation*, 20.

Careful consideration must be given to reconciling the tension between congruous musical gestures and elements of noise or excess, in music where both are simultaneously at play. Moten, for example, hears the “lyricism of the surplus” in more traditional Black music as much as he hears it in the avant-garde. The question remains of how to make music-theoretical room for one without neglecting the other. These issues are unresolved, but should remain in the back of the reader’s mind as we continue to consider what benefits transformational theory may bring for appositional playing. With these broad issues identified, I will now consider the advantages and limitations of current transformational theory more broadly and NRT in particular, applied to various cases of jazz and improvisation.

Although transformational analysis has proven useful for jazz chromaticism, its applicability for improvisation has only been partially explored. Further to the set theory of Block and O’Gallagher discussed earlier, Steven Strunk and Keith Waters both show the chromatic logic of several of Corea’s compositions.⁴⁵ The unique three-dimensional *Tonnetz*—introduced by Williams and Waters—uniquely unites transformations through diatonic, acoustic, octatonic and hexatonic sets, applied to a composition by Miles Davis.⁴⁶ Garrett Michaelsen develops Dmitri Tymoczko’s scale transformations to trace

⁴⁵ Steve Strunk, “Tonal and Transformational Approaches to Chick Corea’s Compositions of the 1960s,” *Music Theory Spectrum* 38, no. 1 (2016): 16–36; Keith Waters, “Chick Corea and Postbop Harmony,” *Music Theory Spectrum* 38, no. 1 (2016): 37–57.

⁴⁶ J. Kent Williams and Keith J. Waters, “Modeling Diatonic, Acoustic, Hexatonic, and Octatonic Harmonies and Progressions in Two- and Three-Dimensional Pitch

chord-scale networks in the compositions of Wayne Shorter.⁴⁷ However, appositional playing in some ways exceeds the scope of these authors. While immensely useful, these studies focus primarily on certain styles of compositions that use ostensibly tertian harmony. They rely on formal operations that require harmonies of consistent cardinality to make mathematical sense. This approach is far too neat for improvisational practices that range from single notes to dense chromaticism, which are forced into convenient abstractions.

Michaelsen, by relating harmonic information back to parent scales, compares Shorter's solo to the composition with a focus on Shorter's solo line. Guy Capuzzo's Neo-Riemannian examination of Pat Martino's improvised approach goes some way towards getting "inside" the improvisation akin to what De Souza advocates. The unexplored potential and challenge here is to move beyond Capuzzo's theoretical consideration to engage a substantial analysis of a performance.⁴⁸

As a technical apparatus, conventional transformational approaches require some adaptation to cope with higher or varied cardinalities, or multiple harmonic spaces simultaneously. Theoretically, authors have generally made progress on one problem but not the other. For instance, Dmitri Tymoczko's three-dimensional

Spaces; or Jazz Harmony after 1960," *Music Theory Online* 16, no. 3 (2010).

⁴⁷ Garrett Michaelsen, "Chord-Scale Networks in the Music and Improvisations of Wayne Shorter," *Gamut: Online Journal of the Music Theory Society of the Mid-Atlantic* 8, no. 1 (2018): 66.

⁴⁸ Guy Capuzzo, "Pat Martino's The Nature of the Guitar: An Intersection of Jazz Theory and Neo-Riemannian Theory," *Music Theory Online*, 2006.

generalised *Tonnetz* allows voiceleading between four-note chords,⁴⁹ and encompasses a more wholistic examination of tonality.⁵⁰ However, reading multiple harmonic spaces in three dimensions is visually problematic. Sonia Cannas and Moreno Andreatta develop a generalized *Tonnetz* for seventh chords integrating a wider range of four-note harmonies under one networked view, but requires idealised four-note seventh chords.⁵¹ While foundational works by Richard Cohn and Julian Hook do not reach towards higher cardinalities, they do show the immense benefits of clarifying visuals for drawing out harmonic motion.⁵²

Variations on the torus, as developed by Jason Yust, can encompass higher cardinality but retain idealised harmonies, not necessarily representative of actual pitches sounded in an improvisation.⁵³ More recent outgrowths of NRT include Discrete

⁴⁹ Dmitri Tymoczko, “The Generalized *Tonnetz*,” *Journal of Music Theory* 56, no. 1 (2012): 44.

⁵⁰ Tymoczko, *A Geometry of Music*, 264; Tymoczko, *Tonality: An Owner’s Manual*, 9, 561.

⁵¹ Sonia Cannas and Moreno Andreatta, “A Generalized Dual of the *Tonnetz* for Seventh Chords: Mathematical, Computational and Compositional Aspects,” *Bridges Conference Proceedings*, 2018, 305.

⁵² Richard Cohn, *Audacious Euphony: Chromatic Harmony and the Triad’s Second Nature* (Oxford University Press, 2012); Julian Hook, *Exploring Musical Spaces: A Synthesis of Mathematical Approaches* (Oxford University Press, 2023).

⁵³ Jason Yust, “Generalized *Tonnetze* and *Zeitnetze*, and the Topology of Music Concepts,” *Journal of Mathematics and Music*, March 2, 2020, 1–34.

Fourier Transform (DFT), which decomposes any pc-set into a sum of periodic components, revealing how strongly it projects each interval cycle (thirds, fourths, tritones, etc.) as a magnitude in Fourier space. Where NRT works geometrically and relationally (mapping voice-leading between triads and seventh chords on a *Tonnetz*), DFT characterises *any* pc-set by its interval content, giving an overall picture of the harmonic syntax in a defined window, e.g. diatonic, chromatic, octatonic, hexatonic structures.⁵⁴ Although a powerful analytical tool, DFT is unable to give resolution at the scale of musical gestures, or compare simultaneous gestures to each other. Each of these approaches would still miss directing our ears toward individual musicians and hearing how interaction plays out on a more intimate time scale.⁵⁵

Williams and Waters's case study of Miles Davis's "Vonetta" mentioned above achieves a technical apparatus closer to what jazz needs in two respects. Firstly, it is a three-dimensional *Tonnetz* that relates multiple kinds of tonalities or scales at once,

⁵⁴ Jason Yust, "Probing Questions About Keys: Tonal Distributions Through the DFT," in *Mathematics and Computation in Music*, vol. 10527, ed. Octavio A. Agustín-Aquino et al., Lecture Notes in Computer Science (Springer International Publishing, 2017), 167–79; Jennifer Diane Harding, "Computer-Aided Analysis Across the Tonal Divide: Cross-Stylistic Applications of the Discrete Fourier Transform," paper presented at Music Encoding Conference 2020, May 14, 2020.

⁵⁵ Though the focus here is on harmonic space, Yust's generalized *Zeitnetze* as a rhythmic equivalent to the pitch-based *Tonnetz* may be fruitful for exploring rhythmic oppositions.

and can be flattened—at least one part at a time—into two dimensions. Secondly, it is only limited to lower cardinalities in the same respect as the standard *Tonnetz*: in order to preserve formal operations such as rotations and translations. If we do not care so much about formal operations, the types and cardinalities that can be represented become more flexible. In 2024, Rich Pellegrin leveraged Williams and Waters’s *Tonnetz* to perform a transformational “jazz session.” He uses transformations to explore the potential of commonly practiced jazz voicings to imply a wide range of parent harmonies. Pellegrin shows how transformations through these practical voicings provide access to harmonic alternatives, apart or otherwise, via their horizontal voiceleading motion.⁵⁶ The only limitation of Williams and Waters’s three-dimensional *Tonnetz* is that it does not lend itself to multiple harmonies simultaneously, because reading it requires sections to be flattened out one at a time into two dimensions.

There is an opportunity here created by De Souza’s reconstruction of the “transformational attitude,” but we need to develop new methods to take advantage of it. How are we best to exploit the clear alignment of analytical values—of motion and destabilised hierarchies— to represent interactivity? Dmitri Tymoczko’s theory of macroharmony provides a key avenue that, combined with NRT’s standard *Tonnetz*, provides a foundation for a new methodology.

⁵⁶ Rich Pellegrin, “A Transformational Approach to Superimposition in Contemporary Jazz Voicings,” in *Transformational Analysis in Practice: Music-Analytical Studies on Composers and Musicians from around the World* (USA: Vernon Press, 2024), 249–78.

Foundations for a New Animated Methodology

To account for the motion of interactive convergence and divergence, our harmonic apparatus needs both a synchronic account of complex harmony and a diachronic progression of events. My argument for a new methodology unfolds in two parts. Firstly, combining Dmitri Tymoczko's theory of *macroharmony* with the Neo-Riemannian *Tonnetz* affords a theoretical foundation for a visual means of reading multiple harmonies together. Secondly, I argue for the necessity and utility of animating the *Tonnetz* to sufficiently engage temporality of interactions.

To reconcile a broad array of harmonic materials under a banner of superimposed tonalities, Dmitri Tymoczko's 2011 framework of macroharmony proves fruitful. He accounts for highly chromatic music by providing a broad framework of tonality that also addresses specific localised chord movements. Although Tymoczko's mathematical work also expands geometric representations into three and four dimensions, macroharmony provides the most promising bridge between the geometry of chord movement and broader intersections of tonal regions.

Tymoczko's parsing of five elements of tonality: conjunct melodic motion, acoustic consonance, harmonic consistency, limited macroharmony, and centrality. Of these five, he especially foregrounds the harmonic consistency of scales, macroharmony and centrality.⁵⁷ In his conception, macroharmony is "the total collection of notes used over small stretches of time."⁵⁸ As a collection of notes, it

⁵⁷ Tymoczko, *A Geometry of Music*, 154.

⁵⁸ Tymoczko, *A Geometry of Music*, 4.

resembles how we typically use “scale.” Tymoczko instead redefines scale more specifically as a measure of distance: a “musical ruler.” For instance, adjacent scale tones in a seven-note scale may be a different pitch interval from adjacent tones in a five-note scale. Finally, centricity is the perception of gravity towards a more stable note in a collection, which may rely on context or other musical features besides the collection itself. Scale and centricity are therefore interpretations or specific characteristics of a particular collection. Despite being linked in historical practice, Tymoczko claims that macroharmony, scale and centricity operate independently.⁵⁹

Tymoczko’s more nuanced conception of tonality enables his conception of macroharmonic “consonance” and “dissonance” that differs from their conventional meaning. Rather than judging individual harmonies as synchronically consonant or dissonant, Tymoczko determines macroharmonic consonance or dissonance by comparing a particular part of the music to an aggregate collection over a small stretch of time.⁶⁰ A diatonic passage would be deemed macroharmonically consonant if it draws on a single diatonic collection. Macroharmonically dissonant music, by contrast, could be locally diatonic but modulate swiftly between unrelated keys, producing a parent collection approaching the chromatic scale.⁶¹ Alternatively, it might include audible dissonance as diatonic collections are superimposed, but these diatonic collections and their centricity—determined by their context—can be differentiated by

⁵⁹ Tymoczko, *A Geometry of Music*, 15.

⁶⁰ Tymoczko, *A Geometry of Music*, 32.

⁶¹ Tymoczko, *A Geometry of Music*, 133.

the way in which they are deployed as part of a larger macroharmony.⁶² By parsing the forces that contribute to harmonic complexity, Tymoczko articulates a more nuanced conception of tonality: one that enables closer analysis of complex modulation in highly chromatic music.

Tymoczko's distinction between the synchronic construction of harmonies and how they unfold diachronically leads to his assertion that in highly chromatic music, motion between macroharmonies takes on importance. He argues that as chromaticism increases, at some point "changes in macroharmony become more salient than the individual chords."⁶³ This description resonates closely not only with Lewin's "transformational attitude," but also with improvisational strategies of some jazz musicians. For example, McCoy Tyner emphasizes playing "through" a scale sound rather than focusing on individual notes.⁶⁴ Givan's article on 'apart playing' shows how the purposeful ambiguity of Tyner's quartal harmonies are an overt strategy for moving flexibly between tonalities and even superimposing them together.⁶⁵ The question then becomes, what technical apparatus will allow for this picture of moving parts to come together?

The proliferation of transformational theories in the last two decades has left a wide choice of methods. From these, I argue the two-dimensional *Tonnetz* enables

⁶² Tymoczko, *A Geometry of Music*, 140.

⁶³ Tymoczko, *A Geometry of Music*, 155.

⁶⁴ Ben Sidran, *Talking Jazz With Ben Sidran: Vol. 1, The Rhythm Section* (2006), 419.

⁶⁵ Givan, "Apart Playing," 274.

closer examination of how appositional playing is achieved harmonically, and the role of each musician in its creation. Unlike traditional staff notation, the *Tonnetz* provides a clear visual medium for analysing how musician's harmonic spaces relate to each other.

Despite issues in handling higher-level cardinality, the two-dimensional *Tonnetz*'s greatest strength is its readability. The standard *Tonnetz* [3,4,5] configuration as used by Richard Cohn is arranged in a grid on three axes to form triangles, each axis containing pitches in intervals of 3, 4, or 5 semitones. One axis spaces pitches in intervals of minor thirds, one in major thirds, and one in fourths. The standard configuration is therefore tuned to triads and tertian harmony, while other configurations better highlight specific intervals and bespoke harmonies. As cardinalities grow, diatonic tertian harmony accumulates to form quadrilateral harmonic regions. Macroharmonic areas constitute geographic regions on a map as shown in Figure 2.1(a) and (b) below. Hypothetical diatonic regions of D-major and F#-major are represented by grey trapezoidal shapes, with black showing the overlap between them and B \flat Dorian minor—the nominal tonic region of Coltrane's "Pursuance" in Chapter 3. Note that multiple iterations of the *Tonnetz* interval space are required to display more than one entire diatonic region simultaneously. Pentatonic scales can be displayed as rows of fifths, or alternatively grouped together as subsets of trapezoidal diatonic regions. The configuration of F-minor pentatonic in 2.1(c) has the advantage of both being a subset of a diatonic region, while also containing within it two triadic subsets.

Alternate *Tonnetze* based on interval class 2 or 3 may be more informative where syntax is less tonally derived, as is often the case analysing twentieth-century classical

composers. In contrast, the [3,4,5] *Tonnetz* makes transitions from diatonic to octatonic or hexatonic syntax more obvious, via either distinctive shapes or motion. In music where diatonic materials are still at play, retaining the standard *Tonnetz* easily highlights grouping into key centres. This arrangement is particularly appropriate for Coltrane's *A Love Supreme* which, though harmonically adventurous, is grounded in its immediate historical precedents of pentatonicism, tertian harmony and the blues. Similarly, Coleman's *Harmolodics* purposefully superimposes locally diatonic tonal centres. He specifically attaches ideas of resistance to this superimposition rather than a European serialist sense of atonality, a distinction previously mentioned in George Russell's use of *pan-tonality* to describe Coleman's music.

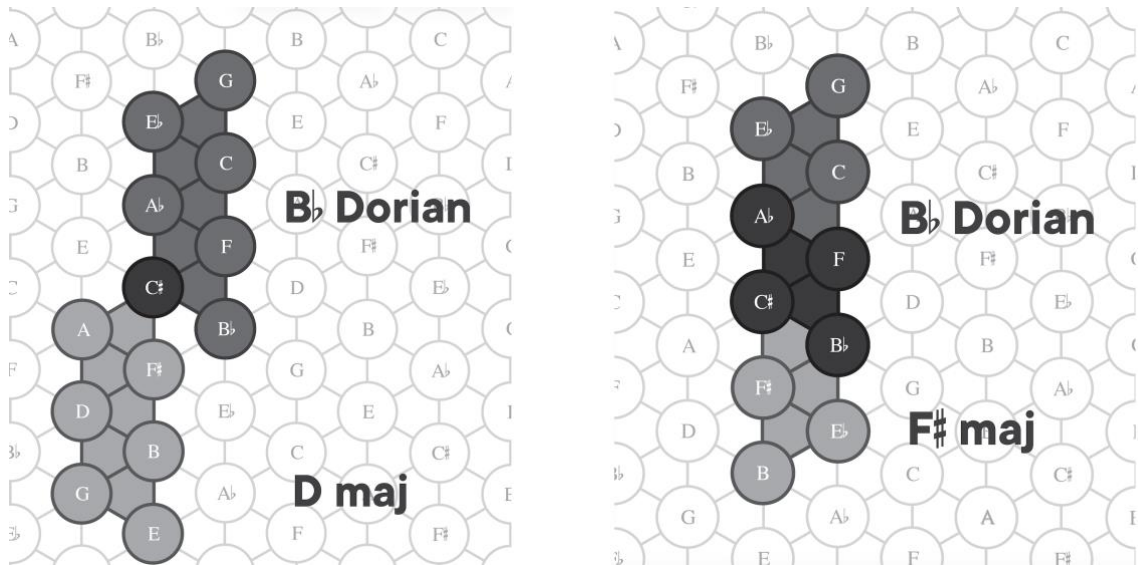
“Macroharmonic Regions” on the *Tonnetz*

Within Tymoczko's conception of macroharmony, the *Tonnetz* becomes a terrain through which we can trace both specific harmonic motion and broader tonal modulation. This method allows for easier visual comparison of tonal regions in similarity and contrast, and closer engagement of the actual notes being played rather than higher levels of abstraction from sounded gestures. Motion between macroharmonies is then represented by paths through pitch space over time, giving rise to an interactive picture musicians' harmonic interaction.

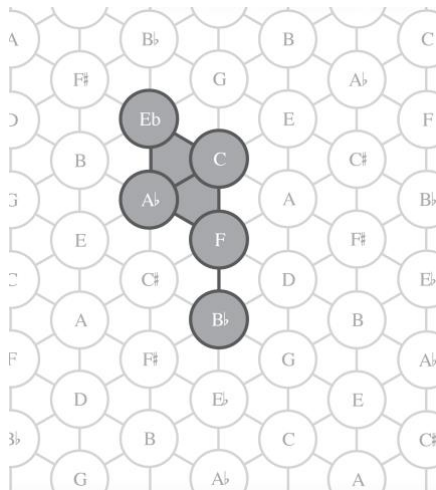
Whereas Tymoczko focuses on a composer's point of view, extending his framework to group improvisation presents additional challenges.⁶⁶ My emphasis therefore diverges slightly from Tymoczko's. Whereas he is primarily concerned with the

⁶⁶ Tymoczko, *A Geometry of Music*, 22.

total collection, I am concerned with the macroharmonic relationships between different musicians and their role within interactions. Thus, I maintain a sense of the macroharmonies deployed by individuals, to make clearer the role interaction plays in their combination to form larger macroharmonies.



(b)



(c)

Figure 2.1: A sample Tonnetz representation of the overlapping macroharmonic regions of (a) B \flat Dorian-minor with D-major, and (b) B \flat Dorian-minor with F \sharp -major. Each grey trapezoid represents one location of a diatonic region in a continuous Tonnetz. Overlap between regions

displays as black. 12(c) shows the F-minor pentatonic scale configured as a subset of a diatonic region.

The *Tonnetz* display these relationships by making harmonic convergence and divergence visible via areas of overlap and separation (Figure 2.1a and b). Areas of overlap can then be more easily identified as belonging to particular macroharmonic regions, providing an intermediate level of harmonic motion between individual sounded notes and tonal modulation. The *Tonnetz* provides a suitable medium to read multiple harmonies of varying cardinalities together, however something further is required for temporality. Static diagrams—as synchronic snapshots—cannot hope to capture the complexity of moment-by-moment interaction. For this reason, I argue that animation is necessary for engaging appositional playing. In the same way that Tymoczko’s framework of macroharmony provides a theoretical foundation for reading multiple harmonies on the *Tonnetz*, Eric Isaacson provides an argument for animating these diagrams, explored in the next section.

The Case for Animation

The complexity generated by simultaneous harmonic spaces becomes truly apparent as we consider tracing multiple relationships over extended periods. Even a solo improvisation, if it occurs over a referent such as a jazz standard, already generates multiplicity between the improvisation and the abstract referent. Within a solo improvisation, Brian Levy articulates how improvisors can play in internal appositionality with themselves, confirming or thwarting expectations created by protension and retention whether or not there is a referent. Adding additional musicians leads to simultaneous inter-musician and musician-referent relationships, the number

increasing exponentially with each additional musician.

Drawing on Garrett Michaelsen, Chris Stover characterises not only the expanding pool of relationships, but the interpenetration of improvisational knowledge-as-theory and knowledge-as practice:

...when jazz musicians experiment on the bandstand with harmonic substitutions or cross-rhythmic overlays, they are testing the boundaries of what a given tune is capable of in the context in which it is currently unfolding, and they are expanding the range of interaction-affordances that their collaborators may draw upon in next gestures.....[P]erforming musicians are themselves acting as theorists in that they are speculating about—and empirically testing—structure and meaning in the music they are right in the middle of articulating.⁶⁷

To some extent, temporal issues rub up against the ongoing challenge of analysing the static page: capturing temporal relationships in non-temporal media. One significant goal of music theory is the communication of conceptual meaning from moving trajectories. In other words, the analyst is responsible for interpreting a musical experience with many moving parts, and from it excavate underlying principles and publicly communicate them.⁶⁸ For group improvisation, however, temporality becomes even more important than the general sense in which all performance is temporal. Stover's conceptualisation of temporality as "currently unfolding" embeds in its present tense the promise of new group relationships in future moments. This notion of a

⁶⁷ Stover, *Reimagining Music Theory*, 47.

⁶⁸ Horton, "On the Musicological Necessity of Musical Analysis," 75.

churning temporality foregrounds interaction as the central agent of change. A series of static diagrams are thus ill-equipped for mapping the churning, charging energy of jazz practice that the frictions of interaction produce. Reintroducing temporality in the form of animations in this thesis provides one solution for representing relationships that are constantly drawn and redrawn. Temporality, multiplicity, solo-, and group- interactivity provide a basis to develop criteria in order to assess the benefits of still images and their animated alternatives. Isaacson provides some general criteria for animation which I will further augment.

Static diagrams have genuine practical advantages and are widely used for good reason. For Isaacson, a good still visualisation allows the context before and after the present moment to remain visible, and the viewer to retain control. Static diagrams leverage one of music theory's broad advantages: the ability to digest information about in-time events outside of time constraints. An overall picture can remain in view, allowing the reader to focus on particular details, taking their time to synthesize elements at their own pace. The past, present and future remain accessible, allowing easier connection of conceptually complex information than processing information in-time.⁶⁹

Although animation forces analysis back into time, Isaacson argues this drawback is outweighed when three general conditions allow our eyes and ears to process together: (1) when visuals are tied to the performance aspect that unfolds in-time; (2) information is too fine-grained or plentiful requiring more than a handful of

⁶⁹ Eric Isaacson, *Visualizing Music* (Bloomington, United States: Indiana University Press, 2023), 322.

images; or (3) requires mapping more than one aspect against a second axis, which is time.⁷⁰ Isaacson further qualifies that to access these benefits, information must remain visible to the viewer or, in the case of animation, they can pause and rewind.

From the discussion in this chapter, I add two further criteria that reach beyond Isaacson's, specific to group improvisation: (4) animation retains the temporal relationships between musical events, and (5) allows viewing of the discrete contributions of each musician in relationship to each other.

Current Static Diagrams in Music Theory

In recent years, several authors have developed more and more thoughtfully designed static diagrams, colour-coded scores, transformational groups, and graphs enabling much clearer tracking for the reader. Jennifer Harding's DFT website generates colour-coded graphs of harmonic syntax, overlaid through time, as seen in Figure 2.2.⁷¹ Harding leverages clear visuals to see the changing prominence of diatonic, octatonic, hexatonic etc syntaxes. However, as previously mentioned, its resolution is far too coarse for interaction, and could not distinguish among musicians as it only plots the aggregate harmony against time.

⁷⁰ Eric Isaacson, *Visualizing Music* (Bloomington, United States: Indiana University Press, 2023), 327.

⁷¹ Harding, "Computer-Aided Analysis Across the Tonal Divide," 101.

Messiaen Theme: 16-Beat Window, Onset

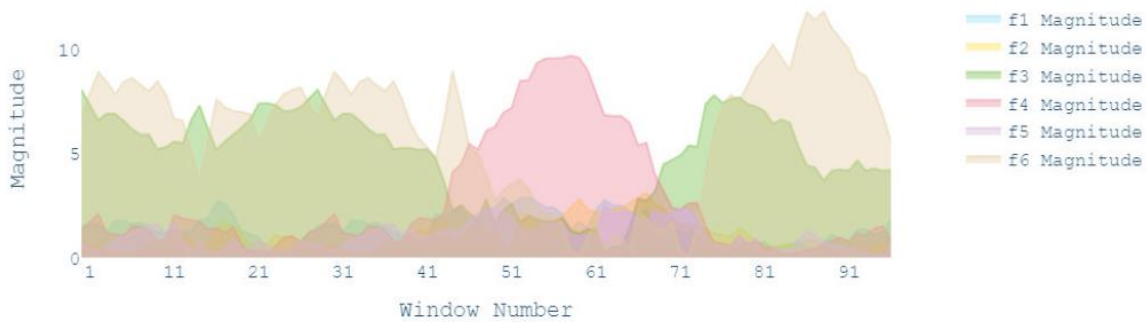


Figure 2.2: Harding’s figure 6 colour-coding the magnitudes of six Fourier components in the Theme from Messiaen’s *Theme and Variations for Violin and Piano*.

Within more established mathematical methods, Julian Hook’s 2023 book *Exploring Musical Spaces: A Synthesis of Mathematical Approaches* provides a comprehensive repository of approaches and visualisations of mathematical spaces. Although broad in scope, its primary focus on triadic harmony renders it initially unsuitable for extended jazz harmony. Like many music-mathematical methods however, it could, in principle, expand toward higher cardinalities or be applied instead to rhythm. In Figure 2.3. Hook’s path on the torus leverages Isaacson’s criteria for powerful still imagery. We can simultaneously view the harmonic path in its entirety, while digesting further detail. Individual moves (each 1 measure) are clear alongside the more structurally important two-measure blocks (“2m”). We even see how the end-point cycles back close to the starting point, showed by a dotted path that mirrors the upper right portion, in this infinitely repeating space. However, whether a torus based on chords or a *Tonnetz* based on individual pitches, this kind of image is already reaching information saturation. Adding multiple overlays of such paths on one diagram would quickly become illegible and confusing. For this reason—and the obvious focus on

composition—Hook’s visual tools are not easily adaptable for interactivity or simultaneity.



Figure 2.3: Hook’s figure 4.5.24, from Schubert’s String Quartet in G Major, D. 887 (Op. 161), Mvt I. (a) I, mm. 54–59; and (b) *Tonnetz* representation.⁷²

⁷² Hook, *Exploring Musical Spaces*, 158.

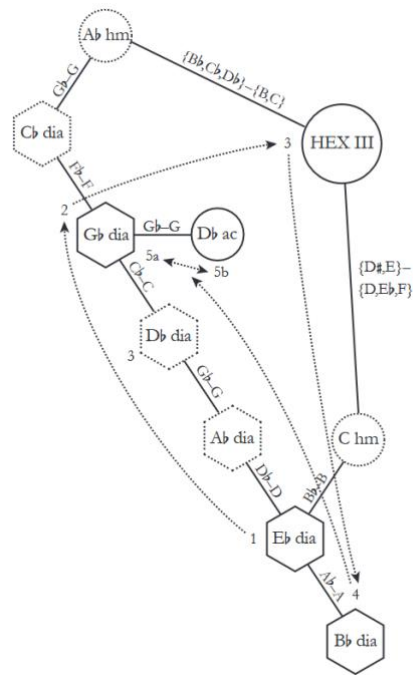


Figure 2.4: Garrett Michaelsen’s figure 12, showing a scale transformation network for Wayne Shorter’s solo on “Iris.”⁷³

In an alternative approach to higher cardinalities, Garrett Michaelsen applies Tymoczko’s scale-network theory to Wayne Shorter’s compositions, and then briefly to his improvisation. Shown in Figure 2.4, scale-networks have similar advantages to the torus for Hook, but instead tracks entire collections and voiceleading relationships between them. However, to compare Shorter’s solo choices to the referent, we would need to carefully compare two diagrams (as Michaelsen does) or somehow overlay them, even before considering what other ensemble members contribute and their interactions. By indicating the progression via a series of steps, these diagrams also obscure temporal relationships between harmonic information. In Hook’s example, the

⁷³ Michaelsen, “Chord-Scale Networks in the Music and Improvisations of Wayne Shorter,” 181.

resolution on harmonies is whole bars and similarly finer grained temporality.

One stunning example that leverages the strengths of static images and also includes animation is Joseph Straus's 2022 book, *The Art of Post-Tonal Analysis: Thirty-Three Graphic Music Analyses*, an example of which is shown in Figure 2.5. Straus's uncluttered still image design and colour-coded analyses make it clear how abstract harmonic transformations are brought together in post-tonal classic compositions. Each theoretical part explored in isolation is integrated into colour-coded context in the final score. The colours here denote technical relationships, tied to the score notation. Straus does provide very effective "explainer videos" that I revisit in the next section. This approach could be somewhat repurposed for interaction, but could not convey technical and interactive relationships at the same time without becoming far too cluttered, and digesting more than the length of example presented in Figure 2.5 would become fatiguing quickly.

Motto implicitly C# minor:
 $\hat{3} \hat{\#7} \hat{2} \hat{1}$
 E (B#) D# C#

Chord diagram labels:
 C# (circled), E+, G#-, G#+, A-, C-, A+, C+, C#- (circled).
 Middle section, First 4-note punctuating chord, Second 4-note punctuating chord, Overall tonic, Motto.

Transformational functions:
 P_{G#}, I_A, RI_A, RP_{G#}.

Score notation with lyrics:
 Voice: Die Son - ne kommt! Ein Prach - ter schei - nen!
 The sun comes! (A shin - ing splen - dor?)
 Clarinet in Eb (concert pitch)
 Der Si - chel - mond um - klam - mert sie wer kon - nte solch ein Paar solch ein Paar ver - ein - en?
 The cres - cent moon em - brace it. Who could such a pair, such a pair, unite?
 Dies Rät - sel wie er - klärt, wie er - klärt sich's? Wie?
 This riddle, (how is it explained?) (how can it be explained?) How?

Figure 2.5: Two of Straus's colour-coded transformational functions, subsequently mapped onto the score notation.⁷⁴

⁷⁴ Joseph N. Straus, *The Art of Post-Tonal Analysis: Thirty-Three Graphic Music*

Assessing Static vs Animated Alternatives

From this discussion, it is clear that static diagrams are already performing at their limit even before introducing the extra complexity of appositional playing. I argue that this degree of complexity and temporality fulfil all three of Isaacson's initial criteria for animation's advantages. Interaction's performativity and temporality satisfy Isaacson's first criterion, while the number of still images required to capture even a handful of bars gets unwieldy very quickly, thereby satisfying the second. Thirdly, the number of relationships, both inter-musician and musician-to-referent, and their rapidly changing status are far too great to be easily tracked on a single axis against time, ultimately fulfilling Isaacson's third criterion.

Further, animation also overcomes the time distortions that can arise in analyses that use still images. In a sequence of images, each image appears, on face value, to be of equal status, even when the sequence is meant to depict temporally unfolding events. Some images may represent a fleeting moment, while other images may represent musical events of longer duration. As each image is considered in turn, distortions arise that may obscure the story of the performance as a whole. As an analogy, consider a photo sequence of a football (soccer) team scoring a goal. In a series of snapshots, fractions of a second become lengthy sequences with the illusion that players had time for another course of action. Meanwhile, longer periods of time can disappear between two consecutive images. A video—especially one that can be slowed down, paused, or repeatedly viewed—will provide a much more complete understanding of their teamwork and decision-making. Static diagrams typically not only omit the timing and duration of events, but also obscure their interactional significance. To nuance the football analogy, it is possible, beyond their mere diachronic

spacing, for the significance and consequences of interactions to be decoupled from their duration. Split-second decisions may have great significance, while other events may build through a series of musical negotiations which individually seem unremarkable. Discerning their importance relies on being able to perceive—read listen and watch— their temporal unfolding, for which animation is better suited.

Instead of the transformational diagrams in previous examples which contain a single information stream through multiple steps, animation can show multiple streams of information together, in sequences through time. It can therefore show both multiples and sequences, addressing my criterion (5): allowing for the discrete contributions of each musician. The challenge here is to heed Isaacson's caution to connect the present with past and future, either by prefacing/retaining information, or allowing pause and rewind. Finally, it is the display of multiple information streams at once that affords visualising their temporal relationships of criterion (4), constituted by changes through time. What relationships animation shows consequently depends on the choice of theoretical tool.

Current Animations in Music Theory

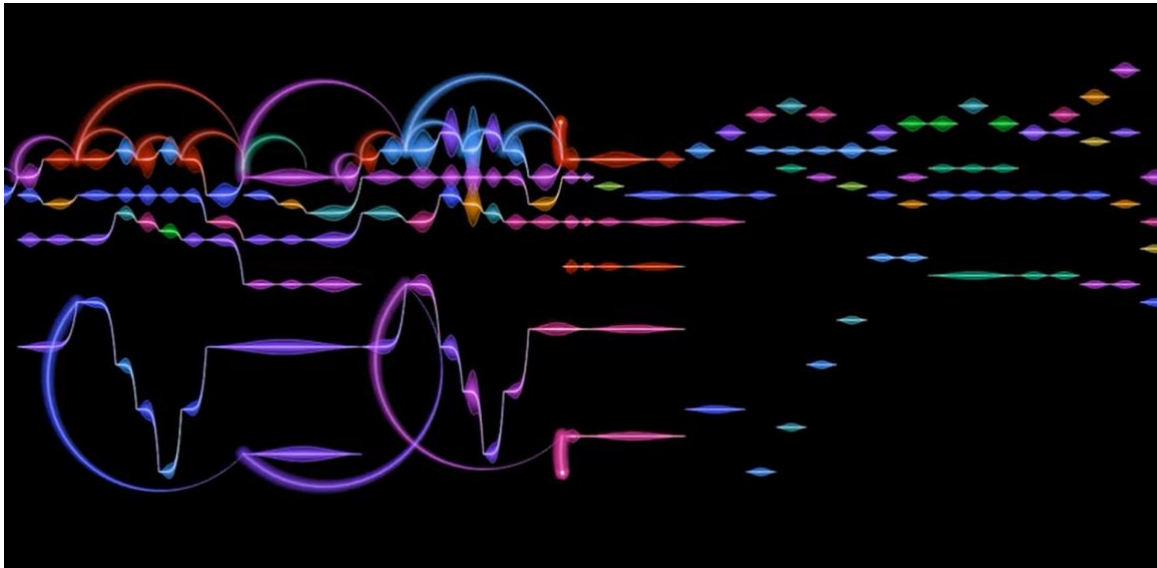


Figure 2.6: Screenshot of Stephen Malinowski, (2024) ‘Scriabin, Etude in A-Flat Major (Opus 8 No. 8)’.⁷⁵

If animation can provide some solutions for jazz, what might our reference points in the literature be, and what do animations currently do? Among the most well-known and highly detailed music animations are Stephen Malinowski’s animated scores, using a technique he describes as “harmonic colouring.”⁷⁶ Malinowski codes the colours to one or two harmonic parameters, that vary between animations. He uses emergent lines to unfold and connect sections in a kind of kaleidoscopic orchestral score. This certainly has promise, but it is unclear to me how the colours and shapes alone could achieve the kind of technical detail necessary to examine how interactions are being formed,

⁷⁵ *Scriabin, Etude in A-Flat Major (Opus 8 No. 8)*, directed by Stephen Malinowski, 2024.

⁷⁶ *Scriabin, Etude in A-Flat Major (Opus 8 No. 8)*.

without further labelling that would clutter the stunning imagery.

Malinowski does this coding himself, which is emblematic of the gulf between animation tools available in music-theory and other industries. Many music theorists either code themselves, or else have institutional relationships that enable outsourcing of the coding work. Many animation platforms remain only partly accessible to researchers like myself, who do not code. A more recent addition still undergoing development is the MAX/MSP platform,⁷⁷ whose manual patching user interface allowing more power to animate without coding skills. MAX/MSP shows a great degree of promise and flexibility, but at this stage its specifically music-theoretical applications are in early stages.

The centrality of visual metaphor for transformational analysis accounts for its abundance of relevant examples. Within transformational literature, Straus's previously mentioned colour-coded diagrams are accompanied by effective "explainer" style videos with animation. In order to fully bring the listener on board to "hear the colours" in his analysis, Straus narrates and layers the information from his still diagrams, often playing the theoretical components on piano with voiceover before listening to the annotated score. Once the viewer is primed, the colour-coded technical diagrams transition to score annotation, often adding highlighted colours corresponding to each diagram as we listen.

Straus utilises several of animation's strengths championed by Isaacson: we simultaneously see and hear each theoretical fragment, also combined into score excerpts, and with multiple elements simultaneously mapped against time. The videos

⁷⁷ David Zicarelli, "What Is Max? | Cycling '74," n.d.

convey performativity and a degree of agency, and we get a distinct sense of agency and unfolding events, from two distinct perspectives. We get temporal clarity on how transformations layer in the music, and the primer on each component allows for a final, integrated viewing and hearing in light of the analysis. It bears pointing out that the agency Straus animates is primarily that of the analyst. The multiple elements coming together are technical relationships, and it is the technical domain that is displayed in motion. In other words, the performativity here is in bringing together the theoretical relationships within music, as opposed to performative elements of the music's human production.

Though Straus is working within a composition and not the multiplicity jazz requires, his colour-coding suggests a constructive direction to combine complex elements. For instance, his approach might work well for a solo improvisation in which, akin to a composition, we are concerned with the product of only one mind. However, animating the analytical process doesn't address multiple musical agencies, in the sense we might consider multiple improvisors.

One of the best animated examples from transformational theory dates to a 2009 special issue of *Music Theory Online* dedicated to transformational animation. Across two articles, John Roeder argues for animation's technical utility for octatonic motion, and its engagement with gesture and agency.⁷⁸ In the first article, Roeder makes a

⁷⁸ John Roeder, 'A Transformational Space Structuring the Counterpoint in Adès's "Auf Dem Wasser Zu Singen"', *Music Theory Online* 15, no. 1 (1 March 2009); John Roeder, 'Constructing Transformational Signification: Gesture and Agency in Bartók's Scherzo, Op. 14, No. 2, Measures 1–32', *Music Theory Online* 15, no. 1 (1 March 2009).

specific argument for animation’s ability to engage agency embedded in the composition, whether lived or part of the analyst’s “transformational attitude.”⁷⁹ He focuses on fleshing out strategies to realise Lewin’s analytical position “inside the music” which he sees as incompletely defined, in keeping with the discussion earlier in this chapter. He shows the genuine analytical insights generated through allowing agency of musical objects, animating an avatar of a people or animals carrying out “characteristic gestures.” While Roeder’s insights are generally about agency from within the composition, he leaves the door open to the stronger, personal kind. Animation’s salience therefore increases for real-time improvisation which introduces more complex agency of actual musicians in improvised interaction.

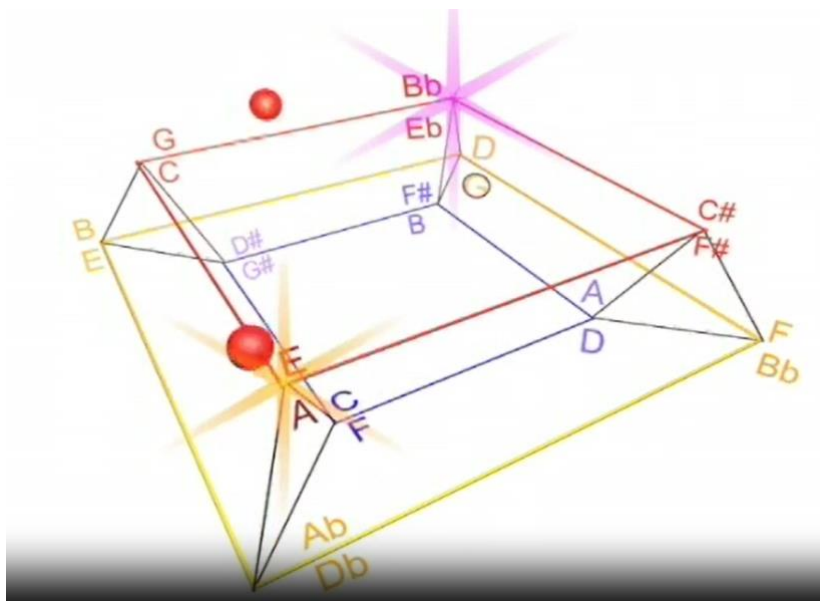


Figure 2.7: Screenshot of John Roeder’s Animation 5 through octatonic space of Adès’s “Auf Dem Wasser Zu Singen”.

⁷⁹ John Roeder, “Constructing Transformational Signification: Gesture and Agency in Bartók’s Scherzo, Op. 14, No. 2, Measures 1–32,” *Music Theory Online* 15, no. 1 (2009): para. 7.4.

In his second article, Roeder provides one of the best animations in the literature to date, both for its integration of the concerns discussed here, and connection of technical to extra-musical ideas. On a technical level, Roeder's animation elucidates harmonic transitions through octatonic collections of Thomas Adès's "Auf Dem Wasser Zu Singen." He animates multiple parts of the ensemble, each simultaneously unfolding their own part of the octatonic space. Relationships between parts of the ensemble are conveyed by their location within the space, while distinguishing different musical textures with symbols. Thus, Roeder sustains multiple streams and distinguishes between instruments and their own path. Temporal relationships are made clear through their movements, heard in time to the music. Most meaningfully, his culminative "Animation 5" (see Figure 2.7) connects technical aspects to an interactive process of temporally unfolding the octatonic space. According to Roeder, the composition's chromaticism reaches musical closure through the octatonic space's completion.

Roeder's animation captures multiple compositional parts on simultaneously technical and relational levels. In these regards, it is the best example so far of meeting the criterion of temporality, overcoming the number of images required, displaying multiple harmonic spaces at once, plus the relationality of these harmonies. However, it falls short in capturing ensemble improvisation in two respects. Firstly, each symbol representing one pitch or dyad conforms neatly to octatonic space and cannot easily represent variations in cardinality. For example, certain notes are always single, while others are always dyads. Secondly, its three dimensions are limited *only* to octatonic space. Jazz's interactivity cannot be relied upon to remain so harmonically contained,

and may traverse any combination of diatonic, acoustic, octatonic, and hexatonic spaces. More generalised *Tonnetz* models than Roeder's octatonic space provide a more level playing field to bring together a variety of harmonic syntaxes.

The *Tonnetz* as a Basis for Animation

Williams and Waters's influential 2010 article addresses both the challenge of different collections and higher cardinalities to five-note chords. They develop a two-dimensional projection of a bespoke three-dimensional *Tonnetz* that includes all four of the most common parent collections in 1960s jazz compositions: diatonic, acoustic, hexatonic, and octatonic collections.

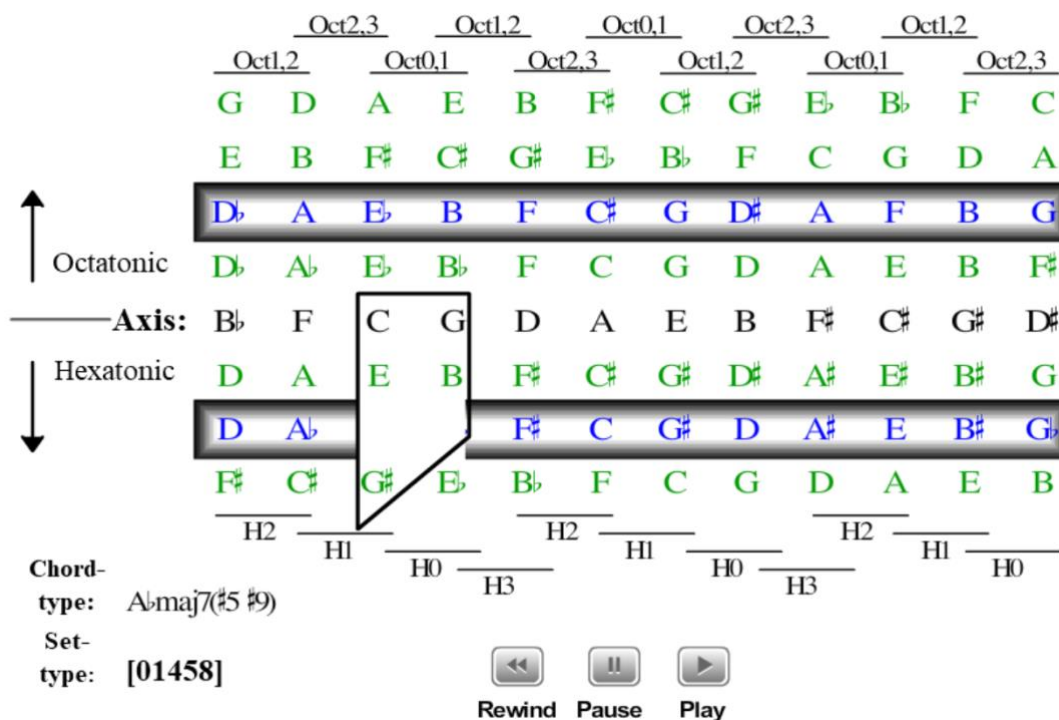


Figure 2.8: Screenshot of Williams and Waters's Example 11(c). Animated rotations and translations of five-note chords through a flattened three-dimensional *Tonnetz*.⁸⁰

⁸⁰ Williams and Waters, "Modeling Diatonic, Acoustic, Hexatonic, and Octatonic

Their case study on Miles Davis’s “Vonetta,” mentioned previously, shows how tertian five-note chords belonging to all collections can be connected via reflection or rotation through this space.⁸¹ A series of interactive Flash animations allows the reader to play with different rotations and reflections while hearing the chords sounded. The reader is able to hear how very different chords are related transformationally related, despite their apparent differences in sonority. Similar to Straus, the animation acts as a primer to the final step of listening to the music while viewing the whole analysis on the *Tonnetz*.

The technical advantages are clear for a single set of harmony, with some limitations. The voiceleading proximity of NRTs triadic operations are compromised by harmonies of higher cardinalities, however generic problem is inherent to all mathematical-visual approaches and not unique to the *Tonnetz*. Despite this loss, the motion through their flattened three-dimensional *Tonnetz* space provides a powerful visual alternative. The primary limitation for group improvisation on Williams and Waters’s custom *Tonnetz* is that multiples could not coexist easily. Orienting through the third dimension requires erasing notes in some rows to reach others, as in the figure above. This approach parallels arguments made by Gilles Baroin and Cohn for animation’s pedagogical power to explore greater topological detail, by genuinely

Harmonies,” para. 8.3.

⁸¹ Williams and Waters, “Modeling Diatonic, Acoustic, Hexatonic, and Octatonic Harmonies,” para. 8.1.

exploring in three dimensions using virtual reality.⁸² Using technology to explore mathematical spaces in three dimensions will feature in their upcoming book publication, *Mathematical Models of Musical Pitch and Time*.⁸³

The animations explored here all have some features that are necessary for visualising group improvisation, but are insufficient in their current form. Malinowski's animated scores use colours and motion to great effect, but lack sufficient detail to draw technical relationships. Roeder synthesizes multiple parts and their technical and interactive relationships, but his octatonic space is too restrictive. Tymoczko's spirals allow fluid motion through a space, but are too high-level to get at individual gestures. Williams and Waters leverage the visual ease of moving shapes through a (custom) three-dimensional *Tonnetz*, but flattened to two dimensions cannot bring together multiple harmonies.

Introducing my Animated Methodology

Having advocated for animation in general, I now explore my own animated solution, and why the standard two-dimensional *Tonnetz* provides advantages for interaction. Until we can interpret multiple harmonies simultaneously in three dimensions, the standard *Tonnetz* retains a degree of both specificity and readability that is hard to replicate in other visualisations. In order to then interpret harmonic interaction, we need

⁸² Gilles Baroin and Richard Cohn, "Advanced Visualization Techniques for Music Theory," *Mathematics and Computation in Music* (Cham), 2024, 375–80. [er Nature Switzerland, 2024](#)), 375–80.

⁸³ Gilles Baroin, *The New Book Main – Gilles Baroin*, n.d., accessed May 8, 2026.

to bring multiple harmonies together in the same visualisation. From the discussion above, I argue that the *Tonnetz* retains the most advantages of available geometric spaces in which to compare polytonal harmonies of multiple cardinalities together.

Multiplicity of harmonic spaces foregrounds shifting macroharmonic collections.⁸⁴ Contrasts and transitions between different macroharmonies—so important according to Tymoczko for highly chromatic music—are obviated by grouping together harmonic information into tonal regions, or if the music is less locally diatonic, into a series of alternative harmonic gestures. Improvised musical gestures are embodied processes, and so interaction must be considered on that scale. The challenge of connecting technical relationships to interactive gestures is complex, but the hermeneutic potential for music theory is richly rewarding.⁸⁵

⁸⁴ Dmitri Tymoczko, *A Geometry of Music: Harmony and Counterpoint in the Extended Common Practice* (New York: Oxford University Press, Incorporated, 2011), 155.

⁸⁵ Note that solving these technical, visual, and music-theoretical problems does not necessarily solve other aspects of the music that exceed formal systems, or speak in registers unable to be captured by analysis. Nor does it automatically place us “inside” the music inhabiting Lewin’s “characteristic gesture.” The aspiration is, however, to develop tools that move us closer to understanding appositionality in improvisation, and better integrate its technical and interactional aspects sufficient to ground socio-cultural claims in the musical sounds. I make various arguments in the upcoming sections and chapters for how this animated methodology might move us closer to the goals listed above. However, it is important to remain critical about the

I will introduce a particular solution I have developed in response. I animate multiple musicians simultaneously on the two-dimensional *Tonnetz*, using colour-coded layers for each musician. Convergent harmonies are indicated by overlap in colour-coded geometric regions, while and divergent harmonies are indicated by their partial or complete separation. Diatonic tonal regions can be grouped as trapezoidal shapes, either obviating a key centre for one improviser, or identifying the common collection shared between the gestures of multiple improvisors. I use Louis Bigo's *Hexachord* software as the base layer of animation,⁸⁶ which automates a single stream of MIDI data via rules of voice-leading proximity. I then add further layers manually, using transparency so that pitches remain visible in areas of overlap.

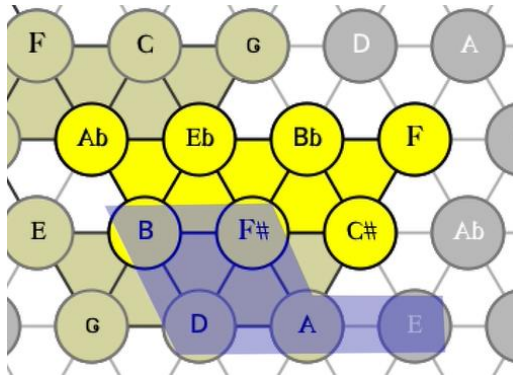
complexity of analysing Black voices and Afrological music more broadly, and which particular issues this methodology does or does not address.

⁸⁶ Louis Bigo et al., 'Representation of Musical Structures and Processes in Simplicial Chord Spaces', *Computer Music Journal* 39, no. 3 (September 2015): 9–24.

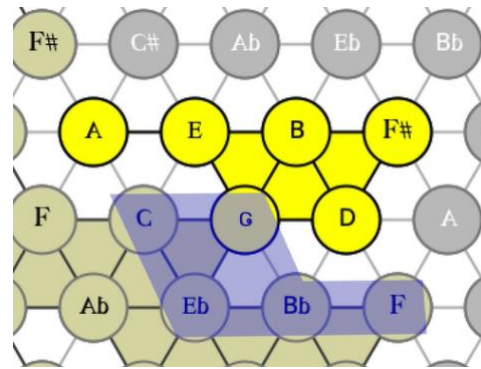
215 $B\flat m^7$ $A\flat^9(sus^4)$

T. Sax

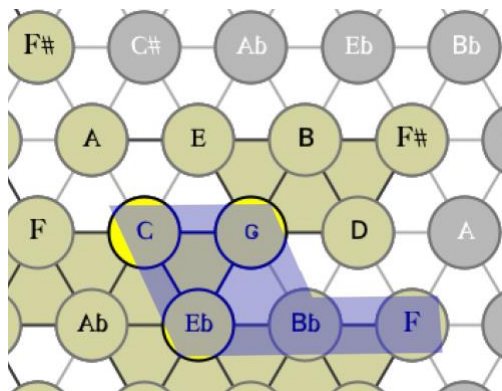
Pno.



(a)



(b)



(c)

Figure 2.9: The same four bar excerpt of John Coltrane’s saxophone solo on “Pursuance” with McCoy Tyner on piano, in notated form and in screenshots from my animation. Chorus 13, bars 3–6. Coltrane’s saxophone is in yellow and Tyner’s piano in blue.

The level of resolution here is key: DFT is too zoomed out to capture individual gestures, while traditional staff notation seems too zoomed in. For instance, the brief, simple example in Figure 2.9 shows the same information as notation, grouped together on the *Tonnetz*, and colour-coded. Considering *only* the notation, a significant effort is

required to ascertain what harmonic gesture or gestures each musician is making, and their relationship to each other. By looking at the screenshots, it is much more evident that between (a) and (b) Coltrane moves from a diatonic phrase in F# major to a diatonic phrase in D major, while Tyner moves from a quartal voicing occupying D major pentatonic to the same shape in Eb major. Moving through (c), Tyner continues to hold the Eb major quartal voicing while Coltrane begins a second modulation to Bb major, beginning with a C-minor triad.

Figure 2.10: [Animation of Figure 2.9, chorus 13, bars 3–6.](#)

Now consider how the relationships in Figure 2.9 are animated in Figure 2.10 at half speed. In this simple example, the transition between harmonies (a) and (b) occurs for both instruments occurs on beat 2 of the second bar. This displays much more vividly in the animation, with transitions made obvious as one shape disappears and the next emerges. The display of further musician-musician relationships can then be added with musicians in additional colours, or add the referent on the same *Tonnetz* to simultaneously display musician-referent relationships.

Notation makes it harder to discern contrasting harmonies and tonalities co-occurring, requiring further steps to assess their harmonic distance from one another. Grouping harmonic information into discrete gestures on the two-dimensional *Tonnetz* can accommodate more than one harmony simultaneously, and its visual apparatus immediately relays aspects of the relationship between them. Astute readers will notice that the snapshots obscure whether Coltrane and Tyner's moves were made simultaneously or one after the other, for which notation has the advantage. That is why

animating the *Tonnetz* is important to reintroduce temporality, but this time in such a way that the listener watch and read the harmony, pressing pause or rewind as needed.

Snapshots also obscure other information, some of which holds for the *Tonnetz* visualisation in general. For instance, snapshots obscure motivic information itself, the order of pitches, pitch versus pitch-classes, and rhythmic content. The animation partially recuperates some disadvantages, for instance by introducing the saxophone's *pitch-classes* in time with the recording, rhythmic placement is somewhat retained. Similarly, by listening as well as viewing, motivic information is available aurally, if not visually.

My animations operate at an intermediate level of resolution, where some grouping is done, but phrases and harmonic spaces are still rendered in enough detail to distinguish between gestures, and therefore interaction. Layers appear in time with the audio, so the reader can simultaneously hear and see the harmonies flesh out in real time. Animation bypasses requiring the listener to imagine diagrams in motion and can act as a translator between analyst and reader.

Isaacson advocates for preparing the viewer in advance by foreshadowing information to allow time to anticipate information and avoid surprises.⁸⁷ My experience with the animations in this thesis is that, for the most part, they are already fairly dense and adding more information is challenging without crowding the image. As a compromise, I use two tactics. Firstly, I use select still images as a primer for the viewer to give advance warning of what to expect, in the same spirit as Straus's explainer videos and Williams and Waters's pre-digestion of three-dimensional transformations.

⁸⁷ Isaacson, *Visualizing Music*, 324.

Secondly, in Chapter 4, I provide the same excerpt animated multiple times, with different information highlighted each time. In addition, the animation of Coltrane's very fast "Pursuance" occurs at half speed, and of course at all times the viewer retains the ability to pause and rewind.

My hybrid approach relinquishes mathematical supremacy for an interactive view of transformations. By prioritising process and relationships over formal transformations and operations, my methodology resonates with De Souza's perspective on Lewin's "transformational attitude" by retaining focus on motion first from a view aligned with that of the musician, where we "can't see around the corner," and we are constantly listening with anticipation of where the musicians might go next, and how else it might have gone.

Through a hybrid methodology, I also attempt to respond to broader calls for analysis—particularly of improvisation and Black music—to be more self-reflexive and culturally attuned. August Sheehy argues that analysis at its best is inherently improvisational, and relinquishes the hegemony of a-priori frameworks and epistemologies. He argues that "analytical studies might benefit from closer engagement with improvisation studies; the questions raised by the latter bear on the goals, methodology, epistemology, and ethics of analysis."⁸⁸ Katherine McKittrick advocates for a deeper intervention at the level of methodologies. McKittrick prefers to shed the idea of methodology as a thing, instead unfolding a process of method-making

⁸⁸ August Sheehy, "Improvisation, Analysis, and Listening Otherwise," *Music*

Theory Online 19, no. 2 (2013): para. 16.

to finish the rebellious work started in the 1960s. She describes this change of viewpoint:

Method-making compulsively moves with curiosity (even in frustration) rather than applying a set of techniques to an object of study and generating unsurprising findings and outcomes. Methodology is disobedient (rogue, rebellious, black). Description is not liberation. Methodology that is relational, intertextual, interdisciplinary, interhuman, and multidisciplinary honors black studies.⁸⁹

McKittrick's emphasis on the hybridity of Black methodologies has influenced my conceptualisation of new music-theoretical tools. I have strived to find suitable solutions that are adequately insightful, but responsive enough to the critiques already discussed not to use current methods simply because they are well established.

For improvisation, socio-cultural meanings stem from enacted processes, not static states. The experiential dimension of these processes is what animation better captures that still images cannot. It also broadly connects De Souza's process orientation to Isaacson's concerns for performativity, and simultaneously enables the technical means of considering multiplicity in appositional interactions. Current animations, by not adequately allowing for one or more of the aspects discussed, are not only practically, but also philosophically insufficient. Taking the rich hermeneutic

⁸⁹ Katherine McKittrick, "The Smallest Cell Remembers a Sound," in *Dear Science and Other Stories* (Duke University Press, 2021), 44.

meanings of jazz seriously means engaging the agency expressed through musicians' utterances and their interaction.

My animations visualise the technical and interactive layers of my tripartite model of group improvisation. They also provide evidence to connect broader hermeneutic claims to musicians' utterances. My animations therefore provide an important way of visualising that model: superimposition on the *Tonnetz* affords access to technical and relational domains simultaneously, and by its temporal animation transforms a relational view to an interactive one.

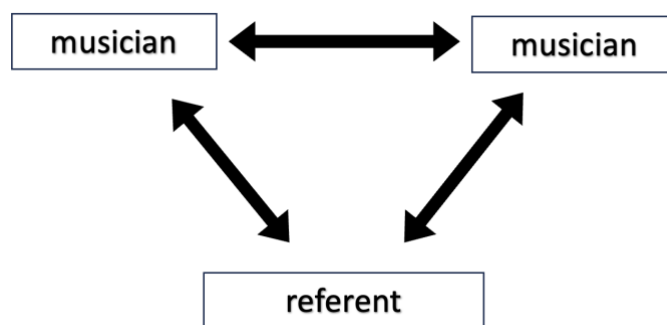


Figure 2.11: My conceptualisation of interactive relationships during group improvisation. Note that each leg of the triangle can be in congruence or opposition.

Figure 2.11 represents these relationships. A conventional understanding of improvisation might consider the arrows one way from musician to referent, as the agency is primarily in the hands of the musician to the pre-agreed referent. However, Smither demonstrates how referents are continuously negotiated. Referents are themselves processes that are discursively entangled, and the process of their negotiation acts on the musicians. There is also the sense held, for instance, in Actor-Network Theory that objects and ideas have a kind of material agency of their own, as

we consider the human and non-human agents that produce emergent outcomes.

The arrows between musicians are more obviously two-way, reflecting both their simultaneous agency, but also the mutual influence of each's ongoing interactive decisions on the other. Each leg of the triangle can be in either congruence or opposition, resulting in a wide range of positionalities—and by extension relationships—synchronically within the ensemble. Omitting composed material implies the relationship is formed only through the horizontal arrow between musicians. As the reader will likely be aware, in jazz practice there are a range of graded options between these two extremes.

To conclude with a metaphor, listening for agency is like watching children play tag. This innocuous image belies a complex group dynamic as multiple players interact. Although we cannot read the mind of each child and know their exact thought process at every point, decisions are clearly being made being with some intent. While tag involves chasing and attempting not to get caught, the point is not just being maximally apart or together, but rather eventually being caught and taking turns by exchanging roles. This inherent tension between apart and together indicates that the real game is in the chase and the interaction. In listening to jazz, this dynamic is what our theoretical apparatus must therefore capture.

However, jazz is even more complex than the “tag” metaphor, in that the rules are unclear and constantly renegotiated. Additionally, selective breaking of the rules is part of the game, and multiple people can be either chasing or being caught at the same time. It is nonetheless a useful metaphor, and to my mind, the exceptions only serve to emphasise the importance of capturing the churn of activity, states of apart and together, and how these roles are exchanged throughout. Again, it is important to treat

cautiously assumptions that some state togetherness is necessarily the point, at which point the tag metaphor collapses. However, returning to the main music-theoretical point: accounting for interactive convergence and divergence requires our harmonic apparatus to include both a synchronic account of complex harmony and a diachronic progression of events.

Fully embracing Lewin's "transformational attitude" prompts—as it has for De Souza—deeper questions about what music theory does, and therefore what tools are best developed for these purposes. The more our understanding of improvisational, ecological processes and their emergent outcomes evolves, the more we discover our relationships to others are mutually entwined. The closer we examine these processes, the more the boundaries between self and other, action and perception, cause and effect are blurred. My tripartite model of jazz analysis foregrounds two further "porous" boundaries that require practical and philosophical engagement. First, for both De Souza and Stover, jazz theory and practice mutually inform each other. De Souza, locates this dynamics in the overlap between communities, because "many theorists...[are] also practicing jazz musicians, and many jazz musicians have extensive training and teaching experience in music theory."⁹⁰ By calling on Marc Hannaford's conception of "fugitive music theory,"⁹¹ De Souza explicates the need to address the marginalised status of many jazz theorists within the music theory discipline or institutions. For Stover, jazz theory is "oriented toward practical application," and hence

⁹⁰ De Souza, "Melodic Transformation," 214.

⁹¹ Marc E. Hannaford, "Fugitive Music Theory and George Russell's Theory of Tonal Gravity," *Theory and Practice* 46 (2021): 47–81.

intertwines with practice in both directions. He argues both that “theory, and by extension analysis, is a form of practice,” and “practice is a form of theorizing...of producing knowledge.”⁹² The disposition of jazz theory is generally towards decision making, creative possibilities and processes, communing in both directions between their technical nature and interactive potential.

I leverage these benefits through two main case studies of John Coltrane and Ornette Coleman. In Coltrane’s “Pursuance” from *A Love Supreme*, my animations show how oscillations between technical *apart* and *together* maintain a constant interactive flux of harmonic tension. Tyner and Coltrane’s contrasting strategies for playing appositionally complement and complete each other’s contributions towards maximising the referent. By illustrating how their technical apartness remains interactively connected, the animations suggest alternative explanations for how they achieve musical “transcendence.” In Coleman’s “Peace” from *The Shape of Jazz to Come*, my animations address the challenge of music’s sparseness without a chordal instrument and its apparent abstraction. By comparing audible apartness with the underlying referent, animations clarify both how appositional interactions are occurring, and who performs what role in producing that appositionality. By clarifying where the artistic work is being done, the evidence suggests unexpected ways the musicians manifest ideas of “freedom.”

⁹² Stover, “Mapping Jazz’s Affect,” 30.

Chapter 3: Many Paths at Once: “Transcendence” and John Coltrane’s Solo on “Pursuance”

This chapter develops the case study of John Coltrane’s solo on “Pursuance” from *A Love Supreme*,¹ by animating musicians on the *Tonnetz*. Having summarised socio-political meanings of appositional playing in general in Chapter 1, this chapter first considers the socio-political meaning of “transcendence” specifically attributed to this period of the Coltrane Quartet. It then examines how several ensemble members conceptualise interactive relationships. Brian Levy’s article on the Quartet then frames a discussion technical *apartness* and its role in creating transcendence, and how this technical dimension might be reconciled with interactive cooperation. I then demonstrate how the *Tonnetz* animation provides unique evidence to unite technical and interactive understandings of the music, substantiating an alternative view of how the music communicates transcendence. By tracing gestures of convergence and divergence, animation can demonstrate how Coltrane and Tyner’s appositional interaction maximises abstraction, transcending the boundaries of the blues form.

The Quartet was one of the most influential 1960s jazz ensembles in pioneering, among other things, greater degrees and lengthier periods of appositional playing during improvisation. Beyond mere complexity, the music’s broader meaning and perceived musical “transcendence” has sustained decades of commentary by musicians, listeners, scholars, and critics. This commentary is centred especially on *A Love*

¹ John Coltrane, *A Love Supreme*, Impulse, 1964.

Supreme, which features Coltrane on tenor saxophone, McCoy Tyner on piano, Elvin Jones on drums and Jimmy Garrison on double bass.

Coltrane overtly articulated goals of personal and musical transcendence in interviews between 1963 and 1967.² The spiritually themed titles of Coltrane's mid to late periods confirm this preoccupation, which are most overtly religious in the liner notes to *A Love Supreme*:

ALL PRAISE BE TO GOD TO WHOM ALL PRAISE IS DUE....

...Let us pursue Him in the righteous path. Yes it is true; "seek and ye shall find".

Only through Him can we know the most wondrous bequeathal...

...This album is a humble offering to Him. An attempt to say THANK YOU through our work, even as we do in our hearts and with our tongues. May He help and strengthen all men in every good endeavor.³

However, his shyness in speaking in interviews leaves room to substantiate his musical "transcendence." For audiences and musicians, this sense was bound up with the music's energetic build up,⁴ its resemblance either to meditation or incantation,⁵ or Liebman's comparison to "holy-roller" meetings mentioned earlier. Coltrane's quartet sustained plateaus of intensity such that multi-instrumentalist Joe McPhee declared in

² Coltrane, *Coltrane on Coltrane: The John Coltrane Interviews*.

³ Coltrane, *A Love Supreme*.

⁴ Kofsky, *Black Nationalism and the Revolution in Music*, 194.

⁵ Bivins, *Spirits Rejoice!: Jazz and American Religion*, 41.

1965, “I thought I was just going to explode...[t]he energy level kept building up, and I thought, God almighty, I can’t take it.”⁶

Coltrane was generally reticent to provide detail on the inner workings of the music, or its interactive dynamics, or to get beyond the broad brushstrokes of his political position. Nonetheless, some clues to guide our listening lie in Coltrane’s scant commentary about how he intended the music to be heard. Some of Coltrane’s most direct commentary of his intentions for *A Love Supreme* are contained in the liner notes to Coltrane’s 1966 album *Meditations*. Here, Nat Hentoff articulates that:

Coltrane prefers not to be specific about the various sections of the album. He expects that each listener will react in different ways to what he hears. And Coltrane adds that it doesn’t matter what particular religion — if any — a listener professes because “I believe in all religions.”⁷

Coltrane’s conception of musical abstraction as a path for personal transformation, explored briefly in Chapter 1, is reflected elsewhere in the liner notes. *Meditations* contains much more true free improvisation than *A Love Supreme*, and with the addition of numerous additional musicians, it comes much closer aesthetically to Ornette Coleman’s Free Jazz album. When asked about the relationship between *Meditations* and *A Love Supreme*, Coltrane says:

Once you become aware of this force for unity in life...you can’t ever forget it. It becomes part of everything you do. In that respect, this is an extension of *A Love*

⁶ Joe McPhee, quoted in: Bivins, *Spirits Rejoice!: Jazz and American Religion*, 138.

⁷ Coltrane, *Liner Notes to Meditations*.

Supreme since my conception of that force keeps changing shape. My goal in meditating on this through music, however, remains the same. And that is to uplift people, as much as I can. To inspire them to realize that more and more of their capacities for living meaningful lives...

There is never any end... There are always new sounds to imagine, new feelings to get at. And always, there is the need to keep purifying these feelings and sounds so that we can really see what we've discovered in its pure state. So that we can see more and more clearly what we are. In that way, we can give to those who listen the essence, the best of what we are. But to do that at each stage, we have to keep cleaning the mirror.⁸

This musically-achieved practice was a journey of personal self-reflection and transformation for Coltrane. His pan-spiritual practice encompassed Eastern religious conceptions of meditation, devotion, and chanting augmenting his Christian foundations. The significance Coltrane gave to meditating musically and at length is endorsed by pianist Cecil Taylor who says that, "you play for a long time until you reach a kind of state of possession by Spirit."⁹

As detailed in Chapter 1, numerous 1960s jazz musicians saw abstraction as a path towards transformation and reinvention. Tommy Lott reported that performance itself is a "form of abstract thinking" producing intellectual realisations that, though facilitated by the sound, are "unencumbered by the sounds required to apprehend it."¹⁰

⁸ Coltrane, *Liner Notes to Meditations*.

⁹ Cecil Taylor, quoted in Bivins, *Spirits Rejoice!: Jazz and American Religion*, 153.

¹⁰ Tommy L. Lott, "When Bar Walkers Preach: John Coltrane and the Crisis of the

Lott here invokes Rashied Ali— Coltrane’s drummer on the 1967 album *Interstellar Space*—to overtly connect the audible to the inaudible: i.e. the abstraction to the interactive processes that underpin it. Ali shares:

If you listen to *Interstellar Space*, you can hear that something’s going on that’s holding the whole thing together. I’m not playing regular time, but the feeling of regular time is there. I’m thinking in time. We’d start out in three or four; five-eight or six-eight, whatever. I would anchor it in my mind, but play everything not on it, but against it. I’m hearing the beat and I’m feeling the beat, but I’m not playing it. It’s there, but it’s not there.¹¹

Lott’s response to Ali captures what an Afrological interpretation looks like, grounded in Black culture and processes of signification. He ties the technical particulars of the music to its signification, but without shying away from the multiplicity inherent in its creation:

Ali’s point about his conceptualization of time while performing with Coltrane on this date had a counterpart in Coltrane’s conceptualization of pitch as, at once, “in” and “out” of a harmonic structure. Both represent features of black music that have a structure and dynamic governed by conventions derived from a tradition grounded in religious practice.¹²

Black Intellectual,” in *John Coltrane and Black America’s Quest for Freedom*, ed. Leonard L. Brown (Oxford: Oxford University Press, 2010), 117.

¹¹ Rashied Ali, quoted in Lott, “When Bar Walkers Preach,” 118.

¹² Lott, “When Bar Walkers Preach,” 114.

Lott penetrates to the heart of a key dynamic that sets Coltrane’s music apart in eliciting reactions of “transcendence”. The layers of abstraction—particularly harmonically but increasingly rhythmically through his late career—build a sense of the music being the tune but not the tune, being “at once, ‘in’ and ‘out’ of a harmonic structure.” For Ed Sarath too, this type of “folding of awareness back toward itself” that layers upon itself self-referentially creates a state that invokes “transcendence”.¹³ It is this sense of the connection between an agreed terrain and its maximal transformation through improvising that captures what I intend in my description of Coltrane as maximising the referent.

Perspectives on Interaction, Relationship, and Unique Contribution

Within the Coltrane Quartet

Despite their scarcity, a number of comments through interviews provide some insight into Coltrane’s thinking on technical, interactive and social dimensions of the music. The same might be said of interviews with his long-time collaborator, pianist McCoy Tyner, whose holistic approach to improvisation and craft also integrates relationships between these perspectives.

As early as 1955 with interviewer August Blume, Coltrane discusses several interactive dynamics in Thelonious Monk’s band. Monk was famous for stopping during solos, sometimes getting up to dance on stage when he felt solos were particularly invigorating. These moments foreshadow the kind of chordless ambiguity we see a few

¹³ Ed Sarath, “A New Look at Improvisation,” *Journal of Music Theory* 40, no. 1 (1996): 12.

years later as an overt ensemble strategy in Ornette Coleman's quartet. Blume asks how, without Monk playing the chord changes, Coltrane is accessing the information he needs: whether he relies on thinking through them, or what bass player Wilbur Ware is suggesting. In Coltrane's full answer, excerpted in the introduction, he says:

Yeah, the bass player, ... I count on him, you know....He plays things that are kind of, you know, they're foreign. If you didn't know the song, you wouldn't be able to find it [chuckles] Because he's superimposing things. He's playing around, and under, and over – building tension, so when he comes back to it you feel everything suck in. But usually I knew the tunes — I knew the changes anyway. So we managed to come out at the end together anyway. [laughs]¹⁴

Superimposition of alternative chord changes for Coltrane is clearly an interactive practice. The feeling of “suck[ing] in” Coltrane refers to is the moment jazz musicians experience playing appositionally, then finding each other again in a point of agreement, most commonly based in the form. The challenge of grappling with the resultant complexity and uncertainty about “how this might go” or their perception of where they are in the form is apparently not just for the listener, but also for the musicians. Later in the same interview when asked about the interplay between himself, Ware and Monk, Coltrane highlights the playfulness of interaction:

A lot of fun. 'Cause sometimes he would be playing altered changes and I would be playing altered changes... and neither of us would be playing the changes of the tune until we reached a certain spot, and we'd get there together. We're

¹⁴ Coltrane, *Coltrane on Coltrane: The John Coltrane Interviews*, 19.

lucky. [both laugh] And then Monk comes back in to save everybody.¹⁵

This negotiated process highlights the tension between the audible, in which no-one may be playing the composed harmony of the tune at a given moment, and the mediating effect of the inaudible referent. The “certain spot” Coltrane and Ware refer to in the quote above is a place in the referent that became uncertain because of the risks being taken and/or differences of perception. While in this recollection Coltrane places Monk in an anchoring role to “save everybody”, the technical dimension of Monk’s idiosyncratic playing both frustrates efforts to quantify harmonies, and is implicated in relationships between musicians. Coltrane says of Monk:

...he’s always doing something back there that sounds so mysterious. And it’s not mysterious at all, when you know what he’s doing. Just like those old things, just like simple truths, you know? ... he might take a ...minor chord — and leave the third out. You say, “How do you know it’s a minor chord?” “That’s what it is, man, a minor chord with the third out.” [both laugh] And when he plays the thing, man, it will just be in the right place and voiced the right way to have that minor feel.¹⁶

This indeterminacy that affords greater possibility was influential on McCoy Tyner’s style, perhaps explaining why Coltrane found him a favourable collaborator. In a 1995 interview with Dr. Billy Taylor, Tyner recalls hearing Coltrane with Monk’s group at the Five Spot in the late 1950s with Wilbur Ware and drummer Shadow Wilson:

¹⁵ Coltrane, *Coltrane on Coltrane: The John Coltrane Interviews*, 20.

¹⁶ Coltrane, *Coltrane on Coltrane: The John Coltrane Interviews*, 20.

MT: ... the way that Monk would accompany him harmonically, I mean he could play anything, y'know, because the chords they weren't suggestive [emphasises with hands like playing the piano], of any particular direction I mean they were so open y'know,... that's one thing I love...

BT: [interrupts] Just somewhere within this tonality.

MT: Right exactly, exactly. [BT laughs] And you could play the chord that's, that's on the paper or you could play some substitute that could work as well, so it was really really great.¹⁷

For Tyner, the technical particulars of chord voicings are implicated in facilitating certain kinds of interaction and harmonic freedom; a through-line that is completed later in the interview. Taylor probes Tyner's for insights into his unique approach to solo piano and his style more generally. Here, Tyner connects his distinctive quartal or quintal harmonies both as an extension of the bebop tradition:

MT: See by voicing it like that in 4ths and 5th... my signature I think is that open sound, but I... When the older musicians kind of, took me under their wing and I was playing like the bebop things... I'd voice in 3rds and stuff like that... I just... eliminate some of the notes, and, and leave it open that way, uh, guys are playing a little bit more of, uh, a harmonic concept. Y'know, they can play different things on top of that.¹⁸

¹⁷ Tyner, "Oral History Interview with McCoy Tyner: Louis Armstrong Jazz Oral History Project."

¹⁸ Tyner, "Oral History Interview with McCoy Tyner: Louis Armstrong Jazz Oral

Then, after Tyner demonstrates these voicings in a solo rendition of Monk's "In Walked Bud," both Taylor and Tyner connect the technical aspects of Tyner's style to jazz values of contributing an individual sonic identity. Here, Tyner relays Monk's direct encouragement of him to contribute his own differences to the tune.

BT: [After Tyner plays solo piano version of Monk – In Walked Bud] Now, what you just did, has a very personal sound and, and yet, instead of being like Monk, it's a Monk tune, but instead of being like Monk it's Monk through you.

MT: Yeah, yeah right, I believe in doin' that, because I think, and from knowing him, yknow, I didn't know him that well, but I mean from talkin' – he'd talk to me sometimes. He'd always like....[pauses to think]

BT: He'd want to hear you.

MT: He'd want to hear you, he would make it a point. Yeah, "I want to hear," y'know, "what do you think"?¹⁹

Taken together, these musicians highlight the direct impact of each musician's utterances on each other, and the negotiation of interaction. Additionally, there is evidently a connection for Coltrane, Monk and Tyner between the technical particulars, their cultivation of interactive relationships, and the importance of unique contributions to interactions. Clearly there is shared terrain here between musician and analyst in

History Project."

¹⁹ Tyner, "Oral History Interview with McCoy Tyner: Louis Armstrong Jazz Oral History Project."

grappling with the best ways of approaching the churn that results from appositional playing and its convergent and divergent harmonic spaces.

Returning to *A Love Supreme*, the album features some of the mid 1960s' most powerful, complex improvisation, culminating in the third movement "Pursuance." The album is a cohesive suite in four movements, weaving together substantial motivic links which are developed in extended improvisations. Brian Levy addresses the appositional climax of Coltrane's 16-chorus solo, arguing that by chorus 13 and 14 of "Pursuance" the musicians playing in rhythmic and harmonic "opposition" with the referent overshadows any conventional conversational interaction of the kind famously codified by Ingrid Monson.²⁰ Levy's score-based analysis leads him to conclude that Coltrane's improvisation at its climax is substantially unrelated to the rest of the ensemble.²¹ Levy's use of "opposition" here can be taken as synonymous with my use of "apart" at a technical level. However, when he turns to interaction, the distinction between technical apartness and ensemble cooperation is less clear. Levy's claims about the type of interaction giving rise to abstraction are usefully tested through NRT's foregrounding of movement and its visual medium.

²⁰ Scholars on interaction such as Givan "Rethinking Interaction in Jazz Improvisation." and Michaelsen "Making 'Anti-Music.'" have critiqued Monson's *Saying Something*. landmark work not for the validity of "conversational interaction", but for limiting discussions of interaction primarily to this type of musical response.

²¹ Levy, "Harmonic and Rhythmic Oppositions in Jazz," 81.

Complexity, Transcendence and Levy's "Oppositions" in the John Coltrane Quartet

Two major Coltrane scholars, Lewis Porter and Brian Levy agree that moments of transcendence reported by listeners originate from the more harmonically and rhythmically complex portions of the suite.²² While Coltrane's conception of transcendence is specifically religious, Porter and Levy provide a broader, albeit less precise definition: they address feelings of otherworldliness, elevation to a higher state, detachment from the everyday, and potentially religious overtones.

In his landmark work on Coltrane's oeuvre, Porter attributes feelings of transcendence to the substantial reiteration and transposition of the suite's short, foundational motive.²³ His primarily motivic analysis follows the key compositional and often improvisational threads developed through the suite with particular emphasis on the first movement, "Acknowledgement." Although Porter's motivic account of these improvisations go some way to explaining the musical effect, he neglects the complex layering created by interactions between ensemble members.²⁴

By contrast, Levy's article *Harmonic and Rhythmic Oppositions in Jazz: The Special Case of John Coltrane and His Classic Quartet* attaches transcendence not to

²² This claim is also corroborated by Washington, "Don't Let the Devil (Make You) Lose Your Joy': A Look at Late Coltrane," 130.

²³ Porter, *John Coltrane: His Life and Music*, 242.

²⁴ While Porter advocates for engaging interactivity in his earlier 1985 article, it is subsumed by other considerations in his 1997 analysis of *A Love Supreme*.

motivic interaction and its unity, but rather the tensions between harmonic and rhythmic opposition:

Seeing unity as the ultimate goal is hard to maintain when faced with the fact that the most extraordinary sections of *A Love Supreme* feature an astonishing degree of discord and opposition.²⁵

Levy's article traces the long history of "oppositions" in the Quartet with "Pursuance" as its climax. As such, his overall goal is not simply to account for the listening experience of oppositions but also engage jazz's social context and countercultural relevance. He aims to preserve the music's unique Afrodiasporic forms of resistance in the way we think and speak about jazz, thereby countering some of the homogenising approaches emergent in institutional jazz pedagogy.²⁶ This goal justifies Levy's reaching beyond traditional modes of analysis that emphasise "unity," in favour of those foregrounding "disunity." Levy shows in forthright engagement with interaction "often involv[ing] paradox" as he considers integration in some musical aspects coexisting with opposition in others.²⁷ Though Levy's technical points are well-made and ultimately connects "opposition" and "disunity" to their embodiment of social resistance, this conceptual framing falls into Nzewi, Agawu, and Moten's critiques of "clash and conflict" narratives. By doing so, what Levy misses (as the author also has missed

²⁵ Levy, "Harmonic and Rhythmic Oppositions in Jazz," 83.

²⁶ Levy, "Harmonic and Rhythmic Oppositions in Jazz," 90.

²⁷ Levy, "Harmonic and Rhythmic Oppositions in Jazz," 89.

previously²⁸) is the opportunity to engage the more dynamic togetherness that the aforementioned scholars would locate in the appositional playing of Coltrane's ensemble. What constitutes a reformed music-theoretical response that fully responds to these issues is an ongoing issue. This constitutes a live problem for jazz music theory generally, but also for this thesis, which does not present a complete solution but attempts to make progress towards that goal.

Though the framing of "opposition" permeates the arguments below, Levy nonetheless provides an evidential base upon which to build a richer interactional picture. He constructs a convincing and historically encompassing case for how the Quartet extends existing technical strategies for appositional playing. His enquiry prompts further music-theoretical questions, in particular about the difficulty of engaging harmonic interactions in "Pursuance" solely via score analysis. For instance, in a traditional key centre based, circle of fifths approach to superimposition suffers from the need to generalise the pitches involved in interactions, and doesn't easily synthesise other harmonic syntaxes at play such as octatonic and hexatonic motion. More importantly, score notation doesn't make clear the degree of overlap or separation—in other words harmonic relationship—between pitch spaces necessary to assess the degree of convergence between the musicians. The crucial aspect of harmonic distance is not the measurement of distance itself, but how the flux of these

²⁸ Timothy Clarkson, "Many Paths at Once: The Interactive Pitch Space of 'Pursuance' and Improvisation in The John Coltrane Quartet," in *Transformational Analysis in Practice: Music-Analytical Studies on Composers and Musicians from around the World*, ed. Bozhidar Chapkanov (USA: Vernon Press, 2024), 279–300.

interactions animates our perception of musical agency.

Inter-musician Interaction in “Pursuance” on the *Tonnetz*

Levy’s account of abstraction and the constitutive role of “oppositions” is further nuanced by animating on the *Tonnetz*. His argument is that the Quartet achieves musical transcendence by superimposing multiple layers of abstraction from the 12-measure blues form in B \flat -minor. He characterises Elvin Jones’s drums and McCoy Tyner’s piano as creating rhythmic oppositions of implied duple and triple remaining largely unsynchronised. Levy’s Example 36 shows how these cycles of implied meter resolve every one to two choruses, forming one layer of rhythmic opposition both to each other and—most importantly for Levy—to the underlying substructure [referent] of the blues. A more Afrological conception might instead characterise this as a single, collaborative, but multivalent texture. Tyner and Jones maintain a relatively constant texture of cycling groups of two and three beat cycles, only converging at important structural moments such as the beginnings of 12-bar choruses. In this way, the referent plays a mediating role through a persistent flow of beat cycles.

According to Levy’s description, Tyner and Jones’s layer of rhythmic abstraction serves as the bed on which Coltrane superimposes another layer of harmonic abstraction. At the height of his solo, Coltrane sustains a five-chorus arc playing primarily apart from the referent through choruses 10–14. However, this dynamic is also a continuation of the ongoing rhythmic dialogue throughout Tyner’s preceding piano solo, especially between Tyner and Jones. While the animations below substantiate Tyner’s participation in rhythmic cycles, the *Tonnetz* obviates Tyner’s simultaneous initiation of harmonic oppositionality, with only fleeting references to the blues

harmony. By highlighting Tyner's harmonic activity, the animation clarifies the initial interactive dynamic between Tyner and Coltrane early in Coltrane's solo.

As a primer for viewing the animation, let's consider what the images in Figure 3.1 reveal. For the first four choruses of his solo, Coltrane remains harmonically static on an F minor pentatonic scale. Meanwhile, Tyner's piano converges and diverges with Coltrane as he moves to and from surrounding macroharmonies. Coltrane's F-minor pentatonic originates from the opening motive of "Pursuance" and is diatonically congruous with the B \flat -minor key of the blues form. However, the pentatonic's centrality towards F and omission of the third of the key, D \flat , forms a subtle layer of abstraction from B \flat -minor. The technical diagram of this pentatonic region remains static except for the last phrase of the three choruses. It is clear from the music, though, that Coltrane's saxophone is anything but static. Despite neglecting other active forces in the music such as his expanding range and constant rhythmic and timbral intensity, this representation highlights how Coltrane's harmonic stasis negates the chordal motion of the B \flat minor blues.

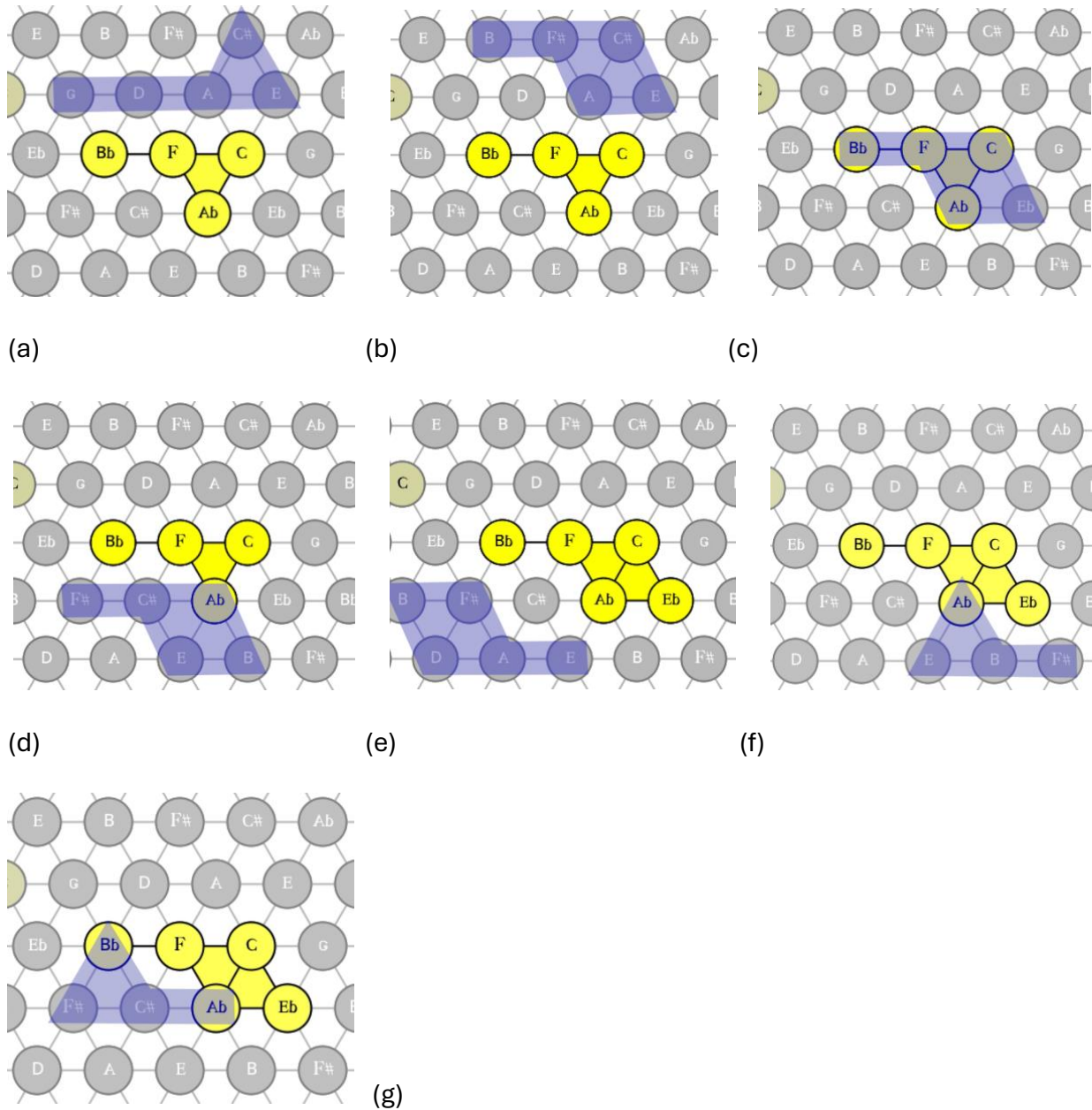


Figure 3.1 Coltrane’s solo on “Pursuance,” Chorus 1, measures 9–12. Images start at 0:15 in animation. Tyner’s harmonic motion (in blue) orbits Coltrane’s phrases in F-minor pentatonic (in yellow).

Figure 3.1 shows Chorus 1, measures 9–12 resolving to the downbeat of chorus 2. Over these 5 measures, Tyner transitions through several macroharmonic regions in quick succession. In contrast to Coltrane’s harmonic stasis in the centre of the images,

Tyner's piano employs a range of voicings and textures to move chromatically and in an exploratory fashion. His primarily quartal harmonies of various types align only occasionally with the B \flat minor blues chord progression. Although Tyner's quartal voicings intentionally obscure a sense of key, these chords may nevertheless be grouped together. I interpret (a) and (b) occurring within the D major collection, (d) and (e) within A-major, while (f) and (g) are part of the B major collection. Other interpretations are possible, however (f) and (g) occur as a single rhythmic gesture in the final measure of the form, and also perform a tritone-substitute dominant function resolving emphatically to B \flat minor to mark the start of the next blues chorus.²⁹

If we proceed from the above interpretation of macroharmonic regions, Tyner's resulting macroharmonic trajectory over these 5 measures traverses D major—B \flat minor—A major—B major—B \flat minor. This swift oscillation between divergence and congruence with B \flat minor is typical of Tyner's improvisation in the first four choruses of

²⁹ Note for example that (d), (e) and (f) could alternatively all be grouped within the A major collection, they don't appear neatly in a single trapezoidal outline of A major. This decision was made to prioritise maximal overlap with the B \flat minor tonic key and more importantly Coltrane's F minor pentatonic. The choice highlights many interpretative decisions common to jazz analysis more broadly, and of my method in particular. While plotting the piano to demonstrate convergence and divergence with saxophone disrupts the most parsimonious motion of Tyner's piano, it has the advantage of drawing our attention to the interaction between musicians, which is my ultimate goal.

Coltrane's solo. Note, however, that Tyner doesn't outline the specific harmony of the final four bars of the form, only the key centre in general. In these initial choruses, Tyner's motion also maps onto an inter-musician oscillation between technically apart and together, as Coltrane remains harmonically congruent with the B \flat minor tonic key. Interactively, Tyner is doing the majority of the harmonic "work" here, and yet this effect would be impossible without Coltrane's powerful soloing, and sustaining a harmonic anchor. Coltrane acts as a "foil" to Tyner's rapid cycles of convergence and divergence.³⁰ Note that the animations in Figure 3.2 and 3.4 progress at half speed, to allow for easier viewing of the fast-paced interactions.

Figure 3.2: [Animation of Coltrane and Tyner, choruses 1-3 of Coltrane's solo on "Pursuance"](#)

Now if we watch the animation in Figure 3.2, we see the swift harmonic motion of Tyner's appositional playing in contrast to Coltrane's harmonic stasis. From listening simultaneously, we glean both Tyner's participation in the rhythm section's polyrhythmic texture, but also the gestural quality of Coltrane's melodic material. Phrases come in shorter and longer bursts, but always in discrete phrases with a purposeful, directional melodic contour.

This representation has interesting implications for understanding interaction, both within the Quartet specifically and jazz's history more broadly. The animation

³⁰ I draw here on Levy's description of Coltrane acting as a rhythmic "foil" to Jones's polymetric drumming in his analysis of "Take The Coltrane". "Harmonic and Rhythmic Oppositions in Jazz," 66.

places Coltrane at the centre of the motion while Tyner orbits him due to the idiosyncrasies of the diagram, suggesting a particular way that musical agency is playing out. This representation suggests a hierarchical view of the solo at this point, which perhaps reflects the musical events as Coltrane has just made a powerful entrance following Tyner's piano solo. *A Love Supreme* constitutes a historical crossroads in jazz's evolution, recorded at the boundary of free jazz but still situated in conventions such as clear soloist and accompaniment roles, and relationship to an underlying form. This observation reinforces the interpretation that here Coltrane centres the interaction and maintains relative congruence with the blues referent, while it is Tyner who is manoeuvring harmonically to create convergence and divergence.

Interaction, Opposition/Apposition and Playing "Over"

The relative simplicity of choruses 1–3 differs considerably from the solo's climax during chorus 13 and 14.³¹ Levy's analysis shows that here, Coltrane's harmonic motion clearly articulates V–I progressions through a major third key cycle. Over the B \flat minor blues he notably superimposes B \flat major, F \sharp major and D major, between which he modulates frequently and in no systematic order. Levy's claim is that during this sustained abstraction Coltrane achieves musical transcendence by de-coupling his interaction from Tyner, breaking with the interdependence of the opening choruses. Instead, he suggests Coltrane's improvisation "unfold(s) independently" of the rhythm

³¹ Chorus 13 begins at 6'13" on the third album track.

section.³² In order to assess how Levy views this interactive dynamic functioning, it is necessary to consider more closely what he means by “interaction.”

Levy emphasises the ensemble’s oppositional interactions to generate a fuller account of *A Love Supreme*’s complexity. However, upon closer inspection, Levy uses “interaction” to mean two different things: the relationship of a musician to the underlying referent—either harmonic or rhythmic—and the direct interaction of musicians in real time. He provides a generalised definition that relates historical conventions to musician’s recruitment of these in action diachronically:

I would suggest that what makes something authentic “jazz” is interaction defined as a synthesis of conventions and the individual inflections of these conventions. Inflection, of course, implies time and it is really through the temporal dimension that an unprecedented degree of repetition of melodic gestures and harmonic formulae is transformed from the mundane into an interactive rhetoric of tension and release.³³

While providing a broad context for analysis of interactivity in jazz, Levy’s stated definition is too generalised to give clarity to the dynamics previously outlined. In examples prior to “Pursuance” such as his discussion of “Miles’s Mode,” Levy makes a clearer distinction between inter-musician harmonic interactions and how they are employed “in relation to the substructure.”³⁴ However, when he arrives at “Pursuance”

³² Levy, “Harmonic and Rhythmic Oppositions in Jazz,” 90.

³³ Levy, “Harmonic and Rhythmic Oppositions in Jazz,” 89.

³⁴ Levy, “Harmonic and Rhythmic Oppositions in Jazz,” 78.

these distinctions blur, obscuring which of these he intends. Consider how he describes the climax of Coltrane's solo on "Pursuance:"

But the crowning achievement of interaction in this section is the synthesis of the harmonic oppositions between Coltrane and the prevailing harmonic substructure *and* rhythmic oppositions unfolding among the Quartet members and the prevailing metrical substructures [emphasis in original].³⁵

In this quote, Levy draws our analytical attention to musicians' relationship to the substructure [referent], but the "synthesis" could denote a mere co-occurrence of oppositions, or alternatively include inter-musician interaction. Certainly, he focuses more on the former, but neglects the status of the latter. By conflating these conceptions of interaction, Levy prevents further exploration of how technical apartness between musicians develops diachronically into interactive dynamics through the course of the performance.

The disjunction between Levy's complex definition of interaction and a more oppositional view stems from his primary focus on "oppositions." While not specifically defined by Levy, "opposition" is used to mean musical parameters that are objectively misaligned or in disagreement with one another, whether audible or abstract.³⁶

For Levy, "opposition" operates on several levels. It can occur internally within a

³⁵ Levy, "Harmonic and Rhythmic Oppositions in Jazz," 87.

³⁶ For Levy, abstract means that opposition by the soloist to the substructure can be intuited whether or not the substructure is being *sounded* at that moment by other musicians.

single player's line, such as Coltrane's oscillation between F minor and F# minor pentatonic in chorus 10 (Levy's Example 32). Alternatively, opposition can describe a positionality of musicians in disagreement with the referent. In the example below for his preceding analysis of Miles's Mode, opposition could ostensibly refer to the inter-musician relationship—as it does for Levy elsewhere—but is not clearly the case:

But while Tyner's outside playing here occurs as a response to Coltrane's outside playing, thus forming an interaction between the two players, it is an interaction without any true measure between them. The combination is an aggregate of oppositions, layers that interact with and against the substructure, but incommensurate with each other.³⁷

Does Levy's usage of "opposition" necessitate "interaction?" Arguably not, as oppositions can occur between different elements within one player's improvisation, or between that improvisation and the referent. "Oppositions" may also occur interactively between the improvisation of different musicians, or characterise more broadly how their collective improvisation relates to the referent. In turn, does "interaction" necessitate "opposition?" Again, though this is what Levy most often intends, Porter's claims of motivic integrity would indicate that "interaction" can create both unity and opposition.

Levy's conflicting accounts of interaction are highlighted in his discussion of Coltrane playing "over" the rhythm section during Coltrane's climatic choruses.³⁸ He

³⁷ Levy, "Harmonic and Rhythmic Oppositions in Jazz," 81.

³⁸ Levy, "Harmonic and Rhythmic Oppositions in Jazz," 55.

primarily uses “over” to mean a higher level of abstraction above the polyrhythmic texture already at play:

While the accompaniment continues to play with and against the substructure, Coltrane proceeds from playing against the substructure to playing over it. By superimposing rhythmic and intervallic gestures that have no commensurable relationship to the substructure and interacting accompaniment, Coltrane seems allegorically to project an image of transcendence: the rules that govern the oppositional interactions of the accompaniment supply no rational measure for Coltrane’s gestures, as they unfold independently.³⁹

In the quote above, Levy primarily uses “over” to indicate operating synchronically at a higher level of abstraction than the rhythm section, which is arguably true during this section of music.

However, his further statement that Coltrane’s harmonic strategy “unfolds independently” from the rhythm section suggests that at this point, inter-musician interaction, even if it is occurring, is no longer a significant factor in musical events. From all accounts of elite jazz musicians’ practice, deep and careful listening is amongst the most prized and necessary skills: Levy himself gives a general sense of the musicians playing “also against each other”⁴⁰ which, whether or not “against” is the most apt characterisation, still requires listening and remaining in relationship. Despite

³⁹ Levy, “Harmonic and Rhythmic Oppositions in Jazz,” 90.

⁴⁰ Levy, “Harmonic and Rhythmic Oppositions in Jazz,” 88.

this importance, his account of “over” downplays the role of inter-musician interaction at high levels of abstraction.

This is further complicated by Levy contrasting two different kinds of oppositions with the referent: Coltrane’s harmonic oppositions concurrent with the rhythmic oppositions of the rhythm section. Tyner, however, is simultaneously employing a harmonic strategy of only loosely outlining the blues form or suspending it completely. Levy’s assertion that Coltrane’s harmonic oppositions do not relate to Tyner’s invites an investigation of the harmonic interaction between them.

Levy’s downplaying of inter-musician interaction during maximal abstraction seems to preclude room for the kind of registers of voice that Moten emphasises: excess of the surplus, noise, expressive saturation, and improvisation of ensemble that doesn’t require reconciliation to function *as ensemble*. In order to develop further clarity on these interactive relationships, the following section animates the climatic section in question on the *Tonnetz*. While much could be said about both harmonic and rhythmic interaction in “Pursuance”, my purpose here is to focus particularly on the harmonic interactions between Coltrane’s saxophone and Tyner’s piano.⁴¹

⁴¹ The role of the bass is of course crucial to jazz both harmonically and rhythmically, but in “Pursuance” specifically I argue the majority of the harmonic oppositional “work” is carried out by saxophone and piano.

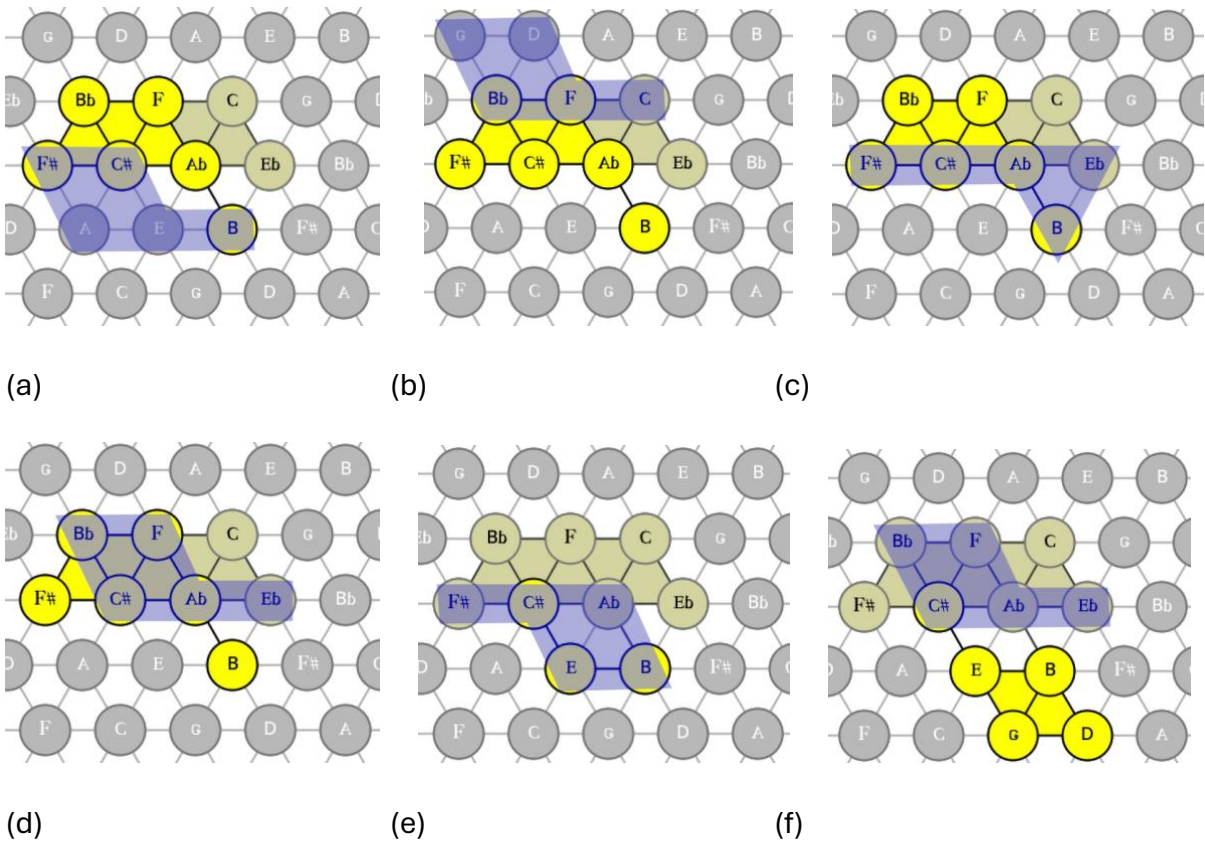


Figure 3.3: Coltrane’s solo on “Pursuance”, chorus 13, measures 3–5 (These images occur in Figure 3.4 at 0:04–0:09). Coltrane’s saxophone in yellow, with Tyner’s piano in blue.

Coltrane and Tyner both appear to lead and follow in harmonic interactions through Chorus 13 and 14 of Coltrane’s solo. Figure 3.3 shows the Coltrane’s saxophone in yellow leading interactions in chorus 13, measures 3–5. In Figure 3.3 (a) Coltrane and Tyner are harmonically, with Coltrane unfolding a V–I progression in F# major while Tyner is nominally in D major. Tyner moves chromatically upwards in (b) to maintain moderate overlap with Coltrane at (c).

At (c), the aggregate of Coltrane’s phrase and Tyner’s voicing contains all notes of F# major. The move to (d) coincides with the A \flat 7(sus4) chord in the fifth bar of the blues

form, which Tyner's voicing outlines.⁴² This moment is one of the few instances in chorus 13–14 where the harmony of the blues is overtly expressed except as an overall referential framework. Tyner's voicing of the chord overlaps in all but one note with Coltrane's F# major phrase, but Coltrane immediately transitions away to the next tonality in his major-third cycle, D major. This motion appositional to the referent is matched inexplicably by Tyner in (e) before they diverge substantially again in (f). This process is animated in Figure 3.4, with the specific sequence in Figure 3.3 occurring between 0:04 and 0:09 of the animation.

Figure 3.4: [Animation of Coltrane and Tyner, choruses 13–14 of Coltrane's solo on "Pursuance."](#)

From listening, we again hear the repeated gestural bursts of Coltrane's phrases. The rhythmic placement and length of his phrases generally occupy longer rhythmic durations than the (generally) two- or three-beat cycles in which Tyner is participating. Sometimes Coltrane's phrases articulate one key centre per phrase, but on numerous occasions one phrase modulate between keys within the phrase.

Instances of Tyner's piano clearly leading these interactions are rarer in choruses 13–14. However, one such example is shown in Figure 3.5, occurring in chorus 14, measures 4–6. Tyner states and re-iterates a voicing from B \flat Dorian-minor while Coltrane's phrase unfolds in D major shown in Figure 3.5(a). At (b) Tyner's repeated

⁴² A \flat 7(sus4) is a subtle substitute for the minor iv chord, E \flat minor 7, expected in a standard minor blues.

voicing becomes opposed to the substructural harmony, but after repeating it, Coltrane’s saxophone phrase joins Tyner, shown in (c).

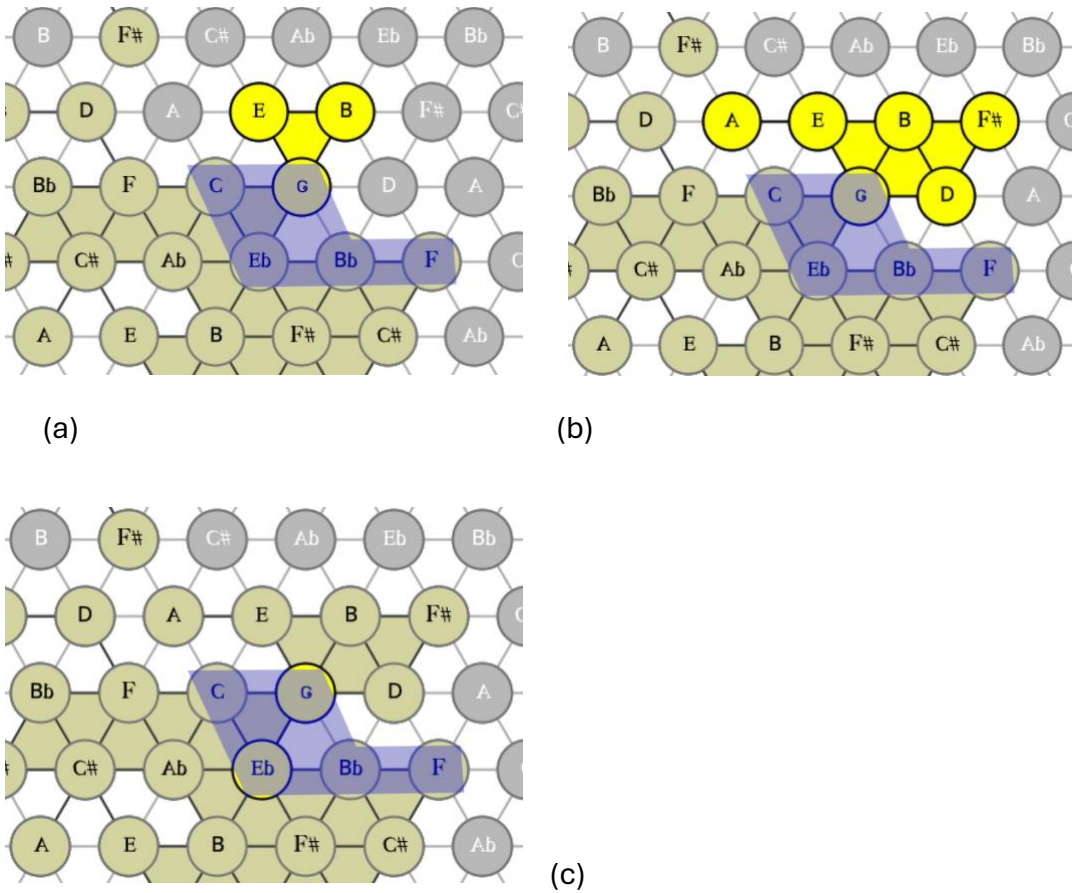


Figure 3.5: Coltrane’s solo on “Pursuance,” chorus 14, measures 4–6 (images occur in Figure 3.4 at 0:24-0:27)

A more complex interaction occurs in the intervening measures between the two examples above, in which Tyner arrives decisively where Coltrane has been, just in time for Coltrane to move elsewhere. Coltrane plays one of his clearest and most sustained passages of this section outlining D major, shown in Figure 3.6(a). At (b), Coltrane finishes the phrase while Tyner is resting, and a rare—if brief—pause for both musicians seems to invite a response in a “conversational” manner (as codified by Monson). Tyner fills this space decisively with a D major voicing shown in (c) just as Coltrane re-enters

instead in F# major.

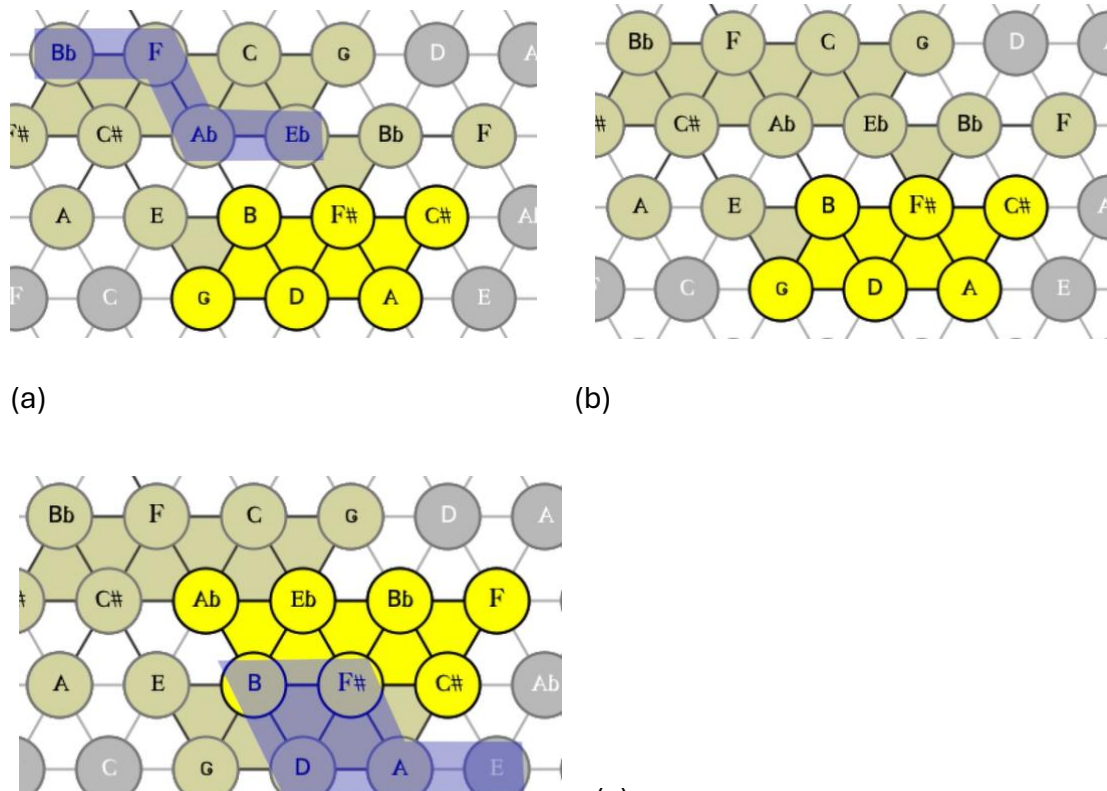


Figure 3.6: Coltrane’s solo on “Pursuance,” chorus 13 measure 11 to chorus 14 measure 2 (Fig 3.4 – 0:20-0:24)

The intermingling of who is arriving and leaving each macroharmonic space outlined above is broadly typical of Coltrane and Tyner’s interactions through the most complex five choruses of the solo. The give and take of this exchange—with no one musician taking the lead harmonically—involves markedly more complex interactions compared to the opening choruses. By chorus 13 and 14, Coltrane and Tyner have transitioned from a clearer sense of roles where Tyner was creating sounds of apart and together, towards a more unpredictable relationship in which they orbit each other.

These cycles of harmonic convergence and divergence suggest that despite Coltrane’s higher level of abstraction from the rhythm section, there is substantial inter-

musician interaction occurring moment by moment. Further, though Coltrane employs a major third key cycle and Tyner uses chromatic motion via quartal harmony, the oscillation between convergence and divergence is maintained even when different harmonic strategies are pursued. Compared to the opening choruses, interactional roles have changed, and we see Coltrane ceding some musical agency to Tyner in a much more complex, negotiated harmonic space. Rather than Coltrane playing abstractly “over” Tyner in the way Levy suggests, the continuous oscillations demonstrate an unpredictable but attuned relationship that sustains harmonic appositionality both between musicians, and with the referent, while still coinciding frequently.

Supplementing Levy’s account with Dmitri Tymoczko’s framework of macroharmony provides a further perspective on how the ensemble’s technical apartness is coordinated appositionally. Coltrane’s major-third cycles appear on a small scale to be primarily diatonic within the cycle, as they utilise discrete keys one at a time. But when considering groups of measures, they are macroharmonically dissonant because he transitions between them in quick succession. Tyner’s harmonic motion is highly chromatic with a similar degree of internal macroharmonic dissonance through frequent modulation. His consistent quartal voicings often appear as pure stacks of 4ths, are generally stable in type but move in parallel often by semitone or tone and through no discernible system of keys. As they pursue their separate strategies, internal appositions diachronically within Tyner’s and Coltrane’s lines intersect synchronically in ways that alternate between being macroharmonically dissonant and consonant (and audibly dissonant/consonant) at various points.

Despite the disparate harmonic bases of their harmonic motion, the animation

of their improvisation on the *Tonnetz* shows remarkably frequent convergences between Coltrane and Tyner. The fact that convergences only sometimes coincide with the blues chord progression suggests relationship to each other maintains a state of constant flux, rather than “unfolding independently.”

Their choices of pentatonic technical materials play a role in facilitating such frequent oscillation, despite their contrasting overall strategies. Tyner’s piano voicings are almost exclusively quartal which, when all are perfect fourths, create subsets of the pentatonic scale. A large proportion of Coltrane’s phrases are also largely pentatonic in character, even while implying perfect cadences in each key. Tymoczko points out a particular property of pentatonic scales, that relates random combinations of pentatonic scales and their fourth chord subsets. Using McCoy Tyner as his example, he shows that any two three-note fourth chords, if “close together on the circle of fifths...will belong to the same diatonic or pentatonic collection.”⁴³ As a result, there are numerous transpositions in which notes from one three-note quartal chord will complete a pentatonic scale that includes the other fourth chord. Further, pentatonic scales also contain multiple triadic subsets. In De Souza’s probabilistic assessment of George Garzone’s Triadic Chromatic Approach (TCA), he found that the “random walk” of triads on the *Tonnetz* displays the property of resolving to a given harmony sooner rather than later. On both counts, the technical materials directly facilitate the kind of oscillations we hear in Coltrane and Tyner’s interaction.

A further interesting property emerges from pentatonic scales that allows for a perception of diatonicity even through combinations of pentatonics that are non-

⁴³ Tymoczko, *Tonality: An Owner’s Manual*, 560.

diatonic. Our sense being in a key is largely tied to diatonic collections, which can also be articulated as stacks of fourths (or fifths). Therefore, any note that is a fourth or fifth away from a given note is easily perceived as belonging to the same diatonic collection.⁴⁴ Imagining pitches arranged in the circle of fifths, any pentatonic scale occupies five out twelve positions on the circle. There are only three combinations of two pentatonic scales that manage to entirely avoid overlapping each other: the majority of randomly selected pairs of pentatonic scales will have some overlap. Even when they do not overlap, a further two positions round the circle may positions belonging to the larger diatonic collection to which the pentatonic belongs. In this sense, it is difficult to escape at least some of the notes of any random pentatonic scale being heard as diatonically related to notes of any other.

These theoretical observations are not to suggest any kind of coincidence or “randomness” in the interactions of Coltrane and Tyner. In fact, quite the opposite. It makes music-theoretical sense that the historical grounding of jazz in pentatonic dominated styles such as blues and gospel are particularly fertile for this kind of pan-tonal treatment. It also makes sense if trying to achieve harmonic “transcendence” to continue to work with the aesthetic and cultural roots of Black music associated with these musical materials , while affording access to their maleability for superimposition.

The harmonic landscape of the improvisation on “Pursuance” transforms over the course of Coltrane’s solo: the sense of grounding we encounter in choruses 1–3

⁴⁴ See Tymoczko’s extensive writing on fourth and fifth intervals and diatonicity in:

Tymoczko, *Tonality: An Owner’s Manual*; Tymoczko, *A Geometry of Music*.

gives way to an unsettled feeling of disorientation by choruses 13 and 14. This feeling emerges precisely because of the constant appositions exchanges and the flux between convergence and divergence. Interestingly, neither Tyner nor Coltrane are individually playing anything particularly inexplicable, or too out of the ordinary for the Quartet. Instead, it is the sustaining of such appositional playing for long periods that gives the music its character.

NRT, Analysis and the Listener's Perspective

Animating multiple musicians simultaneously on the *Tonnetz* gives a higher resolution perspective on these interactions, and this analysis suggests that broadly conceived states of opposition in "Pursuance" are in fact carefully coordinated oscillations of tension and release. With this approach, we can simultaneously take an analytical view of particular harmonies and retain a sense of how different interactions express the musicians' musical agency. This perspective is a foundation from which to re-integrate complex rhythmic textures, which then must be considered in the context of closer inter-musician interactions.

This chapter's emphasis on the listener highlights a core feature of jazz musical practice, aligned with jazz practitioners' characterisation of deep listening as paramount to meaningful group improvisation. In contrast to compositional analysis which may be divided into poietic and aesthetic processes, the musicians themselves are listening and responding as they create. This practice leads Hodson and Lewis to argue that because musicians respond to what they hear in real time, listening is embedded within poiesis in group improvisation, therefore the listener's perspective is

an inseparable part of jazz musicking.⁴⁵ Furthermore, Steinbeck asserts that jazz performers are in some sense perpetually listening and analysing, but an analysis that is “always oriented toward action.”⁴⁶ Consequently, theory is embedded within the entrainment and skilled intentionality of decision-making, leading Chris Stover to characterise jazz theory and practice as “complexly intertwined.”⁴⁷

Using NRT and its visual means of representation uncovers more detail about the dynamic state between improvising musicians, allowing us to more precisely direct our hearing towards inter-musician interactions. As a consequence, we deepen our account of abstraction and opposition in discussions surrounding *A Love Supreme*. However, the analysis above does not address the question raised in Chapter 2 of NRT’s ultimate commitment to formal coherence. If we embrace Moten’s ontology of dissonance, especially as noise, what registers of Black voices do we miss by using NRT and the *Tonnetz* in particular? Under noise discourse, what I interpret as orbiting each other could instead constitute harmonic saturation or excess: an expression that overflows the bounds of the referent and cannot be contained by it. Such a perspective might challenge whether interaction is still primary, or instead, does appositionality’s non-convergence extend to non-interaction, in which parallel streams cohabit but no longer relate directly?

⁴⁵ Robert Hodson, *Interaction, Improvisation, and Interplay in Jazz* (New York: Routledge, 2007), 16; Lewis, “Improvised Music after 1950,” 109.

⁴⁶ Paul Steinbeck, “Improvisation, Identity, Analysis, Performance,” *American Music Review* 44, no. 1 (2014): 17.

⁴⁷Stover, “Mapping Jazz’s Affect,” 29.

I argue that on the basis of the history from which the Quartet emerges, the members' interviews, and their collaborations during and after, that deep, coordinated listening and interaction remain in the foreground. However, the *Tonnetz* is a visual medium grounded in coherence and agreeance, which multi-layered animation can only overcome to a point. This issue provokes the need for further deep listening, and consideration of what registers of expression are missed by, exceed, or refuse capture by such music-theoretical tools.

These arguments notwithstanding, this case study demonstrates animation's unique capacity to tune into the music's technical and interactive details and provide evidence pointing towards its socio-cultural moment. Given the album's landmark status as a precedent for more modern jazz, a more dynamic account of interaction is foundational for understanding jazz of the decades since. This discussion also clarifies the broader stakes for NRT, demonstrating its ability to direct our hearing toward discovering new aspects of the music, and challenges it is yet to address.

Chapter 4: Ornette Coleman's Solo on "Peace,"

Harmolodics, and Freedom

This chapter examines appositional playing in Ornette Coleman's chordless ensemble, and develops the case study of "Peace" from 1959. First, I discuss how Coleman's theory of Harmolodics specially intertwines conceptions of both musical and personal "freedom" through the music's technical, interactive, and socio-political layers.

"Peace" then forms an illustrative example at a transitional point in the ensemble between improvising using pre-agreed harmony and form, and its destabilisation toward the free jazz soon to follow. At this liminal stage, Coleman's heightened, Harmolodic sense improvisational freedom rubs up against the traditional jazz practice out of which the music emerges. This provides a rich opportunity to investigate interaction, destabilisation of the referent, and how we listen for musical agency that expresses ideas of "freedom." Consider the full quote excerpted in the introduction:

I think there was, to be absolutely honest, a feeling of apprehension. A feeling of being threatened by this mind of yours [laughs], and I probably was, along with just about everybody else, we had an inkling of what would come. So when I finally met you in 1959 in the school of jazz in Lennox, it was the worst dreams came true. I heard your music and knew that here was a music that was frightening in its implications. That they would have to learn new disciplines, and

I think in that sense you influenced, everybody, you know.¹

George Russell's reaction to his first encounter with Ornette Coleman captures the impact on those New York musicians who perceived the revolutionary change he brought: equal parts amazement and trepidation. Breaking with the harmonic intricacy of bebop—now codified and becoming stale in the late 1950s—Coleman caused controversy amongst critics, cultural commentators, and musicians alike. Reflected in Russell's comment is the fear that this newfound transgression of harmonic forms would become the new standard. While Coleman's musical achievements are now well accepted, upon his arrival to New York, many musicians labelled him out of his mind, or asserted he didn't know the song or couldn't play properly.²

And yet, those who could embrace Coleman's uniqueness could also hear his Texas rhythm and blues roots, and connection to the bebop tradition. In a rarer positive review from the 1960s, T.E. Martin saw Coleman as creatively repurposing familiar bebop elements:

...a key centre is retained long enough to be established as point of reference then destroyed by the shifting of the melodic shape to a dissonant key.... It is not tonality that is shunned per se but tonal resolution... Coleman reserves the right to change tonality...at points which are determined solely by his conception of

¹ George Russell's conversation with Ornette Coleman, in *Ornette: Made in America*.

² Saslaw, "Far Out," 100.

form...³

Martin manages to astutely capture the disruption of musical hierarchy that simultaneously distinguishes Coleman from tradition while somehow also embedding him within it. Within Coleman's reinvention of familiar building blocks of melody and harmony, "it is not tonality that is shunned per se." Instead, tonal elements are reorganised and redeployed in service of a more flexible, responsive group improvisation: "determined solely by his conception of form."

It is the disruption of form—a willingness to allow the most immutable elements of the music to serve the moment—that cements Ornette Coleman's pioneering role in "The New Thing." His ensemble transgressed traditional relationships to harmony, meter and form to a degree only reached by others years later, setting a precedent for John Coltrane, Miles Davis, and Albert Ayler, and influencing many others.⁴ One of Coleman's early innovations was to omit chordal instruments. His group was not the first, notably preceded by the Gerry Mulligan Quartet and Sonny Rollins Trio, to do without a chordal instrument. However, Coleman took advantage of their jettisoning in a way that Rollins and Mulligan did not: extending improvised interaction far beyond the boundaries of a conventional jazz composition.

Coleman's early quartet leverages the sparsity of the counterpoint between only saxophone and/or trumpet with bass and drums to create space for greater rhythmic

³ T.E. Martin quoted in Saslaw, "Far Out," 105.

⁴ For extended commentary on the breadth of Coleman's influence, see Davis, "Ornette's Permanent Revolution"; Stephen Rush, *Free Jazz, Harmolodics, and Ornette Coleman* (New York, N.Y: Routledge, 2017); Golia, *Ornette Coleman*.

and tonal freedom. In his early quartet, the practice of improvising appositionally took on a life of its own such that improvisational detours rival the status of the referent in determining musical events. This progressed from an initially looser and more flexible relationship to the referent than other ensembles, toward omitting a composed form in improvised sections altogether.⁵

Coleman's somewhat fragmented reception is divided between technical and cultural strands. Both strands gravitate toward a narrative of "freedom", both musical and socio-political. This chapter engages with Coleman's own theory of "harmolodics" that explicitly theorises the interdependence of technical, interactive and socio-cultural layers of the music. Subsequently, the case study of Coleman's solo on "Peace" from *The Shape of Jazz to Come* uses my animations to substantiate how these layers combine to manifest ideas of "freedom." As an early example of Harmolodics, it provides a transitional example of Coleman's emerging disruption of the referent, before the referent is usually omitted during solos soon afterwards.

Ornette Coleman and "Freedom"

The jazz avant-garde, also known as "The New Thing", became a rallying point for a broader Black Arts Movement. Musically, Black aesthetics legitimised and valued folk origins over exoticized or primitivist discourses, human voice-like expression over clinical execution, and the reimagining of old forms in cyclical, Afro-diasporic kinds of meaning. In its social mobilisation, the Black Arts Movement adopted particular jazz musicians—some willingly and other less so—as emblematic icons of Black culture

⁵ Litweiler, *Ornette Coleman: The Harmolodic Life*, 45.

and identity.⁶ With Black jazz critics rare in the 1950s and 60s, it fell to cultural commentators outside of mainstream institutions such as Amiri Baraka to advocate for the new wave of Black Art. Baraka's commentary puts forward the most cogent contemporary arguments for the connection between the music of Coleman, Coltrane, Albert Ayler and a specifically Black aesthetic of freedom. One that includes being educated on European methods but subsumes them in service of a re-invented Black expressionism.

Ingrid Monson sees validity and power in his argument. In particular, Baraka strategically leverages his agreement with the European avant-garde about the revolutionary power of radical changes in music against conservative white critics.

By using European critiques of mainstream America's lack of artistic sensibility, Baraka ... intellectually one-upped white jazz critics...Through the wielding of discursive weapons such as these, Baraka, Shepp, Taylor... used modernism both to defy racially imposed limitations on what an African American artist could be and to demand the development of a new, more revolutionary black consciousness.⁷

For Baraka, *The New Thing* reinvigorated a connection to Black musical traditions of the

⁶ Amy Abugo Ongiri, "The Black Arts Movement and the Racial Divide," in *A Companion to American Literature*, vol. 3, ed. Susan Belasco (USA: Wiley Blackwell, 2020), 253–66.

⁷ Ingrid Monson, *Freedom Sounds: Civil Rights Call Out to Jazz and Africa* (New York, United States: Oxford University Press, Incorporated, 2007), 260–61.

blues and bebop. He saw Coleman's revolutionary album *Free Jazz* as important because it "reestablishes the absolute hegemony of improvisation in jazz."⁸ In its cacophonous free improvisation by a double jazz quartet, he heard not chaos but the Black tradition of the blues, saying "it proves that blues can still function on any level as an autonomous music."⁹ For Baraka, its radicalness transgression is a specifically Black way of meaning, bound through that transgression to freedom. He says,

If we say we want social freedom... Then, there are all kinds of freedom ... it is a breaking away from old American forms. Toward new American forms. Ornette Coleman is the elemental land change, the migratory earth man, the country blues person of old come in the city with a funkier wilder blues... A bebopier bebop, a funkier funky...

...[T]he music is finally most musicians' strongest statement ... the new music, as I have stated before about Black music, is 'radical' within the context of mainstream America.... it wants to be freed of that temper, that scale. That life. It screams. It yearns. It pleads. It breaks out (the best of it). But its practitioners sometimes do not.¹⁰

Here, Baraka articulates the tension between the freedom in the music and its expressive power, and the conditions of the musicians who produce it.

⁸ Amiri Baraka, *Black Music* (London: Macgibbon and Kee, 1969), 64.

⁹ Baraka, *Black Music*, 104.

¹⁰ Baraka, *Black Music*, 239.

Stephen Rush, who teaches Coleman’s free jazz techniques in a university setting, sees his influence as a live musical and cultural issue. He says, “[o]nce again, the move toward the liberation of the voices in the Jazz ensemble parallels the demand for equality by black Americans.”¹¹ According to Kwami Coleman, Ornette does more than just elicit an aesthetic sense of freedom, calling into question systematised tonality itself. Referring to the album *Free Jazz*, he states this is “because the standard parameters of musical organization—key and meter—do not function in expected ways.”¹² He advocates instead for the same kind of Afrological hearing I advocate for here, expressing this as, “[h]earing the heterophony of Free Jazz... is to acknowledge a textural braid of many unique and independent strands of sound in motion.”¹³ While there has been broad acceptance of the connection of “free jazz” to the struggle for freedom, cultural accounts often leave us without a specific sense of how the music achieves these ideas. However, we also saw in Chapter 2 how technical analyses of Coleman’s music focusing on soloist strategies neglects engagement with the interaction that connects musicians’ relationally and socio-culturally. Further work is required to fully connect these layers of the music and substantiate how these ideas manifest in the actual music.

¹¹ Rush, *Free Jazz, Harmolodics, and Ornette Coleman*, 25.

¹² Kwami Coleman, “Free Jazz and the ‘New Thing’: Aesthetics, Identity, and Texture, 1960–1966,” *Journal of Musicology* 38, no. 3 (2021): 288.

¹³ Coleman, “Free Jazz and the ‘New Thing,’” 288. Coleman’s sense of musical “freedom” even served as a source of inspiration for Ruth Wilson Gilmore’s public critiques of structural racism during the Black Lives Matters movement.

Ornette Coleman's *Harmolodics*

The glue that binds cultural, technical and interactive understandings of Ornette Coleman's music together is found in his theory of *Harmolodics*. He was explicitly working with its principles from the time of *The Shape of Jazz to Come* in May 1959, though didn't name it until 1972. Numerous attempts to reconstruct *Harmolodics* are frustrated by Coleman's idiosyncratic statements, the specifics of which we'll view shortly. Nonetheless, on many occasions Coleman did articulate specific musical and technical means by which one can create music "harmolodically." Steven Rush, in his book based on a friendship and interviews with Coleman gives these summaries:

Simply put, *Harmolodics* respects every single voice in an ensemble, without creating a preference or elevated function for any one instrument.

Harmolodics is about collective improvisation. It posits that equal consideration should be given to each player. Early Jazz uses this very premise for improvisation. the "improvise over the changes" aspect is replaced with "improvise over the ethos of the composition."¹⁴

For Coleman, equal consideration of each musician's contribution is enacted via an equality of musical elements. Coleman said in 1983 that *Harmolodics* is:

...essentially the use of the physical and the mental ... made into an expression of sound to bring about the musical sensation of unison executed by a single person or with a group. Applied to the particulars of music, this means that harmony, melody, speed, rhythm, time and phrases all have equal position in the

¹⁴ Rush, *Free Jazz, Harmolodics, and Ornette Coleman*, 8.

results that come from the placing and spacing of ideas.¹⁵

This quote introduces Coleman's idiosyncratic use of "unison". He uses this not to mean the same pitch, though this interpretation is plausible. He is instead concerned with a unity of purpose, and thus people can play the same idea using different notes but be in unison. Conversely people may play the same pitch but for different reasons, and not be in unison. For Coleman, being united in purpose extends to the idea of naming: even naming of notes derived from transposing instruments. So, a C in concert pitch and on a transposing instrument might be considered unison, because the musicians are conceptualising them for the same reason. This was famously implemented on Coleman's *Skies of America* album, in which an entire symphony orchestra played from parts in concert pitch, resulting in parallel harmonies from the various instrumental transpositions, creating a unique effect. Rush asserts that for Coleman, a unison based in the naming of things is directly analogous to Black Americans re-naming themselves as part of the Civil Rights Movement.¹⁶ Coleman sums up in 1967:

Music is classless, but races, knowledge, and life conditions are not.

For Maria Golia, the esoteric nature of harmolodics stems from Coleman's intention not of a prescriptive musical procedure, but as a process of relating to one another, leveraging the expressiveness of others in acts of transformation.

¹⁵ Frink, "Dancing In His Head: The Evolution of Ornette Coleman's Music and Compositional Philosophy," 93.

¹⁶ Rush, *Free Jazz, Harmolodics, and Ornette Coleman*, 21.

As an approach to making music, Harmolodics was less a theory than a conative act situated between volition and affect, a striving for experience and knowledge whose usefulness, Ornette believed, extended beyond music.¹⁷

She foregrounds Coleman's assertion that, "[h]armolodics can be used in almost any kind of expression. You can think harmolodically, you can write fiction and poetry in harmolodic. Harmolodics allows a person to use a multiplicity of elements to express in more than one direction."¹⁸

The breadth of Coleman's influence is in opening up other artists to a much more expansive vision of music making and creative possibilities. Given the broad scope he articulates for Harmolodics, it's possible he might see this vision as more consequential than any analytical conclusion. Nonetheless, for Coleman, these very human ends — both creative and socio-political — have music-theoretical means. When focused specifically on harmony, he speaks of how vertical harmony can be recruited within a horizontal process, retaining overt tonal hierarchy, but subsumed within a free approach to improvisation. He says:

...sound comes from the heart and the soul and the person's emotions... so you know how the scale works and you know how the changes work. The changes work in one way, in thirds or fifths or whatever. The scales work in two ways, the

¹⁷ Golia, *Ornette Coleman*, 244.

¹⁸ Ornette Coleman, "Something to Think About," in *Free Spirits: Annals of the Insurgent Imagination*, ed. Nancy J. Peters (San Francisco, CA, 1982, p.119 quoted in Golia, *Ornette Coleman*, 244.

dominant and the tonic.¹⁹

This technical domain then plays out in interactions between musicians where they introduce incongruous notes, couched in the tonal language of modulation. Coleman says:

But I tell everybody, “Play all the notes you want,” ’cause the one note you play that you don’t want stands out for a modulation, and everybody knows that when they hear it. So you’re doing a bonus! When they’re playing what they’re playing, and you’re playing notes that they’re not, you are showing them ways to go they hadn’t thought.²⁰

Striking here is that for Coleman, the identity of an individual note that has capacity to “[stand] out” retains divisions of belonging or not belonging, within a given musical moment. This clearly encompasses an expectation, shared between improviser and other ensemble members, of a tonal centre. No matter whether this is enduring or momentarily implied, unexpected and outside equates to modulation, requiring a contrast between tonal centres rather than their atonal erasure. While this description of “outside” notes is not by itself remarkable, leveraging the opportunity of one musician to redirect the performance wholesale sets Harmolodics apart. In the late 1950s notes that don’t “belong” tonally are generally interpreted as momentary dissonance, blues inflections or harmonic superimposition. 1950s jazz practice was not yet primed for the extreme decoupling of musicians and referent and the potential re-

¹⁹ Rush, *Free Jazz, Harmolodics, and Ornette Coleman*, 35.

²⁰ Rush, *Free Jazz, Harmolodics, and Ornette Coleman*, 33.

writing of musical events wholly against the referent. According to Janna Saslaw, it is this re-writing of hierarchies and categories to which appositional gestures belong that grated with some musicians and most contemporary critics.²¹

Composer and theorist George Russell was among the first to articulate how Coleman's chromaticism is distinct from a modernist European conception in 1960. Despite Coleman's willingness to deploy all keys, and because he retains blues elements which have inherent "tonal gravity", Russell labels the music pan-tonal rather than atonal. He parses what he sees as two strands of modernism, defined by their relationship to chromaticism:

If...we believe in a tonal center but we believe that all chords, all scales are relative to that tonal center. If we don't believe in the tonal center, then we are atonalists, and all tones are equal.²²

For Russell, the blues aesthetic and its associated blues scale firmly implies a local tonic. Jazz's history of folk scales makes for an easier alignment with pan-tonality than atonality. Russell describes Coleman's approach as combining existing vertical approaches to chromaticism common to swing and bebop with a horizontal one, in which multiple tonal relationships can be sequenced over periods of time. In a pan-tonal approach,

...everything in music is related in terms of close to distant relationships and

²¹ Saslaw, "Far Out."

²² Russell and Williams, "Ornette Coleman and Tonality," 8.

there is no "right" and "wrong."²³

Russell sees this harmonic re-purposing of familiar elements as having further implications for form and meter, as tonal liberation makes it less crucial where one player is in the form. This necessitates that players who deviate harmonically, metrically and formally, will need to “find” each other again. While this appears problematic for ensemble cohesion, Russell sees the mediating force as the close interactive relationship between players.

Charlie Haden seems to sense where Ornette is going and is able to follow him.

But if everything is relative, it's theoretically possible to do anything.²⁴

Coleman's Multiplicity Within the Referent

Coleman's Harmolodic strategy of shared agency extended beyond improvising par-tonally and pre-eminent interaction, to disrupting the status of the referent itself. Its ambiguous status was often an intentional strategy on Coleman's part. Not only did he expect other musicians to interpret the referent freely, but often intended it to retain multiplicity within its harmonic possibilities. In an interview with Ethan Iverson, Charlie Haden expresses that Coleman's written chord changes sometimes appeared incongruous, but he was open to musicians altering them however they pleased. As we saw in the introduction, Haden explains his first rehearsal with Coleman in 1958:

...he said to play on the changes until he left them, and then just follow him. At

²³ Russell and Williams, “Ornette Coleman and Tonality,” 9.

²⁴ Russell and Williams, “Ornette Coleman and Tonality,” 9.

first I thought he meant he would play on the written changes for a little while, but then I realised he would be creating a new set of changes almost right away. So I discarded his changes and followed him.... Sometimes the changes he had for the written parts didn't always fit, so I would look for the right note, even if it wasn't the root of the tonal centre.... Sometimes I would play what I was hearing instead of what he had written and he usually accepted it.²⁵

When harmonies weren't provided it was expected that the musicians would interpolate harmonies themselves. According to Iverson, when saxophonist Dewey Redman pressed Coleman for chord changes to a particular melody, Coleman wrote down a chord for every eighth note. Haden's response to Iverson's anecdote, "Yeah, NEVER ask Ornette about the changes!"²⁶

Haden and Redman's recollections accord with other musicians' accounts of Coleman's trust in skilled musicians to faithfully but collectively determine the referent. Far from abandoning tonal and formal processes, Coleman expected every musician to treat seriously the musical potential of alternate pathways they might present. This ethos requires being prepared to abandon one musical path for another, precisely what does not occur on Coleman's first record in 1958, *Something Else!!!*. This first album includes piano, but Coleman is thrust into an ensemble without the important collaborators on whom he would later settle by his third album in 1959, *The Shape of Jazz to Come*. Iverson commentates an illustrative track from *Something Else!!!* entitled "Jayne", whose composed form has often been mistaken for a contrafact on "Out of

²⁵ Iverson, "Interview with Charlie Haden."

²⁶ Iverson, "Interview with Charlie Haden."

Nowhere.” It is similar in form and harmonic progression, though omitting some of the latter’s specifically distinctive chord progressions. As Coleman takes the first solo, the rhythm section opts strictly to play the chord changes for “Out of Nowhere.” This leaves Coleman’s much more harmonically exploratory solo sounding somewhat at sea against the background of the form of a familiar jazz standard. Haden describes the musical disconnect:

Yeah, Walter Norris and Don Payne played those “Out of Nowhere” changes behind Ornette. You can’t do that!... They didn’t know what he was doing. Not that they couldn’t play: Walter Norris was great, man.... But as much as he knew about harmony, Norris couldn’t forget it when he played with Ornette.²⁷

How much communication occurred about this process prior to the recording is unclear. However, contrasting the understandable historical interpretation of Coleman as not knowing the chords, Iverson and Haden cite the accompanying unpreparedness of the other musicians to relinquish formal preconceptions and embrace Coleman’s more interactive vision. By contrast, Coleman’s future collaborators—Billy Higgins on drums, Don Cherry on trumpet and Charlie Haden on bass—displayed a willingness and ability to improvise with the referent as a malleable plan for how musical events might go, and gradually omit pre-conceived forms entirely.

A referent that resists a single interpretation may not only embed multiplicity but become a compositional premise for interpretative possibilities during improvisation. Given Coleman’s attitude towards the referent, it is unsurprising to find that in his early

²⁷ Iverson, “Interview with Charlie Haden.”

recordings, grappling with the status of the referent is valuable not only to understanding his approach to composed materials, but influences how we characterise improvised events. During improvised sections, if musicians are doing so only in relation to each other, our account of who is expressing agency and how will be substantially different from events mediated a pre-composed form.

Ornette Coleman’s “Peace” (1959)

The following case study examines Coleman’s third album as leader, *The Shape of Jazz to Come*, highlighting how referent and improvisation come together to construct this kind of multiplicity and leverage it for greater musical freedom. Coleman’s recording of “Peace” illustrates his use of multiplicity, especially the first four bars of the composition. After considering this, I’ll examine how improvised sections relate to the composition, what is retained during the solos, and the interpretative possibilities this affords.



The image shows a musical score for the first four bars of the song "Peace" by Ornette Coleman. It consists of two staves: the top staff is for "A. Sax/Tpt" (Alto Saxophone/Trumpet) and the bottom staff is for "Bass". The key signature is one sharp (F#), and the time signature is 4/4. The melody for the saxophone/trumpet starts with a quarter note G4, followed by quarter notes A4, B4, C5, D5, E5, F#5, G5, and a half note G5. The bass line starts with a whole rest in the first bar, then a quarter note G2 in the second bar, followed by quarter notes A2, B2, C3, D3, E3, F#3, G3, and a half note G3. The notation includes various accidentals and a fermata over the final G5 note in the saxophone part.

Figure 4.1: Composed melody and bassline of “Peace” bars 1-4, which remain intact during solos. Bar one includes an F# bass note in all subsequent iterations of the A section.

The compositional form of “Peace” is a standard AABA jazz song form, with the A section containing rubato sections and fermatas that interrupt its medium swing feel. The four-bar phrase that begins the composition “Peace” is a clear and direct melodic statement in B major, shown in Figure 4.1. It begins each A section with saxophone and

trumpet in unaccompanied unison, Haden's bass joining on the 'and' of beat 1 in the second bar, on an accented low E. (In the first bar of bass rests above, during solos, Haden instead reliably plays F#, the fifth of B major.) Bars three and four then reharmonise the end of the B major phrase with a clear A major to D major, beginning in bar three with an A# and D# against the A major chord, generally containing the notes of an A triad in the bass similar to the first instance notated in the figure. There is some ambiguity surrounding the G# against an A in the bass which somewhat suggests Amaj7, but the overall progression of the harmony is more consistent with an A7, recasting the A# and D# as upper extensions of the A7 chord (b9 and #11), via a momentary G# dissonance resolving to F#, the third of D major.

Already, there are multiple musical strands at play: the clear B major melody, its reharmonisation in D major, and the ambiguity of the resultant tonal interpretation stemming from the sparse texture. The multiple possibilities for musical interpretation these afford are subsequently actualised during the solos of both Coleman and trumpeter Don Cherry. Throughout their consecutive solos, Haden anchors the form.²⁸ Intriguingly, he renders bar three and four in roughly equal measure as either A7 to D major, or Bb minor to Eb minor. If we isolate the melody of bar three and four, it can be interpreted horizontally in Bb minor. If we grant this, then the D major and Bb minor alternatives can both be implied by the referent. The latter favours interpreting these two bars of melody on its own terms, while interpreting these melody notes as extensions of

²⁸ Charry, "Freedom and Form in Ornette Coleman's Early Atlantic Recordings,"

A7 progressing to D major emphasises the harmony of the bass line, creating interpretative “option A/option B” alternatives nestled within the composition.

These harmonic dualities then surface again during solos, with these four bars recurring with their options A and B in varying combinations throughout Coleman’s solo. Certain clues might simplify our view of these composed bars if, in the first iterations of the A section, Haden played the A7 to D major faithful to the composition, and only subsequently varied it in response to Coleman’s solo. Instead, harmonic duality is introduced from the outset where, in the very opening bars of Coleman’s solo, Haden clearly opts for B \flat minor to E \flat minor, even as Coleman clearly plays D major. Even as the first two bars recur, Haden and Coleman continually change between options in the third and fourth bars, obscuring any sense that the bass line of the composed section presents a definitive interpretation during the improvisation. This ambiguity sets a premise for the kinds of interaction that emerge, and a foundation from which to interpret the resultant tonal divergences during Coleman’s solo.

Within these technical and interactive relationships, Coleman connects the extremes of radical creativity within the broader cultural goal of freedom. He describes a process of reciprocal agency, undertaken in cooperation with other musicians, while acknowledging the resistance faced from those whose boundaries are challenged by this form of expression.

Coleman: And I’m not running around to find who’s in charge. I’m trying to find who’s trying to free me. That’s what I’m looking for.

Rush: See, it’s still about freedom.

Coleman: Yeah, oh it is. But...people don’t think you could be that free.

Rush: There is always somebody telling you.

Coleman: Yeah, that... “No, it don’t go that way.” Yeah, well I’m not going around to find that out.²⁹

While interviews with Coleman add detail to his conception, there are almost no discussion of specific instances within the music. Clearly Coleman’s conception is one that encompasses all three domains of “freedom”: technical, interactive and cultural. Harmolodics puts forward a particular model of how freedom might be socially and musically enacted through mutual relationships during improvisation. This makes very clear that a deeper understanding of the music requires integrating numerous perspectives. Cultural, technical and interactive accounts must mutually inform each other to develop a more nuanced understanding of the music and the people making it.

Deriving a Referent for “Peace”

The example of the four-bar harmonic duality above illustrates how our account of oppositionality is altered if there is an underpinning referent. Do we attribute the audible phenomena only to inter-musician interactions, or are these interactions being mediated by a pre-agreed form? These issues influence my interpretation of Coleman’s solo in the analysis below. However, they also influence our understanding of Coleman’s contribution, as his ensemble moves gradually from defined forms to entirely free solos over the first few years of his recorded albums.

Eric Charry’s corpus study carefully cross-references Coleman’s compositions with improvised forms from 1958 to 1962, to develop a consensus on the presence of

²⁹ Rush, *Free Jazz, Harmolodics, and Ornette Coleman*, 64.

forms during his ensemble's improvisations.³⁰ He traces all of Coleman's recorded material as leader during this period, using the transcribed bass part—the only pitched accompanying instrument after *Something Else!!!*—as the primary indicator of whether the compositional form is maintained. Charry finds a shift from 1958 through 1960, where retention of the compositional form moves gradually but persistently through stages of malleability, or suspension and recommencement, until from 1960 onwards there are almost no discernible forms during improvisations.

Charry finds a consistently recurring form during improvisations on "Peace:" n AABA form that differs from but heavily resembles the initial composition. It is 43-bars, with sections of 11, 11, 10 and 11 bars, with an A section one bar shorter, alterations to some of the harmony, but with the B section left intact. Because this particular version of the form only played during improvisation (and upon close examination certainly does so), defining what harmony might be pre-agreed is a significant challenge. Charry is forced to take a consensus approach over multiple solos searching for the common information, as there is no version of this particular form played except during improvised sections. Charlie Haden on bass momentarily suspends this form on three occasions, seemingly "prepared to spontaneously make adjustments," but not to abandon the form completely.³¹ Concerning interaction, Charry provides clarification of the presence of a referent and an outline of its likely content, and obviates the bass's relationship to it: a loose but faithful one. He does not, however, weigh in on the

³⁰ Charry, "Freedom and Form in Ornette Coleman's Early Atlantic Recordings."

³¹ Charry, "Freedom and Form in Ornette Coleman's Early Atlantic Recordings,"

saxophone's technical relationship to either the Haden or the referent, nor the interactive dynamics that further construct the performance.

Charry's focus is on establishing the status of the referent rather than its details, but determining a plausible version is necessary to substantiate both a technical and interactive analysis of the solos. Establishing what might be confidently claimed as part of such an ill-defined referent is an analytical judgement requiring some detective work. Using a similar method to Charry's of comparing iterations of the form during solos and cross-referencing with the composition, I have produced a version in Figure 4.2, limited to harmonies that recur frequently and consistently enough within a strictly upheld 43-bar form I can assert with a high degree of confidence.

The first four bars discussed above survive in the solos almost exactly intact from the composition, and through many repetitions of the A section are hence fleshed out to the greatest degree in the harmony. Bars 5–7 and 8–10 form a sequence of two phrases descending a semitone, that reappear during solos. However, in the composition they occur in different keys, and each phrase instead finishes with a fermata on a diminished triad. During improvisation the descending sequence is formed entirely by descending major triads, with the final eleventh bar concluding on E \flat major. In the composition there is a final two-bar melodic phrase in E \flat minor. The second phrase in the referent then adds one additional bar of E \flat major, whereas in the composition it was two bars of E \flat minor. The B section remains wholly intact, expressed during the composition only as root notes performed arco by the double bass, and during improvisation by a clear and consistent use of root notes and fifths. The solos suggest they might plausibly all be major chords, but the more certain choice is simply to retain only dyads in the B

section. While the referent provided is a tentative assertion, it is nonetheless valuable for investigating the relationship between what is audibly apparent, and how interactions may actually be occurring.

A section - (11 bars)

1 F# E^A(#11) A⁷(#11) (E^bm) D (B^bm)

4 E^b D^b B A D

7 D C B^b A^b D^b E^b

B section - (10 bars)

23 A^{b5} G^{b5} E^{b5} D^{b5} B⁵

28 A⁵ A^{b5} G^{b5} E⁵ E^{b5}

Figure 4.2: Suggested referent for improvised solos on “Peace”.

Analysis of Interaction in Ornette Coleman’s Solo on “Peace”

In this section, I animate Haden’s bass and Coleman’s saxophone during Coleman’s solo on “Peace.” The animation affords engagement with various levels on which “freedom” operates in the music, evidencing Coleman’s claims in relation to

Harmolodics. It can be challenging to ascertain what is happening harmonically, because the solos don't bear an immediate resemblance to the composition and there is no clarifying chordal instrument. Possibly for the additional reason of the degree of appositionality throughout much of the solos, most commentators and even many expert musicians have asserted that the solos in "Peace" are freely improvised without any harmonic reference or form.³² Its sparseness is harmonically ambiguous, and challenging to decipher how the "whisps" of tonal information relate to each other.

Coleman's melodies are ripe with motivic development, and Coleman as first soloist uses vocal cries and lyrical, folk-like phrases.³³ Both Coleman and Haden are not nearly as abstract as in other improvisations on this album, and their constant allusion to diatonic progressions makes this an informative transitional case between tonal tradition and Coleman's free jazz pan-tonality.

To make the stakes clear for analysis, I will explore two sections of the solo: the first in more forensic detail, and the second applying these ideas to a longer section. To highlight the issues involved in the first example, I contrast Stephen Rush's interpretation of "Peace" with the findings of Eric Charry's corpus study. Stephen Rush's

³² See Jost, *Free Jazz*; Gunther Schuller, ed., *A Collection of the Compositions of Ornette Coleman* (New York: MJQ Music, 1961); Andrew Fogliano, "Collective Improvisation: Conversation, Interaction and Direction in the Music of Ornette Coleman and Jason Rigby" (Bachelor of Arts with Departmental Honors, Wesleyan University, 2009), 16.

³³ Michael Bruce Cogswell, "Melodic Organization in Four Solos by Ornette Coleman" (M.M., University of North Texas, 1989); Jost, *Free Jazz*.

book aims to induct the reader into a practically-oriented understanding and broad musical-cultural appreciation of Harmolodics.³⁴ It originates from his longstanding personal and musical friendship with Ornette Coleman, he conducts some of the interviews quoted above, teaches a course on Harmolodics and had Coleman’s endorsement of much of the manuscript before Coleman’s passing in 2015.

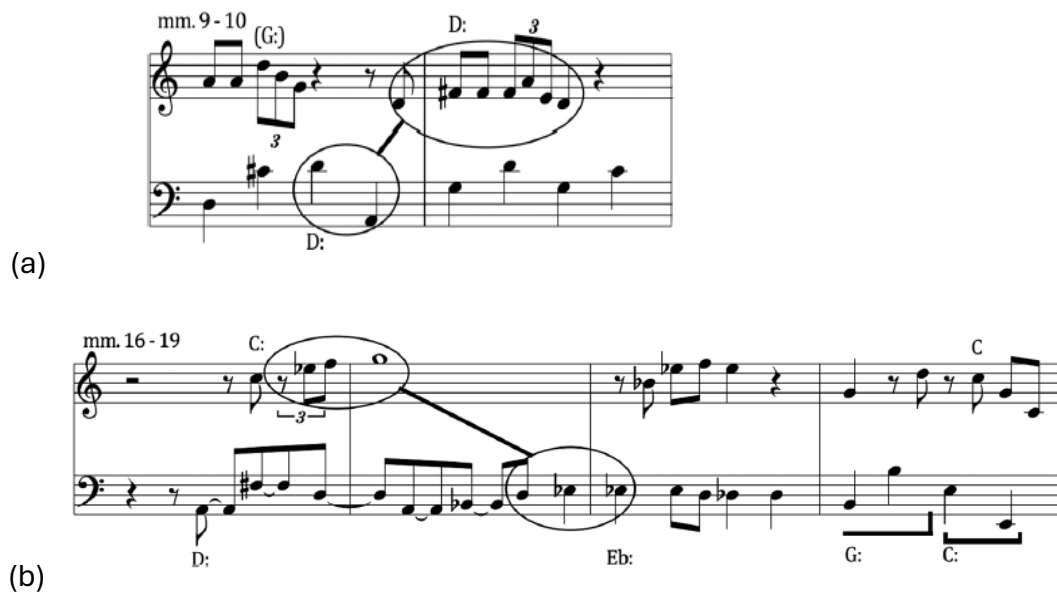


Figure 4.3: Rush’s Figure 1 (a) and (b), showing interactive connections between bass and saxophone during Coleman’s solo.³⁵

While understanding that Rush’s purpose is informative and not primarily music-theoretical, his analytical vignettes nonetheless seldom draw interactive moments together into an integrated whole. He traces how conflicting tonal information is initiated by saxophone, and then appears “conversationally” (after Monson’s

³⁴ Rush, *Free Jazz, Harmolodics, and Ornette Coleman*, xii.

³⁵ Rush, *Free Jazz, Harmolodics, and Ornette Coleman*, 175.

formulation) moments later in the bass and vice versa, shown for example as Figure 4.3. This tonal conflict is often offset by simple, folk-like phrasing. On balancing musical elements, Rush states, “[a]s so often happens, the further ‘out’ he plays harmonically the more ‘in’ he plays melodically.”³⁶

Rush characterises this exchange as exemplary of players listening intently and responding very quickly, crucially without use of a referent. He implores us:

Remember, this is open and freely improvised music, not played over a pre-composed harmonic scheme. The harmony is composed spontaneously in collaboration, here and throughout, between the saxophone and the bass.³⁷

Rush’s interpretation that the musicians are mutually changing course relies on the absence of a referent in order to attribute roughly equal agency to their choices. In these short examples, we miss some technical details about how the tonal conflict is constructed, the tonal distance between musicians, and how the harmony plays out diachronically over longer time spans. Some further technical context provides clarity about how the tonal narrative unfolds.

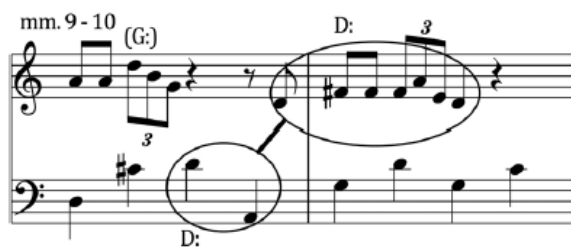
To be fair to Rush’s conclusion here, as mentioned previously, it is indicative of the level of analytical challenge this music presents that numerous scholars have also missed the retention of a form during the solos. More important is to assess what from Rush’s conclusions might change about our perception of agency in light of the referent.

³⁶ Rush, *Free Jazz, Harmolodics, and Ornette Coleman*, 184.

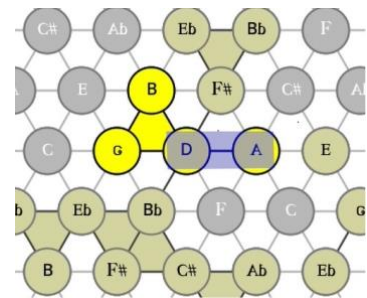
³⁷ Rush, *Free Jazz, Harmolodics, and Ornette Coleman*, 175.

I will outline these impacts, provide my own animated solution to discuss the implications for our technical, interactive and socio-cultural conclusions.

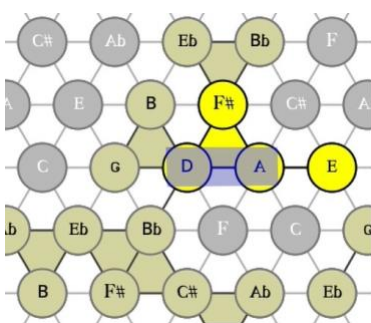
As Rush’s fragments shown in Figure 4.3 (a) and (b) are only separated by five bars, it is opportune to consider the animation of what happens through the intervening bars. This is laid out in Figure 4.4 and then animated in Figure 4.5.



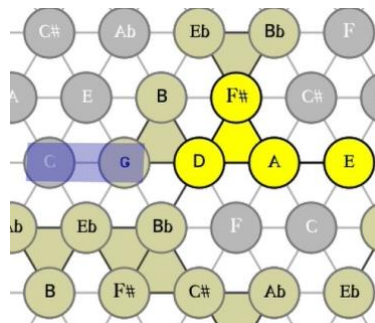
(a)



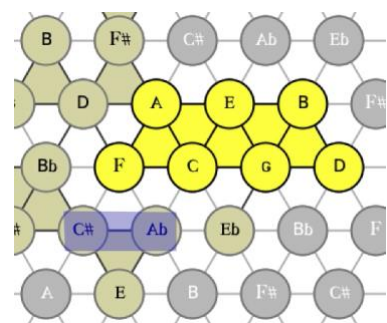
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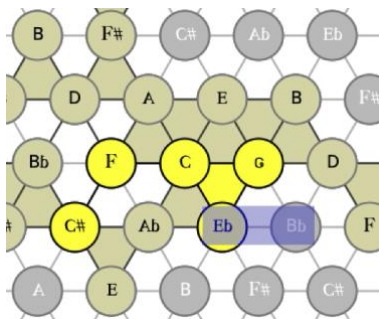
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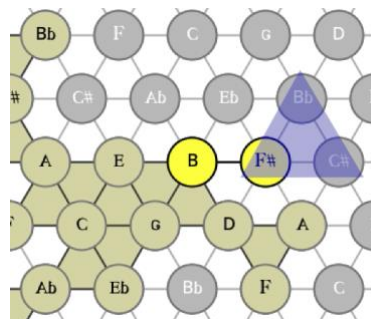
(d)



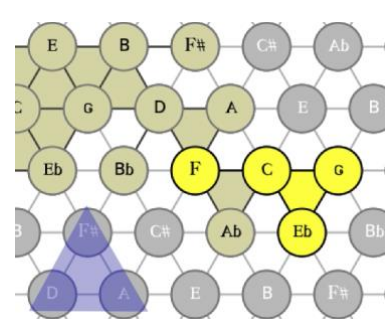
(e)



(f)



(g)



(h)

Figure 4.4: Screenshots from animation of “Peace” showing the interactions from Figure 4.3(a) until the first two bars of 4.3(b). (0:17–0:32 of the solo) Coleman’s saxophone shown in yellow and Haden’s bass in blue.

Both bass and saxophone utilise recognisable fragments of tonal syntax such as diatonic scales and cycles of 4ths. In Figure 4.4, Rush's initial example (a) is shown through (b), (c), and (d). Following the remainder of the passage on the *Tonnetz* shows that, rather than conversational connection of individual triads, Coleman and Haden are actually unfolding a larger phrase together in D major, across (b) and (c). Immediately after the C that concludes Rush's first example, shown in (d), Coleman's saxophone initiates a longer phrase in C major. While the saxophone's C major unfolds, we hear Haden's bass move around the cycle of 4ths to D \flat major, played appositionally to the saxophone's C major, and shown by the visual separation at (e). Then, both move more through convergent harmonies: saxophone to A \flat major and bass to E \flat major, then saxophone to E \flat minor and bass to an F \sharp major triad, shown in (g). No sooner has this consonance occurred, than Haden's bass again moves around the cycle of 4th to D major, while Coleman outlines E \flat minor to E \flat major. This E \flat major superimposed with D major is where Rush's second short example begins, shown at (h).

The animation makes technically clear there is a series of interactive steps occurring. In contrast to Rush's emphasis on moments of congruence, akin to Levy's caution about focusing on unity, there are in fact more congruent and appositional moves than it would seem at first glance. Figure 4.5 animates these interactions through the entire passage: Figure 4.3(a), the intervening bars discussed above, and the whole of Figure 4.3(b).

Figure 4.5: [Animation of Coleman's solo on "Peace" 0:17-0:41, showing saxophone and bass.](#)

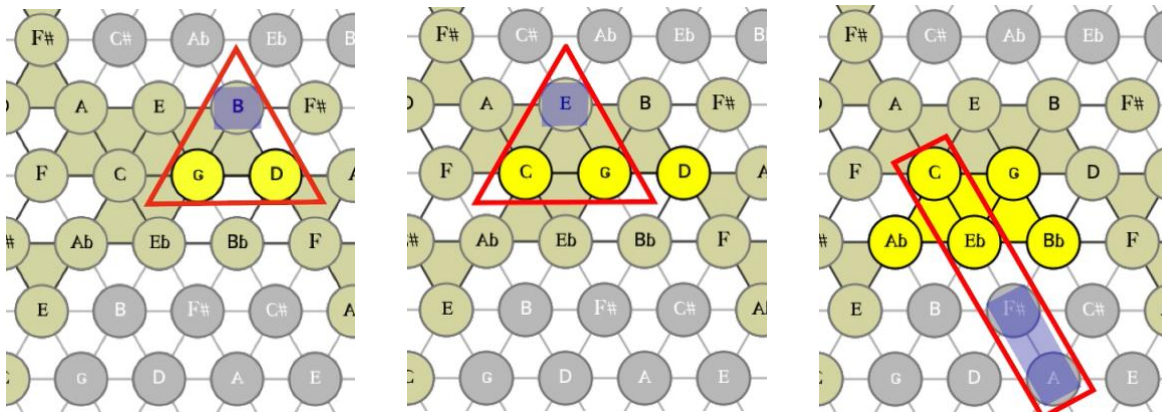
The animation confirms the lyrical, discrete, tonal gestures of Coleman’s saxophone, but also highlights the swirl of tonalities that resemble the way Coltrane and Tyner orbit each other. If we trace the moves of Haden and Coleman during this sequence, a series of contrasting tonal regions emerges, grouped together in Figure 4.6. In the table, Rush’s first example occupies the first boxes until the very beginning of the second, while his second example occupies most of the third box. In the intervening bars and afterwards, there are various moments of apartness. Once we reach Rush’s Fig.1b, bass clearly joins the saxophone’s Eb major. In the final bar of Figure 4.3, Rush shows congruence on Eb major moving to an intuitive agreement on C major and G major triads.

	Rush’s 1A.....		1B.....	
Coleman	D	C----- Ab - Eb m - Eb --	Eb -----	Eb -----
Haden	D -----> (Cycle of 4ths)	----> Db - Eb - F#-----> (Cycle of 4ths)	D -- Eb -----> (Cycle of 4ths)	D----- Eb

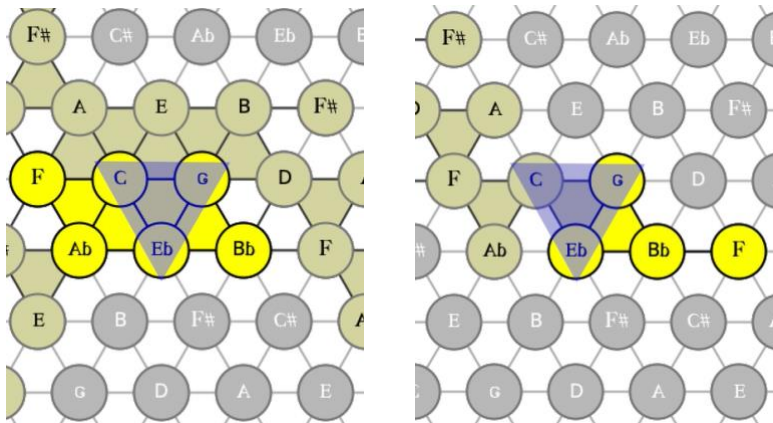
Figure 4.6: Tonal centrality of saxophone and bass during Figure 4.5 (0:17–0:41).

What Rush importantly identifies here is twofold: the audible harmony’s frequent moments of connection despite many moments of conflict, and the audible harmony emerges as a composite harmony of the two instruments. This becomes especially apparent as we consider the animation of this moment in Figure 4.7, and how the bass plays the third of each triad, with saxophone playing root and fifth. I refer to this as a

“third harmony.” In much the same way as two notes sung perfectly in tune can resonate a third note, the internal harmonies of each individual instrument combine to form a third harmony that is what we actually hear.



(a) (b) (c)



(d) (e)

Figure 4.7: Screenshots of animation in Figure 4.8, showing the “third harmony” outlined in red, and Haden’s subsequent convergence with Coleman in Eb major.

Figure 4.7 shows a further audible harmony as a diminished seventh chord immediately after the G and C triads. Coleman’s omission of a chordal instrument

allows a coherent additional harmony to emerge independent of the harmony articulated by either instrument that constitute it.

The animation provides broader interactive context to show how these audible harmonies are actually formed. If we follow towards the end of Figure 4.6 from 0:34 to 0:41, it becomes apparent that Coleman's notes are part of a longer, sustained unfolding of E \flat major. Meanwhile, the bass notes are only passing momentarily through G and C as one of several cycle of 4ths gestures (the third such cycle occurring during Figure 4.6). Haden's cycle of 4ths spans from E \flat major all the way until landing on D major, followed by his sudden move to join Coleman's E \flat major. The resultant composite, "third harmonies" are outlined in red in the animated Figure 4.8.

Even before we consider the referent, the animation gives a greater sense of technical and interactive intersections involved in three dynamics. Firstly, the harmonic congruence of G and C major triads. Secondly, harmonic opposition reaching its height in D major against E \flat major. Finally, the animation shows the moment-by-moment choices that produce an audible "third harmony" that is not part of the harmonic trajectory of either musician.

Figure 4.8: [Animation of Coleman's solo 0:34-41, showing the audible "third harmony" outlined in red.](#)

Introducing the Referent to the Audible Harmony

The allusion throughout my analysis thus far is that Rush's conclusions about interaction are challenged by introducing the referent. His identification of the audible

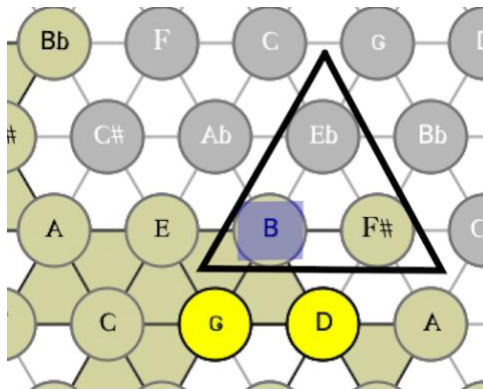
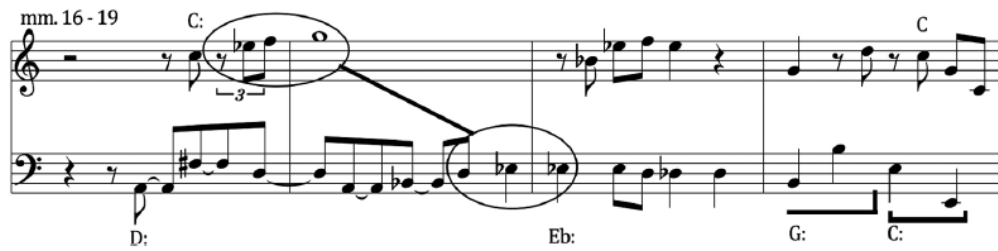
harmony is correct but not how this harmonic complexity is interactively constructed.

By contrast, in his corpus study, Charry finds that in the case of “Peace”:

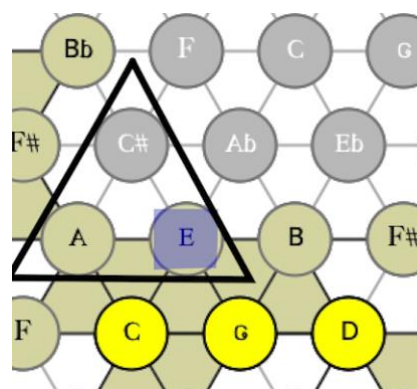
The form is upheld strictly, with a few exceptions to be noted shortly. The B sections, consisting of a descending bass line as played in the opening melody chorus, are inviolate. They predictably occur where they should in an AABA form throughout the piece, and Haden plays the line clearly enough so that there is little question of obedience to the composition.³⁸

Introducing the referent changes the status of interactions: though what we hear does not change, our understanding of what underpins the sounds we hear does. The “third harmonies” in Figure 4.8, even taking into account the larger tonal gestures that constitute them, are not the whole story. In Figure 4.9, the G triad is produced by the intersection of the saxophone’s G and D with bass playing the root of the referent’s B major chord. However, the C chord emerges from a three-way intersection. The saxophone’s C and G are still part of Coleman’s unfolding phrases in E \flat major, while the E bass note is actually the fifth of the referent’s A major triad. To unpack this complexity, first consider Figure 4.9, showing the same G and C major triads as before, but with the referent outlined in black.

³⁸ Charry, “Freedom and Form in Ornette Coleman’s Early Atlantic Recordings,” 271.



(a) measure 19, beats 1-2



(b) measure 19, beats 3-4

Figure 4.9: Screenshots of Figure 4.10, showing the referent added to the last bar of Figure 4.3(b), referent indicated with black outlines.

Then, adding the referent to the animated Figure 4.10 reveals that the Coleman and Haden's interactive roles are the opposite to how they sound just from listening. What sounds like Haden pulling chromatically away from Coleman's sustained $E\flat$ major is in fact almost exclusively tracking the motion of the referent. One notable exception is at 0:36 (bar 15), where the referent's D major causes a clash with Coleman's $E\flat$ major, and Haden quickly adjusts in the space of a bar to join Coleman instead. However, it is in fact Coleman's $E\flat$ major that is the divergent choice, by contradicting the referent's chromatic motion.

Figure 4.10: [Animation of Coleman's solo 0:34-41, showing the referent outlined in black](#)

What Figure 4.10 makes apparent is that the C major we hear is produced by a very particular intersection of notes from Coleman's E \flat major melody and Haden's A major bass harmony. Adding both the audible harmony to this example demonstrates the complex relationship between audible and inaudible processes in appositional playing. Within only a few bars, a seemingly simple harmony now unfolds a multi-layered relationship between the referent and the intersection of both musicians as they listen and respond to harmonies that are emerging in real time. Consider Figure 4.11, in which we see composite harmonies in red, partially intersecting with the referent in black.

Figure 4.11: [Animation of Coleman's solo 0:34-0:41, showing audible harmony outlined in red and referent in black.](#)

Haden contributes to this inversion of the audibly apparent interactive dynamic by employing several tactics to obscure the referent without deviating significantly from it. His repeated cycle of 4ths is actually a slight obfuscation of the referent. This is a common tactic from Haden more broadly during the solo, often anticipating or delaying chords. He frequently chooses intervals of fifths or octaves, and instead of filling out the third of the chord, he instead leaves them ambiguous without their thirds, and frequently places the 5th on beat 1 instead of the root. The few occasions he defies the referent, he either engages the "option B" of bar three and four, opting for E \flat minor to B \flat

minor instead of A7 to D major, or he resolves a clash by moving congruously toward Coleman and then returning to the referent shortly after.

This purpose of unpacking this short example in such detail is to illustrate a principal at work more broadly in the rest of “Peace” and Coleman’s other early albums: the difference between what is audible and the inaudible frameworks that underpin it. The complexity of relationships between what is audible and the inaudible is also instructive for how we engage improvisation’s emergent creative process. The longer example in the next section demonstrates how these principles play out over longer spans of time.

Kaleidoscopic Misalignments and Near Misses

A later section in Coleman’s solo illustrates the way in which his Harmolodic approach produces a kaleidoscope of musical misalignments. Rather than considering them as functioning in expected ways of tensions requiring resolution, the animation substantiates how we can adjust our hearing as Kwami Coleman advocates for in his discussion of the album *Free Jazz*. He emphasises their gestural, group relational qualities: “[t]hese parameters are not absent but are, instead, fluid, and that creates an opaque mass of sound driven by ensemble momentum. Rather than ‘assimilate’ into one meter, key, or harmonic progression, the musicians on *Free Jazz* explore unity in plurality and ‘harmony’ by cooperative simultaneity.”³⁹

Using almost the same excerpt as Rush, I’ll again introduce the referent to illustrate divergent harmonic paths. Using 2:13-2:37 from the solo, I will additionally

³⁹ Coleman, “Free Jazz and the ‘New Thing,’” 288.

introduce the referent and phrase structure to illustrate the multiplicity in Haden and Coleman's interaction. Rush identifies a series of implied tonal relationships, listing a sequence of seven tonal conflicts before resolving together. Given what we've considered above, the obvious question is whether the coordination of such a long series of tonal conflicts is mediated at the level of inter-musician interaction, or at the level of the referent?⁴⁰ Let's consider first what is audible. Rush says of this section:

Notice the strident difference between saxophone and bass here—D \flat major vs. G minor in m. 71, B major/minor vs. G minor in m. 72, A minor vs. F minor in m. 73, A \flat major vs. G minor in m. 74, G \flat vs. E \flat in m. 75, e \flat vs. f in m. 77, then E \flat minor vs. major in mm. 78 and 79: total conflict until the resolution to E \flat in m. 80.⁴¹

Rush gives an account of the harmonic apartness—polytonality derived from the two musicians—but not the interactive dynamic. Who is leading, who is following, and how are these interactions occurring? Let's begin with what is audible in Figure 4.12.

Figure 4.12: [Animation of Colemans' solo 2:13-2:37, showing the audible saxophone and bass.](#)

⁴⁰ At this point is worth noting that my transcription differs from Rush's in some note choices and rhythms through the double-time section, and the rhythmic placement from Rush's bar 73-80 (my bar 71-78). This doesn't affect my general claims, but knowing this will reduce confusion for readers who compare the examples in detail.

⁴¹ Rush, *Free Jazz, Harmolodics, and Ornette Coleman*, 177.

The animation suggests an alternative to Rush's grouping of key centres. Rush's labelling of G minor, F minor and E \flat major can be grouped together as a broader, sustained gesture in E \flat major. Under this diatonic view, the B \natural s suggest a common bebop choice of a $\flat 9$ on the V7 chord, and the later E \natural as a leading tone toward the F that initiate the final melodic conclusion, outlining a ii-V7-I in E \flat major. A simpler interpretation of Coleman's melody is offset by a chromatically shifting bass line. Haden uses a prevalence of perfect fifths, until the more unpredictable final few bars. I hear Haden's unpredictable ending eventually follow Coleman's melodic resolution to his sustained final E \flat , but a bar behind and slightly out of sync.

Coleman's simple lyrical melody—almost exclusively in E \flat major—is harmonically uneventful considered alone but more intriguing considered in relationship with bass and referent. The sparseness without a chordal instrument presents a specific challenge to drawing clear conclusions, both aurally and analytically, about harmonic interactions. Just because Coleman is internally consistent with E \flat major doesn't mean his moment-by-moment choices in relation to the bass are also straightforward. The way each instrument completes an inferred harmony of the other becomes more salient, and therefore the aggregate harmony more pertinent to analysis than might be the case with a chordal instrument.

This passage contains two divergent arcs, during which Coleman and Haden move oppositionally, the aggregate harmony more dissonant, then converge again. These two arcs contain both some of the most harmonically intriguing parts of the solo, and the only substantial disruption to the otherwise consistent walking bass and gentle swing feel of Higgin's drums. These two arcs are mediated by Coleman's strongest

motivic playing of the solo. An initial striking G, B \flat , B motive ascends and descends, before breaking into ascending and then descending sequences.

The motivic details are not as important as the strong gestures and where they begin and end, but for the reader, they are included in Figure 4.13. In the animation of Figure 4.12, we saw an initial convergence on E \flat major gives way to gradually more incongruous bass notes, until a maximum harmonic tension between of G \flat , D \flat , in the bass heard against D and G in the saxophone at 0:10. The point of rest for the motivic phrase is on the final high D, but the harmonic resolution doesn't occur until the next phrase begins, and an A \flat and completes the E–B dyad to form an E major triad at 0:12. Here, the phrase contour and harmonic tension are misaligned by two bars.

The image shows three systems of musical notation for a saxophone solo. Each system consists of a treble clef staff and a bass clef staff. The first system (measures 68-71) features a melodic line with triplets and a bass line with chords. Annotations include 'motive 1' over measures 69-70, 'motive 1' over measures 70-71, and '1b' over measure 71. Chords are labeled as E \flat 5, D \flat 5, B5, and A5. The second system (measures 72-75) shows a melodic line with a long note in measure 72 and a bass line with chords. Annotations include '1a' over measures 73-74 and '1a' over measures 74-75. Chords are labeled as A \flat 5, G \flat 5, E5, and E \flat 5. The third system (measures 76-79) shows a melodic line with a 'CH2 A3' box over measure 76 and 'truncated motive' labels over measures 77-79. A bass line with chords is also present. Chords are labeled as F#, E Δ (#11), A7(#11), D, E \flat , and D \flat .

Figure 4.13: motivic structure of Coleman’s melody, animated in Figure 4.12.

The second arc is less divergent, but with a final convergence that is asynchronous and interactively intriguing. Beginning with agreement on E \flat major scale at 0:13 of Figure 4.12, it reaches maximum tension with Coleman's F against an E–B dyad in the bass at 0:18, before reaching agreement again in E \flat major. Coleman's concluding phrase is a clear, upward, bebop-style resolution to the tonic of E \flat major on beat 1, reinforced by holding high E \flat for two bars. As Coleman approaches this concluding note, Haden has reached B \flat in the bass, and together the implication I hear is of B \flat 7. However, as Coleman lands on his concluding E \flat , Haden moves to an A, quickly abandoning it and cadencing back to join E \flat major a bar later than Coleman. I hear this E \flat against A moment at 0:18 as a jazz cliché: chromatically descending chords beginning on the raised fourth downwards to the tonic as a common way of ending a tune. It is a distinctive sound in the context of a strong tonal gesture to the tonic of a key. However, any potential of this interpretation is quickly abandoned. Instead, Haden shifts chromatically via B \flat and D to join Coleman's resolution to E \flat , creating the distinct impression of arriving at the same destination at different times: a “near miss” in the “game of tag” analogy. The aural effect is of revolving wisps of tonal gestures, finally finding each other through kaleidoscope of interactions. This is the kind of mistiming one might expect by working this out in real time.

Figure 4.14: [Animation of Colemans' solo 2:13-2:37, showing saxophone, bass, and referent.](#)

Introducing the referent to this sequence both clarifies interactive dynamics and reveals a greater degree of complexity. The referent, outlined in black in Figure 4.14,

shows that as before, the bass is primarily articulating the referent, with a similar role reversal in Haden and Coleman's responsibility for what sounds like divergent motion. For example, the highest point of tension in the first arc at 0:10 is created by the G and D of Coleman's E \flat major persisting against the F \sharp -C \sharp dyad of the bass, consistent with the sparse dyad of the referent, without embellishment. Note however, that while Coleman's two arcs of divergence stand against the referent in the synchronic sense, moments of alignment are often the co-result of two diachronically misaligned harmonic spaces. In other words, the harmonic effect is a result of notes from E \flat major completing chords in the referent belonging to other keys. The audible consonances occur only where referent happens to pass through E \flat major, and not in structural locations in either the form or Coleman's phrases. In fact, this whole exchange starts four bars into the B section, and they finally converge five bars into the last A section.

The multiplicity of Coleman's referent—his alternative harmonies of bar three and four of the A section—play a part in the final, asynchronous resolution. Towards the end of Figure 4.14 (at 0:15-0:22), the four bars begin the final A section of the form with Coleman mid-second-phrase of the second divergent arc. The next bar reaches Coleman's tension of F against the Haden's E-B dyad. Then, Coleman emphasises A \flat against what should be the third bar's A7 \flat 9 \sharp 11: one of the most dissonant possible choices. However, Haden instead chooses the third bar's "option B," momentarily sounding a B \flat against Coleman's A \flat — not only congruous with Coleman's E \flat melody but outlining its dominant B \flat 7. This brief implication is disrupted on beat 4 by Haden's move to an A: interpreted either as a late move to opt after all for "option A" and A7 \flat 9 \sharp 11, or anticipating "option A" of D major in the fourth bar. While Haden is still

working through the options is when Coleman lands his final high E \flat , creating the aforementioned E \flat against A moment.

The resolution of Haden to Coleman's held E \flat seems aurally to meet Coleman a bar late, however the bass transition to E \flat actually anticipates it by a bar. Whether driven by referent or responding to Coleman (or a combination of the two), the paradox of *sounding* late but being early in *relation to the referent*, is indicative of their freedom with the referent and the entanglement of their interactions.

In summary, while the referent might explain Haden's overall path, this seeming anticlimax does not capture the three-way misalignment of form, harmony and phrasing. Despite the internal logic of both Coleman's melodic phrases and the harmonic tension and release with the bass, the timing of each aspect misaligns both with each other and their location across formal sections. Coleman and Haden are enacting musical freedom from the necessity of agreement, seeming at once decoupled, yet audibly part of a cogent musical whole. Kwami Coleman describes this idea by invoking Édouard Glissant, saying:

With the "transparency" of objectivity, the messy, unpredictable, and irrational breadth of human experience is denatured, and the subject reduced into a known, sterile object. Getting comfortable with the lack of clarity that comes with embracing *opaque multiplicity*, according to Glissant, is a poetic alternative to the rigid Enlightenment model of universalist "totality" to which all human beings are expected—or forced—to acquiesce [emphasis added].⁴²

⁴² Coleman, "Free Jazz and the 'New Thing,'" 292–93.

The three-way potentiality created in the one musical moment examined above illustrates how the relationality transcends the contribution of any one member or the mediating power of the referent. The animation helps direct our hearing towards multiple intersections in just two bars. First is the referent's multiplicity (its "options A and B") with Haden's deploying both options together in delay or anticipation (it's unclear which). Second is the interaction initiated by Coleman's semitonal displacement of the referent. Lastly, several harmonic potentials are initiated and just as quickly abandoned in favour of a final—but staggered—convergence.

While on the whole, the interactive agency in Colman's solo might now be weighted in favour of Coleman rather than Haden (as listening alone leads us to believe), their choices intersect in ways that are not so simple. Haden facilitates through his flexible rendering of the referent which, by being malleable, helps create far more activity, momentum and ambiguity than a more straightforward rendering of the referent would allow.

Through substantiating multiple dynamics at play, the animation connects us to how else the music "might have gone." Our technical understanding of the audible harmonic conflict has not substantially altered, but its relationship to the abstract referent that underlies it, the relationship of each musician to it and their subsequent interactions with each other are substantially more nuanced.

Coleman Actualising the Referent's Potentialities

Having considered two interactions in great detail, a zoomed out view of Coleman's entire solo connects its larger trajectory to Coleman's articulated Harmolodic sense of freedom. It is during the opening section of his solo in Figure 4.3 that Haden's—and

especially Coleman's—harmonic choices are the most divergent and unpredictable. Coleman has not yet settled into his Eb major through-line that dominates the second half of his solo.

Figure 4.15: [Animation of Coleman's full solo, showing saxophone and bass](#)

My initial analytical intuition on Coleman's persistent Eb major was to categorise its simplicity as harmonic generalisation. Representing a simplification of the form, this idea is one of ignoring harmonic details in favour of an overarching tonal centre. This intuition was grounded in a Eurological hearing of music-theoretical hierarchy and tonal function that interprets dissonance against an objective and singular referent. However, its inadequacy is revealed by the animation. A simple accumulation of the notes of Eb major—somehow doing less than the chromatic referent—is clearly not how the music is operating as the above analysis shows.

Here is where my own intuitions as a jazz practitioner and theorist, with a grounding in various mainstream and inherited music theories, is challenged by the theoretical consequences of taking Black Aesthetics, Moten's ontology, and the ideas of Harmolodics seriously. I take this personal turn here in response to numerous Black scholars. In particular, Guthrie P. Ramsey's call for white scholars to be more self-reflexive about their analytical positionality, but avoiding tokenism but ensuring a substantive consequence for their analysis.⁴³ In this case, these considerations suggest to me two alternatives to my initial instinct.

⁴³ Guthrie P. Ramsey, *Who Hears Here?: On Black Music, Pasts and Present* (University of California Press, 2022), 88.

The first grapples with the greater significance of Coleman overlaying predominant diatonicism over a harmonically chromatic form. Consider for a moment what might constitute a tonic key for Coleman's solo in "Peace," animated in its entirety with the referent in Figure 4.16. Though E \flat centrality is prominent, closer examination of composition and referent show that E \flat is only one of many possible tonic candidates. For the composed form, the E \flat candidate would be E \flat minor, not E \flat major. The composition's first four bars (shared by the solo referent) begin in B major, quickly reharmonising its notes in D major. The subsequent phrases of the A section in the composition transpose the melodic motive down a semitone and resolve to diminished chords, while the same portion in the solo referent descends through whole tones, cadencing in D and D \flat major before an eventual E \flat chord. The B section, intact in the referent from the composition, passes through E \flat -B \flat dyads. However, a key centre of E \flat —and especially E \flat major—is not a given against its chromaticism and alternatives, even while E \flat retains the most prominent centrality overall.

Alternatively, as Coleman begins his solo it is from a place of multiple as-yet-undecided potentialities. The solo referent—different from the composition—is so far unheard and unrealised until Coleman unfolds them over the first 43 bar form. During the first A section he introduces a wide range of divergent harmonies that only gravitate towards E \flat as the form progresses. The solo referent—not readily apparent nor accessible to the listener—contains multiplicity and ambiguous dyads in the B section ripe for interpretation. It is only as Coleman's solo progresses that he increasingly settles in E \flat major, but still includes other appositional choices until the very end, never leaving his choice firmly settled. It is only through Coleman's artistic labour that E \flat

major is actualised as a solution to the referent's multiple potentialities, and in this performance actualises one particular solution of many potential solutions.

Figure 4.16: [Animation of Coleman's full solo, showing saxophone, bass, and referent.](#)

The second interpretative possibility is the particular way Coleman deploys diatonicism, repurposing existing elements to reimagine possibilities. An important signifier in Afrodiasporic practice is recurring cycles, for example a groove, a harmonic cycle or cyclical form. The repetition-with-difference “signifies”—after Henry Louis Gates—on existing material with each new iteration. Embedded within Coleman's apparent harmonic simplicity are numerous implied chord cycles, one of the most distinct being C7–Fm7–Bb7–Ebmaj7, diatonic except for a secondary dominant C7 chord. This progression, a staple of jazz standard repertoire, is obvious in the final phrase of Coleman's leadup to the high Eb in Figure 4.14. However, it is also a prominent implied harmony during the first B section of the solo. Here, he performs two cycles of this turnaround in Eb, distinguished each time by the Eb1 that signal the start of the cycle (0:51-1:07). Allusions to this chord cycle are scattered unevenly throughout his improvisation, again frequently placed across boundaries between sections of the form.

There are, however, further interpretative possibilities that cannot be directly engaged by animation on the *Tonnetz*. Similar to the discussion of the Coltrane Quartet at the end of chapter 3, there are limitations built into my methodology as grounded in NRT. However, I argue that, compared to many other modes of analysis, layered

animation gives a greater sense of the multi-valency of the interaction and its ambiguity, in a positive sense. Rather than providing a definitive answer, these animations lend themselves to interpretation via different lenses, as I have drawn out in this case study. Nonetheless, there are interpretations possible—including music-theoretical ones—not so reliant on visualisations skewed towards formal coherence. One intriguing example is *Ornette Coleman, Psychoanalysis, Discourse: Movements in Harmolodic Space*, in which A.L. James's proceeds from a psychoanalytic treatment of Coleman's words about what it means to *follow* in his music, especially when *follow* overlaps with *do your own thing*. From this premise, James translates many uncovered principles into music theory and even transformational theory. The question of what future music-theoretical intervention best serves an Afrological hearing of the music, or what blend of methods, lies in the future. For now, I will return to the consequences of the animated methodology presented in this chapter, with respects to Ornette Coleman and "Peace."

The overall harmonic logic is an inversion of Coltrane's solo in Chapter 3 and of a typical solo arc of tension and release. Where Coltrane—as is more typical—starts from a point of congruence with the referent and gradually builds greater appositional tension until eventually coming together, Coleman does the opposite. He starts from a position of many tonal superimpositions, but gradually narrows them to one predominant tonality, choosing a through-line amongst the referent's chromaticism.

This strategy may well have rubbed off on one of Coleman's early collaborators, pianist Paul Bley. Sean Smither says of Bley's apparently appositional playing on *All The Things You Are*:

Bley's strategy consists of "play[ing] a phrase in a tonality completely unrelated to the underlying chords." [Norman Meehan] cites mm. 77–84 (3A1.5–3A2.4) of

Bley's solo, where a phrase in D major is superimposed over chord changes that suggest keys of A-flat major, C major, and E-flat major. Rather than simply playing "out," Bley's conspicuous superimposition of a coherent diatonic collection over conflicting harmonies seems to simultaneously communicate knowledge of the referent and a desire to produce tension against it. Indeed, Bley's utterances only appear avant-garde because of the context provided by the referent on which he signifies.⁴⁴

Coleman's harmonic gestures, often using bebop-style phrases, not only connects to tradition as Amiri Baraka asserts, but also repurposes familiar elements in service of playing appositionally with the pre-agreed form. This appositionality is frequently both harmonically *and* formally apart from the referent. The organicism apparent in Coleman's unfolding of Eb major displays all the characteristics that Coleman and his collaborators describe as Harmolodic: prioritising melody, creating space for the contributions of all members, and allowing those contributions to substantially shape the course of events. Even though Haden retains his role of anchoring the referent, the way he executes this—with malleability and often obfuscated harmonies—contributes substantively to the harmonic disorientation. Though "Peace" occurs early in the Quartet's progress toward abandoning solo forms, there is already a clear de-prioritisation of traditional ensemble structures and processes to loosen the relationship between musicians and referent, and the interactive dynamics of ensemble roles.

⁴⁴ Smither, "All the Things Tunes Are," 182.

A technical explanation of describing Coleman's persistent gravity towards Eb major while Haden outlines the referent does not adequately account for the kaleidoscopic misalignments, multiplicity, near misses and actualisation of the referent's potentialities that emerge from their interactive combination. Their irregular flux of divergence and convergence at unexpected points of form and phrase all coalesce to create a rich tapestry of interactive freedom. This freedom is apparent and audible to the listener on one level, but its expression is also embedded in technical relationships between musicians and the referent; and in the "opaque multiplicities" of interaction. As an early manifestation of decoupling from the referent, "Peace" presents a transitional stage, initiating changes further realised in the coming years and dramatically so in the album *Free Jazz* very soon afterwards. Coleman's flexible relationship to both referent and ensemble roles enacts freedom on technical and interactive levels simultaneously. Consequently, it is an especially revolutionary expression of musical freedom considered against the context of late 1950s jazz.⁴⁵

⁴⁵ Jazz of the 50s and 60s was dominated by seventh chord harmony and (especially post-bebop) their tertian chordal extensions or, post-McCoy Tyner and Bill Evans, their quartal re-expression. Against this background practice, the persistent use by Coleman in both his compositions and improvisation of simple triadic harmony and melodic motives is distinctive, and accounts for what is generally termed his "country" or "folk" inflections. A similar fascination with triadic harmony is shared by Keith Jarrett, key in developing his own unique style. Jarrett connects his style to innovations by Ornette Coleman and Charlie Haden (with whom he also performed), expressed in a candid interview with Rick Beato (Beato, Rick. 'The Keith Jarrett Interview,' YouTube

This methodological means of examining Harmolodics has demonstrated how animation can substantiate the technical and interactive details of free jazz. It has developed technical and interactive evidence substantiating Coleman's own claims about Harmolodic and socio-cultural freedom, as he allows ensemble members agency to shape his own compositions and improvisational practice. It has further substantiated how some of those principles play out in the audible music and its inaudible processes. This chapter forms a starting point for further discussion of how Ornette Coleman's ensemble and Harmolodics connect different conceptions of freedom across all three domains.

video, 26 February 2023, 23:29 to 27:05.

<https://www.youtube.com/watch?v=xgL30jDhoQU>.)

Conclusion

1960s jazz challenges our understanding through its sudden increase in complexity, particularly through appositional playing and its heightened social meaning during this period. Our understanding shapes the way we hear the music: whether we hear appositional playing as dissonance with the norm or dissonance as the norm. Further, bound up in how we hear musical appositionality is our perception of identity, otherness, narrative, and agency. A Eurological hearing, as characterised in this thesis, risks containing expression only to the relations between pitches. Whereas an Afrological hearing, after Fred Moten, makes interpretative room for a broader sociality of which musical expression is only one part. Such a hearing instead affords interpretations of relationship, motion, or as Gordon Williams puts it, “asymmetry, trial by fire, disavowal of the monochromatic, and joyfully colouring outside the lines.”¹

Musicians’ destabilising of ensemble roles such that more members simultaneously depart from the composed materials (the *referent*) heightens the complexity of improvised interactions. Not only is the result in 1960s jazz more technically complex but resists the accepted norms of jazz performance until that point. In the USA, 1960s resistance to musical norms is bound to socio-political expressions of resistance to institutional and societal treatment of Afriocan American musicians in particular. However, within Black culture, that resistance is not merely protest but instead transmits empowerment through personal transformation, spiritual

¹ Williams and Kelley, *Crossing Bar Lines*, 67.

renewal, or enacting freedom musically. For the musicians, the power to achieve these transformative goals through abstraction, facilitated by the technical specifics of their musical materials.

In the introduction to this thesis, we explored the entanglement of Ornette Coleman and John Coltrane and their ensembles, illustrative of two distinct strategies for problematising the confines of the referent. By choosing how they transgress its boundaries, they develop very different responses producing unique interactive strategies, that shape contrasting social meaning. The Coltrane Quartet achieves this by maximising the potential of the referent, especially for harmonic substitutions and multiple layers of abstraction and stretching the referent to its limit. These multiple layers are created by the ensemble in interactive relationship: the harmonic layers particularly between Coltrane and pianist McCoy Tyner. By contrast, Coleman's ensemble leverages his theory of Harmolodics to raise the status of interaction to disrupt the referent, and eventually overtake it altogether. By inviting the contribution of all ensemble members even to determining the referent itself, Coleman affords a levelling the hierarchy between musicians *and* musical elements, allowing interaction to spill over the boundaries of the referent.

Chapter 1 examined how the common interpretation of *outside* playing has generally been interpreted in musicology and music theory through a European philosophical lens. George E. Lewis's distinction between "Afrological" and "Eurological" musical logics provides the foundation from which to examine the differences between European and Afrodiasporic ontologies of dissonance by Black radical scholars. In particular, Fred Moten builds on Adorno's dialectical dissonance to argue for distinct Black ontology of dissonance and expression prior to and exceeding

music. His specific conception of *noise* describes expression that is irreducible to systems, and cannot be normalised with consonance. This ontological dissonance encapsulates the kinds of fecund sociality, multiplicity, refusal, paradox, and sense of ensemble at multiple levels so necessary to engage appositional improvisation and its social meanings. Assumptions about Black musical expression captured by Anthony Braxton's "reality of the sweating brow" have long construed improvised Black expression as an impulsive "natural" state, limited to the realms of hedonistic, immoral, or primitive stereotypes. Instead, jazz culture's *blues aesthetic* values bringing something of one's unique identity as a contribution to the music, and being open enough to receive both the contributions of others and the music's transformational potential. A primary concern with creativity, distinctiveness and interactivity necessitate differentiation from, rather than unity with, a musical "inside" that describes "how the music usually goes." The intensification of multiple musicians playing appositionally and free jazz's destabilisation of a stable referent calls into question disrupts conventional practice and requires a deeper listening for the relationships enacted through various layers of the music.

Black musical ontology sees improvised musical relations as commensurate with relations between people, with their plural and diverse—often incongruent—experiences that Williams describes as "improvised expressions of humanity."² Black musical culture therefore sees Afrological music in no need of resolution. Instead, engaging with improvised transgression as an interactive practice is more fruitful.

² Williams and Kelley, *Crossing Bar Lines*, 28.

Benjamin Givan's reframing of "outside" playing as "apart" playing an Afrodiasporic practice inherited from West African drum circles emphasises jazz improvisation's relationality and interactivity. However, to further overcome the Eurological baggage of "clash and conflict" narratives, I instead embrace Moten's terminology of "appositional" playing to reflect musicians held in relationship in productive "copresent nonconvergence"³ and refusal of the "call to order."⁴ I retain "apart," instead reserving it for its useful distinction for purely technical description. Appositional playing transmits the cultural value of coordinating in a group while playing distinctly from everyone else as a demonstration of connectedness and community. Jazz takes that cultural practice and extends it beyond rhythm to pitch, timbre and form. Applied to 1960s jazz, appositional playing introduces music complexity through a wide range of musical relationships that manifest in group dialogue with the referent. Under this view, appositional playing introduces a wide range of convergent and divergent relationships between musicians, and between musicians and composed materials, redirecting our gaze toward how sounds, underlying forms, and people are interactively oriented towards each other.

Chapter 2 built upon Moten's work by instigating a music-theoretical pivot toward David Lewin's "transformational attitude." Lewin provides a well substantiated music-theoretical foundation for the advantages of transformational analysis and NRT specifically to pivot toward motion and action. Jonathan De Souza clarifies the improvisational resonances for jazz of Lewin's "attitude," by de-emphasizing

³ Moten, *In the Break*, 34.

⁴ Harney and Moten, "The Undercommons," 8.

measurement and a retrospective view of the end goal, in favour of prioritising the “characteristic gesture” itself.⁵

The rationale for my approach is anchored in Eric Isaacson’s argument for the advantages of animation over still images in engaging temporal relationships. Still images perform best with only one variable mapped against time, whereas appositional playing necessarily involves multiple relationships between musicians, and between musician and referent. Appositional playing requires too many still images to satisfactorily capture and is attached to the temporality of performance. Still images, as a series of snapshots in time, distort temporal relationships by implying events of equal spacing and status. Whereas in fact, discerning their importance relies on being able to perceive—to listen and watch—their temporal unfolding. Animation is better suited to this task, by showing both multiples and sequences.

Leveraging the potential of *Tonnetz*, my new animated music-theoretical tool redeploys it to engage directly with interaction. The *Tonnetz* overcomes various challenges of reading multiple harmonies together at the same time, and of different cardinalities. Where tonal key areas remain relevant to the music, they can be read as macroharmonic regions on its grid, and subsets of tonalities by their location within those regions. By animating multiple musicians together, I trace their motion and relationships as they move through the *Tonnetz*. Tracing these harmonic gestures on the *Tonnetz* affords a simultaneous view of their technical relationship—how far apart of together they are—and their interactional relationship through time. Thus, animating on the *Tonnetz* affords adopting Lewin’s “transformational attitude” by tracing the motion

⁵ De Souza, “Melodic Transformation,” 228.

of “characteristic gestures” through time, while preserving the discrete contributions of each musician.

The two case studies of John Coltrane and Ornette Coleman’s shed new light on the sonic phenomenon listeners have regularly identified as “transcendence” and “freedom” in their music. The animation demonstrates how their contrasting strategies, which I characterise as maximising and disrupting the referent, leverage very different interactive strategies—relying on contrasting technical conceptions—that develop evidence to support their different socio-cultural meanings.

Chapter 3 explored how Coltrane’s explicit goal and listener’s reported experience of “transcendence” is facilitated by abstraction. In “Pursuance” from A Love Supreme, my animation shows how Coltrane and Tyner’s expressions of agency evolve over the course of Coltrane’s solo. The harmonic “work” of playing appositionally is initially carried out by Tyner, while Coltrane acts as a harmonic foil, staying on a single pentatonic scale at great intensity for three choruses. By the climactic choruses, they exchange leading and following roles in a churn of swift interactions, playing appositionally by pursuing distinct and seemingly unrelated harmonic strategies. Each makes a unique contribution characterised by distinct syntax: Coltrane cadences diatonically and exclusively in major thirds cycles, while Tyner moves chromatically using his unique style of quartal voicings. These quartal voicings afford both an ambiguity of tonal centrality, and as the animation shows, frequent opportunities to coincide with Coltrane’s systematic modulations.

Despite seemingly incongruous strategies, through their attunement and responsiveness to each other, their climactic choruses oscillate swiftly between convergence and divergence. This evokes the musical game of ‘tag’ that, far from the

innocent analogy, plateaus at a high level of both abstraction and connectedness as they continuously find each other, only to move apart again. It is only through the animation that this oscillation and relationship becomes apparent: it is not apparent from listening at full speed, neither does notation make it clear. However, watching and listening together affords a birds eye view of the game of ‘tag’, and its oscillations.

What sounds chaotic is actually remarkably systematic. Where Levy claims Coltrane transcends the rhythm section and disconnects from them, the animation shows through their moments of overlap that he and Tyner maintain connection, even as Tyner is embroiled in rhythmic permutations with Elvin Jones’s drums. They sustain great degrees of remaining technically apart from the referent while leveraging their differing technical materials in oscillations, seldom converging at the referent’s blues form, but instead independently of it. Coltrane and Tyner both maximise the possible superimposition of alternative tonalities that the 12-bar blues affords. Despite pushing the form to its limits, they never call it disrupt its boundaries, but musically transcend them. The referent mediates their connection by providing an agreed upon terrain from within which layers of abstraction can then transcend its harmony. By layering abstraction to its maximal degree, they take the form to the “next level,” described by musicians as synonymous with the spiritual level of the music.⁶ Key to this process is that the degree of abstraction can only be achieved as a group through interactivity, in the closest kind of collaboration required to play appositionally.

In Chapter 4, Coleman’s theory of Harmolodics entangles technical, interactive and socio-cultural senses of “freedom.” His solo on “Peace” from *The Shape of Jazz to*

⁶ Jackson, *Blowin’ the Blues Away*, 122.

Come provides a transitional example displaying characteristics of both a traditional setting with a referent, but taking steps towards its dissolution. The animation uncovers the tension between what is audible and inaudible: the complex intersection of the sound we hear and the processes that underpin it. In the case of “Peace,” Coleman’s omission of a chordal instrument both affords the ensemble freedom to make bolder choices, but the animation shows that the agency we hear isn’t necessarily how events are occurring. In a broad sense, this applies to the difficulty of discerning that there is in fact a referent in play during the solos. But more specifically, the audible harmony is often an artefact: a complex intersection of the musicians’ in-the-moment. In a specific instance, it is the intersection of particular notes from the referent and particular notes from Coleman’s independent through-line.

The impact of these discoveries is that the animation offers a hearing of agency that is largely reversed from what the audible sound suggests. What sounds like Charlie Haden pulling apart from Coleman is in fact a flexible, skilfully disguised, but ultimately faithful rendition of the referent. Conversely, what sounds like Coleman gravitation toward an ever more conservative, diatonic path is in fact a bold choice in which he sits apart from the referent in both tonalities and phrasing. Coleman disrupts the referent by actively courting interaction: particularly its value in rivaling—and through the two years following *The Shape of Jazz to Come*, overtaking—the referent’s status.

Coleman’s conception of Harmolodics maintains that equality between notes and keys directly reflects equality between people. An equal value attributed to both keys and the contributions of all members leads to unexpected surprises. For Coleman, those surprises hold the potential to spin off in ever new directions, and in the constant potentialities of those new directions that interactive freedom lies. It is in and through

this interpersonal, interactional freedom that Coleman entangles representations of freedom with its social enactment, or as he says, “remove the caste system from sound.”⁷ In the oppositionality this interactive freedom affords, the ensemble achieves Coleman’s “unison”: not a unity of sounds but of plural ensemble purpose in cooperation. Instead of hearing dissonance or apartness, the animation affords us the opportunity to hear as Bobby Bradford does Coleman’s “courage and the audacity.”⁸

Through these case studies, I have demonstrated animation’s advantages for an interactionist perspective on jazz group improvisation. The temporal aspect of animating the *Tonnetz* affords the integration of technical relationships with interaction through time. This establishes a methodology toward adopting Lewin’s “transformational attitude” and his wholesale aim for all analysis, “to hear the piece better.”⁹ More specifically, through its hybridity my methodology accords with De Souza’s prioritisation of motion over measurement, of following the path by relinquishing the “all-seeing Cartesian view, accepting the limits of perspective.”¹⁰ By leveraging our eyes and ears together we can perceive jazz group improvisation as a plurality of relational, interactive processes.

This intervention is necessarily music-theoretical, both because its technical aspects hold specific meaning for the musicians, and their deployment through

⁷ Purcell, “Free Radical.”

⁸ Val Wilmer, *As Serious As Your Life: Black Music and the Free Jazz Revolution, 1957–1977* (Allison & Busby Limited, 1977), 88.

⁹ Lewin 1969, quoted in Kane, “The Madeleine and the Rusk,” 133.

¹⁰ De Souza, “Melodic Transformation,” 228.

interaction is what manifests unique socio-cultural meanings. A focus on interaction and what constitutes an Afrological ontology of dissonance liberates us from the limits of Eurological ontologies, by broadening our gaze from the mapping of tensions towards grappling with why sonic tensions in jazz are socially meaningful.

The limitations of the methodology I have proposed here, discussed in the conclusions of Chapters 3 and 4, stem from NRT's grounding in finding coherence. Despite my argument that the unique repurposing of the *Tonnetz* in my animations moves us closer to an Afrological hearing of appositional improvisation, as a visual medium it is still underpinned by values of coherence on a deeper level than simply its means of displaying harmony. A truly Afrological hearing, much like its appositional playing, needs must be multi-layered, multiple-voices, and embracing of paradox. Jazz music theory has yet to fully develop its own tools and methods on its own terms, and reach a maturity and judge what precisely of its Eurological music-theoretical inheritance should be retained or reconsidered. This issue is in flux and a live debate for jazz theory.

Nonetheless, there is a great deal of benefit to be had for our perception by combining listening with visualisation. These case studies demonstrate the unique advantage of leveraging animated tools for tying the technical and interactive particulars of music to its socio-cultural moment. Ultimately, they provide a methodological contribution that attempts to elicit an Afrological hearing of appositional playing by attuning our ears to interaction, relationship and plurality of meaning.

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