

PRODUCTION TECHNOLOGIES AND STUDIO PRACTICE  
IN ELECTRONIC DANCE MUSIC CULTURE

— GUEST EDITORS' INTRODUCTION —

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When we are lost in the euphoric moments of dance floor bliss, it is easy to forget about the skill and effort it takes to make the music that elevates us. The dance floor isn't the place for conversations on the advantages and disadvantages of particular digital audio workstations or pieces of hardware. Perhaps that is why many studies of electronic dance music culture (EDMC) engage with the socio-cultural contexts that have underpinned the development of its various styles and scenes, and in contrast, the studio, and its role in the production of EDM, remains comparatively underexplored territory. That said, many of the key scholars of EDMC have engaged with the production technologies, sonic aesthetics and compositional structures of EDM, including Mark Butler, Hillegonda Rietveld, Graham St John and Sarah Thornton. More broadly, there is the now-established field of the art of record production, with the Association for the Study of the Art of Record Production, its annual conference, and the *Journal on the Art of Record Production*. This field draws on a hybrid mix of practitioners, academics, theoretical models and research methodologies. This special edition of *Dancecult* on production technologies and studio practice in EDMC is intended to add to this existing work, and to lend further attention to the behind-the-scenes endeavours that generate the music that drives the dance floor.

As the essays in this issue demonstrate, analysis of production in EDM revolves around much more than merely studio work. Structural qualities, media discourse and globalisation are just some of the various topics given attention by the contributors. This variety, together with the increasing prominence of the study of the art of record production, indicates that there is much interest in the studio practice that informs EDM creation. On a broader scale, this seems like part of a larger shift in popular music studies and musicology in general towards examining the sound of the music and way that it is made/performed. Popular

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music studies has tended to focus on the context in which the music exists and is engaged with by audiences. Even the very few exceptions, such as Walt Everett, Philip Tagg and Allan Moore, have worked with quite schematic representations of the musical sound such as harmonic, scalar and rhythmic descriptions. The recent shift has involved looking at music as the result of particular types of activity or gesture—Eric Clarke, Allan Moore and Philip Tagg have all moved in this direction—and the types of metaphorical or associative meaning that the sound of particular types of activity might suggest as interpretations. Within EDM, this form of analysis needs to account for the way that computers are involved in the process—both in the way that they suggest mechanical activity but also in terms of how they create metaphorical/associative relationships with human gesture and more familiar acoustic instrumental technologies. We can't, for example, hear an 808 snare or clap sound without interpreting it in relation to an acoustic snare drum or a “real” hand clap.

The essays in this edition also demonstrate that we need both to make a distinction between the study of production and the sound of recorded music, and to look at how they are connected. Musicology has historically focused on the way that music sounds and the ways in which audiences interpret it, rather than on the ways that composers and performers work when they are creating and performing it. Of course, any structural interpretation involves some assumptions or assertions about the composer's or performer's intentions, but there is still a fundamental difference between studying what was made and how, why, where and when it was made. This also relates to the previous point: that popular music studies has always been much more focused on the how, why, where and when from a sociological perspective rather than from a psychological or practical perspective—looking for broad themes such as the exploration of Afrofuturism in the previous issue of *Dancecult* (even if done through specific case studies).

One theme that runs across all of the pieces in this special issue involves changes in production technology. The landscape of music production has shifted significantly in recent years, with digital technologies, software and home studios supplanting analogue hardware and professional studio spaces. These changes are often uncritically filtered through the lens of the “democratisation of technology” argument. These changes could just as easily be described in terms of de-skilling, of shifting creative and technical decisions away from practitioners to product designers and of consumerising production technology. However, while we find this problematic and worthy of further interrogation, it remains the case that the processes that underpin EDM production have changed somewhat in the past two decades through the use of new technologies, even if access to those technologies is highly mediated by the same sorts of social and economic factors that affected access to previous technologies. As most of the essays here demonstrate, the development of digital production technology and software has impacted on individual production practices, EDM sonic aesthetics, global flows of music, authenticity debates, and even re-evaluations of the merits of analogue equipment.

The variety of research methodologies and analytical perspectives in the essays reflects the vibrancy of the study of EDM production, but it also points to some areas that need

further consideration. Firstly, there is a need for some standardised aspects for the analysis of recorded sound/music, while recognising that there are relevant theories out there already in other areas of musicology. If there is indeed a shift in the focus of musicology, then we need to be looking for some agreed methods of analysis. The ecological approach to perception that Eric Clarke utilises is one contender for this. Denis Smalley's notion of spectromorphology is another (as discussed by Robert Ratcliffe in this issue). Both of these approaches broadly relate to hearing a type of activity and attributing meaning based on how that activity might be interpreted—so the larger picture that seems to be emerging in relation to this is that the psychology of music needs to form the basis of our understanding rather than methods that are based on the technical musical theory that has underpinned musical analysis for the past century or more. And if the study of musical sound is heading towards interpretations flowing from the type of activity that may have made a sound (or some empathic, metaphoric or associative connections we make from the perceived activity to some other mental space), that shift is accompanied by a parallel shift seeking to understand the psychology of the creative process. This second shift can be seen in the growth of performance studies, practice as research and the ethnographic and psychological study of communal musical practices as well as in the study of the production process.

Secondly, the approaches taken in the essays make some of the fundamental problems of musicology more obvious—and flag up some interesting questions about music, sound and interpretation. If it wasn't already obvious, studies like those in this issue demonstrate that the traditional analytical tools that relate to melodic shape and variation, as represented through the chromatic scalar medium of notation and harmonic progression and its relation to the analysis of form, are only part of the story. Indeed, the study of scores and notation—whether published scores or the transcriptions of normally non-notated music—precludes the study of features such as micro-timing in both rhythm and dynamics or timbre.

Thirdly, the essays demonstrate how the well-documented problems of ethnomusicology also apply to collaborative studies with practitioners, with, for example, the use of promotional interviews as evidence. Ethnomusicologists have been struggling with various aspects of the problem that whenever you start to observe and analyse an activity/situation, you fundamentally alter it. Just as a subject's behaviour changes when they are being observed, if as a researcher you ask participants to describe or talk about that process, they are likely to change their whole perception of it. Those of us who are studying the process of production can learn much from the insights, discussions and mistakes that have helped shape ethnomusicology and from those historians engaged in studying the social construction of technology.

The issue begins with Carlo Nardi's article on audio mastering, a neglected topic in not only EDM studies but also music studies more broadly. Drawing on personal interviews with mastering engineers and field research in mastering studios in Italy and Germany, Nardi engages with a number of issues to emphasise the place of mastering as a central intermediary process in the journey of music from artist to consumer. As the article demonstrates,

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an exploration of audio engineering provides not only a deeper knowledge of the art of record production, but also a greater understanding of changes across the broader music industry. Nardi articulates this through discussions of technology, compression and audio formats. The specific playback demands of EDM listeners require particular approaches to mastering, and as Nardi demonstrates, mastering engineers operate in a unique space between the desires of the artist, the expectations of the listening audience, and their own knowledge and understanding. We can thus view mastering beyond its more frequently charted connections to record production, and instead as situated within a much broader set of manufacturing, promotion and consumption processes.

The conflicts, tensions and disputes that permeate the discourse surrounding analogue and digital technologies run across EDM media as much as they do EDM artists and audiences. Hans T. Zeiner-Henriksen engages with this discourse in his article on the Chemical Brothers' fondness for a particular piece of analogue equipment—namely, the ARP 2600. Drawing on Wiebe E. Bijker's "sociotechnical approach to the development of technology" and Sarah Thornton's notion of subcultural capital, Zeiner-Henriksen discusses how distinct stages and processes can be identified in the shift from analogue to digital technologies, and how some analogue equipment becomes more prized than its digital counterpart. There is a certain absurdity in favouring the bulky, the antiquated and the flawed over the convenient, the modern and the superior, and yet much like vinyl continues to have a place within DJ culture, the old is not always superseded by the new. Zeiner-Henriksen demonstrates how the development of production technology is bound up with a complex set of value judgments and authenticities that are tied to both artist and audience. Intriguingly, Zeiner-Henriksen invokes the "democratisation of production" argument, not as a way of emphasising the positive outcomes of technological development, but rather as a possible cause of steering artists and producers back to older equipment, so that they may maintain a position of distinction and "declare that their craft demands more than just the newest equipment".

In the first of two articles in this issue that deal directly with sampling, Justin Morey and Phillip McIntyre explore the creative practice of a selection of key UK-based EDM producers. Drawing on personal interviews with these producers, the article provides insights into how sampling is perceived as a creative endeavour and how it is tied up with interpretations of authorship. The processes of listening, selection and editing that come together under the act of sampling are informed by not only the artistic impulses of the producer, but also technology and copyright management, amongst other things. Morey and McIntyre look specifically at how the "co-opted collaboration" that is enacted through sampling manifests itself in the various understandings of authorship and creativity that frame the practice. Their study demonstrates not only how sampling is a central part of the studio work of contemporary EDM producers, but also how it invokes new understandings of the processes of composition.

We remain in the studio for Ragnhild Torvanger Solberg's article, in which she explores specific production techniques to make connections between the structural qualities of

EDM tracks and the emotional experiences clubbers have while listening, or rather dancing, to them. Drawing on literature from music psychology, as well as EDM studies, Solberg employs a theoretical framework based on musical expectancy and gravity to articulate how clubbers engage with the “build up” and “drop” sections of contemporary EDM music. Such sections have become increasingly prevalent within EDM in recent years, excessively so in some styles, with the resultant sonic clichés. Solberg focuses on two specific tracks—“Body” by Cinnamon Chasers and “Icarus (Extended Version)” by Madeon—to demonstrate how particular approaches to EDM production generate certain structural qualities, which in turn affect, and indeed *effect*, “intense musical and emotional experience” in the club environment. Solberg’s original analysis provides a template on which to base further research into the relationship between studio practice and the dance floor experience.

The scholarly and journalistic literature on EDM is dominated by perspectives from North America and Europe. Less attention has been given to the development of EDM styles outside of these territories. As such, Garth Sheridan’s piece on the historical emergence of Angolan kuduro provides a timely exploration of a style that exists still very much on the periphery of the global flows of club culture. Based on fieldwork in Angola and Portugal, alongside practice-based research via studio and performance collaborations with key kuduro artists, Sheridan discusses how digital technologies have shaped the development of kuduro over the past two decades. Dealing with civil war, authoritarian rule and the lingering impacts of colonialism, kuduro practitioners have had to negotiate their craft in a fraught and politically complex environment. Sheridan details some of the techniques and technologies that have informed the stylistic development of kuduro. In the process, he shows how music production and studio practice are intimately connected with socio-political contexts, and how producers negotiate the restrictions and limitations of these contexts.

The final feature article in this special issue is Robert Ratcliffe’s analysis of sampling as a production practice in EDM. Complementing Morey and McIntryre’s essay, Ratcliffe proposes a typology that classifies the variety of ways in which EDM producers engage with sampling through compositional practice and use of technology. Conceptual material from the field of electroacoustic music is applied to the discussion, which broadens the scope of the theoretical and analytical language used to interpret EDM. Ratcliffe’s typology demonstrates the different approaches EDM producers take when utilising pre-existing sonic material as part of their music. As with all the other articles in this issue, the impact of technological development on changing production practice is central to the discussion. Producers sample for a variety of reasons, and these can be influenced by artistic intentions, musical knowledge, availability of technology and legal constraints. Ratcliffe’s typology contributes to the emerging discourse around the analysis of the structure and content of EDM, and provides a framework for further investigations of sampling practice, and more broadly the creative processes of EDM production and studio practice.

The From the Floor section of this special issue, subtitled “Stories from the Studio”, features two pieces that, coincidentally, both engage with ideas around *musique concrète*,



albeit in significantly different ways. Colin McGuire reflects on his own production work as a way of interrogating the ephemerality of recordings. The request of a family member for a compilation of his recorded output led McGuire to revisit his compositional work and to reflect on the shifting technological landscapes that have informed this work. Commencing his production activities in the late 1990s in a studio environment that was transitioning from analogue to digital recording technologies, McGuire firstly details some of the issues and difficulties in working within a genre that is so wedded to technology in terms of sound production, storage and playback. As well as emphasising the distribution avenues that digital formats have opened up for music producers, McGuire argues that digital technologies have generated a more improvisatory environment for the selection, diffusion and interpretation of music. For McGuire, a recording “is not concrete at all, but rather *concrète* in its readiness to be manipulated, transformed and re-contextualized”. After making the compilation and reflecting on his work, McGuire’s realisation is that the frenetic pace of technological evolution renders studio and playback technologies ephemeral, while at the same time eroding the definitiveness of individual tracks.

Brian Speise takes a more direct path through *musique concrète*. Drawing on his own compositional practice, he situates this work within a broader field of contemporary EDM that takes inspiration from *musique concrète*. Speise cites Matthew Herbert as one example of a producer who utilises found sounds to create a modern take on *musique concrète* that “is not necessarily danceable or meant to be played at clubs”, but that incorporates “tonal harmony and melody and dance rhythms [that] separate it from the less-accessible, avant-garde *musique concrète*”. Speise provides a comprehensive account of the production processes behind his composition of credits music for a short zombie film, for which he experimented with *musique concrète*. While not obviously connected to EDM, the technologies and techniques Speise details relate to any producer of electronic music. Speise’s case study reinforces how shifts in technology have transformed the production landscape for electronic music composers, and arguably allow for easier incorporation of found sounds into the compositional framework. For Speise, the experimental chain reaction set off by his *musique concrète* explorations generated more unique and individualised music.

One topic that is not addressed in this special issue (although not by choice), and needs to be considered in future research, is the issue of gender. Women are conspicuous by their absence in these articles, which is reflective of the field of music production more broadly. Rebekah Farrugia’s monograph *Beyond the Dance Floor: Female DJs, Technology and Electronic Dance Music Culture* (reviewed in this issue) goes some way towards redressing this absence, but there remains much more to be said on the barriers that have seemingly limited female participation in record production. As Carlo Nardi identifies in his article, the “substantial gender bias” in the field of audio mastering needs further attention. While we have one female-authored article in this issue, Ragnhild Solberg’s focus is on the music of two male producers. In all of the other essays, it is very much a case of “boys and their toys”. There are parallels here with DJ culture, Anna Gavanis and Bernardo Attias noting in their introduction to the 2011 special issue of *Dancecult* on the DJ how their selected

essays “describe DJ culture as primarily a ‘masculine’ pursuit”. Identifying the topic itself is problematic—by doing so, we draw attention to it, and thereby risk framing female producers as somehow unusual or worthy of exclusive attention. Ultimately, the issue of gender should not be an issue. As Hillegonda Rietveld states in her review of *Beyond the Dance Floor*, “One day, it is hoped, we may simply speak of the creative practices of DJs and music producers, without a need to qualify gender”.

In closing, we would like to thank the crew of the good ship *Dancecult*—editors, peer reviewers, copyeditors and production assistants—without whom we would still be in the studio trying to nail that breakdown. We would particularly like to thank *Dancecult* Executive Editor Graham St John for giving us the opportunity to develop this themed issue. In much the same way as the production of EDM draws on various sonic histories, this issue builds on the many voices of EDM scholars past and present, and we hope that it stimulates further research and debate on the creative work that produces the music around which our dance floors revolve.