

CHAPTER 8

In Dub Conference: Empathy, Groove and Technology in Jamaican

Popular Music

Rowan Oliver

Groove is usually conceptualised as a phenomenon that arises in the context of musical performance. As such, researchers have primarily examined groove from the perspectives of rhythm and microtiming, typically drawing on examples from jazz and funk as case studies within which to explore the rhythmic interrelationships that exist between instrumentalists.¹ More recently, the role which timbre plays in groove has also begun to be explored, using the interrelationships between timbrally distinct instrumental voices as a focus.² Both the temporal and the timbral relationships that contribute to groove rely on a multi-layered, shared understanding between musicians, not only in terms of the way that they play together but also how their collective sound fits within – or outside – stylistic conventions.

This chapter will discuss empathic aspects of the way that groove occurs in Jamaican popular music (hereafter ‘JPM’), focusing initially on the stylistically specific relationship between the drums and the bass (as well as other instruments in the ensemble). The scope is then broadened to include the ways in which groove changes when a dub mix of a pre-existing recording (known as a ‘riddim’ in the terminology of JPM) is created. By taking Christopher Small’s (1998) ideas around musicking into

1 Mark Doffman’s (2009) work on jazz trio performance, for example, uses the timing relationship between the playing of the bassist and the drummer as a basis for exploring groove.

2 Drawing on Olly Wilson’s (1992) concept of the ‘heterogeneous sound ideal’, my PhD thesis (Oliver, 2015) discusses the importance of timbre to the way that groove works in breakbeats, for example.

account, the empathic understanding that exists between instrumentalists can be extended to include the relationship between performers and listeners, whether in the context of live performance or recorded music. This way of thinking is relevant when considering the impact that the dub mixer's subsequent actions have on the original groove that is encapsulated in a given riddim. In dub reggae, the sound engineer who creates the dub mix can thus be seen as a vital musicking participant in the distinctive construction of groove, a participant whose empathic relationships – both with other musicians and also stylistic convention – are akin to those found amongst instrumentalists, but which additionally incorporate a significant technological dimension.

Much of the research that underpins this chapter was carried out at the Center for Black Music Research (CBMR), specifically amidst the wealth of interviews contained in the *Kenneth M. Bilby Oral History Collection on Foundations of Jamaican Popular Music* that is housed there. Some years ago, Kenneth Bilby – an eminent ethnomusicologist and leading authority on the fruitful intersection between traditional and popular music in Jamaica, amongst other things – realised that not only had the voices of reggae session musicians been conspicuously absent from accounts of the genre, but also that since many of these individuals were growing old there was a consequent risk that their stories may never be recorded for posterity. In response to this scenario, he set about the Herculean task of locating and interviewing as many of these musicians as possible, in order to gather together the first-hand accounts of their crucial involvement in the island's musical development. The collected interviews provide a rich and revealing counter-narrative to the perspectives presented in those more frequently reiterated histories of JPM, which tend to centre around either superstars such as Bob Marley or industry entrepreneurs such as producer Clement 'Sir Coxsone'

Dodd.

Feeling in Reggae

Before discussing specific recordings as a way to illustrate groove empathy at work in JPM, it is first necessary to consider the extent to which it might be appropriate to characterise the interaction between grooving reggae musicians as having an empathic dimension. Amidst the various (sometimes conflicting) conceptualisations of empathy, there is a broad consensus that it involves the ability to share and understand someone else's feelings whilst still maintaining a clear sense of self and other.³ While this can be seen to apply readily to such broad emotional states as sadness, elation, or terror, for example, the feeling which reggae musicians have the ability to share with one another is rather less clear-cut and does not even have a name, as such. Nevertheless, 'feeling' and similar, related terms are mentioned or alluded to frequently throughout the interviews conducted by Bilby, as the following extracts illustrate.

Terminologically, the use of the word 'feeling' in this context could be seen to carry associations with the idea of 'feel' in music, a concept that overlaps with, and is sometimes used interchangeably for, 'groove'. 'Feel' is usually used specifically to denote an individual's use of rhythmic nuance in performance though, so a particular instrumentalist's feel results from the characteristic way in which they interpret musical time in their playing. Other musicians participating in the same performance may choose (consciously or otherwise) to align their own timing as closely as possible to this

3 Felicity Laurence's work on empathy and musicking presents some less general definitions that are both relevant and illuminating (see, for example, 'Music, Empathy and Intercultural Understanding' (2009); and Prologue, this volume).

individual's feel via the process of entrainment.⁴ As mentioned earlier, however, 'groove' relates to more than simply the temporal aspects of performance, and is more of a multifaceted concept that has been interpreted in numerous, diverse ways by a range of scholars; in effect, feel is one aspect of groove, rather than being an equivalent, interchangeable concept.

Discussing his experience as a session musician in Jamaica, drummer Paul Douglas provides the following point of view: 'Music is a *feeling*. It's like, if I'm playing a groove and you – as the keyboard player – decide to do something else then it's going to influence everyone' (Bilby, 2010). Douglas's statement contains some revealing points; firstly, he goes beyond the idea that music is an abstract force that either inspires or results from feelings, instead suggesting that music *is* a feeling, and thereby providing a pertinent perspective in the context of this volume. He then draws attention to the multifaceted nature of groove, initially using the term as a noun that describes his individual performance (that is, the drum pattern he has constructed, as it is delivered with personal nuances of timing, dynamics, timbre, and so on) but also hinting at the idea of groove as a participatory process that occurs between musicians when they play together. This notion of music as a participatory process is fundamental to Small's writing on the concept of musicking, in which he argues convincingly that 'music is not a thing at all but an activity, something that people do' (Small, 1998, p. 2).

Keyboardist Robert 'Robbie' Lyn describes the typically collaborative approach to composition taken in the recording studio by reggae musicians. He recalls occasions when, for example, the bassist might 'tell the guitarist or keyboard player 'Give me a bassline, because right now I'm not *feeling* this song' or something like that. So it's

4 For a detailed discussion of this process (in the context of ethnomusicological research) see Clayton, Sager and Will (2005).

teamwork' (Bilby, 2010). Lyn alludes, here, to the pressure experienced by musicians working in this context, who were constantly working against the clock, at the behest of the producer, in order to record as much material as possible in the time available. In terms of empathy, however, Lyn's comment reveals an additional empathic dimension to the groove process in a JPM recording session: not only do the musicians need to empathise with one another in order to groove effectively, they must also empathise with the song itself. This idea is explored in more detail later.

In his interview with Cedric Myton, singer with The Congos, Bilby asks whether he has a favourite track on the band's seminal *Heart Of The Congos* (1977) album. The following exchange ensues:

Myton: The one I would give an edge, really, is 'Congoman'.

Bilby: In terms of the sound?

Myton: In terms of the *feelings* I get when I'm singing that song.

(Bilby, 2010)

It could be, of course, that Myton's emotional response to the song stems from its lyrical content or, perhaps, from extramusical associations, such as his memories of the context in which it was written, for example. The turn of phrase he uses to describe the response, however, suggests that his empathic link with the music is derived specifically from the process of performing this particular song. This partly echoes the view – as expressed by Lyn in the previous quote – that musicians can empathise with a song and that such empathy simultaneously inspires and results from their performance of the material.

Summing up the connection between feeling and music in JPM in an almost

offhand manner, legendary guitarist Ernest Ranglin proposes that ‘all this thing is just a *feel*, you know. It’s a *feel*. So that’s what happens all the time. [The session musicians] come up with their *feel* and it sounds good, so that’s it’ (Bilby, 2010). As with Douglas’s flexible use of the concept of groove to denote both the music performed and the process of performing (discussed above), Ranglin seems here to use the term ‘feel’ interchangeably, so that it describes not only the characteristic nuances within a musician’s performance (‘their feel’), but also an underlying feeling associated with either a given song or, perhaps, JPM more broadly (‘all this thing is just a feel’). Ultimately, Ranglin implies that by empathising with the song, with the genre and with one another, the musicians are able to spontaneously create a stylistically effective arrangement during the recording session.

By way of an appropriate preamble to the discussion of music examples that follows later (which focuses on the rhythm section’s use of empathy and groove), this section concludes with an interview extract that relates specifically to feeling and the role of the bassist. Max Romeo, whilst a vocalist himself, talks here about working with the eminent bassist Aston ‘Family Man’ Barrett, underlining the empathic musicking that must initially flow from the rhythm section and then amongst the whole band in order for a JPM recording session to succeed:

Bilby: So you would sit down with Family Man and you would just hum your bassline to him, and then he would develop on it.

[Romeo sings some basslines to illustrate this process in action.]

Bilby: And then would you have to approve what he does before you can go to record it?

Romeo: Well when you’re *vibing* something there is no approval. You just *vibe*,

and then at the end of the day you listen to the outcome. It might be perfect or you might have to put it back on the drawing board. But it's different from classical music where you're reading off paper. You're reading the mind. It's a *vibe*. It's coming from within, so you just let it flow.

Bilby: And when you're *vibing* like that, pretty much, at the end of the day if things click, everybody knows it, right?

Romeo: Everybody knows it. You just *feel* it.

(Bilby, 2010)

Romeo's words here emphasise, once again, the themes that have emerged throughout the preceding interview extracts. His use of the terms 'vibe' and 'vibing' can be added to the list of noun–verb pairings that are relevant to the discussion: feel/feeling, groove/grooving, and music/musicking.

Two Processes of Empathy

The interview extracts above suggest that there may be at least two different – but related – processes of empathy at play simultaneously during a reggae recording session, and that each occurs in relation to a different subject. The first, more abstract process of empathy occurs when the musicians seem to empathise with the song itself; indeed, the interviewed musicians often talk about *feeling* the song, mostly discussing this in terms of whether they do or do not feel it, and what consequent effect this has on their creative approach in the studio. In my previous work on groove, I have noted the significance of a contextual sense of musical time in enabling various musicking participants (instrumentalists, listeners, dancers, and so on) to share in grooving (Oliver, 2013). There are various ways that this contextual sense of time can manifest itself – it

might be, for example, a stylistically specific timeline such as the Cuban *clave*, an adapted count-in by the bandleader or an isochronous pulse with genre-dependent accents – but the point, throughout all of these examples, is that knowledge of the context informs the way that individuals participate in the groove.

It seems, in reggae, that musicians perceive the song as having its own feeling, and that an understanding of this allows them to perform in ways which are empathically attuned and therefore appropriate. In this context, then, the term ‘feeling’ does not seem to simply mean the particular emotional state described by the lyrics (although this is likely to be one of several contributing factors), but is, rather, less figurative. Although its effect is not limited to the rhythmic aspects of performance, the way that the song’s feeling impacts on the recording session can perhaps be compared to the way that some seemingly more abstract contextual senses of musical time inform groove in performance. The implicit *clave* which Amira and Cornelius (1992) identify in Cuban *batá* drum ensemble performance, for example, can dictate the performance choices made by instrumentalists yet without actually being explicitly sounded by a specific instrument with a timekeeping role; shared knowledge allows the drummers to play in response to the abstract, implicit *clave* and thus its nature is revealed in the sounded, explicit performance. In the case of JPM, the song has an abstract feeling, and the musicians must empathically relate to this feeling in order to perform in ways that will subsequently reveal it to the listener.

This first process of empathy occurs, then, between a musician who is performing and the song that is being performed, but is based on something abstract which exists – at least partly – prior to the performance itself. The second process of empathy, which is the focus of the case studies that follow later in this chapter, occurs between the musicians themselves, dictating and supporting their musical interactions.

The two processes of empathy described above therefore enjoy an intriguingly interdependent relationship: the musicians must feel the song in order to perform it, but whilst revealing this implicit feeling through their performance they must simultaneously empathise with one another's playing, so that 'things click' and 'everybody knows it', to reiterate Max Romeo's summarisation of the processes in action (Bilby, 2010). The combined outworking of these two connected processes of empathy results in the performed version of the song, whose multiple empathic layers are captured via the recording process.

The Empathic Rhythm Section

In his earlier work on the effect of traditional Rastafarian music on the development of popular idioms in Jamaica, Bilby observes that this influence 'helped to promote rhythmic experimentation and led to an expansion of musical space; individual instruments were now free to play a greater variety of rhythmic patterns and began to function more like the interlocking parts of an African drum ensemble' (Bilby, 1995, p. 166).⁵ It can, of course, be assumed that when two or more musicians perform simultaneously they will generally strive to create a sense of togetherness and cohesion. Typically, this aim is evident in the extent to which the various parts within an ensemble succeed in achieving rhythmic alignment, but it can also be seen, for example, in the way that a group of singers adapt their vocal production so as to create a timbrally pleasing blend, or in an orchestral violin section's uniformity of phrasing. Bilby's comparison, however, between African musical tendencies and the newfound

5 It is not my intention to engage in a comparative analysis of composition and performance practice amongst African drum ensembles here; anyone wishing to explore the concept in more detail would benefit from reading the detailed studies of Simha Arom (1991), Kofi Agawu (1995), and John Miller Chernoff (1979), amongst others.

combination of individual freedom and corporate togetherness which developed in reggae, in response to Rasta influence, seems to have been carefully selected: presumably, this is partly because of the way that some musical developments in the Caribbean inevitably reflect African aspects of the region's cultural heritage, but it also suggests that the degree to which such 'interlocking' is musically significant transcends the standard sense of togetherness to which performance practice elsewhere typically aspires. Michael Veal concurs, noting that reggae 'is a dance music of West African heritage constructed as a web of interlocking parts' (Veal, 2007, p. 70). He goes on to describe the way in which dub mixing subsequently disrupts this interlocking structure by removing its constituent parts at various (often unpredictable) points.

Writing about the *Gahu* drumming tradition in West Africa, David Locke describes the music as 'a beautifully integrated polyphonic whole. Each part asserts its musical character but remains sufficiently stable to be influenced by the others' (Locke, 1987, p. 7). He goes on to describe the percussion ensemble as 'interactive, a feedback network in which instruments 'talk' to each other in all combinations' (Locke, 1987, p. 7). Whilst Locke is specifically describing *Gahu* music, his words also seem highly applicable to the interlocking, interactive approach to ensemble playing found in the JPM tradition, as described in various ways by the reggae musicians interviewed; Bilby's comparison between these traditions is supported by Locke's statements

In his interview, Sly Dunbar underlines the importance of the drummer's role to the grooving process in a JPM recording session: 'Once you [as the drummer] start feeling that groove, *everybody* starts feeling it!' (Bilby, 2010). This viewpoint parallels Lyn's earlier comment about feeling the song, but reframes the idea from the perspective of the rhythm section; here, it is the groove, specifically, which needs to be felt. By working empathically with the groove, Dunbar contributes to the overall feeling

that is embodied in the song, which the other musicians will share during the recording, and which the listener will subsequently participate in too.

This idea indicates that there is a causal chain of empathy in some recording session scenarios, in which the drummer (or, potentially, another instrumentalist) feels the song's groove first and then acts as a kind of empathic conduit, an intermediary through whom this groove is communicated to the other musicians. In another extract from the same interview, Dunbar puts forward the idea that the listener should be able to feel the music from the drums alone, without any other instrumentation. Whilst his meaning here relates primarily to the recording session context, he also talks about people being able to dance to the drums alone, suggesting that the listener is another category of musicking participant who might benefit from feeling the music via the drummer's role as an empathic conduit. There is, it seems, a difference between just 'the feel of the music' and being able to 'feel the music'; the latter (as expressed in Dunbar's interview) is more suggestive of empathy at work.⁶

In another section of his interview with Bilby, Robert Lyn talks about the way in which a bassist might then respond to the feeling that the drummer has tapped into, and which is consequently being transmitted to the other musicians: 'Sometimes there's no need for any great bassline, you just need something to ride the rhythm. Sometimes it depends on how the drummer is feeling the song, [or on] where the kick drum is. The bass fills in the space or accentuates how the drummer plays' (Bilby, 2010). In this scenario, the bassist responds empathically to the song's groove – as the drummer

6 The idea of 'feeling the music' also suggests that there is a tactile dimension to the listening experience, which accords with what Julian Henriques (2003) refers to as 'sonic dominance' in his work on reggae sound system performance. In the context that Henriques describes, the physical sensation of bass weight plays an important role and is tied to the audience's perception of musical authenticity.

communicates it in real time – and can choose to either ‘fill the space’ in it, by playing a line that will interlock with the drum pattern, or to ‘accentuate’ it, by playing something which aligns with the main drum strokes. (In fact, a bassline is likely to alternate between interlocking and aligning with the drum strokes at various points within a cyclical pattern.)

Aston ‘Family Man’ Barrett talks about playing melodic basslines which ‘let the singer get to swing and flow with the rhythm, and give the drummer that space...to drop. To feel it on the one drop!’ (Bilby, 2010). This view highlights the centrality of the bassline to the way that arrangements are structured in JPM: the bass provides a rhythmic springboard for the vocalist whilst also interlocking with the drummer’s playing. The ‘one drop’ is a distinctive drum pattern associated with much JPM, but reggae in particular, in which the kick drum and snare drum (typically played using a ‘side-stick’ stroke) are both struck on beat three of the bar. An aesthetically desirable consequence of this approach to patterning is that it creates a considerable amount of space in these drum voices elsewhere in the bar. Such space provides ample opportunity, of course, for the bassist to create lines that will interlock with the drumming. In the following section, I discuss ways that such approaches to patterning, as well as other aspects of performance, are used in groove.

Groove Factors

In my research dealing with funk breakbeats (Oliver, 2015) it was necessary to find a way of thinking about groove that could bring together several genres in which breakbeats occur, in order to consider the various ways that musicians (whether instrumentalists or producers) engage with these groovy fragments of drumming. This required a conceptual framework that could accommodate not only the characteristic

ways that drummers use nuances of performance in the original funk recordings, but also the range of digital manipulation techniques employed by hip hop and jungle producers when they subsequently sample the breakbeats and recontextualise them into new tracks. Although the practicalities and processes involved in grooving are different for these two groups of musicians, they both, essentially, use techniques that enable them to introduce a range of characteristic nuances to a recorded performance: for drummers, these nuances are introduced primarily by real-time variation in instrumental technique (although instrument design, set-up and tuning, and studio production processes are also contributing factors), whereas, for sampling producers, the nuances are introduced by digital manipulation of the original performance (typically years, or even decades, after the drummer's playing was actually recorded).

I describe this group of variable aspects of performance and production as 'groove factors', and selected inter-onset intervals, patterning, displacement, ghost notes, phrasing/articulation and timbre as the groove factors that seemed most pertinent in my study of breakbeats. In brief, inter-onset intervals are the timespans between the start of each successively sounded note; patterning concerns the grouping of notes within (and between) instrumental voices; displacement occurs when an established pattern is moved to a new beat location in relation to the track's underlying pulse; and ghost notes are light, unaccented notes (typically snare drum strokes) with which funk drummers embellish their drum patterns and whose use, Greenwald notes, 'adds depth to the groove' (2002, p. 261). The remaining groove factors (phrasing/articulation and timbre) are self-explanatory, though their significance in determining groove has sometimes been overlooked by scholars, who have tended to focus primarily on temporal aspects instead.

Whilst these groove factors were initially conceived as a framework within

which to assess breakbeats in funk, hip hop, and jungle, they can also be usefully applied to the musical context discussed in this chapter; the empathic responses of the rhythm section in a JPM recording session (both to one another and to the song itself) will be manifested in variation of the same groove factors, as will the subsequent actions of the dub mixer. As the track analyses in the following section show, those groove factors that prove most significant differ somewhat in each case.

Empathy and Groove in Action

The tracks which are analysed in this section are presented in a logical order: in the first, the role of the bass is unchanging, so the focus is on groove factors in the drum voice; in the second, there is variation in both parts; and in the third, it is the dub mixer who uses variation in groove factors to alter aspects of the same track used for the preceding analysis. In the case of all the tracks discussed, various versions of the same original recording have been released, as is common (indeed, fundamental) practice within the Jamaican music industry.⁷ This ‘versioning’ strategy is useful for the purposes of rhythm section analysis, because the detailed nuances in particular instrumental voices which can often be obscured in the full mix are sometimes more clearly revealed in alternative versions, particularly when the deconstructive techniques of dub mixing have been applied. Thus, a single recorded performance of a piece of music has been released by Augustus Pablo – in a range of differently mixed and, therefore, distinct alternative versions – as tracks called ‘Rocker’s Dub’ (1979), ‘Frozen Dub’ (1976), and

7 Dick Hebdige (1987) discusses versioning at length, and several commentators link this Jamaican practice to the subsequent emergence of remix culture in popular music more broadly; see, for example, Sullivan (2014).

‘Hot Dub’ (197X⁸).⁹ Whilst, for the sake of brevity, I simply refer to my first case study as ‘Rocker’s Dub’ for example, the discussion of the rhythm section’s performance applies equally to all three of these releases, since they are all mixed from the same master recording.

As Table 8.1 below shows, the bassist’s performance in ‘Rocker’s Dub’ is very straightforward: only three two-bar patterns are used in total, and these are played as an asymmetrical cyclical sequence across the duration of the track. Rhythmically, all three patterns are identical, as is the phrasing which the bassist employs, so it is only the harmony that shifts from one pattern to the next.

Table 8.1 Bass structure in ‘Rocker’s Dub’

Bars	Bass Pattern	Harmony	
1–30	A	D major – E minor	Table 8.2 focuses on this 38-bar section
31–36	B	B minor – A major	
37–38	C	F# minor – A major	

8 An occasional lack of accurate cataloguing information is one consequence of the sense of immediacy that drove production processes within the Jamaican music industry from the 1960s onwards, where minimising the time that elapsed between recording a song and releasing it on vinyl was seen as a much higher priority than filing precise discographical information. This approach continues to significantly impact the royalty claims of reggae musicians, whose clearly remembered involvement in a given recording session may be difficult to prove in a legal context due to scant or non-existent discographical information. Less significantly (though more pertinently), this approach also impacts on academic referencing. Where it has not been possible to ascertain a record’s release date more accurately than by decade, this is indicated in my references with the letter ‘X’, as in 197X.

9 ‘Hot Dub’, in particular, consists largely of drums and bass, with the majority of the other instrumental voices muted for most of the track, rendering the nuances of the rhythm section’s performance exposed for the purpose of closer scrutiny.

39–58	A	D major – E minor
59–64	B	B minor – A major
65–66	C	F# minor – A major
67–89 (fades out)	A	D major – E minor

In terms of the other groove factors within the bass part, there is little variation in timbre, no use of ghost notes or the rhythmic displacement technique, and only minimal, stylistically appropriate discrepancies of timing in relation to the tempo (which is 136 beats-per-minute, on average, though some listeners might interpret this as an implied half-time feel of 68 beats-per-minute). In other words, the bassist here provides a solid, virtually unchanging performance as a foundation upon which the drummer can build a series of interlocking variations.

Throughout ‘Rocker’s Dub’, the drum pattern is based on variations of the ‘one drop’ pattern mentioned in Barrett’s interview, as described earlier. Table 8.2 lists the pattern variations found in the first 38-bar section of the track and indicates the frequency with which each occurs. The drummer uses 14 distinct variations during this section alone, which could seem an unusually high number (given the common misconception that this instrument’s role tends to vary very little once the main pattern has been established) but is simply the result of his nuanced alteration of the groove factors.

Table 8.2 Drum pattern variations in bars 1–38 of ‘Rocker’s Dub’

Pattern	Description	Frequency	
1	‘One drop’ pattern – kick only	13	
2	c	‘One drop’ pattern – kick & snare (centre)	4
	r	‘One drop’ pattern – kick & snare (rimshot)	2
	s	‘One drop’ pattern – kick & snare (side-stick)	1

3		‘One drop’ pattern – snare only (centre)	1
1.1		Pattern 1, plus extra kick on beat 1	1
1.2		Pattern 1, plus open hi-hat on last quaver of bar	4
1.3		Pattern 1, plus extra kick on 4 th quaver of bar	1
1 +	Fill 1	The six fills demonstrate the most variation in patterning. Each is unique, but all (except Fill 2) end with a composite stroke consisting of a crash cymbal plus either a kick or snare drum on the last crotchet beat of the fill.	1 (2 bars long)
	Fill 2		1 (2 bars long)
	Fill 3		1 (2 bars long)
	Fill 4		1
	Fill 5		1
	2s + Fill 6		1 (3 bars long)

As Table 8.2 shows, the ‘one drop’ occurs in a range of instrumental voicings, using just a kick drum stroke (Pattern 1), a composite kick-plus-snare drum stroke (Pattern 2) or just a snare drum stroke (Pattern 3). The standard drum kit incorporates instruments whose timbres contrast significantly with one another; by varying the way the ‘one drop’ is distributed around the drum kit, the drummer here achieves timbrally contrasting iterations of the same basic pattern without needing to alter any other groove factors. Instrumental technique is used to further vary the timbral possibilities of the ‘one drop’, in that the snare drum stroke of Pattern 2 variously uses the centre of the drum head, a rimshot and a side-stick technique; again, the drummer is varying the groove factor of timbre without altering any other aspects of his performance.

Patterns 1.1 and 1.3 incorporate additional kick drum strokes at points in the bar other than beat 3, altering the way that patterning functions within the drum voice yet without destabilising the overall sense that this is still a ‘one drop’. Pattern 1.2 adds an open hi-hat stroke on the final quaver beat of the bar, which has the effect of altering the

phrasing in this voice as the sound sustains until the cymbals are closed together on the first beat of the following bar. It is common in funk drumming to find similar placement of an open hi-hat stroke at the end of a bar, but in funk the subsequent closing of the hi-hat cymbals typically coincides with a kick drum stroke, whereas in ‘Rocker’s Dub’ there is no kick drum stroke on beat 1, so the closing coincides with the start of the bassist’s next phrase instead; thus the same textural pattern occurs in both funk and ‘Rocker’s Dub’ (that is, the sustained high frequency wash of the open hi-hat is terminated by a low frequency sound on the downbeat of the next bar) but in the case of the latter, this textural contour is achieved through an interlocking pattern that emerges from the combined performance of the rhythm section, rather than occurring just within the drums.

By working together as an empathically attuned rhythm section, the bassist and drummer in ‘Rocker’s Dub’ create an interlocking performance in which the varied drum patterns and the unchanging bassline effectively communicate the song’s groove to the rest of the ensemble, thereby enabling the other musicians – and, later, the listener – to feel the music. In the next example – Vivian ‘Yabby You’ Jackson’s ‘Love Thy Neighbour’ (1977) – both the bass and drums exhibit greater freedom in the way that the instrumentalists alter the groove factors in their performance.¹⁰ As with the preceding example, the use of an alternative version of Yabby You’s original recording (released, in this case, as ‘Distant Drums’ (197X) by Family Man and Knotty Roots) enabled clearer focus on the activity of the rhythm section.

Once again, the ‘one drop’ pattern forms the basic template for the drumming in

10 Given that Yabby You had a strong, if unusual, relationship with Rastafarian culture, it is reasonable to assume that the influence of Rasta drumming (as noted by Bilby) was manifested in his work, giving rise to this greater sense of freedom amongst the instrumentalists.

‘Love Thy Neighbour’, which therefore immediately provides the bassist with some information about what he can expect from the drums (that is, a strong emphasis on the third beat in most bars). When shaping the bassline, he uses this knowledge of how the drummer is feeling the song’s groove as a way to inform his own pattern construction, playfully reframing the expected emphasis in a number of different ways. In bars 25–28, for example, there is one bass phrase whose ending coincides with the ‘one drop’ kick drum stroke, another bass phrase that ends just before the next ‘one drop’ so that the kick drum stroke is heard in isolation, and a third bass phrase whose beginning coincides with the last ‘one drop’ before continuing across the following barline. Thus, within a span of four bars, the bassist moves between aligning, interlocking and then aligning (differently) with the groove which the drummer is communicating; in so doing, he exploits the musical space embodied in the ‘one drop’ pattern.

Rather than passively repeating the ‘one drop’ pattern throughout this performance however, the drummer instead uses variation in groove factors such as patterning and timbre as he interacts empathically with the bassist. He also toys with the sense of textural expectation created through his use of the ‘one drop’ pattern, by sometimes omitting the customary emphasis on the third beat. At some of these moments, the bassist still emphasises this point in the bar, creating the impression that the ‘one drop’ is being passed around the rhythm section. On other occasions, both the kick drum and the bass guitar remain silent on beat three; the ‘one drop’ is still evident at such points, but through a kind of negative emphasis that is caused by the conspicuous absence of these expected textures. In this way, they not only create rhythmic space within their own patterning, but also textural space within the overall sonic fabric of the track. In dub, Veal notes that ‘much of the genre’s compositional tension is generated through subversion of the listener’s expectations’ (Veal, 2007, p.

89); it is interesting to see the rhythm section employing a similarly subversive strategy here, even before any dub mixing has taken place. Such deliberate use of absence accords, again, with Bilby's comments regarding the expansion of musical space in reggae that he attributes to the influence of Rastafarian drumming.

Having explored the instrumentalists' empathic groove interaction, the focus now shifts towards the specific ways in which the dub mixer can become involved in the empathic musicking process by altering groove factors within a previously recorded performance. In order to bring aspects of the dub mixer's role into the discussion at this stage, the final musical example considered here is the 'Frozen Dub' version of Augustus Pablo's 'Rocker's Dub', expertly mixed by Osbourne 'King Tubby' Ruddock.

The technology used to create dub mixes was fairly limited during this era of JPM, so mastery of the form relied on imaginative and resourceful application of the tools at hand. An analogue mixing desk enabled the sound engineer to mute and unmute specific tracks from the multi-track master tape at will, to place sounds at any point in the stereo field, to rebalance the relative volume levels within the ensemble and to alter the timbre of each instrumental voice using EQ. Additionally, outboard sound processing equipment made it possible to add artificial reverb, echo, filtering, and phasing effects as required, either to individual components within the texture or to the overall mix. Thinking about these capabilities in the context of the groove factors discussed earlier, it is clear that the dub mixer's tools primarily enable variation of timbral aspects of a recorded performance, although selective muting impacts on patterning within and between instrumental voices, echo can add desirable and unpredictable complexity to otherwise simple rhythm patterns, and reverb alters the listener's perception of phrasing and articulation.

In 'Frozen Dub', King Tubby uses his characteristic filter sweeping to achieve a

type of timbral variation that could only be the product of studio technology, rather than instrumental technique. He applies reverb to some instrumental voices, but not to others, and so recasts and disrupts the sense of physical space in which the listener perceives the performance as having occurred. Tape echo is used in a number of ways that affect groove factors within the original performance: it adds previously non-existent syncopations by creating rhythmically displaced repetitions of fragments of certain patterns; it sustains some notes and phrases beyond their expected duration; it occasionally foregrounds obscure gestures that had been hidden within the original recording; and, used in conjunction with muting, it imposes deliberately artificial articulation on phrases which had been performed as *legato* in the original recording.

King Tubby's sonic manipulation asserts itself throughout the dub mix, so that at least one technological alteration – and often more – can be heard to affect the instrumentalists' recorded performance at any given moment. As the mix unfolds, a third process of empathy at work in JPM is revealed, one which is specific to the dub mixer's role. Although the sound engineer needs to engage empathically with both the feeling of the song and the recorded groove of the instrumentalists (as is the case with the rhythm section) he also has the potential to extract new, different feelings from the recording, and to communicate these by altering the existing groove factors so that the listener's perception of the performance is changed; sometimes this shift is subtle, but at others it can be more radical.

Conclusions

Both the interviews with Jamaican session musicians and the analyses of relevant music examples indicate that processes of empathy play a significant role in the grooving that occurs during a JPM recording session, and also during the subsequent creation of a dub

mix. Two distinct, but related, processes of empathy predominate during the initial recording session: the first exists between each musician and the song itself, whilst the second enables sharing between the instrumentalists. The bassist's feeling for the song may not be the same as the drummer's, but each needs to share and understand the other's perspective in order to enhance their own performance. This, in turn, will lead to successful grooving within the rhythm section, which will consequently enable the rest of the ensemble, as well as the listener, to participate in this too.

The role of the dub mixer relies on an additional, third process of empathy, in which simple technological manipulation is artfully applied to the groove factors in existing recordings in order to extract alternative or hidden feeling from within a song, and then communicate this to the listener. Although the practicalities of the roles discussed above differ in significant ways, and despite the fact that the dub mixing occurs at a different time (and often in a different place) from the original recording session, it is clear that the various processes of empathy I have described are interconnected, and that they combine to add richness and nuance to groove in Jamaican popular music.

Acknowledgements

My research visit to Chicago was made possible by a 'Travel to the Collections' grant which CBMR generously provided, thus enabling me to spend a joyful, intense week working with the materials in their archive. I am very grateful to everyone at CBMR for the welcome and support they provided while I was with them. I would also like to offer my heartfelt thanks to Ken Bilby for the illuminating and encouraging conversation we began during my final day in Chicago and have since continued, as well as his efforts in creating the collection of interviews in the first place, of course.

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This is an Accepted Manuscript of a book chapter published by Routledge in Music and Empathy on 24 March 2017, available online: <https://www.routledge.com/Music-and-Empathy/King-Waddington/p/book/9781472445803>.

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