**Dig That Lick: Licks in the Literature of Jazz Research**

**Gabriel Solis and Lucas Henry**

**University of Illinois**

 Having completed a review of academic jazz literature from the 1970s to the present as research for the “Dig That Lick: Analysing large-scale data for melodic patterns in jazz project,” we have found considerable range of conception and use of the general topic of patterns in improvisation and a number of potentially testable hypotheses that our data set and analytical work might address. This paper offers a synthesis of key issues from that research, including: definitions and terminology to describe patterns; disciplinary frameworks in which the question of pattern is engaged; primary areas of debate; a note on the volume of datasets needed for this research; and testable hypotheses to consider. A substantial, but surely not comprehensive bibliography is attached.

**Terminology and Definitions**

Most fundamentally we can say with confidence that the matter of pattern in musical improvisation is central to jazz studies and has been for as long as there has been academic work on the subject. Pattern use in improvised performance is the topic of two early dissertations (the earliest two?): Tom Owens’s work on Charlie Parker (1974) and Milton Stewart’s less well known work on Clifford Brown (1973). There is something of a canon of citation where this material is concerned, with most scholars citing Owens, and many citing Henry Martin, whose work on Parker was conceived as a response to Owens.

At least three terms are in common use to describe repeated melodic material from which jazz improvisers create solos: pattern, riff, and lick . Of these, “pattern” is the most open term, the least determined, and also the most commonly used. Tucker and Jackson, for instance, use it—but not “lick”—in their entry for *Jazz* in the standard reference work, the New Grove Dictionary of Music. Theirs is, however, a somewhat unusual item inasmuch as they refer exclusively to rhythmic patterns as a determinant of style in jazz. “Riff” is the narrowest and most specific of the three terms, being used to describe a specific kind of pattern (short, repetitive, most often connected with swing-era heads). (See, e.g., Shypton 2007, 306-307; Baraka (Jones) 1963, 62; 170, 183, 217, Gioia 1997, 183; DeVeaux 1997, 190-92.)

“Lick” is used commonly in the literature, and sits between the general of “pattern” and specific of “riff.” Witmer offers a clear and concise definition in a Grove entry on the topic: “A term used in jazz, blues, and pop music to describe a short recognizable melodic motif, formula or phrase.” Nearly every other use of the term follows this definition, albeit with some further parsing. Martin and Waters, in their textbook, use “lick” and “formula” interchangeably (2006). Benson says, “A lick can consist of a short melodic motif or a more extended unit; it may end in a full cadence, but most likely it is part of a larger melodic/harmonic scheme. The fact that licks are ubiquitous in jazz improvisations is precisely the reason that the term ‘lick’ can mean almost any musical pattern that is in some way recognizable and that is not, strictly speaking, part of what we might call the ‘tune itself’” (2008, 137). Beyond simply defining licks as patterns, there is something like consensus that licks are learned (though sources are not always a matter of consensus) stored in the memory (though relatively few researchers have a theory of memory as such that would allow them to expand on this somewhat vague notion), and deployed in performance (again, how that happens is not entirely a matter of consensus).

Given these terms and definitions, we can ultimately say that there are several different types of licks/formulas/patterns, and each has been used (or could be used) to understand creation and meaning of improvised material in jazz. We can consider those that are specific (licks, quotations, riffs that occur in whole across solos and seem to be understood as borrowed—see Berliner 1994), the generic (licks, patterns, formulas that occur in whole or in part across solos but may not be understood to be borrowed—see Pressing 1988), the variant (formulas and patterns as frameworks that improvisers use to create new or seemingly new material—see Gushee 1977, Johnson-Laird 2002), the referential (quotations, patterns, or formulas that suggest style or refer directly to another performer or work—see Berliner 1994), the intentional (deliberate choices by an artist—see Berliner 1994, Monson 1996), and the reflexive (unintentional choices made by the performer—see Norgaard 2011, Pressing 1988). These various definitions can and have been employed in various ways for various research questions.

**Disciplinary Frameworks**

Four basic disciplinary approaches are represented in this literature (as is common in jazz studies generally): historical (e.g. DeVeaux, Gioia, Shypton, Martin and Waters, Porter, Starr and Waterman), ethnographic (e.g. Berliner, Baraka, Sawyer), critical/theoretical (e.g. Gushee, Schuller, Gross, Terefenko, Owens, Stewart, Benson, Barry, Smith, Finkelman), and cognitive (e.g. Pressing, Johnson-Laird, Norgaard a, Norgaard b, Goldman a, Goldman b). Each of these has a distinct set of research methodologies, but equally significantly, each is aimed at answering a distinct set of questions. Creativity is the key concept for critical/theoretical and cognitive approaches. These studies all, in one way or another, appear concerned with the question how the creative act happens in jazz, whether through considering the mental process involved directly, or through analysis of the resulting musical artifact. Sociability and mediation are the key concepts for ethnographic and historical studies. Whether focused on change over time or on largely synchronically understood structures, these studies generally offer answers to the question: what are the interpersonal networks in which musical improvisation has grown and thrived, and how have technologies have been implicated in the process?

**Areas of Debate**

A number of questions without consensus answers come up in the literature. For instance, scholars are unresolved over whether pattern use represents creativity or its absence. The crux of this argument stems from readings of Lord and Parry’s work on oral formulaic composition (Lord 1960), and the underlying assumption that creativity in jazz improvisation means not playing the same thing from performance to performance. Owens initiates this in this much-quoted passage: “…the master player will seldom, if ever, repeat a solo verbatim; instead he will continually find new ways to reshape, combine, and phrase his well-practiced ideas. An awareness of these melodic ideas allows the listener to follow a solo with great insight into the creative process taking place” (Owens 1974, 17; see also Treitler 1974 for the incorporation of Lord and Parry into music studies). A number of subsequent studies follow this out, some (such as Gushee 1991 and Kernfeld 1983) focusing on the patterns themselves and others (such as Martin 1996 and Smith 1983) arguing that the larger-order compositional process in which patterns can be found is more significant. Finkelman (1997) argues that in making a distinction between formula (the specific melodic sequence) and pattern (the ways in which melodic sequences are deployed), authors have failed to see the significance and creativity of what he calls “pattern-forms” and “formula-ideas,” or what we might call “licks.”

 Similarly (and indeed, growing out of this literature) there is no consensus on whether improvising musicians are deploying stored material or running algorithms when they play music that gives the appearance of oral formulaic composition. This is not likely a topic we are in a position to clarify I think, inasmuch as it is essentially a cognitive question and not necessarily readable off the musical product itself. Still, the insights generated from this cognitive literature (see Johnson-Laird 2002; Norgaard 2011; Norgaard 2014; Norgaard, Spencer and Montiel 2013; and Pressing 1998) may provide some testable hypotheses, as described in the next section.

Finally, there is some division over whether licks are the tool of beginners, or in continued use by master performers. Most writers appear to see licks as a core component even of master musicians’ improvisational practice/language. Berliner (1994), however, is considerably more restrained on this issue, suggesting that licks are primarily part of the student musician’s repertoire (101). Veteran artists may still use them, but Berliner quotes at least one musician (Stanley Turrentine) who describes them as a “crutch,” to be used when the creative process is not working for them. Our project can certainly identify whether the extent of commonplace lick use declines in an artist’s improvisations as they age, but to really get at this we would probably need recordings of really young/inexperienced musicians to put alongside experts. In any case, I suspect that the issue here is more complicated than it appears in Berliner. This may not be so much a matter of what percentage of a person’s work is pattern-based (surely this is very high for all improvised performances) but rather a question of how much of an improvisation is made up of stock patterns played verbatim and patterns strongly associated with other musicians. This may, indeed, be something we can test for.

**Hypotheses and Open Questions Emerging from the Literature**

The literature on patterns in jazz has left a number of open questions and hypotheses (often represented as normative statements) that might be subject to analytical investigation. Which of these, if any, are answerable with our data set and methodology—and, beyond this, which of these is worth spending time on—is another matter. In any case, the following is a sample of potentially fruitful questions that our research may provide insight into. Benson, for instance, suggests that musicians learn licks primarily, or even exclusively, from recordings, rather than in live performance. Ethnomusicological jazz studies (e.g. Monson 1996, Berliner 1994, and Jackson 2012) would suggest otherwise. As noted above, Berliner’s theory that licks are primarily associated with the early, learning phase, could be subject to testing. One particular question associated with this (and with the cognitive lit, especially Johnson-Laird 2002) is whether musicians tend to internalize licks into long-term memory early in their experience with the music. It seems possible to test this, at least to some degree, by seeing if the licks in a given musician’s solos is relatively stable or dynamic over time. Another hypothesis presented as a normative statement (in both Gross 2011 and Starr and Waterman 2007) is that the presence of standard or commonplace licks is necessary for an improvisation to be understood stylistically as jazz. Gross may be using imprecise language here, but the idea that without a certain amount of stock motivic material a solo won’t appear to be jazz is intuitively sensible, but easy to raise objections to. I’m not sure how we’d test it, but it might be interesting to see how our data can be looked at for support or contradiction to the idea. A few authors, including Terefenko and Gross, argue that licks generally circulate in relation to specific harmonic contexts. This also seems intuitive (licks for ii-V-I, for specific chord types, for blues harmonies, etc.) but it would be interesting to see if a large data set bears this out.

Beyond the literature itself, I would add one further hypothesis that might be tested that comes from informal interviews I have conducted with students musicians at UIUC over the past months. They suggested that the incorporation of standard patterns remains a key to mastering “bebop language,” (which is to say, the melodic system developed by Charlie Parker and his contemporaries) but that playing in a style that includes a preponderance of such patterns strung together is thought to be amateurish or uncreative. Additionally, while the musicians I spoke with recognized that quotations—which they saw as distinct from playing patterns, because of the ways they pointed to a specific prior instance and a particular other artist, rather than a general language—was seen as unfashionable. The idea, I think, is that this is something you heard in jazz commonly in the 1980s and 90s (and perhaps before) and that an artist wishing to sound *au courante* would avoid doing so. It would be interesting to see if we can tease evidence of this kind out of the data, though I can imagine that may not be possible.

**A Note on Necessary Volume of Data**

Our literature review indicates that the volume of testable data is dependent on the methodology from each research question. Existing cognitive research uses the smallest data sets; Norgaard 2011, for example, relies on seven solos total, yet reveals 76 lick-based instances in its results. The existing work from the critical/theoretical method could be variable; for instance, a question about the performance practice of a particular musician (Charlie Parker or Bill Evans, for example), would require a much smaller set of recordings than a question about a performance family (the network generated by Art Blakey alumni, for example), which in turn would require a much smaller set than that of an entire sub-genre of jazz (Hard Bop, for example). And finally, the historical and ethnographical methodologies become more convincing as the data sets become larger (see the appendices in Berliner 1994, for example). Ultimately, the largest data sets possible are the most desirable; testing conducted in this project in all methodologies, in theory, will produce more stable results with larger amounts of data, but the set could be pared down if a research question allows. We think that we should collect and use as much data as we possibly can in the time frame before testing and analysis begins.

**Conclusion**

There are surely further open questions within the literature, but for the moment it is possible to say that this review strongly supports our initial vision for the proposal: commonplace licks are central to jazz improvisation, and have been for most, if not all of its history. What’s more, they have been the subject of ongoing discussion across jazz studies’ various methodological sub-fields. And yet, their circulation, use, and musical function remain known in two ways: the quite general and the quite specific. A middle ground, between highly detailed studies of individual musicians (or even individual solos) and general theories about the genre as a whole, has not been the subject of as much research. A data analytic project such as ours may profitably be thought of as filling precisely such space.

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