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The sampling continuum: musical aesthetics and ethics in the age of digital production

Adam Behr^a, Keith Negus^b and John Street^c

^aInternational Centre for Music Studies, Newcastle University, Newcastle-upon-Tyne, UK; ^bDepartment of Music, Goldsmiths – University of London, London, UK; ^cSchool of Politics, Philosophy, Language and Communication Studies, University of East Anglia, Norwich, UK

ABSTRACT

This article argues for a view of popular music production that better accounts for sampling than has historically been the case by viewing it as a continuum of activity. Weighing evidence from interviews with musical practitioners against the legal and industry frameworks, we illustrate, first, how sampling has been legally differentiated from other types of musical copying. Secondly we show that, despite this, comparable ethical codes exist within and across musical methods wherein sampling is part of the spectrum of activities. Thirdly, we discuss the ubiquity of digital technology within popular music production and the resultant closer relationship between sampling and other musical techniques moving onto, fourthly, how the sampling aesthetic has become integrated into musical practice in a manner insufficiently accounted for by its legal and industrial contexts. This 'post-sampling' reality places sampling and other musical techniques along a spectrum, in practical and ethical terms, and musicians would be better served by sampling being treated as part of the overall musical palette, allowing both scholars and the law to concentrate on ideologies of practice across the tools that musicians use rather than between different specific techniques.

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Introduction

This article draws on research examining the ethics and politics of musical copying, copyright and digitalisation. It involved interviews with musicians, managers and producers at different stages of their careers and including practitioners across various genres within 'popular music' as it may be broadly understood, covering different levels of commercial operation, from session players and backroom writers to featured artists.¹

Whilst referencing the wider literature to discuss digital sampling in the context of other kinds of musical copying, our main focus is on what musicians actually do, how their creative process is inflected by sampling technology and the aesthetic, ethical and legal implications of this. Interviews covered musical copying more broadly with the aim of unearthing instinctive practices that are often conducted without much deliberation and which respondents often found hard to articulate. We have chosen quotes for what they represent out of longer,

CONTACT Adam Behr  adam.behr@newcastle.ac.uk

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discursive conversations and, given the sometimes-contentious subject matter, anonymised our interviewees. Our goal was to centralise musicians and their direct collaborators in business and creative practice within the narrative of copying. Their voices provide important empirical evidence for an assessment of the field that works from creative practice to its intersection with legal and industrial contexts. To distinguish sampling from other musical practices risks tunnel vision by a tight focus, at one end, on it as a genre phenomenon and, at the other end, by concentrating on legal outcomes rather than the music itself. Centralising musicians, however, reveals the ethical alignments of musical practice *across* the techniques that include various forms of sampling amongst an array of options.

We argue that technical developments in popular music since the advent of sampling as a mainstream activity have altered production practices in such a fashion as to shape the broader aesthetic of popular music and of its creators' sensibilities. Sampling is part of a wide range of musical practices that involve prior works, since it is almost impossible to create new music without some reference to what came before, and certainly impossible to develop a musical voice or skills in isolation. What distinguishes sampling, however, is its rootedness in the materiality of recorded music, rather than the underlying work. It is the materiality of samples as derived from prior recordings that ties them into the system of licensing and legalities whereby room for interpretation is heavily circumscribed relative to the intersection of financial interests, authorship and ownership. We therefore discuss the position of the sample in this environment, one where digital technology is now the norm throughout the value chain, from production through distribution to consumption. There has been a step-change in music making, and its relationship to technology; a proliferation, as Paul Théberge notes, 'of software based tools for recording, editing and mixing audio with personal computers ... at least as precipitous as the advent of magnetic recoding' (Théberge, 2012, p. 83).

Thus, we suggest, samples and samplers are better understood as existing *within* a spectrum of musical practices, and copying practices, than as representative of a distinct set of activities characteristic of specific genres like hip-hop or dance music. Sampling is no longer exceptional but, rather, embedded in commercial (and much other) popular music practice with significant consequences for the aesthetics and ethics of music making. Our research illustrates moral and musical discourses employed by musicians that cut across genres and techniques but nevertheless are adjudged differently with reference to their position regarding recorded, as opposed to more broadly musical, materials. This has consequences for sampling musicians in comparison to those using other copying practices in terms of their treatment within the prevailing systems of ownership and financial reward.

Sampling constitutes a continuum of activity, sometimes distinct from other musical practices but very often merged into them. Encompassing the same fundamental motivations as any form of musicianship, it is informed by and emerges from the affordances of near ubiquitous digitalisation – a kind of 'post sampling' musical environment wherein sampling and other musical practices intermingle. We illustrate via our respondents' recollections how musicians filter their creative work through ethical codes and technical practices to arrive at an account of the sampling aesthetic in which they operate. We then discuss the disjunction between this aesthetic and the prevailing industrial conditions, which inadequately account for the continuum of practice. Before examining how our respondents described their use of digital technology and sampling, however, it is important first to look at the legal context of copying, sampling and copyright since this underpins and informs the moral, musical and technical discourses within which they operate.

Sampling and the law

The status of the sample and digital sampling equipment in popular music has been contentious and disruptive, yet also partly taken for granted. Sampling has been simultaneously demarcated from other aspects of musical practice – it is technically distinct – and elided into them – it is judged according to similar criteria. To examine how this disparity plays out we must acknowledge initially *why* sampling has been set apart. The technical aspect – especially in connection with copyright – means that legally there is a kind of binary component to the similarity between the derivative and the sampled work that matches the digital binary of the technology used to enact it and is the crux of the matter.

It is something of a cliché in the record industry that ‘where there’s a hit there’s a writ’ and the most common wrangles involve two types of dispute. The first concerns accusations of plagiarism – lifting significant lyrical or melodic aspects of a prior work. Examples of this abound and, famously, as in the case of George Harrison and the Chiffons, a conscious decision to copy need not have taken place, the judge noting that:

This is, under the law, infringement of copyright, and is no less so *even though subconsciously accomplished*. (Music Copyright Infringement Resource, *Bright Tunes vs Harrisongs*, emphasis added)

Such cases, like the dispute about whether Led Zeppelin’s ‘Stairway to Heaven’ infringed the copyright of ‘Taurus’ by Spirit (Bennett, 2016), rest on whether the alleged plagiarist had access to the prior work and whether similarity constitutes more than generic formulae or chord sequences. This can be difficult to prove either way, often requiring expert guidance.

The other significant type of dispute concerns whether specific contributions to the finished piece constitute ‘authorship’. Group efforts can become fraught. Many bands, for instance, project an ostensibly (or supposedly) egalitarian ethos as a marker of authenticity, though this may be at odds with their actual social and creative practices. It can fall to courts to adjudicate about material rewards for group efforts concerning band members – as with Spandau Ballet’s ‘True’ (Bently, 2009, p. 190) – or session musicians’ contributions – as with violinist Bobby Valentino on The Bluebells’ ‘Young at Heart’ (ibid.). As Lionel Bently has shown, copyright law imperfectly captures the different types of musical work that constitute legal authorship, causing a ‘mismatch between the tests copyright law uses to establish authorship, and the tests used to establish infringement’ (Bently, 2009, p. 192).

Sampling has historically differed from these legal quagmires in one key regard. Unlike other instances of copying – like borrowing a riff, or a snatch of melody – the derivative piece incorporates elements of the antecedent *recording*. This matters for copyright since it refers to rights inscribed in that recording as well as to the underlying composition (Scherzinger, 2014, p. 274), however that may be authored. There is little legal scope for the ambiguity that requires forensic musicologists and courts to assess whether similarity is infringement or specific contributions to a work constitute a legal claim. The producer of the new work either has or has not licensed and received consent from the rights holders in the prior work.

But this legal binary reveals a tension in the discourse around sampling. Namely, it relies only on the technical element and ignores the fact that, unlike plagiarism, any musical similarity between the two works may be marginal at best or absent entirely. A famous example of the act of sampling being the legal basis for reassigning writing credits is that of The Verve’s ‘Bittersweet Symphony’ which used a sample from an orchestral version of the Rolling Stones’ ‘The Last Time’. Allen Klein, whose ABKCO Industries held the rights to ‘The Last Time’,

successfully negotiated 100% of royalties from the resulting song, to the deep chagrin of its actual, if not eventually legal, writer Richard Ashcroft who complained,

We sampled four bars. That was on one track. Then we did 47 tracks of music beyond that little piece. We've got our own string players, our own percussions on it. Guitars. We're talking about a four-bar sample turning into 'Bittersweet Symphony' and they're still claiming it's the same song. (cited in Collins, 2010, p. 5)

At the heart of Bently's mismatch is the disjunction between copyright protection for melodic and for rhythmic musical components, and also between legal definitions and how popular musicians actually *work*. The Western paradigm, as Jason Toynbee illustrates, centres on composers, lyricists and songwriters.

People in these roles are granted copyright in the product of their labour, something which is then given the special title of the 'work'. Further down the pecking order comes the performer who plays music written by someone else. Here the musician has no copyright, since – in terms of the law at least – she produces no work. (Toynbee, 2004, p. 123)

Worth noting, too, is that even as the law favours melody and the underlying work in ascribing authorship and restricts unauthorised sampling, its industrial context may still mean that *musicians*, and especially those without a composer credit, find themselves sidelined from financial rewards. Clyde Stubblefield, for instance, the eponymous 'Funky Drummer' whose drumming was widely sampled from the James Brown song of the same name, received only his fee from the session but no royalties, since he held no copyright in the song (McLeod & DiCola, 2011, p. 92). Musicians operating outside of mainstream Western industrial structures are also subject to finding their way via ethnographic recordings onto hit records without remuneration. Steven Feld illustrates this process with reference to the BaBenzélé pygmies whose melody ended up on Herbie Hancock's 'Watermelon Man', later sampled by Madonna (Feld, 2000), and the Arabic singer whose voice, via the Danish Folklore Archives, was deployed on Brian Eno and David Byrne's *My Life In the Bush of Ghosts* (Feld & Kirkegaard, 2010).

The key point here is that copyright has evolved to favour particular sets of musical stakeholders, and some types of musical work over others. Arewa (2006, p. 550), tracing copying practices from Bach to hip-hop, observes of the origins of copyright,

Existing copyright structures are rooted in a notion of musical practice and authorship that is linked to the formation of the classical music canon, an invented tradition that had largely emerged by the last half of the nineteenth century.

Toynbee, less circumspectly, highlights how privileging melody and lyric carries over into the different rights afforded to the underlying work and the recording.

Put bluntly ... copyright law doesn't mesh with the practice of popular music. (2004, p. 127)

A similar problem exists as to how sampling practices have come to be viewed compared to other techniques. Precisely because it resides in the recording and not the composition, sampling has not historically been afforded the same legal latitude – room for interpretation – as other types of musical copy. From the outset, it was framed as illegitimate. Arewa (2006, p. 580) describes the court's forthright view in an early sampling case when rapper Biz Markie defended his sampling of Gilbert O'Sullivan,

The court did not analyze why the sample was infringement under applicable copyright law standards. Instead, [it] used specific language ('theft') and framed its decision in a way that clearly showed the court's negative view of hip hop music: beginning the decision with a quote of the Seventh Commandment prohibition 'Thou Shalt Not Steal'.

This was important not just for setting legal precedent but because, beyond the specifics of the case, it did not allow for a counter claim of fair use, thus maintaining the idea that the recorded information was the object of value in and of itself (Théberge, 2004, pp. 146, 147). It set up a situation whereby 'copyright infringement automatically results once the plaintiff proves copyright ownership and unauthorized sampling' (Schietinger, 2005, p. 222), drawing a line under a period of relatively free play in the 1980s when the technology was comparatively new. The expense of clearing samples (McLeod & DiCola, 2011, pp. 158–160) alongside a legal framework tipped favourably towards existing copyright holders has a chilling effect on new creators by creating a 'very bad bargaining situation' (Keller, 2008, p. 144) for musicians who attempt to comply with the law and seek permission for their samples.

Alongside music industry alarm over declining revenues due to digital distribution of recordings (David, 2010; McLeod, 2005), this has created a culture inimical to the creative latitude of technical copying afforded by sampling technology. Despite any musical distinctiveness or innovation in a work containing samples, its legal status is subordinate. This puts 'legal practice ... out of sync with commonsense assumptions about musical creativity and listening practices' (Scherzinger, 2014, p. 175). It is to musical creativity in relation to sampling that we now turn.

Sampling and morality

The first point to make here is that whilst genre-based accounts, like those focusing on hip-hop (e.g. Schloss, 2004; Williams, 2013), have usefully drawn attention to the shortcomings and inequities of the law as applied to emerging genres, we wish to foreground how sampling as a musical technique echoes codes and ethical communities of practice found right across music making, and musical copying. From quotation through influence – and up to sampling – musical practice can be 'as much a fusion of previous music as it is a new work of creative expression ... [s]ome appropriation is inevitable' (Collins, 2008, np).

Interviews with songwriters and biographies abound with examples of how their creative work draws on the past in myriad ways both deliberately and subconsciously. Paul Weller speaks of lifting chord changes 'directly from the Fabs' (Rachel, 2013, p. 193), Mick Jones of thinking 'I'll nick that' (ibid., p. 169) or, less overtly for Joan Armatrading, a feeling of 'writing a song that's already out there' (ibid., p. 100).

Popular music then – *all* music, really – involves some debt to its antecedents. The concept of originality, and particularly its commercial exploitation, is in no small way derived from Romantic ideals (Marshall, 2002, p. 2) but, as Arewa notes (2006, p. 597), '[s]uch representations are often incomplete in that they assume that musical works are autonomous creations'. Indeed, the dependence of much popular music on recognisable similarity to prior works has historically been a source of both aesthetic and commercial appeal yet simultaneously a point of critical contention, as Adorno's qualms about 'pseudo individualization' (Adorno, 1990, p. 256) illustrate.

Evidence from our interviews shows that, across genres, whilst musicians have often imbibed Romantic conceptions of originality, these do not map neatly onto their practices. Offhand, jokey references to 'ripping off' are peppered with acknowledgements that their work depends on its predecessors and that the line between outright acquisition and influence is blurred. The saxophonist of a band with Top 10 hits in the mid to late 1970s described

this grey area, especially around the *context* of the musical segment in both the prior and the subsequent work.

Beethoven ripped off Bach and Mozart and most of the composers ripped each other off. Now, it's down to one person's interpretation whether you think it's a rip-off or a tribute to or a homage or simply an 'influenced by' ... Certainly with brass riffs and things like that, they've all been done a million times before and most of the brass riffs from Motown and soul from the '70s and '60s have been recreated on records since almost note for note and the harmonies exactly the same – nothing you can do about that. (Personal interview, 10 January 2014)

By way of comparison, a musician whose main instrument is sampling technology itself – the various pieces of hardware – approaches the idea of 'copying' from the opposite end, in one sense, as the use of *recordings* rather than sequences of notes, but with a similar discourse of legitimate or illegitimate use – and one that is open to interpretation.

I wouldn't say I, like, have ever like copied another, kind of what would fundamentally be someone's idea. Even if I've taken a big chunk of the music they've composed, I've done something to it to make it not their idea anymore ... Say for example I'll take an eight bar section of someone else's music, 99% of the time I'll chop that into 16 chunks and rearrange them and then do something else to rearrange that. So it will be a few steps removed. So probably that would kind of legitimise it for me. (Personal interview, 18 December 2013)

Across the use of prior works, whether the notes of a brass arrangement or segments of a recording, the underlying principle applies that musicians make their own ethical judgements about what crosses a line from 'homage' or 'influence' into illegitimacy. Sampling, in other words, can be thought of as a different means of achieving a process of musical appropriation that had long been in place. The *legal* status differs concerning the relationship to the underlying work and the recording, but the musical *intent* is similar even as specific codes vary across communities of practice, which may adopt and adapt the moral distinctions between appropriation and homage to fit the technical realities of their work. A good example here can be found in Joseph Schloss's ethnographic work (2004, pp. 79–84) with hip-hop DJs and producers which revealed a range of ethical guidelines and practices – 'crate-digging' for 'original' sources, not using more than one key element from a source track or not using a sample that had recently been used by another producer.

The sample-based musician above referred to aspects of his work that would 'legitimise' taking chunks of other recordings, one being, as with Schloss's respondents, a curatorial element to the process, bringing to the fore previously forgotten tracks.

I suppose at the other end of that scale within sample-based music there's the idea of maybe again sampling something that's a chunk, a recognisable chunk of someone else's music that is unrecognisable because of his obscurity. (Personal interview, 18 December 2013)

Lines can be drawn here from the technical copying of sampling musicians to the moral and creative judgements made by those whose references to other works are deployed through older methods, reliant on acoustic instruments and the musician's memory. A jazz trumpeter described musical quoting to show he had 'done my homework; I know what I'm doing here because I've studied this guy' (Personal interview, 25 January 2014). But he distinguished between that and excessive adherence to idols that stifled individuality.

It happens quite a lot with young saxophonists who really want to get into jazz. They go away and they might just listen to Charlie Parker all day. Then, they go to jam sessions and all they want to do is play Charlie Parker tunes and they end up sounding ... playing a lot of Charlie Parker bits. (Personal interview, 25 January 2014)

Across genres, musicians distinguish 'legitimate' from questionable practice but, as the trumpeter noted, acknowledge 'those more shaded areas'. The musical materials vary but the ethical and creative conventions are comparable. Whereas the trumpeter refers to quotes and stylistic tics, the sample-based producer refers to key sample 'texts' and creativity being measured through how they are used.

There's like the Watsons' 'Amen Brother' break which is like a really famous drum break that basically got used for all of early jungle... It's almost like a competitive nature as to what you would do with that break. And they all would chop it into the same basic chunks... then it's all about how you rearrange those chunks and create new polyrhythms within that drum break. (Personal interview, 18 December 2013)

Again, this cuts across genre lines. A Scottish folk musician spoke of the commonplace use of sampling and home recording technology within his milieu, referencing 'creativity', 'exploration' and respect for 'tradition' as compatible with the use of samples.

[T]raditional musicians, while respecting tradition... are very far advanced and very creative and very exploratory... I mean, Martyn Bennett in the early to late 90s was a big advocate of the samples, and you'd see them doing live sampling and catch yourself using a lot of that kind of stuff as well. So, we're not averse to trying all these new ideas ... And I think a lot of these bands, when they're putting samples in, they're still thinking of themselves as traditional musicians. (Personal interview, 24 September 2014)

The jazz musician invokes quotes, and live virtuosity, the electronic producer a relationship to original use of the sampled material and the folk musician a broader valorisation of other traits which sampling can enhance. Their different emphases and discourses – virtuosity, tradition and originality – apply regardless of the technical means by which they are realised.

For such musicians a quasi-Romantic idea of their own originality, both self-imposed and informed by generic and community codes, guides their sense of what constitutes appropriate practice and sampling here sits on par with other, older, methods of invoking the past. Harkins (2010, p. 14) distinguishes between 'macro' and 'micro' sampling – the former being where the structure and recognisable characteristics of a sample are left intact in derivative works, the latter involving the fine chopping of samples beyond recognition, both existing within a 'long history of composition and recording technology' (ibid.). Again, this can be viewed as a spectrum of activity with parallels to 'borrowing' snippets of a melody or more recognisable chunks.

We could add that appropriation has a long history outside of sampling. Whilst the legal status of the sample differs from that of a cluster of notes, the micro/macro distinction applies across musical practices wherein prior works are referenced. Harkins is correct to distinguish between the 'appropriation based' (ibid.) use of samplers to provide the fundamental rhythmic or melodic blocks of a collage or derivative work and those uses that involve, essentially, using the technology as a palette from which are drawn individual tones or sonic moments recombined in such a way as to be utterly unrecognisable from their sources. But, again, the same distinction in terms of resemblance to prior works could be said to apply *across* musical practices. Disputes over plagiarism rest on precisely the amount of resemblance (the size of the 'sample') between two songs, but without the clear-cut criterion of whether the source work – the recording – was licensed. We return to the ramifications of this in our discussions of money and sampling aesthetics but raise it here to illustrate the operability of ethical codes across, as well as within, generic communities of practice.

If we acknowledge this as an underlying aspect of musical creation, it now bears mention that the technical aspects of sampling which historically marked it off from other forms of musical copying have found their way into both the production practices and the economic value chain of music, especially popular music, at large. We look next at how digital technology has become imbricated with music making to the extent that assessments of musical and moral intent are difficult to disentangle from whether musicians do or do not distinguish themselves by their use of samples.

Sampling as a technological practice

Hesmondhalgh (2006, pp. 54, 55) writes,

Sampling has continued in numerous settings apart from that of rap, and other studies have exposed a complex cultural politics around sampling that may have been submerged in the excitement accompanying the rise of sample-based rap and hip hop music.

This cuts both ways, historically. The incorporation of prior recordings, popularised and commercialised in hip-hop, also *pre-dates* digital sampling and, as above, cuts across genre lines. As a technique it can, for instance, be found in the analogue practices of composers such as Stockhausen, Cage and Riley and the *music concrete* of Pierre Schaeffer and others. The key issue here is less that art music developed such techniques ahead of popular music but, rather, that *analogue* incorporation of recordings predated digital technology. Sampling, then, developed and expanded pre-existing processes of musical appropriation. Indeed, John Oswald made this point explicitly, highlighting the tensions between the aesthetic and legal realms through both text (1985) and music. His 1985 essay discussed appropriation as a compositional method, and the subsequent avant garde work *Plunderphonic* explored the concept through an album featuring unauthorised samples that, although overtly non-commercial, still ran into legal threats from the Canadian Record Industry Association (Holm-Hudson, 1997, p. 21).

There's also a related point here about digital and analogue technology in that what may often seem to be a kind of qualitative 'revolution' is really a leap in quantitative capability. In the shift from Walkman to i-pod, for instance, the 'revolution' was the *amount* of music that individual listeners could carry, not the fact of personal 'private' access to one's music collection on the move. Likewise, with sampling, digital technology didn't suddenly make reusing prior recordings possible. Rather, digital means made the musical ends quantitatively much easier by increasing the speed, accuracy and degree of manipulation with which they could be achieved.

Samples – and digital technology overall – are now substantively embedded into recording practice, even constitutive of it in some ways. Firstly, sampling is now one of many techniques (like overdubbing, cutting and pasting or punching in²) formerly possible by analogue means but now achieved via the virtual studios available and bundled into hardware (like laptops) much lower down the value chain than was previously the case with production technology. Nick Prior describes the spread of digitalisation as domestic computers and software now encompass functions of studio technology hitherto restricted to the professional realm.

Whole orchestras – indeed music's whole sonic palette – can be conjured up in these digital spaces, giving rise to new stylistic combinations and borrowings not just in hip-hop, but in pop and rock generally. (Prior, 2010, pp. 402, 403)

A key consequence of this is to lower the bar to entry on recording for amateur and semi-professional musicians (*ibid.*), more closely aligning recording with other musical practices (learning instruments, writing songs and so forth). Indeed, even professional musicians and producers are increasingly driven towards digital technology by financial necessity. One producer described the situation,

[Y]ou can't, in a home studio, you can't go through the drag ... of recording a drum kit in a nice room and doing it well. So in a sense, modern music production, it drives people towards using samples. Because there's no other choice. (Personal interview, 6 October 2014)

Learning to create sounds – acoustically or electronically – increasingly happens alongside learning to *organise* them as a recorded output. Crucially this also means that, across the spectrum of amateur and professional activity, the norm is that all sounds are processed digitally³ and that the distinction between composition and recording becomes blurred. A singer-songwriter, for instance, described the starting point of her composition process.

It's a multi-faceted thing for me. It involves probably as much a production element as a pure songwriting element. And in the first instance it'll be just me with piano or the guitar ... or in fact a melody which can be recorded onto my i-phone during driving, for example. (Personal interview, 22 May 2014)

From the outset through to completion, sampling is no longer a stand-alone practice but ingrained in digital production, and by extension music production, as a whole. A sub-industry based on sampled sounds and emulation has arisen, a crowded market of samples and loops for use in production, either packaged into software or sold separately in batches.

But while, digital options have expanded the practical parameters of the studio, our respondents tended to consider their musical options first and then reach for whichever means came most suitably to hand in their realisation – digital, analogue, physical or virtual. The singer-songwriter noted the convenience of digital emulation as a production tool.

It is nice to be able to go in and put down a celeste part without having to go in and necessarily find one. (Personal interview, 22 May 2014).

At the same time, she also affirmed the song itself as the foundation of the work for her, with digital and analogue recording only slightly different means to the same end.

That's what Pro-Tools offers. It offers infinite possibility. But you still must try and simplify, and remember the song that you wrote in the first place ... I think it's almost just forgetting that the studio's there and listening to the song and thinking, 'What does it need?' ... Just getting used to Pro-Tools as being the same tool that it always was, tracking on two-inch tape. But you still were led by the art and you got round the problems of dropping in. [Her producer] has talked about this forever and has a really interesting take on digital which is, 'Really? There's no need for the debate any more. No need for the analogue vs digital, that debate.' (Personal interview, 22 May 2014)

The techniques of cutting, pasting, chopping and looping that are applied to samples, whether of prior works or bespoke products, match those used in other aspects of recording. The source may be a sample, the signal from an electric guitar or from a microphone with a singer or violinist at the end of it. Regardless, they end up in the same virtual mixer. The guitarist's stream of notes on the day is subject to the same manipulation in the production process as the sample from a record released decades ago.

Additionally, digital reproduction is deployed in live performance. Samples are played and manipulated in real time as musicians on digital and acoustic instruments loop and overlay their melodic lines and improvisations. The jazz trumpeter spoke approvingly of

collaborators who incorporate digital recording and playback technology into real-time performance.

We had [a] bass player ... He does live looping on stage with his double bass. That is amazing; that was really cool to see that ... [a] trombone player, he uses a lot of digital effects on his trombone. To amazing effect. (Personal interview, 25 January 2014)

In live as well as recorded music, sampling sits beside (not apart from) a wide range of other effects and tools (like amplification, delay, distortion and myriad other analogue and digital signal processors). Using samples or loops is in many contexts uncontroversial. Indeed it is often, as above, lauded as a sign of virtuosity or skill – another dimension of musical practice operating alongside knowledge of music theory or physical dexterity amongst a palette of techniques available to the musician. It has thus become accepted into popular musical practice and distanced from unease about ‘cheating’.⁴ Here, sampling can be seen as following a similar trajectory to technologies such as synthesisers and even the microphone – a journey from suspect novelty to incorporation into the standard set of musical tools (Frith, 1986). Where microphones were initially viewed as a crutch for inadequate singers, and synthesisers derided as a gimmicky threat to musical livelihoods, each is now an accepted, even central, piece of equipment, scarcely more controversial (in popular music at least) than acoustic instruments.

This places the decision to use (or not use) a sample amongst many other seemingly minor choices, the totality of which build into the eventual work. The sample, like other apparatuses and techniques, is now part of the ‘habitus’ (Bourdieu, 1993) of many, most even, working musicians in the popular music field and therefore, as with a choice of guitar or amplifier, close to the centre of the ‘radius of creativity’ outlined by Jason Toynbee (2000, p. 40)

The music maker identifies (hears) possibles according to a) the perceptual schema of her/his habitus and b) its point of intersection with the creative field ... Just as possibles are more densely distributed towards the centre so too are customary patterns of selection and combination. The propensity to identify and select possibles within the ambit of ‘strong’ disposition near the centre represents one form of constraint on creativity. The difficulty of so doing further out along the radius, among the thinly distributed possibles where dispositivity is weakest, constitutes another. (ibid.)

Sampling, then, is both an aesthetic and a technical choice that aligns increasingly easily with both live performance and the studio environment. The manipulation of recorded sounds – from other recordings, the musicians’ own performances or even environmental sounds – is a creative practice that sits alongside the manipulation of acoustic or amplified sounds via striking, plucking or blowing physical objects. As a viable dispositive choice for musicians across genres – and not *in itself* a criterion for generic or personal ethical judgements – sampling has become a fundamental aspect of the popular music aesthetic, a development we now discuss.

The sampling aesthetic

A crucial aspect of the changes to music-making since the advent of widely available digital sampling is the way in which it has, as per Toynbee’s ‘radius of creativity’, become a key ‘possible’ on the palette of available options to most musicians. This shift was not, however, without controversy en route to the current situation as the tensions played out between

musicians whose 'habitus' accounted for sampling and those for whom it did not. A jazz-funk flautist recalls debates in the 1990s as sampling gradually became embedded into everyday practice.

At that time all the musicians ... would be saying 'Well sampling is just stealing. The only reason these guys are doing it is because they can't play' etc. But we were starting to realise that it also created an aesthetic of its own that was the one that was happening at that time and that was popular ... So we put vinyl sound onto live multitrack recorded stuff, much to the distress of our engineer, who'd been from the 80s. (Personal interview, 23 May 2014)

Williams (2015, p. 208) – following Serge Lacasse – notes that the sampling aesthetic as found in hip-hop, for instance via the hiss and pop of vinyl, combines elements of 'allosonic' quotation, achieved via re-recording or quoting, and 'autosonic' quotation, achieved by using the recording itself. Indeed, the practice of 'interpolation' – re-recording a part so that while authors are credited the need to obtain sample clearance is circumvented – illustrates the multiplicity of ways in which producers work to incorporate the past into new recordings, trying to establish legitimacy with regard to copying, yet still minimise costs. Hit records by the likes of Beyoncé (Drake, 2016) feature samples and interpolations alongside one another and some producers, like Dr. Dre, have noted that re-recording using session musicians, as opposed to using samples, also allows a greater degree of control of the sound (Hess, 2007, p. 106). This, in conjunction with the spread of the technology throughout the portfolio of musical tools and techniques, means that the sample has lost its distinction as a separate technical practice applied to other musical forms and texts and become an embedded feature of the broader landscape of production, composition and even performance. It has, as illustrated by the flautist above, 'inflected the way music recordings are produced' (Williams, 2013, p. 102) beyond hip-hop. The flautist continues:

As far as the sampling thing goes... I mean the sound of Tribe Called Quest, which I still find interesting, or even Björk and people, they wouldn't have been able to come up with those sounds without using that approach to both the technology and to the musicology of it ... The looping thing just makes you do things different. It makes you think differently. It makes the music come out totally different. (Personal interview, 23 May 2014)

The conflation on the one hand and distribution, on the other, of 'allosonic' and 'autosonic' motivations in music production can be mapped onto Harkins' distinction between 'macro' and 'micro' sampling in the broader scheme of dispositive choices available to musicians. Using a sample is no longer simply another means of quoting (Marshall, 2015, p. 293), nor straightforwardly an option – amongst many – for selecting the constituent musical building blocks of the finished piece. The musical and technical *modus operandi* for many popular musicians now involves working *across* and *between* 'allosonic' and 'autosonic' uses of samples. A hit songwriter and producer described his working practices:

[T]here are amazingly simple tricks that you can do for ... for example, the thing with this girl that I did the other day. It's basically, what they want is Nora Jones for 17 year olds. And that's exactly what it is. It sounds like that. But if you put loads of spangly, sparkly reverb ... on the vocals and a few backwards little noises in there and shove a couple of samples underneath the drums and a sub bass, then the record company go 'Whoa, that sounds really modern and like you can get it on Radio 1.'⁵ Whereas if you take all of those off, it's nothing. (Personal interview, 6 October 2014)

So sampling now extends into timbral considerations as well as the rhythmic and melodic aspects of musical creativity. The incorporation of digital technology to colour a recording

is commonplace. Another producer discussed using samples for 'texture' – for sonic, rather than specifically musical, contributions to his work.

You're unlikely to find a sample which does the exact guitar playing that you want for a certain track, but it might have some effects on it and a sound from the recording that would be hard to replicate. That's really all I use samples for now, personally. It's just atmosphere or texture. (Personal interview, 26 August 2014)

Musicians process what they do in terms of that aesthetic of sampling in a manner comparable to how they draw – deliberately or subconsciously – on the vast array of prior works in their musical hinterlands when writing and playing. Just as Toynbee has drawn on the concept of 'habitus' to describe the deliberate choices that musicians make, Philip McIntyre illustrates – via the case study of 'Yesterday' – how even less conscious processes, in this case Paul McCartney appearing to dream the melody, derive from 'a long and often arduous but nonetheless highly explainable process springing from McCartney's deep well of experience, his intensive immersion in the domain of popular songs' (McIntyre, 2006, p. 215). One could add songs using samples, the samples themselves and, importantly, therefore the sampling process and its results to that 'domain'. The sampling aesthetic affects how people listen to what they are producing. It is bound up with their habitus (McIntyre & Morey, 2012).

A manager described how naturally his acts used samples as just one element of their broader involvement in the listening and creative processes, and aside from any financial or legal considerations.

[They] are huge fans of music that consumed and used music ... Not just in terms of using samples, but in terms of how they construct music, what they listen to. Music was all around, so it was like how could you not be influenced by what you're listening to and things that you like? How could that not appear on your own records? (Personal interview, 22 April 2014)

This included triggering samples in live performance, to incorporate textural or timbral aspects of a piece, although the new work bore scant melodic resemblance to it. Influence and predilections are intertwined in production, composition and performance. It is this combination that constitutes the sampling continuum – a musical environment in which musicians have forged their craft with a habitus that makes few ethical distinctions between sampling and other practices, and in which the entire chain of creative acts inhabits a digital realm where sampling and analogue techniques comele without friction.

We began with an overview of how sampling is treated differently to other types of musical derivation despite being essentially 'a continuation of some of the forms of creative practice well-established in popular music' (Marshall, 2015, p. 292). We finish with examples of how the more diffuse 'post-sampling' aesthetic of a continuum of practice running throughout popular music culture – the use of samples as part of a wider musical palette than the 'recognisable snippet' model – encounters tensions with industry practice still heavily hedged around a legal framework that evolved from a pre-sampling era.

Cultural shift, the sampling continuum and money

Regardless of whence the individual components that incrementally constitute a new song are derived, or how they are pieced together, it becomes subject to the vicissitudes of an array of commercial interests in the wider field of distribution and consumption. And industrial culture has been slower than musicians to accommodate the aesthetic realities of sampling as a continuum of practice. The manager quoted above told the instructive tale of one

of his acts – a successful and critically acclaimed band – having to delay the release of a compilation because the rights-holders of a small sample on one song (previously unreleased in that version, which was from a radio broadcast) still regarded sampling as a form of theft and held out for an unrealistic deal.

You were basically dealing with people on our side who were entirely conversant with the kind of sampling cultures, or using music in the way that it had been used on that track with people who I just don't think were ... Culturally, the two sides in the negotiations, if there were only two sides, were very, very different. (Personal interview, 22 April 2014)

Notwithstanding the wrangles over this particular release – which took nearly five years to resolve – he spoke of observing a 'cultural shift' over the course of his work in band management, a recognition of sampling as a 'creative act' rather than something 'to be punished' (Personal interview, 22 April 2014).

It kind of became embedded in the publishers and the record companies. They were much more set up to cut the deals and cut appropriate deals and they all had the right person to speak to so you weren't chasing round for ages. (Personal interview, 22 April 2014)

Of course, this was also concomitant with a realisation that licensing samples, and therefore streamlining the process, was a revenue stream, though one with often-prohibitive consequences for creators without deep pockets (Cox, 2015). Digital technology affords access to a palette of sounds and production values previously out of reach to many creators. The irony is, though, that use of these may involve tortuous negotiations, expensive licensing agreements or the risk of even more tortuous and expensive litigation.

Another producer had two stories, between them revealing both the extent to which, firstly, appearing above the commercial parapet exposes artists to the consequences of *any* kind of musical derivation and, secondly, the disjunction between how these are treated across the spectrum of technical procedures involved. The first involved the similarity between the bass line on a track he had written and a Kinks song. Nothing happened until this relatively obscure track received airplay on Radio 1, whereupon he received legal threats.

It wasn't a big track at all but it got played on one of their dance shows or something and he heard it or someone brought it to his attention ... He basically, one of them said, 'Right, we own that song now. That's our song'. I was like, 'Hold on a minute, I accept the bass line's similar and I'm prepared to do a deal, because I've had to do that before on other things, so let's talk'. (Personal interview, 26 August 2014)

Eventually he was able to show that the resemblance was no greater than other songs in the genre – one by the Doors in particular – which stilled his antagonist. However, the motivation for action was clearly that the song – as indicated by its appearance on Radio 1 – had commercial potential.

He was obviously thinking, 'This could be a big hit, you never know'. He's seen it before, I'm sure. Get in there early and stake your claim on it while you can. It didn't go anywhere so he just left it alone. (Personal interview, 26 August 2014)

The same artist, however, had to cede a significant portion of a song used in a Hollywood movie that contained an unlicensed sample.

None of us thought to think about the samples and the sample issue and, of course, as soon as it got into the, well, the guy, basically, who I sampled ... They said he's basically calling up Warner Brothers in America and saying he's going to sue them for millions of dollars and going absolutely apeshit at them. That was a real baptism of fire and it was pretty horrendous, actually, for a while because, in that situation, I had to give up quite a lot of the song and pay him off and stuff. (Personal interview, 26 August 2014)

Here, however, the musical resemblance was marginal.

I never used huge bits of samples, that's the thing. What I did was use little snippets of vocal and stuff and just used them to ... texture. (ibid.)

Whilst in each case, the commercial reach – or potential – of the derivative work brought legal threats it was, in fact, the case of lesser musical resemblance that resulted in relinquishing a financial share of it. This producer has taken a more cautious approach as a result of these experiences but also noteworthy is that, as with the manager of the indie band whose record was delayed, he still prioritises creative above legal concerns in the act of music making itself.

[I]f we needed to use a big sample from something, I wouldn't be afraid to use it because I just think it's better to be creative in the moment and then if you have to try and clear a sample, you just try and clear it. If the project got big and the money around [it], then you just have to be upfront about it. That's the thing I learnt. Do it and don't worry about it but worry about it after the creative process when there's a potential for it to be recognised. (ibid.)

The point here is that, throughout, he was working instinctively in a domain wherein sampling holds equal creative and moral status with other musical actions. The affordances of the technology are simply evaluated alongside the other tools at the musician's disposal in service of 'instinct', 'ear' and 'what sounds good' (McIntyre & Morey, 2012). And although the relationship between industry practice and the legal system acts as a constraint (ibid.), our research confirms that the enculturation of musicians into a 'post-sampling' field – a continuum of practice including musical choices *and* the means by which they are enacted – is extensive. From quotation, through interpolation of credited but re-recorded material to incorporation of prior recordings themselves, we are past the point where sampling can be simply distinguished from the plethora of other instruments, skills and procedures in the creative arsenal. Just as samples, by dint of becoming intrinsic to the warp and weft of music production through the near universal adoption of digital recording, are no longer just the easily identifiable snippets of – often genre specific – referential practices, musicians have moved through an era where such distinctions held moral weight.

The 'cultural shift' alluded to by our respondent has, however, been unevenly realised. Whilst musical creation now operates in the post-sampling realm its industrial context, which has long mediated it as a cultural practice, has lagged behind. The trade in 'sample trolling' (Wu, 2006) – trawling releases for samples (however small or unrecognisable) and litigating on the findings – reveals the disjunction between musical and industrial frameworks. There have been relatively recent victories by the likes of Jay-Z, who won a case over sampling a single word ('oh'), which the ruling stated, '[appears] only in the background and in such a way as to be audible and aurally intelligible only to the most attentive and capable listener' (TufAmerica, Inc. v WB Music Corp., et al., 2014).

But while this focus on specifically musical concerns may be a welcome sign, particularly for those whose palette-based use of samples is intrinsic to their work, many lack the resources for protracted, costly court proceedings. Furthermore, the underlying tension between the creative process and the legal ramifications of, as above, having to 'worry about it' if the fruits of that process may reach a wide audience reveals a fracture between the social and musical everyday norms for musicians and their surrounding legal-industrial structures.

Conclusions

Our purpose has been to illustrate, by way of their own experiences and words, how musicians have come to operate in a realm characterised by an ever more integrated relationship between sampling and other musical practices. This continuum does not solely constitute acceptance of both the technology and the musical practice as standard creative endeavour after a period of controversy. Indeed – notwithstanding the streamlining of the licensing process since the 1990s (Morey, 2012, p. 54) and indications that courts may in future lean towards a less absolutist approach to samples – it remains the case that the field is tilted against sampling industrially (licensing is expensive and puts the sampler at the mercy of rightsholder) and legally (failure to license risks legal repercussions, particularly for successful songs).

The sampling continuum, instead, refers to a musical field in which listening practices, creative habits and habitus are informed by and realised through a technical and musical sphere to which sampling is integral. As in other copying practices, musicians and producers apply the sampling aesthetic alongside their own ethical codes regarding other works and notions of professional pride. And while some genres still make use of ‘recognisable snippet’ samples – as jazz does with themes and quotes – so thoroughly have the technology and aesthetic become absorbed that the field of musical creativity is better thought of as ‘post’ sampling than merely ‘sampling’ or ‘not sampling’. To separate it out from other instances of copying in relation to discourses of originality, authenticity or creativity is akin to doing so with, say, amplification in terms of musical technique.

This matters for both practitioners and scholars. Our research suggests that musicians working within discourses of authenticity heed their creative impulses first and foremost – the needs of the song, professional pride and creative ethics. Sampling, like other forms of copying, is integrated into this creative framework, which has changed in a manner improperly recognised by its industrial and legal surroundings. For creativity to flourish, its social and legal contexts should be better aligned.

A view of the field of popular music practice as existing across a continuum – in a post-sampling era – allows us to concentrate on how musicians negotiate the ethical aspects of copying and copyright. This will assist in developing a coherent typology of copying, one not in hock to genre ideologies or value-sets that insufficiently account for actual practices as opposed to the transactions and property rights that accrue *from* them. In doing so, we may help to place musicians at the centre of the narrative on copying and seek to develop an understanding of copying and creativity that better supports musical work on the ground and, for scholars, moves towards a more nuanced account of the ‘shaded areas’ of underlying ethical codes of creative practice.

Notes

1. In practice, many musicians switch between these roles across their careers or, indeed, occupy more than one simultaneously.
2. ‘Punching in’ refers to inserting preferred or corrected parts over existing segments in multi-track recording. It has been commonplace since the advent of multi-tracking but can be achieved digitally without the loss of sound quality caused by multiple passes over a segment of tape.
3. Some artists foreground the use of analogue equipment as a marker of retro authenticity. This, though, is actually more expensive, the opposite state of affairs to when digital technology was new.

4. Some practices are still beyond the pale for certain authenticist discourses, like using triggered sections of music as backing or to 'cover up' weaknesses in performance. Questions about whether Dolly Parton mimed sections of her performance at the Glastonbury Festival (Bychawski, 2014), for instance, illustrate debatable uses of technology in live performance.
5. The UK public broadcaster's main outlet for pop music.

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Notes on contributors

Adam Behr is Lecturer in Contemporary and Popular Music at the International Centre for Music Studies, Newcastle University. He is a director of the knowledge exchange body Live Music Exchange. His research has included work on the cultural value of live music, digitisation, copyright and musical practice and the relationships between venues, musicians and policy-makers.

Keith Negus is Professor of Musicology at Goldsmiths, University of London. His books include *Producing Pop* (1992), *Popular Music in Theory* (1996), *Music Genres and Corporate Cultures* (1999) and *Bob Dylan* (2008). He has published articles on creativity, musicians on television, globalisation, music genres and cultural intermediaries. His recent research includes a study of 'Digitisation and the Politics of Copying in Popular Music Culture' within the U.K. Research Council's CREATE programme with John Street and Adam Behr, and a study of songwriting and lyrics with Pete Astor. He is currently writing a book on narrative and the popular song.

John Street is a Professor of Politics in the School of Politics, Philosophy, Language and Communication Studies at the University of East Anglia. He is the author of several books, including *Music and Politics*, (with Sanna Inthorn and Martin Scott) *From Entertainment to Citizenship: Politics and Popular Culture*, and *Mass Media, Politics and Democracy*. He is a member of the Editorial Group of *Popular Music*. His current research focuses on music as protest and on the politics of creativity.

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