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‘I Feel Love’

Music mutation in the electronic age

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In histories of pop music, Giorgio Moroder is celebrated as the enabler of electronic dance music (EDM).[1] Moroder is a renowned musician, producer, and since more recently also a DJ who took his road to stardom with memorable albums recorded with Donna Summer in the 1970s. One song, in particular, cemented his fame: ‘I Feel Love’, co-produced by Pete Bellotte, and co-written by Summer. Soon after its release on 2 July 1977, it became a number one hit in Europe and Australia, while reaching number six in the US charts. Originally never intended as a single, ‘I Feel Love’ became a queer anthem and the trigger for a new kind of disco, stripped bare to its rhythmical bones and produced almost entirely on the Moog synthesiser (Steingo 2014). Except for a kick drum and Summer’s voice, Moroder and Bellotte had used no other acoustic instruments. Thus, they tried to mediate a sound of the future: a sound almost purely electronically generated and seemingly robotic.

This sound had not been notated on paper. It had been created and stored electronically without the intervention of a writing hand, with the guidance of a sound engineer (Robert Wedel) aiding the two producers. Taking the genesis of ‘I Feel Love’ as a case study, I explore the consequences of a new technology—the Moog systems of electronic music modules—to processes of musical creativity. The question I raise is the following: did a departure from paper-based music notation lead to a departure from the regulative musical work, i.e. the work as a secured, printed entity created by a composer, reflecting his/her intentions and unique personality? Did, in other words, the regulative work concept as it had been defined in the Romantic era (Goehr 1989) lose ground when music notation gave way to—what I will here call—music mutation in the electronic age? Using modernist notions and practices of sonic manipulation as a starting point, I define music mutation as a process that enables the alteration and mimicry of sounds and the production of new sounds in time through a reproductive technology. I should note that mutation is still dependent on inscription (see for instance, Magnusson 2019). In mutation, however, such inscription can be said to be read as a code rather than a text; it doesn’t represent some kind of ideal object, but sets into motion processes of reproduction and transformation. This process is mutative as it allows for the creation of sounds in a spectrum that can be constantly altered, combined, or adapted. Mutation is a process that blurs the boundaries between creation and reworking—indeed, reframes creation *as* recycling, mixing, and sampling. Thus, I hypothesise, mutation begs for different notions of musical authorship and creativity than those attached to notation as of the later eighteenth century. I propose *distributed creativity* as an alternative model.

As my case study shows, this shift from personal to distributed creativity was a complicated one. It left an inventive German composer, Eberhard Schoener, in the cold

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when he discovered that a rhythmic effect he had crafted on the Moog in 1977 was appropriated by Moroder as the beating heart of 'I Feel Love'—the sound that would give him eternal fame as the grandfather of EDM. Schoener's essential contribution was to be erased from Moroder's creation myth that featured himself as the Wagnerian genius sensing a sound of the future that could not yet be notated.[2] Thus, I show, if mutation triggered a rethinking of Romantic (say: *notational*) models of creating, 1980s pop culture still sustained them as a cult of celebrity and personality feeding on fantasies of the new.

Enter Giorgio Moroder, Pete Bellotte, and Donna Summer

The third track of the fourth studio album of the French electronic music duo Daft Punk—*Random Access Memories* (2013)—features a so-called documentary song: 'Giorgio, by Moroder'. In 2012, Thomas Bangalter and Guy-Manuel de Homem-Christo interviewed Moroder extensively on his life as a musician and producer at Henson Recording Studios. As Bangalter and de Homem-Christo share in a conversation, they decided to record Moroder's voice with several microphones from different eras (a nod, we will see, to Moroder's and Bellotte's album *I Remember Yesterday*, 1977). The resulting piece, the duo says, 'is a metaphor for musical freedom': Moroder always transgressed the boundaries between musical genres in his career (Obsession 2013, my translation).

In the Daft Punk interview, Moroder talks about his work as a producer and recalls the genesis of 'I Feel Love' as the final track of *I Remember Yesterday*. He also recalls inventing a 'click'; a technique to generate a song with a sound of the future. This 'click', he goes on to say, could only be invented after he had let go of any established conception of harmony and even of what music amounts to as an art form. It was a transformative moment in the history of (pop) music, Moroder suggests, a moment that could occur only because (as he puts it) he had freed himself from the known: he had had no presumption of a method, a course to proceed. There was just this blank, this space opened up by a new technology.[3]

Reading this retrospect, Moroder seems to have answered to a call for creativity in 1977 as it had been dominant since the 1780s: with a privileged mix of cognitive skills and traits ascribed to 'masculine' brains, behaviours, and attitudes such as independence, daring, autonomy, and self-direction (Proudfoot, Kay, and Zoval 2015). The creator had a hunch (Moroder had no prejudgments, just a feeling as he was investigating the unknown) and a vision (that this click, this sound, would work). He made the future—the new—happen *now*, courageously, miraculously, out of nothing.[4] In reality, though, things went a little different: 'I Feel Love' was the outcome of a mutative or transformative process, not of an invention. I outline this process—and the role of the Moog in it—in this and the following sections.

Moroder based himself in Munich in the late 1960s. He erected his studio Musicland there, and established his own label Oasis. The studio became legendary and the creative site of some smash hits Moroder would make with Pete Bellotte and Donna Summer (LaDonna Adrian Gaines). In 1968, Summer had starred in a German production of the musical *Hair*, staying in Munich to do modelling work and back-up singing. She met Bellotte and Moroder at Musicland in 1973, during a recording session for 'Three Dog Night', though other sources pinpoint the starting date in 1972 (Dalton 2016, 42).[5] The three of them would work together until 1981, producing nine albums. Bellotte came up with creative ideas for songs and concept albums, as he did for *I Remember Yesterday*. At the time, Bellotte had been inspired by Anthony Powell's 12-volume *A Dance to the Music of Time* (1951–1975)—its title derived from Nicolas Poussin's *La Danse de la vie humaine*

(1634–1636)—that covered the era from before WWI to the early 1970s. Bellotte decided that '[e]ach song [on the album] would relate to a different decade', just as Powell's novels did, starting in the past with the 1940s and ending with an imagined future (Brewster 2017; Reynolds 2017).

In 1977, Moroder was interested in making electronic pop music.[6] He had already made an attempt in 1975 with the album *Einzelgänger*, while in 1971, he had used a Moog for 'Nachts scheint die Sonne/Son of my Father', co-produced with Michael Holm and Pete Bellotte, respectively (Brewster 2017; Buskin 2009; Reynolds 2017). The song became one of the first synthetically produced pop hits in the UK charts. In 1977, however, Moroder did not have a Moog at his disposal, nor did he know how to handle one. The only one with such an instrument in Munich was Schoener, who had visited Robert Moog in 1968, and had convinced him to build him one (Schoener 2019). Before showing how Moroder would access Schoener's instrument, and appropriate his synthetic rattle sound, it is necessary to insert an outline of theories and uses of reproductive technologies as tools for musical production in the early twentieth century. This allows me to situate the case of 'I Feel Love' within a larger narrative of the impact of new media technologies on musical creativity and notation.

Reproductive technology and the work of music

In media history, the foundational text on the transformation of art through reproductive technologies is still Walter Benjamin's *Das Kunstwerk im Zeitalter seine technischen Reproduzierbarkeit* (*The Artwork in the age of its mechanical reproduction*) (2002 [1936]). In it, Benjamin charts a history of art from a unique and auratic expression to being the effect of technological reproduction in the early twentieth century. Drawing heavily on Luigi Pirandello's novel *Si gara!* (*Shoot!*) (1915; 1927), Benjamin argues that such effects have ceased to be fully present as works of art because they lack an original to anchor them. The absence of an original creates both a challenge and an opportunity: the lack of aura may lead to alienation, but at the same time, it fosters new and different kinds of engagement (Benjamin 2002 [1936]). The—as some would say, ocular-centric—focus on Benjamin in media history has arguably obscured critics in the 1920s and 1930s focused on music, sound, and technological re/production. As an alternative to Benjamin, historians of sound often point to Laszlo Moholy-Nagy's 'Produktion, Reproduktion' (Production, Reproduction) (1922) and 'Neue Gestaltung in der Musik: Möglichkeiten des Grammophons' (New Forms in Music: Potentialities of the Gramophone) (1923), an elaboration on Piet Mondrian's 'Die Neue Gestaltung in der Musik und die italienische Bruitisten' (The New Form in Music and the Italian Bruitists, originally in Dutch) (1921). Instead of looking back at what has been, how an aura of authenticity has been spirited away from art in the age of technological reproduction, Moholy-Nagy thinks divergently into the future: he ponders the unknown uses of reproduction technology for production; as an instrument of creativity to render the novel, abstract sounds that Mondrian had imagined in his article for *De Stijl* (Crab 1996; Dean Taylor 2001; Kahn 1999; Lehning 1979; Patteson 2016).

When reproduction technology becomes a tool for composition, production, and distribution in one, paper-based notation is no longer necessary as a mediating technology—or needs to be reconsidered and adjusted. Mechanical and electronic recording and reproduction technologies already started to challenge the mainstream of paper-based notation in the later nineteenth and earlier twentieth century, doing precisely what artists like Moholy-Nagy speculated they could do. The ascending power of such technologies

could also affect the idea of the musical work as it had been conceived in the late eighteenth century. In this period, Lydia Goehr has shown, the musical 'work' was posited as an integral imprint on the basis of its notation: all that the composer had sought to express was contained in its notation—it was seen as the detailed reflection of her/his unique, creative personality (Goehr 1989, 55). Potentially, the use of reproduction technologies could destabilise Romantic ideas of creation (an act of original genius) and the work concept (a fixed whole). For instance, in the 1940s *musique concrète* would re-cast the composer as an inventive curator instead of a Godlike inventor: one arranging, adjusting, or putting things together that were already available. Thus, Pierre Schaeffer would collect sounds to work with rather than notate the pretence of an original tune or idea (Dean Taylor 2001, 45). Seen in this light, the composer in *musique concrète* was—what Claude Lévi-Strauss (1966) has called—a *bricoleur* much more than a *createur*, crafting sounds out of something (recordings of pre-existing environmental sounds or musical instruments), thus 'making it new' by mining and recombining what was in the air.[7]

Admittedly, the composer also retained and even extended his/her authority in the form of rights for reproduction and radio broadcasts in the age of mechanical and electronic reproduction (Szendy 2009, 108–110). Additionally, while currents like *musique concrète* made listeners aware of what was common or shared instead of self-conceived in sonic creation, they also perpetuated Romantic myths of originality and virtuosity: the aim of sonic manipulation was the creation of an original and 'self-contained aesthetic object' that was seen as the expression of a singular skill or talent (Dean Taylor 2001, 46). The work thus still bore the imprint of a unique personality. But not on paper. As Peter Szendy has observed, electronic music re/production 'called into question […] the primacy of the visible in musical comprehension […] a certain *ideality* of the musical letter' (Szendy 2009, 104). After WWII, magnetic tape and portable electronic instruments like the Moog synthesiser accelerated this process: those who mastered the technology could generate and record new or mimicked sounds without the intervention of writing, or of acoustic instruments. As we will see below, the mediation of the machine in principle rendered the boundaries of musical works more fluid, since it also smoothed the incorporation of such sounds into new works. Eventually, electronic music not only enabled an infinite gamut of sound (re)creation, but also afforded creative practices like mixing, sampling, or live remixing. In this respect, instruments like the Moog offered a return to the good old art of quoting, transcribing, and arranging that had been the common compositional practice before the 1800s, when authors' rights started being established as property and (in Europe) personality rights.[8]

A Moog in Munich

Put differently, the Moog would aid a shift in musical communication from paper-based notation towards electronic mutation—a shift that is still ongoing today with new forms of electronic music practices such as controllerism, which renders a shared knowledge of notes, chords, and scales obsolete as sounds are instantly generated in time through digital controllers. The Moog was conceived and developed in the early 1960s, when Robert Moog started working with Herbert Deutsch and other composers. They launched their new electronic instrument in 1964.[9] Provided with a keyboard, the modular synthesiser would be integrated into popular culture after Wendy Carlos's electronic remake of Johann Sebastian Bach's works in *Switched-On Bach* (1968) made its hugely successful appearance. The album made pop musicians aware of the potential of the synthesiser to their work.

Soon the Beatles, Mick Jagger, Sun Ra, the Doors, Kraftwerk, and Giorgio Moroder started using it. Carlos's recording would likewise be the trigger for Schoener to experiment with the Moog.

In Germany, Karlheinz Stockhausen did not even own a modular synthesiser yet when Eberhard Schoener had his one shipped to Germany in 1969. As the composer recalls, what had fascinated him about the instrument was its potential to engender new sounds: it held the promise of generating a music of the future (MIG records 2010). One of the first composer-directors in Europe to own a Moog, Schoener found himself working with Sting and Andy Summers, Deep Purple, Tangerine Dream, the Alan Parsons Project, Procol Harum, and many other musicians and bands that likewise saw this promise in the Moog. Since the instrument was expensive and extremely difficult to master, Schoener collaborated with sound engineer Robert Wedel as a programmer and assistant.

After experimenting with the Moog on albums like *The Destruction of Harmony: The Living Sound of the Synthesizer Based on Bach & Vivaldi* (1971), and *Bali Agúng* (1975) (emerging from a long intercultural cooperation with Balinese Gamelan), Schoener released the album *Trance-Formation* in 1977, with Andy Summers on guitar, Hansi Ströer on bass guitar, and Nippi Noya as a percussionist. *Trance-Formation* was one of the first meditative synthesiser albums, produced in the EMI studio in Munich. Schoener recounts how the production process had involved novel and extremely complex ways of creating shifting musical layers:

> We had to be very technically clever, because computers did not exist at the time. So we made tape loops—some as long as 10 meters—and threaded them through the EMI-studio recording [sic] and each one had to be started at a fixed interval. Technically speaking, this was a really crazy project and I believe, no record has ever been produced this way before. The whole studio looked like a maze. There were tapes all over the room, hanging on wall ledges or on broomsticks.
>
> (MIG records 2010)

The synthesiser here works as a creative constraint; a difficult, material problem requiring a solution that generates a roadmap for new modes of music production.[10] The outcome was a rhythm track that deployed what Schoener called the 'Black & Decker effect', which was nominated for a prize. It was an effect based on rapid melodic repetition. As he recollects:

> We named it the 'Black & Decker' principle alluding to the advertisement on which the company name is pronounced in a furiously fast, choppy rhythm. The [M]oog synthesizer had a sequencer. This sequencer allowed us to repeat certain melodies, thus causing the 'Black & Decker' effect. There were many attempts needed before the computer-generated sounded like this specific rattle. We were nominated for the 'German Record Prize,' as the 'Black & Decker' principle was something completely new.
>
> (Schoener 2010)

So, exploring the Moog, Schoener and Wedel had developed a novelty: a rhythmic principle sustaining the meditative nature of the track as an instance of repetitive music.[11] Soon, however, the novelty would be given away, becoming the heart of a new track: Robert Wedel was to pass on the rattle along with his technological expertise to Moroder at Musicland. The problem that presents itself here is whether this transfer of Schoener's 'click' should be seen as part of a new culture of music mutation—as it arose out of the affordances of post-WWII technologies—or as an instance of copyright infringement. Or is this the wrong question to ask?

Mutation, by Moroder

The making of 'I Feel Love' starts with Schoener's 'click' and Powell's novel on the one hand and Serge Gainsbourg's *Je t'aime, moi non plus* (1968)—sigh-sung with Jane Birkin in 1969—on the other. In 1974, Donna Summer had been inspired by the re-issued single of Gainsbourg's/Birkin's song and wrote the lyrics for what would become the long, legendary sexual disco track 'Love to Love You Baby' for the album with the same title (1975).[12] The lyrics for 'I Feel Love' were conceived in the same repetitive vein as 'Love to Love You Baby', but in the new track, Summer became an angelic cyborg rather than a female agent freely expressing her sensual pleasure (Baumgärtel 2019). Accompanied by the almost purely synthetically crafted track, her performance comments on creation: she sings what Peter Shapiro calls 'the most fundamental act of biology' with the machine (Shapiro 2006, 155).

Until 'I Feel Love', love had been sung in Western classical and popular music of the Romantic era and after in terms of privation. It had been expressed as a personal want, ache, or desire or a fulfilment of such lack and desire. I want you; I can't get enough of your love; I need you; I cannot live without you; I miss you; You make me feel; I do love you, still—and other variations on the same idea: the other needs to fulfil the self. Summer's cyborg has a different story to tell (see Genius.com 2021 for the full song lyrics). Her persona appears to us as a vehicle of love, through which love passes and is felt: it is not *her* love, *her* craving; she is the mediator of an affluence that surrounds and precedes her. She feels a love always already there that she passes on and that she sees reciprocated. Thus, there is a statement of recognition (I feel love), a receiving (I get you: I welcome and accept you) an understanding (I get you: I see you), a wonder and letting go (Heaven knows, Falling Free), and excitement (What you do). That is all. This easy accepting of *what is* helps to explain the continued relevance of the song: it sings a love leading to freedom rather than attachments to the other as it can be felt only now, here.

I have explained elsewhere that a sensation of being in the now—released from ingrained patterns and the idea of a future; of something to come, something (having) to be fulfilled—has been staged through *temporisation* in twentieth-century American repetitive music: an iteration of the same, or recurring patterns of minimally shifting layers, that has the potential to arrest our sense of time passing (Brillenburg Wurth 2009, 269–275). Musically, 'I Feel Love' performs what its lyrics convey; or, the music conveys what its lyrics suggests, through such iteration: an obliviousness to an 'after'. There is no beyond, it does not exist. Not now. Such drifting in-the-moment is brought about by the mix of Summer's ethereal voice singing a monotonous melody and the song's subtly delayed bass. Back in 1977, before techno had rendered repetition the norm, the effect on the dance floor must have been stunning. Blogger Post-Punk Monk accurately recalls the impact the song first made on him, hearing it in mono:

> ['I Feel Love'] began with a modest synth drone rising in volume that was nothing particularly groundbreaking. The soft sheen of that soon gave away to the crux of the song; a relentlessly percolating but simple bass synth loop that was taken into whole new realms of complexity by running its signal through a delay unit that fattened and doubled the notes played in an almost binaural fashion, with the original sequencer in the left channel and the affected playback in the right, [m]aking the energy oscillate between the two channels constantly.
>
> (Post-Punk Monk 2020)[13]

The 'crux' of the song is the click or rattle sound that would win Moroder popular and also critical acclaim. Thus, Robert Fink likens the rhythmic structure of 'Love to

Love You' and 'I Feel Love' to Steve Reich's minimalist *Music for Eighteen Musicians* (1974–1976), while Mark J. Butler has celebrated this structure as an instance of the subtle 'metric dissonances' that we now know to be the hallmark of techno (Butler 2006, 137; Fink 2005, 55–61). Tilman Baumgärtel repeats Butler's argument, using it as a prelude to work Gilles Deleuze into his critical frame for 'I Feel Love'— and celebrate Moroder's achievement of transforming a 'hammering beat into organic rhythm […] open[ing] it to shifts, displacements, and decenterings' (Baumgärtel 2013, 51). None of these scholars traces the innovation back to the composer from Bavaria, whose sound engineer one day took his Moog to Musicland.[14] Only in Bellotte's recollections does Wedel markedly emerge as the intermediary between Schoener and Moroder, providing the two producers with the crux of their song (Johnson 2007). Believing Wedel had 'worked out this methodology [of the rattle sound] himself', Bellotte credits the latter with the success of the track: 'he's the reason why […] those sounds in there are so solid and fantastic'; why an uneventful bassline was transmuted with the sequencer into Schoener's choppy, displaced rhythm (Reynolds 2017).

About an afterlife

What in music should be protected by copyright? What could copyright achieve in a time when a new technology—the Moog—emerged, upsetting ways of music notation that, until then, had been used as the material for musical autography (a sketch or score in the composer's hand)? What material ground or trace of the author was there to safeguard artistic ownership, not simply of a song or melody but of a rhythmic effect created through a complex methodology? Peter Szendy has shown that threats to artistic ownership, autonomy, and integrity logically come with the idea of the regulative work: the Romantic ('hyperbolic') concept of the work inevitably contains its appropriation (Szendy 2009, 38). Such an appropriation can be an (illegal) copy, an adaptation, a quotation, an insertion—an arrangement in Szendy's terminology; a supplement in Derrida's book: 'a critical, active relationship with a work' (39). That is, an arrangement is the record of a listening. In notation-based cultures, the arrangement is typically thought of as an adaptation of a work laid down in a score that is the materialisation of this listening. However, as Szendy points out, in the age of magnetic and electronic re/production, listening had 'instruments (the disk, the sampler, the digital indexing of sound in general) to act on music' (9). The arrangements generated through such instruments cannot simply be seen as external to an original, transmitting and replacing it in a new form: both are incomplete as to their '*distance from the essence of the work*' (38). That essence is not given but will be endlessly suggested through different interpretations and transformations. It is 'always yet to come', infinitely deferred; the original is adjusted with each new arrangement, unfolding itself in sound *in order to sur-vive*: it emerges in its afterlife as a process of maturation (38).

The beating heart of 'I Feel Love' is its 'stolen' essence, yet the act of stealing was mutative or metamorphic, allowing this essence to unfold—as essences are not there to be discovered but to be intimated through endless transformation—in a different assemblage. Listening to 'Falling in Trance' and 'I Feel Love' you hear a parallel where a tension is staged between the rattle produced by the Moog (steady, synthetic, unstoppable), on the one hand, and the sound of soft, high, almost angelic human voices on the other. Moroder and Bellotte's arrangement, in other words, builds on a contrast between the synthetic and the spiritual in Schoener's track. Their work will transform it: 'I Feel Love' emerges

out of disco and African-American dance music with its precise beats as much as it comes out of the industrial sound of German experimental electronic music—as well as French sigh-sung texts. While 'Falling in Trance' is German with a trace of Balinese gamelan, 'I Feel Love' is fusion. As critics noted at the time, the song has a machinic *and* a physical feel; it is cybernetic *and* sexy; it has a sound that is exact *and* 'fat'—alluring, inviting, immersive. The song created the perfect atmosphere for the new, anonymous intimacy on disco dance floors that would help to further emancipate metropolitan subcultures like the gay communities (Lawrence 2011). By contrast, 'Falling in Trance' mediates an industrial sound counterposed to a chorus of quasi-Georgian chant. It is more contemplative than the locomotive drumbeats of 'I Feel Love'. The latter is an invitation to move or dance; the former to disappear.

Sometime after 1977, Schoener was dancing in a New York club and heard 'I Feel Love' for the first time. He recognised his effect, and proceeded to file charges against Moroder for copyright infringement soon after (MIG records 2010). We can see why he would. In Germany, authorial rights for musical works date back to 1837 and 1871.[15] Such rights are intertwined with the idea of an individual, original maker: they reflect a distinct personality of the author creating something singular, and grant exclusive rights to profit from such creations in any tangible form. However, within this legal framework, motifs from a work, or (technological) discoveries enabling such a work, do not suffice to obtain copyright protection (Bolte 2019). Whether for this reason or another, Schoener's case would be lost.

The question to be pondered here is not precisely why his case was lost but why both he and Moroder, each in their own way, stuck to a Romantic conception of musical authorship and the musical work in a time when new technologies and settings for creative processes unsettled that conception. As I have argued, after WWII, magnetic tape and electronic instruments created new affordances for scoring, storing, and distributing that, at least potentially, allowed for a more fluid idea of the musical work—one that might also incorporate older notions of musical texts as porous tapestries of quotations and appropriations, spilling over and into each other. In the course of the 1980s, one indeed sees this fluid idea taking shape in currents like techno, dance, and hip hop. However, myth-making is essential to the world of pop music, where stories of turning points and ground-breaking moments still make the stuff of fame, legends, and sales figures. 'Ground-breaking' derives its meaning from breaking grounds in construction sites: new buildings are created on a clean, empty slate. It is a figurative adjective that still has the power to feed the belated idea of the (white-male connoted) artist as god. Oh pioneer! Histories of the making of 'I Feel Love' therefore zoom in on a certain spontaneity, an openness to whatever may have come about.[16] Thus, the mutated rhythm track is often understood as having been made by accident, as if the sound technician had made a mistake with the delay. For one, the song was ex-centrically composed from the track, rather than from the melodic line—a new way of putting together a pop song (Reynolds 2017). Moreover, when Donna Summer entered the studio, being the fantastic musician that she was, open to the challenge, she sang that difficult line in one take. As a hit, the song was a coincidence in itself. None present considered it to be material for a hit, not even a single. This was decided at the last moment, with three essential edits, by Neil Bogart in Los Angeles (Brewster 2017). After Bogart's intervention, the stage was set for the 1980s with a song imagined from the future that became, retroactively, the sound of the future.

Conclusion: mutation and distributed creativity

The most interesting conclusion to be drawn from this case is not that Moroder took an invention from Schoener that he claimed as his own, but that his creation narrative covers up a much more complex process of creativity unfolding in his studio: one of *distributed* creativity. The term originates from the notion of distributed cognition and refers to a framework that situates the mind in the world: mental content is here approached as being not restricted to individual cognition but extends into the world (through embodiments, intra-relations, technologies). The brain is not constricted to the skull—it is always already its own extension, so that its functions are distributed across different people and cognitive structures (Clark and Chalmers 1998; Kourken and Sutton 2016; Perry 2003; Zhang and Patel 2006). Accordingly, distributed creativity is a frame to approach creativity as an ability circulating among members of a group instead of being thought as an autonomous capacity located inside the brain of this or that individual (Cook 2018; Clarke and Doffman 2017; Miettinen 2006; Sawyer and DeZutter 2009). Indeed, Vlad Glăveanu has stressed, creativity emerges not only out of the entanglements between people but also between people and things, their present, and their past, (media) technologies, and cultures (Glăveanu 2014). We can add another dimension to this list of forms of distributed creativity: a material tension *between artefacts* (things made by an agent); a tension we have known as intertextuality in literary studies and that likewise exceeds autonomous models of creativity.

Studies in intertextuality since the 1960s have shown that the multiple threads weaving into a single text typically exceed the possible intentions of a creator.[17] What we write, or notate, is not always our own—whether we are aware of it or not. Seen in this light, the 'work' *itself* is always already the effect of a dispersal or distribution; it is a constellation of visible and invisible threads coming out of previous texts to converge within this one. Seen in this light, too, no one completely possesses a work—and certainly not a composite work like 'I Feel Love'. As I have shown above, in its production process, tasks were distributed, relations and collaborations were fluid, with different members of the group (the producers, the singer, the sound technician, the drummer) contributing to a joint creative effort. Within the fabric of the song, we hear—of course—quite loudly the sexy disco adaptation of Schoener's rhythmic effect but also other, more or less 'intended' or 'remembered' incursions. As an instance of music mutation, the song makes us aware of the distributed nature of creativity in a very deep sense: as a mere flash in an infinite process of metamorphosis, rather than a privileged moment of original genius. Its many remixes (such as Patrick Crowley 1985, which allows the 'click' to be heard especially clearly; Afrojack 2013; Daft Punk 2014, which turns everything round; or the Italo Disco Maxi Drive mix 2017, which restages the mono-effect with a stunning video clip) illustrate the point: if 'I Feel Love' paved the way for EDM, it also foregrounded the impossibility of musical ownership.

Notes

1 See e.g. Barendregt (2017), Binlot (2016), Brewster (2017), Buskin (2009), Dalton (2016), Krettenauer (2017), Reynolds (2017), and Stubbs (2014). Binlot erroneously claims that Moroder gave 'birth to the electronic music genre', which, of course, had been evolving for decades before Moroder entered the scene.

2 None of the historians and critics mentioned in Note 1 question Moroder's story as being the creator of the choppy rhythm that Schoener, in fact, had designed with Robert Wedel in the EMI studio in Munich. It may be that in the 1970s, Moroder—as he reportedly told Richard Buskin back in 1998—visited Schoener's studio and 'when he [Schoener] wasn't around Robbie [Wedel]

took me aside and said, "Look, with this synthesizer you can create more than just a low tone". He showed me a few things and I thought "Wow, this is great"!' Moroder here snubs Schoener, as if he was only making uninteresting low tones on the Moog, and also specifically mentions 'a bass tone that kept changing every half minute […] [but] There was no rhythm, no effects, and it wasn't too interesting'. So, it appears that Moroder sees himself as taking the uninteresting stuff that Schoener had made into a more entertaining setting, though he, in fact, copied the rhythm track of 'Falling in Trance' without much alteration (Buskin 2009).

3 I have tried to attain the rights to reproduce the lyrics but reproduction was not granted. For the song and the text, see: https://www.youtube.com/watch?v=zhl-Cs1-sG4

4 In an online special on Moroder, Bellotte, and Summer for *MixMag*, Bill Brewster (2017) adds relevant context to Moroder's sonic imaginings of the future. As he explains, '[u]sing synthesised music to sound futuristic was a well-worn trope in science fiction movies. As early as 1951, the theremin had been used in the B-movie *The Day The World Stood Still*, while the American electronic pioneer Wendy Carlos had drenched Stanley Kubrick's dystopian *A Clockwork Orange* in synths'. So, in the 1970s, there already was a convention of evoking the future sonically by means of synthesisers and their predecessors.

5 Duncan Hall (2016) offers the 1972 date in his interview with Bellotte for *Sussex Life*: 'Pete sees 1972 as the true beginning of his career. It was through Giorgio he met […] Donna Sommer who sang demos for the pair. She became a recording artist in her own right in 1974 when her demo of Pete's song *Denver Dream* reached a French record producer. A label misprint on the single led to her changing her name to Summer'.

6 Like so many others, Moroder had been inspired by Wendy Carlos's use of the Moog in *Switched on Bach*, though he often mentions keyboard virtuoso Keith Emerson as well (Brewster 2017; Buskin 2009; Dalton 2016; Reynolds 2017).

7 The *bricoleur* is not so much the handyman, as Bill Brewster has jokingly put it in a history of the DJ, but refers to the new idea of the author (the one bringing forth things, in whatever artistic field) as one who assembles things together to create something new or different rather than creating things out of nothing: the one who creates out of something (Brewster 2014, Lévi-Strauss, 1966). Jacques Derrida has contrasted the idea of the *bricoleur* to the 'engineer', who puts himself at the centre of his creations, believing (or making others believe) he engenders things from his own unique personality and existence (Derrida 2001, 360).

8 For a history of copy and author's rights, see Baldwin (2014), Dommann (2019), Goldstein (2019), and Khan (2008).

9 Initially, Robert Moog resisted the term 'synthesiser' for his instrument, but eventually succumbed. As Simon Crab (1996) explains, the Moog would be produced in different versions and models until 1980.

10 The new technology, in this context, should thus not just be seen as an enabling technology but also as a constraint that, precisely, challenges (or forces) a maker to find new solutions to a question or problem (Stokes 2006).

11 Elsewhere, I have elaborated at length on repetitive music and the simulation of endless time. Schoener achieves the same effect with his Black & Decker effect. See Chapter 5 in my *Musically Sublime* (2009).

12 Summer and Moroder, in fact, did a cover of 'Je t'aime …' in a cheerful, mellow disco version for the movie *Thank God it's Friday* (1978).

13 The effect in stereo is less dramatic.

14 In his article on Moroder, Stephen Dalton (2016) claims that when Schoener 'was busy elsewhere, Moroder and Wedel began hijacking [his Moog] for their own groundbreaking early synthpop experiments', implying it was Moroder and Wedel's, rather than Schoener and Wedel's collaboration, that led to that innovative, 'propulsive' arpeggiated bassline. (Dalton 2016, 42). David Stubbs intimates the same in his *Future Days* (Stubbs 2014). I mention these rumours here—incorrect as rumours usually are—to show how a creation narrative of 'I Feel Love' began to take shape in the absence of an autograph: a narrative that marginalises Schoener as a fringe-line composer, obscure and odd enough to be readily forgotten, and inflates Moroder as the innovative producer.

15 I have based this outline of German copyright law on Ager (2013, 10).

16 Cf Brewster (2017), Buskin (2009), Reynolds (2017), Stubbs (2014).

17 In this framework of intertextuality, every writing is logically always an iteration already. See e.g. Barthes (1977) and Kristeva (1980).

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