Take a moment to search Google images using the word “songwriter” as your search term. The images fall into three categories: people playing acoustic guitars (and sometimes pianos), people notating 8th notes and things in pencil onto manuscript paper, and scribbled handwritten lyrics. Given the search engine’s method of finding and indexing images, it can give us some idea of how songwriters are perceived. The biggest challenge I face when teaching songwriting is convincing people who don’t play what might be traditionally considered instruments, who may not be trained in Western tonal harmony, and who don’t see themselves as poets or wordsmiths—all the things I’d suggest that are generally perceived as a necessity—that the art of songwriting is a mode of expression accessible to everyone, and that the limits and boundaries of song form should be determined by the individual, not the majority.

This chapter examines a selection of works from artists across genres that present a challenge to this image of the songwriter, and conventional songwriting forms. The focus is the role that sampling and sequencing technologies have played in the evolution of songwriting. I assert that the techniques pioneered in the formative years of hip-hop and underground cancé musics (namely, looping and collage, and use of existing materials—samples or, as I’ll sometimes refer to them, “audio grabs”—as the core musical content) are now ubiquitous and have had wide-reaching implications for song structures and writing styles. Tricia Rose, writing on hip-hop, explains:
Rap music techniques, particularly the use of sampling technology, involve the repetition and reconfiguration of rhythmic elements in ways that illustrate a heightened attention to rhythmic patterns and movement between such patterns via breaks and points of musical rupture. Multiple rhythmic forces are set in motion and then suspended, selectively. Rap producers construct loops of sounds and then build in critical moments, where the established rhythm is manipulated and suspended.1

Simon Reynolds highlights parallel tendencies to recycle and recontextualize in dance music:

House music didn’t just resurrect disco, it mutated the form, intensifying the very aspects of the music that most offended white rockers and black funkateers: the machinic repetition, the synthetic and electronic textures, the rootlessness, the “depraved” hypersexuality and “decadent” druggy hedonism. Stylistically, house assembled itself from disregarded and degraded pop-culture detritus . . . by cut ‘n’ mix, segue, montaje and other DJ tricks.3

Moreover, I assert that the compositional innovations that are derived from particular technologies, techniques, and cultural movements are not necessarily tied to them. Strategies for composition that come from a sequencing or sampling methodology have proliferated into the wider pool of popular music compositional strategies—mutated, evolved, customized. These techniques have been made available to vast numbers of people by widespread access to affordable or even free digital audio workstation software (from here on abbreviated to DAW) paired with the possibility for anyone with a smartphone to record anything at any time, and anyone with access to the internet to download anything at any time. This will be evidenced by four case studies to follow—Performing the Sample, Melodic Assemblage, Mantras, and Cut and Paste.

The purpose of the chapter is to provide points of reference and practical strategies for the contemporary songwriter working in our post-digital landscape, to empower them to work beyond the confines of a traditional musical skillset. I will not attempt to cover the histories of appropriation art, sampling, or sequencing, nor indeed the emergence and development of hip-hop or underground dance music, as these have been comprehensively covered by other authors.4 Nor will I engage with the debates on intellectual property and the economics of appropriation arts such as sampling, or the cultural and identity politics surrounding sampling or technologized composition methodologies, as these areas too have much excellent literature already in place. However, I would like to remind songwriters that working in a post-digital context where a myriad musical materials are available does not absolve us of the responsibility to maintain an awareness of social and cultural ramifications of the use of both the materials and techniques at hand. I believe artists must use their own moral compass, self-awareness of their background and privileges, and an awareness of others when making decisions on the economic and cultural ramifications of their choices.

The Post-digital

So, first of all, what do I mean when I say post-digital? To answer this question I’ll defer to the expertise of Florian Cramer, Research Professor in New Media at Hogeschool Rotterdam. In his essay “What is post-digital?” Cramer reminds us that digital simply means that something is divided into discrete, countable units, and analog the converse—something instead that consists of one or more signals which vary on a continuous scale. He then asks us to consider the use of the words analog and digital in popular culture as opposed to their actual, technical meanings—specifically that analog has become synonymous with the pre-computational, and digital with the high tech and electronic. Cramer outlines various potential readings of the term ‘post-digital’, the three most pertinent of which for our purposes I summarize here:

- **Post-digital is the state of media, arts, and design after their digitization or at least the digitization of crucial aspects of the channels through which they are communicated.**

- **Post-digital is a landscape in which the disruption brought on by digital information technology has already occurred. The prefix “post” does not suggest a world beyond the digital, but rather one in which the digital is ubiquitous. Post-digital is not the end of digital, rather its mutation.**

- **Post-digital is the hybrid of old and new media. Artists in a post-digital environment choose media for their own particular material aesthetic qualities regardless of whether these are a result of analog material properties or of digital processing.**

As Kim Cascone puts it, “The tendrils of digital technology have in some way touched everyone.” So when I use the word post-digital in reference to popular music I am referring to a world where the main method of musical distribution (legal and illegal) is the internet; a world where anyone with a computer can have access to a DAW capable of recording and making music to industry broadcast and release quality, for free.

It is not only the tools and technologies that have become ubiquitous, but approaches and methodologies for creation. Nicolas Bourriaud in
Postproduction notes that, “since the early nineties, an ever increasing number of artworks have been created on the basis of pre-existing works; more and more artists re-interpret, re-produce, re-exhibit, or use works made by others or available cultural products,” and that “today artists’ intuitive relationship with art history is now going beyond what we call ‘the art of appropriation’ which naturally infers an ideology of ownership and moving toward a culture of the use of forms, a culture of constant activity of signs based on a collective ideal: sharing.”

Ideas of collective creation are not new to popular musicians, as Jason Toynbee rightly notes—all authors in popular music are “social authors,” nodes in creative networks inhabiting their own particular “radius of creativity” but whose mutual relations are a necessary element of any possible creative innovation. So we know that the cartography of pop is a messy and complex one indeed. Sometimes we can trace straight lines from one point to another, and make clear observations as to development of ideas and techniques across time—but very often traditional and newer strategies work in parallel, not least because of the diverse interests and skills of the artists.

The four sections that follow will trace specific post-digital compositional ideas not by genre but by technique, and will each provide a set of practical reflections for songwriters to explore these techniques themselves.

Preparations

I’d advise that all songwriters who’d like to engage with the practical strategies in this chapter keep an audio sketchbook as part of their ongoing practice. You may already have a paper notebook where you jot down ideas for songs, scraps of lyrics, chord sequences, and more. I’m suggesting that this practice should be directly translated to keeping a library of recordings and audio materials. This can be anything—recordings you’ve made yourself of melodic motifs or chord structures, or even just interesting standalone sounds; field recordings you’ve made in your daily travels; found material from the internet or other samples and audio grab.

It perhaps, then, goes without saying that the practical strategies for songwriting explored in this chapter are most likely to be employed within the DAW or perhaps within audio apps on a smartphone; or you might even be using hardware samplers or sequencers. However you choose to work you will need to be able to record and manipulate audio.

Finally, I urge everyone to remember that even in an exploded post-digital context artists have to negotiate frameworks of copyright and intellectual property law intended to curtail sampling of existing musical materials. What are the various ways artists navigate this? Some use material already in the public domain, i.e., works that are no longer in copyright, works that are available via Creative Commons licenses, or library music. Others who want to use samples of copyrighted material ask the owner’s permission and negotiate a deal for the samples’ use. Some artists have more complex and uncertain relationships to the legal frameworks, for example using samples of a very short duration, samples they recontextualize or heavily process to the point that they become unrecognizable. Furthest from any secure legal center are those who sample freely, trusting that if a sample owner wishes to enforce their rights they’ll do so down the line.

Performing the sample

One interesting way in which sampling as a compositional idea or sonic fingerprint has proliferated is by artists composing and recording in ways that do not involve actually sampling but sound like they do—works that have the structural, musical, or sonic qualities we associate with sampling, or sample-based genres. Joseph G. Schloss has written in critical detail about the discourse in the hip-hop community around the perceived authenticity of “breaks” (“any short captured sound whatsoever”) as opposed to live instrumentation. His chapter “It just doesn’t sound authentic” in the book Making Beats: The Art of Sample-based Hip-hop is an excellent starting point for any scholar interested in the complex relationship between the live and the sampled. Schloss concludes that the art of sampling is less central to practitioners in this field than the sound of sampling, and the examples I will present here offer an interesting inversion of usual perspectives, and seem to confirm this position.

We see complex interactions between the found and the played throughout the history of U.S. hip-hop and across the “Black Atlantic.” For example, in his lecture for the Red Bull Music Academy, Ahmad “Questlove” Thompson discusses the intricacies of J. Dilla’s approach to the performance of microsamples of Roy Ayers’s “Ain’t Got Time” in his role as producer for Black Star’s “Little Brother.” On this track Dilla seamlessly merges in performance short fragmented samples using an MPC to create the impression of a continuous sampled loop, when actually it was impossible to directly sample as Ayers talks throughout the original track. Questlove himself is a key musician in The Roots, a hip-hop outfit where live playing is
Performing the sample—practical exercises

How might you perform the sample? Inspired by Portishead, or similar recording techniques on Joy Division’s “She’s Lost Control,” why not record vocal instrumental parts in individual segments, even individual notes, and sequence or layer them afterwards? What sonic interest might this bring? What flexibility does it give you to experiment with note placement, timbral juxtapositions, repetition, and rhythmic phrasing?

Why not try out some transformation and interpretation experiments? For example, translating an existing polyphonic sample into a monophonic instrument. What about a non-musical sample to a pitched instrument? What about an instrument you’ve never played before?

Or try some performed versions of digital effects; for example take an existing short phrase and perform it over a much longer duration—a form of manual time-stretching. What other digital FX could be emulated physically/acoustically, and when performed generate interesting compositional results—pitchshift, delay?

Melodic assemblages

One area of particular interest to the songwriter is how samples can be used to construct or craft melodies.

“One good to them always” by The Books, from their 2005 album *Lost and Safe,* has one such unique approach to melodic writing. From the outset, we can hear that clear cut “audio grabs” are a key part of the sonic tapestry of this work. In the opening section (0:00 and 1:30) we hear a series of short, sharply edited speech samples slotted between interjecting synth lines. The sung melody enters at 1:35—note the unusual delivery and structure of the melody, the lines are delivered curty, they have a strange sense of all being different lengths and shapes, not repeating or forming any recognizable pattern rhythmically. From about 2:00 onward the listener starts to realize why—the meter and structure of the lyric delivery is entirely based on the speech samples layered underneath and slowly emerging in the mix. It has a wonderfully serendipitous effect, what is an obviously a fractured narrative (they are audibly samples from a number of different sources) becoming connected, creating an abstract story of sorts. The interpretation and articulation of pitch by the vocalist in part helps this sense of unity—he is to some extent choosing where to insert melodic intervals (and the size of those intervals) based on the speech shapes in the original
sampled voices—but of course the overall tonality of the melody is being led too by the instrumental harmonic setting composed by the band.

The approach of London artist Burial demonstrates an inverse of this approach—rather than samples singing through the musician, the musician is singing through his manipulation of the samples. In an interview with Mark Fisher in The Wire, Burial discusses the importance of vocals to U.K. dance music forms:

I was brought up on old jungle tunes and garage tunes that had lots of vocals in but me and my brothers loved intense, darker tunes too, I found something I could believe in ... but sometimes I used to listen to the ones with vocals on my own and it was almost a secret thing. I’d love these vocals that would come in, not proper singing but cut-up and repeating, and executed coldly. It was like a forbidden siren. I was into the cut-up singing as much as the dark basslines. Something happens when I hear the subs, the rolling drums and vocals together. To me it’s like a pure UK style of music, and I wanted to make tunes based on what UK underground hardcore tunes mean to me, and I want a dose of real life in there too, something people can relate to. So when I started doing tunes, I didn’t have the kit and I didn’t understand how to do it properly, so I can’t make the drums and bass sound massive, no loud sounds taking up the whole tune. But as long as it had a bit of singing in it, it forgave the rest of the tune. It was the thing that made me excited about doing it. Then I couldn’t believe that I’d done a tune that gave me that feeling that proper real records used to, and the vocal was the one thing that seemed to take the tune to that place.

In “Archangel” from the 2007 album Untrue, the artist has sampled minute sections of Ray J’s “One Wish” and changed the length and pitches of notes to create a completely new melody for his own composition. The original vocalist is still present, his phrases intact as statements—but their shape, pitch, and articulation are the expression of Burial’s voice, perhaps what Joseph Auner might categorize as the posthuman voice. While it is not unusual for obscure parts or single lines from an existing track to be sampled, looped, and used as the basis for a new composition, the extent to which the individual words and syllables here have been altered and manipulated to reshape them into a new melodic line is more unusual. To my mind, it follows on from the sorts of manipulations and “revoicing” found in the work of Aphex Twin in the 1990s, in particular the melodic vocal manipulations found on the wordless earworm “Windowlicker.” And what’s critical is the minutiae of detail here, this is still “audio grabbing,” yes, but it is more akin to the rhythmic microsampling approach of Björk, Matmos, or Matthew Herbert. Modern DAW technology has made possible the application of micro manipulation and programming to all aspects of songwriting—anyone, vocalist or not, can now sing, the pitches you choose

for the lengths you choose, the words you wish in the voice you wish, and regardless of whether you choose to use your own voice or not.

By adopting existing musical material as a building block for composition, we are stepping away from a reliance on instrumental virtuosity or theoretical knowledge. This is of course fundamentally the same as the use of music technology in the creation of dance and hip-hop, which certainly had a democratizing influence (without wishing to undermine the extraordinary performance virtuosity developed by practitioners on new instruments such as the turntable and the hardware sampler). However, as the Burial quote above indicates, as availability of technology in those instances freed the music from a dependence on instrumental technique, it sometimes replaced that constraint with a similarly limiting set of stylistic/technical parameters (needing the drums and bass to sound massive for it to be a proper tune). By interpreting the potential afforded by musical technology as a songwriting tool, as valuable to us in the initial creation of work as it can be in its eventual recorded realization, we return to technology as a possibility space, where we work with raw materials to an undefined end, and generic expectations may be set aside.

**Melodic assemblages—practical exercises**

Like The Books you could try and apply or extract melody from a found sound source—birdsong, a news report, or anything with ongoing rhythm or pitch. Or like Burial try microsampling and extreme manipulation (by pitchshift, timestretch, etc.) of existing vocal articulations to construct a new melody. Perhaps song fragments from your audio sketchbook could be woven into a new and complete tapestry?

As a lyric and melody generating exercise play with back-masking and phonetic reversal. For example, reverse a recording of a sung lyric—your own or an existing work—and listen for new lyrics and interesting melodic motifs. Or use chance to stitch together a melody for you—pick a selection of songs at random (perhaps the last ten you listened to that day), from each pick one word, tone or motif, then literally collage them together. Like The Books, any spoken or textual source could be used here, not just existing songs.

If you have a melody you want to change or develop, again chance forms of organization could provide some interesting compositional results. Re-arrange the lyrics alphabetically, or by shortest to longest word—how does it affect the melody, how does it affect the narrative meaning?

After employing these and other chance procedures outlined in this chapter you don’t have to stop there—you can always fill in the gaps, edit, and adjust as you see fit to reshape and restore the sense of a narrative or emotionally communicative song. But they will have taken your writing to some interesting places along the way and thrown up ideas that you might not have come to otherwise.
Mantras

Repetition is evidently a major part of popular song and is a prerequisite for all popular songs. Pete Astor and Keith Negus, in their examination of songwriting and song lyric as analogous with architecture, observe three pertinent categories (often blurred or used flexibly) in the use of lyrical repetition in pop songs. First, to emphasize a point, the meaning of the repeated phrase; second, as a compositional tool similar to the way other forms (sonic art, visual art) might use motifs or repetition; and third, for the pleasure of repeating the sounding word or phrase. However, the type of repetition that might be more applicable to the case studies in this section is what Luis-Manuel Garcia called “process repetition.” This is the pleasure of repetition itself, not necessarily the pleasure of repetition derived from the character of the sound object. The sound object itself may be quite blank—the value is derived from the repetition of it, not its inherent qualities in the first instance. Garcia relates this specifically to electronic dance music but suggests that his reading of “repetition and repetitive processes may also help to explicate the manifold pleasures of listening to other musical traditions that rely heavily on repetition”—what I intend to do in this section.

First, to contextualize my observations it is useful to identify the different uses of vocals in early underground dance musics in Detroit and Chicago in the 1980s. Simon Reynolds identifies two vocal structures that developed—the soulful and song-like, and the more mechanized sound of the “jack track” with its “functional” catchphrase-like hooks and electronic stutter effects. I’d suggest that in both categories, as well as in pioneering crossover works such as Moroder/Summer “I Feel Love,” the emphasis on a single-line or mantra is key.

In a post-digital landscape we hear repeating mantras and the use of other classic dance music tropes extensively in the work of Animal Collective. In “Guys Feyes” short loops of insistent rhythm and the drench of reverb that epitomizes the production speak to a psychedelic tradition that had manifested in the trance-like qualities of early acid house. The track is made up of a number of single-line phrases repeated and layered extensively. We also hear single words at the end of lines isolated and repeated (for example “need you” at 1:26), evoking the digital stuttering Simon Reynolds identifies as a key signifier of the jack track. In FKA twigs’s work repetition is a common feature—the long form repetition of “Water Me,” or the more small scale repetition and development of phrases and vocal articulations that are deftly woven into a powerful and climactic structure in “Papi Pacify.” Possibly most interesting for our analysis here is “Preface,” where the single mantra “I love another and thus I hate myself” is repeated, layered, fractured across this miniature track, until finally we are left with simply “I hate myself” ringing resoundingly. Much of the setting is obsessively focused on sensual texture—the vocals are processed and manipulated, displaced and swirling across the rhythm, and single digitally twisted syllables pop out of the mix like fireworks—and implies a “blissed out” transcendental “E experience.” However there is a self-conscious duality here—the subject of the track is quite nihilistic in contrast to the setting, and reflects her own interpretation of the track as both like a hymn and punk.

The repeating mantras here could be perceived as the first of Pete Astor and Keith Negus’s categories outlined earlier—repetition for emphasis of meaning. However, Butler suggests that cyclical repetition, and thus repeated listening, allows for the perceptual separation of electronic dance music’s complex timbral and rhythmic layers and these mantras do feel somewhere between pure sound objects and meaningful text. Could Butler’s methodology apply to the fractured and complex layers of lyrics and melodies we have observed here? The work of German producer AGF (Annye Greie) is in part concerned with chopped, layered, and processed vocals, recalling the lineage of sound poetry. Greie seems to have moved toward the idea of abstractions from text as a way to preserve the complexities of meaning that are flattened when lyrical expression becomes too explicit and direct. In Greie’s music, through technology and the processing of the text the message is deconstructed, fractured, processed, and thereby interrogated. Ambiguity is desired. I’d suggest that both the Negus/Astor and the Butler models are in evidence in the Animal Collective and FKA twist examples previously discussed. These artists use repetition both to reinforce meaning and to obfuscate it.

One more thing we can observe from these examples is that what might have been considered esoteric or more accurately a niche underground practice in process repetition in the past, is increasingly looking like a mainstream direction today. When Thom Yorke and Radiohead introduced similar jack track techniques to their mournful indie pop writing style circa Kid A it was met with a mixture of trepidation from some fans and acclaim by others. Fifteen years on ...? Minimalist and extreme repetition in rock is as old as the form itself, and indeed was made a central focus of the music by Glenn Branca. Michael Gira’s Swans is a group who from the start have traded in punishing, unapologetic cyclical repetition, but in their most recent formation (2010 onwards) have attained a mass popularity that would have been unthinkable when they recorded Cop in 1984. The musical world has changed around these established repetition-based practices. The DAW, sequencing and sampling have brought repetition as creative practice to the very heart of contemporary popular music, and today’s artists are exploring it in new contexts and with diverse and interesting consequences.
**Mantras—practical exercises**

Do you have unfinished, incomplete, or orphaned lines or vocal hooks in your audio sketchbook? Perhaps they’ve been so difficult to finish because they already say everything they need to. Try thinking of them as a mantra instead. How might a selection of different and unconnected mantras function together in a single work?

How might you arrange around a mantra that you’ve chosen? Take a single line and repeat it: for every repeat cut and paste in a completely new sound texture or instrumental setting—played or found—so that your mantra is the only constant in your composition. Your collaged materials might be in different keys at different tempi; try to find ways to make the sequence work anyway.

**Cut and paste**

The KLF were by no means wrong when they suggested in their [only partially] tongue-in-cheek *The Manual* that a song form that goes something like this, an intro, a verse, a chorus, second verse, a second chorus, a breakdown section, back into a double length chorus and outro, was a guaranteed way to “have a number one hit the easy way.” This wisdom notwithstanding, of interest to me in this section are songs not in a verse/chorus/bridge form, or a 12-bar blues form, or in fact in any of the familiar forms we recognize in pop’s rich history, but rather songs that bring together independent sectional ideas to form their own unique structures dependent on the ability to stick various sections together in the studio. Is this a post-digital phenomenon? Certainly not—some of the most commercially successful, beloved songs (The Beach Boys, *Good Vibrations*), and critically revered albums (Miles Davis, *In a Silent Way*) were created using this very methodology. What I do want to examine in the post-digital landscape is the emergence of the following three phenomena in so-called “modular songwriting”:

- the centrality of quick and easy overdubbing to a compositional process;
- the tendency to work in easily replicable and manipulable building blocks;
- the prevalence of a compositional approach where every part of the song is a hook.

The creative process of Sufjan Stevens provides a useful opening case study. In a panel discussion on creative processes at The Guggenheim in 2012, Stevens explained the value of listening and overdubbing to his compositional process:

I kinda work with my hands and my ears, and I’m a craftsperson so I just do a lot of recording and overdubbing and responding to what I hear. Maybe later I’ll bring in other musicians, but I do a lot of overdubbing myself and playing different instruments myself. And so it’s not abstract, it’s not on the score at all. You just kinda feel if something’s going in the right direction.

Furthermore, the impact that this methodology has on the eventual outcomes in terms of shape and scale of the compositions:

I don’t think I set out to make epic projects. I think the projects themselves become unmanageable in the process and I end up producing so much for a single project: that they end up taking over and becoming much bigger and grander than I’d anticipated. I really work on a very microscopic level. I really think in terms of the song or folk song, and I work within a very conservative frame of melody, accompaniment, and narrative. So really basic, simple forms, and they just end up becoming hybrids or amended or expanded to form greater, epic, set pieces.

Let’s examine these methodologies with reference to the track “Come on! Feel The Illinoise!” The track comprises two parts in distinct time signatures but each is similar in its construction. Part 1 has three melodic modules (the modules that begin “Oh ...,” and “CANNOT conversations ... / Ancient Hieroglyphics ...,” and finally “Chicago ...”), while Part 2 has two (“I cried ... / We laughed ...” and “Even with ...”). Underneath this, the arrangement largely comprises an extensive pool of interlocking instrumental parts. Listening closely to what initially might seem like a very repetitive piece of writing, we actually hear that in arrangement the song is constantly changing, determined by the introduction or removal of instruments and voices in an astoundingly dense sonic landscape.

This is reminiscent of Talking Heads’ process when working on * Remain in Light* in 1980:

The basic tracks Talking Heads laid down were rhythmical, pulsing and minimal — they were all in one chord. Each part was recorded as a long loop of song. Compositions were created by switching loops on and off. Or merging them together. David explained it like this, “Any part you play is going to fit with any other part. So you can close your eyes and switch a bunch of them in and out and you’ll get this dramatic
change of texture, but everything will still at least melodically work together.\(^6\)

What's different with Stevens is the sheer scale on which he is able to work, made possible by the digital environment. Talking Heads were working on tape, a self-regulating system, given the time and financial investment involved. In a DAW environment Stevens has none of these constraints, and as a result often ends up with densely arranged and, in his own words, "epic projects," or furthermore "hybrids" where disparate blocks (and what might even be considered by other songwriters as different songs) get glued together because in a digital environment it's so easy to just keep producing, to keep making.

A useful comparison at this point might be Animal Collective's track "My Girls.\(^6\) It employs similar strategies of extensive repetition of three individual modules all built around a singular arpeggiating synth pattern. It's not as densely arranged and features a predominantly electronic sound-world as opposed to the lush orchestral setting of Stevens's work, but none the less on a basic level they are employing similar musical strategies. What's not the same is the approach to lyric. While Stevens's modules often repeat melodically, they very rarely repeat lyrically. The long form repetition is used as a tool to allow the setting of detailed narratives for the listener—not surprising when the topic concerned is the history of an entire American State. The Animal Collective does quite the opposite, with every modular repeat of the three sections we hear the same words: repetition is used to emphasize the heartfelt simplicity and universality of the statement. In this respect the Sufjan Stevens track might be thought of as a song without a chorus, while Animal Collective's is a song made up entirely of chorus(es). This distinction of the modules' purpose, when considered alongside the aesthetic distinctions, perhaps serves to highlight the ways in which the post-digital environment is shaping both folk and club music traditions.

My last case study seeks to show how these techniques are being used in mainstream pop writing, not simply the experimental fringes or indie scenes. Girls Aloud's "Biography\(^6\) is similarly modular with five distinct melodic sections (the first "Why don't you ..." at 0:00, second "I got one ..." at 0:33, third "Closer ..." at 0:59, fourth "You give it up ..." at 1:32, and finally "You can't escape ..." at 1.57). Rather than make a virtue of melodic repetition as we've seen in the previous examples, this song takes quite the opposite approach—throwing as much development as it can cram into its short radio edit timeframe.

Aside from the distinct melodic content in each module, there are other interesting things to note. Let's consider the evolving harmonic structure—in section 1 a single chord repeating, in sections 2 and 3 a two-chord pattern, and in sections 4 and 5 a four-chord pattern. Similarly the rhythmic structure—in section 1 we hear first of all the kit and the right hand of the piano simply bashing out the four beats of the bar before the drummer introduces a backbeat, in section 2 the backbeat continues but moves from a shuffle feel to a straight 8th feel, and in section 3 onwards steps up into a 16th note disco feel. These layers of structural change alongside the gradually developing arrangement and production choices make for a sense of accumulation and growth across the track. Their overlaps allow the sections to flow on from one another smoothly, despite the fact that melodically they all have quite a distinct character and could arguably belong to different songs. You start to hear this evolution everywhere once you know it's happening—listen for example to the mobile synthesis bass line starting in section 3 that becomes more insistent and present as the sweeping filter gives a changing sense of pitch emphasis and textural edge; or indeed the slow build of the vocals from solo voices in sections 1 and 2, a duet in section 3, the ensemble in unison in section 4, to finally the ensemble segmented and being led in a call and response while the backing vocals that had started to creep in at the halfway point in section 4 finally play out their role fully.

Alex Petridis in his review of *Chemistry\(^6\) the Guardian was astute to observe that it is "a record that dispenses with the tiresome business of verses and instead opts for songs apparently constructed by stitching eight different choruses together.\(^6\) "Biography" is an excellent example of the phenomenon observed earlier in "My Girls"—the five distinct melodic sections do feel "stitched" together but the threads that bind them are the more subtle overlapping and intersecting arrangement and production choices. In the end the song structure wittily reveals its own inner working—after all five sections have cycled through we jump back to the beginning but then straight into section 5 again ... and crucially it works, it doesn't feel like an unnatural juxtaposition.

The music video\(^6\) might even be argued as the perfect visual allegory of the DAW. It sees the five girls perform within three small, contrasting sets that they move between via digital emulations of a revolving stage. The color palette and dressing of the three rooms change in sync with the three harmonic changes (i.e., sections 1, 3, and 5), as do their costumes. Not only does this highlight the independence of the sections: more importantly, these crude revolving cardboard sets and "before your eyes" outfit cross fades reflect the ability to simply lift sections and lay them over each other or next to each other in the DAW, to change the feel or character of a voice or instrument with different production choices. The video demonstrates visually the ease with which the contemporary songwriter may access limitless sonic possibilities, and furthermore, as The KLF note, that the process of songwriting is one of construction and "you will have to find the Frankenstein in you to make it work."\(^6\)

So Spicer's notion of "accumulative form,"\(^6\) the practice of looping specifically resulting in what Garcia suggests is "an ever changing same."\(^6\)
and the importance of the studio as instrument (and the Frankenstein-like opportunities it can afford) continue to be powerful tools for musicians, just as they have been for years. I suggest in post-digital music making songwriters are taking these ideas, removing them from established contexts, pushing them to logical extremes, and creating innovative new structures.

Cut and paste—practical exercises

Write your song vertically instead of horizontally, start with a single idea, and arrange it completely before moving on. Ideas in your extended arrangement might become as important to the song as the initial melody or lyric.

Treat your sketches like samples—export a complete arrangement as audio, reimport into a new project, cut and paste, and process it as if it were a sample to form the basis of a new composition. Try challenging yourself to use all of the bounced material in some way and still arrive at something new and different.

When working with MIDI, consider that any part written could be voiced on any instrument. Extreme examples of reworkings like translating the MIDI information from a drum part to a pitched instrument or vice versa can produce unexpected and exciting results.

Take the successful sections from a handful of unsuccessful or incomplete songs and make a Frankenstein's monster from them. Consider moving the sections into the same key and meter, or allowing them to retain their original parameters.

Conclusion

To return to where I began, the purpose of this article was to empower the songwriter working in ways that do not conform to perceptions of the musician as instrumentalist and performer. The value of the expansions and interrogations of a song's shapes and materials that the artists herein explore is in the space that it makes in the songwriting landscape for those marginalized by traditional music making—either from a lack of access to it, or an alienation by it.

Discography


Roy Ayers, “Ain't Got Time.” He's Coming, Polydor PD 5022, 2391 027, 1972, LP.
The Beach Boys, “Good Vibrations.” Capitol Records 5676, 1966, 7" [Single].
Björk, Vespertine, One Little Indian TPLP101CD, 2001, CD.
The Books, “Be good to them always.” Lost and Safe, Tomlab 50, 2005, CD.
The Books, Lost and Safe, Tomlab 50, 2005, CD.
Glenn Branca, Lessons No 1, 99 Records 99-01, 1980, 12”.
Bury, Untrue, Hyperdub HDDCD002, 2007, CD.
Miles Davis, In A Silent Way, Columbia CS 9875, 1969, LP.
Girls Aloud, Chemistry, Polydor 9875390, 2005, CD.
FKA twigs, “Papi Pacify.” EP2, Young Turks YT098, 2013, 12”.
FKA twigs, “Preface.” LP1, Young Turks YTCD118, 2014, 12”.
FKA twigs, “Water Me.” EP2, Young Turks YT098, 2013, 12”.
Isaac Hayes, “Ike's Rap II.” Black Moses, Stax 2628–004, 1972, LP.
Matthew Herbert, Plat Du Jour, Accidental AC19CD, 2005, CD.
Joy Division, “She's Lost Control.” Unknown Pleasures, Factory FACT 10, 1979, LP.
Matmos, A chance to cut is a chance to cure, Matador OLE 489–2, 2001, CD.
Portishead, “Glory Box.” Dummy, Go Beat 828 553–2, 1994, CD.
Portishead, Dummy, Go Beat 828 553–2, 1994, CD.
Portishead, Roseland NYC Live, Go Beat 559 424–2, 1998, CD.
Portishead, Third, Island 1764013, 2008, CD.
Portishead, Third, Island 1764013, 2008, CD.
Radiohead, Kid A, Parlophone CDKIDA 4, 2000, CD.
Swans, Cop, K.422 KCC1, 1984, LP.

Videography


Notes


4. The aforementioned books Energy Flash by Reynolds and Black Noise by Rose would be excellent studies from which to begin to explore the histories of electronic dance music and hip-hop respectively. The culture and politics of dance music is explored by Jeremy Gilbert and Ewan Pearson in their book Discographies (London: Routledge, 1999). While Mark Katz and Joseph G. Schloss have written specifically on the DJ culture and use of samples within hip-hop in, respectively, Groove Music (Oxford: Oxford University Press, 2012) and Making Beats (Middletown: Wesleyan University Press, 2004); Dick Hebdige and Julian Henriques have explored Caribbean musics and sound system culture, important precursors to hip-hop, respectively in Cut 'n' Mix (London: Comedia, 1987) and Sonic Bodies (London: Continuum, 2011). Nicholas Bourriaud's succinct study Postproduction (New York: Lukas & Sternberg, 2010) gives an excellent overview to appropriation as practice in the arts broadly, and Paul D. Miller's edited collection Sound Unbound (London: MIT Press, 2008) provides a variety of viewpoints on sampling culture within a musical landscape. Katz's book Capturing Sound (Berkeley: University of California Press, 2010) provides a historical overview to the many ways in which recording technology and playback media have impacted on music making, as well as its dissemination.


8. Ibid., 9.


10. Ibid., 40–1.


15. Ibid., 78.


18. Roy Ayers, “Ain’t got time,” He’s Coming, Polydor PD 5022, 2391 027, 1972, LP.


22. Portishead, "Glorious Box." Dummy, Go Beat 828 553–2, 1994, CD.


25. Portishead, Third, Island 1764013, 2008, CD.


29. Forrest, "Adrian Utley."

30. Joy Division, "She's Lost Control." Unknown Pleasures, Factory FACT 10, 1979, LP.

31. The Books, “Be good to them always.” Lost and Safe, Tomlab 50, 2005, CD.

32. Ibid.


35. Burial, Untrue, Hyperdub HDBCD002, 2007, CD.

40 Ibid., 238–9.
42 Ibid.
46 Hillegonda C. Rietveld, This is our House: House Music, Cultural Spaces and Technologies (Farnham: Ashgate, 1998), 52.
47 FKA twigs, “Water Me.” EP2, Young Turks YT098, 2013, 12”.
48 FKA twigs, “Papi Pacify.” EP2, Young Turks YT098, 2013, 12”.
49 FKA twigs, “Preface.” LP1, Young Turks YTCD118, 2014, 12”.
51 Mark J. Butler, Unlocking the Groove: Rhythm, Meter, and Musical Design in Electronic Dance Music (Indiana University Press, 2006), 166–75.
53 Radiohead, Kid A, Parlophone CDKIDA 4, 2000, CD.
54 Glenn Branca, Lessons No 1, 99 Records 99–01, 1980, 12”.
55 Swans, Cop, K.422 KCC1, 1984, LP.
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58 Miles Davis, In a Silent Way, Columbia CS 9875, 1969, LP.
62 Sufjan Stevens, “Come On! Feel The Illinoise! Part I: The World’s Columbian Exposition; Part II: Carl Sandburg Visits Me In A Dream,” Sufjan Stevens Invites You To: Come On Feel The Illinoise, Ashmat Kitty Records AKR014, 2005, CD.
66 Girls Aloud, Chemistry, Polystar 9875390, 2005, CD.
69 Cauty and Drummond, The Manual: How to Have a Number One Hit the Easy Way.