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Reconstructing Future Visions from the Past: Pop Music Imagining Digitization and Cybernation¹

Introduction

Today, much of pop music, from its production to social practices of usage, is obviously based on digital technology and gadgetry. And yet it is astounding that only relatively few pop music tracks, or rather their producers, actually seem to deal with the topic of digitization. This article therefore attempts to have a closer look at how pop music has negotiated early impacts of information technology and computerization—or what we today call (in partly overlapping terms) digitization, robotization and artificial intelligence (see Coeckelbergh 2020; Müller 2021). What imaginations vis-à-vis digitization processes are discernible in pop music records? A particular emphasis will be on the utopian and/or dystopian orientation of pop musical works with regard to the onset of digitization and what was once fashionably called “cybernation” (McLuhan 1964, 347), or the implementation of computerized automation processes.

In particular, the article will identify and analyze popular musical productions from the late 1960s throughout the 1990s, roughly those defining three decades that paved the way for what we now experience as the culture, economy, technology, and politics of digitality (see Stalder 2016). Thus, the article will give an outline of the development of arguments surrounding these phenomena, largely focusing on the textual and sonic components of relevant pop musical tracks and/or albums, and their wider cultural context (see Machin 2010). However, as part of the material product bundle that customers were able to buy in stores, the article will consider cover artwork as well, at least in passing. Needless to say, what follows will be a) more or less experimental and cursory, i.e., attempting to discuss the feasibility of its argument, and b) work from the vantage position of hindsight that, written decades after the release of the musical works under scrutiny, sees intricate meaning and makes “connections and comparisons” (see Bayly 2004) where contemporaneous actors once possibly could not—a standard problem of historiography and macro-level cultural analysis.

Records as Documents of a Historical Situation

Outside of live performances, popular music is handed down and distributed by way of documents, i.e., through recorded discs, tapes, data files, sheet music, or filmic recordings. Like any work of art, records capture the mood of their contemporaneity. They are of the day and for the day, but at the same time, their contents fixed for posterity, records transport messages to the future in which they can eventually be dug up as records of the past. The question posed by Mark Greif, “How should it really ever be possible for pop music to incarnate a particular

1 The author would like to thank the two anonymous reviewers for their helpful criticism and suggestions, not all of which could be incorporated here for reasons of space and scope. This would have to be dealt with in a book. The author is particularly grateful to one reviewer for pointing out three albums that otherwise would have been overlooked, or had been omitted from the draft manuscript.

historical situation?" (Greif 2016, 100), remains valid and will inform this article throughout. Outcomes, however, will be tentative at best.

From the perspective of the sociology of knowledge, pop records may be read as documents, or texts, of their own process of formation in a specific historical or social situation. Following up on the general approach of Ralf Bohnsack's (2011) documentary method, which is modelled after Karl Mannheim's (1936) concept of the sociology of knowledge and art historian Erwin Panofsky's (1955) iconographical–iconological method of interpretation, it can be posited that human-made artifacts reflect the cultural moods, practices, and orders of power that had been suffusing a society at a given moment in time—ideas, ideologies, discourses, fashion, design and gadgetry trends, modes of behavior, fears, hopes, and utopias, or the conspicuous lack of them. Mannheim places special emphasis on the figuration of utopias, or "situationally transcendent ideas" that include "not only wish-projections" (Mannheim 1936, 237) but, in a reverse perspective, projections of fear and fright as well. We may well call the latter dystopias, or negative utopias. The focus of this article will be on such projections, as flimsy as they might indeed be.

As the aim of this article is to point out and scrutinize the utopian and/or dystopian orientation of works of pop music, it will be important to remind ourselves of the fact that their elements of meaning—contained in musical and sonic properties, lyrics, sleeve artwork, liner notes, video images, etc.—are not necessarily out in the open; rather, we need to understand them as manifestations of "underlying principles which reveal the basic attitude of a nation, a period, a class, a religious or philosophical persuasion [...] condensed into one work" (Panofsky 1955, 30). Panofsky calls these elements "symbolical" values "which are often unknown to the artist himself and may even emphatically differ from what he consciously intended to express" (ibid., 31). It is in that 'something else' that a new or redefined worldview appears. From the perspective of the sociology of knowledge, therefore, it is the researcher's task to "determine when and where the world presented itself in such, and only in such a light to the subject that made the assertion, and the analysis may frequently be carried to the point where the more inclusive question may be answered, *why* the world presented itself in precisely such a manner" (Mannheim 1936, 296).

Taking up this cue, we might say that pop music records can be analyzed as documents of an essence of their producers' worldview in the first place, their social milieu, or the period in which production had taken place, even though typically the producers will not be consciously aware of this worldview while simply doing their job. As so often these dispositions may only become apparent in retrospect by way of a reconstruction: when revisiting albums years or even decades after their commercial release. The order that then reveals itself in hindsight is compatible with the concept of habitus that Pierre Bourdieu elaborated in partial recourse to, *inter alia*, Mannheim and Panofsky. It is to be understood as an analysis of the structural and framework conditions of particular actors, and their actions, in society (Bourdieu 1989, 169–74; Bohnsack 2011, 30–33). Society inscribes itself into the habitus with all its mostly unconscious and often unquestioned patterns of behavior and evaluation. Habitus is a form of embodied social dispositions (Bourdieu and Wacquant 2013, 160; Bourdieu 1989, 467) which appears as both the producer and product "of a *modus operandi* that is based on atheoretical knowledge [...] of *incorporated*—so to speak: *automated*—practical action" (Bohnsack 2018, 207). This *modus operandi* needs to be excavated, extricated and explicated, not unlike the work of

an archaeologist, by employing reconstructive methods of the social sciences that seek to dig up, as it were, documents from the past and interpret them with the help of today's knowledge.

The sample of tracks and albums used for this article mainly relies on a database search employing the social networking and e-commerce site Discogs.com (2021) using keywords such as "digital," "digitization," "cyber," "computer," "robots" and variants thereof. The sample is neither representative nor fully exhaustive. Taking into account pop artists only, it excludes fringe acts and avant-garde works for reasons of attempting to focus on popular imaginations. Oversights may not be ruled out entirely as not all releases inherently relevant for this article will necessarily show up in a keyword-based query.² By the same token, the author has been able to identify relevant works based on personal knowledge gained from 40+ years of serious record collecting and its related social practises of sharing information (see Bartmański and Woodward 2015; Shuker 2010).

In presenting its line of argumentation, the article proposes four phases of pop music's coverage of digitization and cybernation: an early phase (*ca.* 1967-77) which seemingly laid the grounds for a largely dystopian perspective; a subsequent phase of pop music's ambivalent visions of possible digitized futures while early home computers were gradually becoming household items (*ca.* 1978-82); followed by more than a decade of largely dystopian perspectives taking root in pop music (from *ca.* 1982 well into the 1990s); the century eventually ending in a spirit of dystopian vagueness as to pop music's dealings with the large-scale spread of computers, the Internet and other digital tools after *ca.* 1995. Over the course of its presentation, the analysis will concentrate on four exemplary works of pop music—concept albums by the Alan Parsons Project, Kraftwerk, and Radiohead—and look at how these productions organize their imaginations of the impacts of digitization and cybernation, what they focus on, how they formulate their arguments, and what their legacies are. However, to ground these documents in the wider discursive trajectory of the field, the article will reference other thematically relevant albums or tracks and, if appropriate, literary and filmic sources as well.

Pop Music Dealing with Digitization

Overview

Digitization can be easily identified as one of the defining processes of high modernity and a subsequent technology-infused "metamodernism" (van den Akker and Vermeulen 2017), or "high-speed society," characterized by acceleration processes (see Rosa and Scheuerman 2008). After the introduction of early prototypes of computers in the 1940s, data processing and attached processes of automation, or cybernation (McLuhan 1964, 347), developed into a staple motif of science-fiction literature and movies from the 1950s onwards. They became a visible reality with large-scale applications of automated work processes in the 1960s and the (still limited) arrival of early home computers in the 1970s (see Balzer 2019, 414), later to become more widespread. The Internet, a network of interconnected servers, was launched ex-

2 Discogs.com is not meant to be a research tool and its search functions have flaws. In addition, visual components of albums such as cover artwork are not searchable at all. On the other hand, the database's algorithmic structure yielded relevant hits previously unknown to the author. To what degree these search results would be reliably replicable on third-party computers, however, remains to be seen.

perimentally in the late 1960s, only to gain large-scale attention and to become a market force in the mid-1990s. In its transmogrification as the World Wide Web it has been revolutionizing the way we live, work, shop, interact, and define ourselves over the course of the past 20 to 25 years (see Castells 2010; Gardner and Davis 2013; Puschmann and Pentzold 2021; Stalder 2016). Digital technology has, over time, also profoundly changed the ways in which music is being produced, distributed, and consumed. The invention of the analog synthesizer in the 1960s, followed by sequencers and fully digital instruments in the 1970s, paved the way for various genres of electronic pop music (see Pinch and Trocco 2002; Stubbs 2018).

A considerably large share of popular music these days actually never leaves digital circuitry: from its recording on a data-storage system using digital instruments and sound-processing tools via its all-digital mixing and mastering through its platform-based selling or sharing all the way to its consumption via smartphones and other computerized gadgets, large or small (Bartmański and Woodward 2015, 102; Eriksson et al. 2019). But how has pop music envisaged these cultural trends in the heyday of its industry when selling large numbers of physical units—records and tapes—was still the norm (Bartmański and Woodward 2015, 15–20), and when the disruptive threats of digitization seemed almost unthinkable? This timeframe—roughly speaking, the late 1960s throughout the 1990s—may be called the early phase of popular ideas about digitization. One might expect to find a vast body of works dealing with these topics in pop music, but actually that is not the case, and most of these works are vague in their treatment of the matter, as will be shown. This is of course only surprising when viewed from the vantage perspective of later decades—the now widely established and popularized concept of “digitization” simply was not as firmly rooted back then as it is now.

The early Years: Dystopia in Formation (1967–77)

This article’s journey through pop music’s subdued awareness of (what we today call) digitization starts in 1967. Jefferson Airplane, on their second album *Surrealistic Pillow*, appear as one of the first rock acts to mention digitization, at least in passing. The lyrics to the album’s final track, “Plastic Fantastic Lover,” contain the lines “Data control and IBM / Science is mankind’s brother” in the context of a rather psychedelic critical reflection on modernity and progress as was *en vogue* at the time. Technology corporation IBM (*International Business Machines*) was perceived to be at the forefront of technological innovation then, for good or bad, and had a few years earlier been popularized by one of Marshall McLuhan’s deadpan observations that were to become part of the canon of media studies: “When IBM discovered [...] that it was in the business of processing information, then it began to navigate with clear vision” (McLuhan 1964, 8). A theorist warmly received by the hippie movement (Perry 1984, 262), McLuhan inspired, and continues to inspire, speculative thinking about technology. In cinemas worldwide around that time, computer “HAL” (just a one-letter shift from “IBM”) was plotting to exterminate humans in the movie *2001: A Space Odyssey* (1968). Artificial intelligence appeared to be working against humanity then. It is hardly surprising that David Bowie’s astronaut persona “Major Tom” was encountering a lone death in space (on “Space Oddity,” 1969) just as, in real life, men were walking on the moon. What frontiers could be reached thence? The sentiment of a technological tipping point was exploited by duo Zager and Evans’ 1969 hit “In the Year 2525 (Exordium & Terminus),” a song topping the charts around the time of the Apollo 11 moon landing, which somehow marked a peak of technological bravado (see Balzer 2019, 11–29). The Who’s creative mastermind Pete Townshend was developing a science-fiction rock opera

at the time, “Lifehouse,” that was set to feature a kind of matrix or universal grid which “could be plugged into and which could connect individuals from across the globe. It was the sort of idea [World Wide Web inventor] Tim Berners-Lee would develop 20 years later in reality” (Buckley 2012, 163; see also Wilkerson 2009, 146–152). Two songs from the abandoned project, “Baba O’Riley” and “Won’t Get Fooled Again,” eventually released on the album *Who’s Next* (1971), featured minimalistic keyboard-based arpeggios as intros that sound as if they had been generated by an early computer (see Pinch and Trocco 2002, 293). Set against lyrics dealing with youthful revolt, directionlessness and defeat, they feel like a utopian idea turned negative. Two years later, the Who would claim that “in the battle on the streets / You fight computers and receipts” (“Helpless Dancer”), this time on their rock-operatic interpretation of dissociative identity disorder and social struggle, *Quadrophenia* (1973). It seems like the overall view towards new technologies was caught between the hopeful and the frightful.

Remnants of late 1960s psychedelic technological utopianism, however, can be found on German synthesizer pioneer Klaus Schulze’s all-instrumental album *Cyborg* (1973), a forerunner of progressive electronic music. The title distinctly quotes the idea of technologically enhanced human beings (cybernetic organisms) earlier popularized in science-fiction stories. “As the album title suggested, Schulze saw himself as a man-machine playing a hybrid of acoustic and electronic music” (Adelt 2016, 103). The musician had in fact been inspired by Frank Herbert’s (1966) science-fiction novel, *Destination: Void* (see Lux 2020, 66). Schulze’s *Cyborg* consists of four pieces filling one album side each and has been aptly described as “esoteric music of pulsing twittering electronics” (Freeman and Freeman 1996, 169). The album’s liner notes refer to “a half electronic, half organic existence, [...] waiting at the gates of the acoustic psychotropic drug for the millennium of its birth!” (trans. O.Z.)—at a time when such psychedelic phantasmagoria was already outmoded. However, the album title’s semi-reference to cybernetics is instructive. This discipline strongly emphasized control and communication: two contextually synonymous terms that continue to shape information technology to this day (Stalder 2016, 83).

While the incorporated stance towards technology, communication and control remained in the realm of hippie-utopianism on Schulze’s *Cyborg*, and was decidedly adversarial on the Who’s *Quadrophenia*, it clearly veered towards Orwellian dystopianism on the Alan Parsons Project’s album *I Robot*, released in 1977, the year of the consumer-market launch of the first home computers. A varied work of progressive, at times discoey rock with symphonic leanings, this release was their first album referencing topics of technology and control. The title is a nod to Isaac Asimov’s (1950) famous short-story novel *I, Robot* but steers clear of the literary work’s original storyline—hence the omitted comma. Title and cover art suggest a focus on robotization, as do the album’s liner notes: “The story of the rise of the machine and the decline of Man [...] and a warning that his brief dominance of this planet will probably end, because Man tried to create Robot in his own image.” In today’s terminology, the songs “look at the danger that may lie behind the uncontrolled development of artificial intelligence” (Ferrua 2015, 81; trans. O.Z.). With data processing already in widespread application and computers beginning to enter offices and homes, robots and computerization were widely debated topics in the 1970s (see Bjørn-Andersen 1980; Mowshowitz 1980; Mumford and Sackman 1975). Popular works of fiction such as by Asimov, Herbert, Aldous Huxley (1932) and George Orwell (1949) had been obviously mined for storylines as well.

Upon closer inspection of the lyrics, the *I Robot* album deals with aspects of a digitized environment that in the early 21st century have become part of mainstream academic debate, such as questions of free communication (“Breakdown”) or thought control and surveillance by unnamed powers that be (“Some Other Time,” “Don’t Let It Show”). The robotic vocoderized vocals on “The Voice” with their Orwellian Big Brother motif is telling in this respect: “Before you run and hide / He’s gonna get you / You got no choice.” A similar topic is addressed by the song “I Wouldn’t Want to Be Like You” where the lyrical perspective meanders between the point of view of a machine talking to a man and that of a man talking to a machine (Ferrua 2015, 85). On *I Robot* we find early lyrical imaginations of the World Wide Web or social-networking sites and their exploitation of personal data in the song “Some Other Time”: “Like a mirror held before me / Large as the sky is wide / And the image is reflected / Back to the other side // Could it be that somebody else is / Looking into my mind?”. These visions of digitization, transformed into rather pompous rock music, reek of dystopia but remain textually ambivalent and vague. Music critic Robert Christgau (2003) pointedly formulated he “might agree that the way this record approximates what it (supposedly) criticizes is a species of profundity if what it (supposedly) criticized was schlock.” We may conclude the critic sighed at the record’s fuzzy superficiality and pretentiousness in its treatment of its subject matter.

I Robot has deeper pop musical traces, though. The opening title track “shares some similarities to Pink Floyd’s ‘The Great Gig in the Sky’ from *Dark Side of the Moon*” (Houle 2013; italics added), an album that was engineered by Alan Parsons (Ferrua 2015, 33, 85) and can be interpreted as a musical reflection of modern life, human existence, madness, dying, and annihilation (see Auxier 2007; Johnston 2007). The gloomy choir near the finale of *I Robot*, on “Total Eclipse,” seems to be “employed to create a stark effect that feels more lifted out of [the movie] *The Exorcist* than science-fiction” (Houle 2013; italics added). It has a forerunner in *Atom Heart Mother* (1970), another Pink Floyd production that Alan Parsons (co-)engineered (Ferrua 2015, 25). The choir from this album’s eponymous side A suite (in its sections “Mother Fore” and “Remergence”) is distinctly referenced by *I Robot*’s “Total Eclipse,” an orchestrated piece with avant-garde leanings. In 1997, a very similar choir motif will be intricately quoted on Radiohead’s album *OK Computer* (see below). Radiohead thus create a musical narrative link to previous productions by other bands.

I Robot’s track “Nucleus,” on the other hand, is “a picturesque piece of analog keyboards, the ones used here were precursors to the digital samplers of the 1980s, washing chords over each other as though waves were crashing down on a beach” (Houle 2013). Similarly, the vocoderized vocals on “The Voice,” already a gizmo in 1970s disco music, prefigured the Auto-Tune sound that started to make inroads into music production in the late 1990s. In a way, *I Robot* connects the dystopian visions of earlier science fiction with later digital sounds (and much later discourses on digital surveillance and control), although sonically the album remains mostly rooted in 1970s modes. The melodramatic, high-concept song production aptly reflects intense fears of domination and control by high technology that were widespread at the time (see Bjørn-Andersen 1980; Mowshowitz 1980; Mumford and Sackman 1975 or, in a German context, Michel and Spengler 1981). The Alan Parsons Project release may be identified as an example of pop music trying to come to terms with conflicts and transformational processes that in their time were often debated under the discursive auspices of fright and gloom; hence its dystopian habitus.

The dystopian disposition embodied by *I Robot* is also exhibited in the almost simultaneous release by hard rock band Queen, *News of the World* (1977), whose cover artwork features the painting of a huge robot chasing, frightening, hurting and killing humans—a close reworking of a 1954 British sci-fi magazine cover by the original illustrator Frank Kelly Freas who thus reinvigorates a “death of humanity” motif (Jaccoud 2019, 136). The tight and intense production mode of the songs reveal the sense of urgency that is similarly present on *I Robot*. However, since none of the Queen album’s lyrics deal with robotization or related ideas at all, this work can easily be identified as a prime example of pop music’s mostly graphic exploitation of a topic that seemed *de rigueur* at the time. In a similar vein, the cover of Black Sabbath’s (1976) album “Technical Ecstasy” features artwork showing two robots copulating on an escalator, another example of contemporary “schlock” exploitation of the robotization topic without further pondering.³ The setting was thus prepared for synthesizer and electronica pioneers Kraftwerk to pick up on these threads. And amidst the peak of rockist culture, the disco wave, and the countervailing phenomenon of punk that were, in different ways, defining pop music at the time, they did.

Ambivalent Visions: Pop Music imagining the Future (1978–82)

German band Kraftwerk’s claim to fame in previous years had been musical explorations of technology and modernity, among them motorways, energy, and railway transportation. On their album *The Man-Machine* (1978),⁴ released in a phase of pop music’s post-disco and post-punk renewal (see Reynolds 2005; Stanley 2013, 481–501), hopes of a more comfortable and convenient modernity, largely relieved of the necessity of manual work, meet up with fears of a dehumanized and totalitarian future. “Kraftwerk’s *Man-Machine* coincided with a particularly high tide of anxiety” vis-à-vis humankind and machines (Stubbs 2018, 231–232).

Three of the six tracks on the album, “Kraftwerk’s artistic centrepiece” (Schütte 2020, 114), most obviously reference the man-machine theme in their lyrical coverage. The opening track, “The Robots,” sets the tone for the rest of the album. The music sounds “like a transcription of a Fernand Léger picture, with its clockwork whirrs and shamelessly visible circuitry” (Stubbs 2018, 226). In the song’s intro and in its bridge, one can hear a machine-like Russian-language interjection, “Ja tvoj sluga / ja tvoj rabotnik” (“I am your servant / I am your worker”). With this motto, also printed on the back of the record sleeve designed in the style of Soviet Constructivism of the 1920s, *The Man-Machine* finds its central theme: an elaboration of the modern condition—robotization and technological progress—in a retro-futuristic setting with visions of futures past (see Schütte 2020, 120–125). In the rather simple, catchy refrain “We are the robots” and the lines “We are programmed just to do / Anything you want us to,” a replacement of the band members by robots is already programmatically apparent. In fact, from 1978 onwards, the group increasingly used robot-like dummies as stand-ins for themselves at their concerts and PR events and virtually perfected this in the following decades, using their dummies as a key brand element. Indeed, Kraftwerk has long since advertised itself as kind of a man-machine that merges humans and technology. The unresolved question of “The Robots” thus is that of the existential mind–body dualism addressed in the lyrics: what is the relationship between human being and the machine? Who is the robot? Who is whose servant? (see

3 I am indebted to one anonymous reviewer for pointing out this album.

4 This article will only take into account the English-language versions of the Kraftwerk albums dealt with here, largely ignoring the fact that German (and sometimes additional) language versions were and are available as well. Parts of the following paragraphs have been loosely adapted from Zöllner 2018.

Zöllner 2018). The speech-synthesized vocals and the machine-like pulsating rhythmic structures of the music provide only few clues.

Another track on the album, “Metropolis,” almost all-instrumental save for an intonation of this one word, glides on with pulsating, repetitive rhythms. It refers to the 1927 German movie of the same name that by then had become a classic. As a dramatic *mise-en-scène* of industrial modernity and an imaginable dystopian future, the film had addressed the possible replacement of humans by machine beings, and the manipulation of humanity (see Nida-Rümelin and Weidenfeld 2018, 61–63; Schütte 2018). Humanoid machines appear as an exploration of the deep-seated fears of technological and social upheaval and dehumanization (see Minden and Bachmann 2000). The track thus serves as another retro-futuristic reference looking at possible futures yet to arrive from the vantage point of a fictitious past.

Kraftwerk’s album closes with its title track, “The Man-Machine,” which repeats the lines “Man-machine, semi human being / Man-machine, super human being / The Man-Machine” with Ralf Hütter’s synthesized vocals stacked over syncopated synthesizer and sequenced rhythmic patterns. Vocally a machinated doo-wop, this track captures the past—the 1950s and 1960s—while pointing to the future (see Buckley 2012, 131). The lyrical arrangement focuses on a “hybrid creature” whose “ontological status lies in an ‘unnatural’ intersection between [...] animate and inanimate, organic and inorganic” (Schütte 2018, 105; trans. O.Z.). The man-machine appears as a new category of beingness. It is not yet clear whether it will remain a controllable thing or grow beyond man as an *Überding* (super thing), eluding human control and ultimately dominating humanity.

The question of how this figuration might evolve remains topical. At its core, the unresolved nature of the questions of domination and dominion forms the habitus of this pop cultural document that negotiates a link between past and present. The ambivalence towards man-machines expressed by the music and the lyrics is in part negatingly dystopian, in part affirmatively utopian. Incorporated by the musicians into their performances and their self-representation, this habitus appears deeply ingrained into an artistic examination of processes of modernization, digitized automation, and social change. This pop cultural product is thus easily recognizable as a document and a narrative into which contemporary hopes and fears about the relationship between man and machine were prominently inscribed around 1978. As such, this document is obviously still relevant in the present, more than 40 years later. The album remains a cornerstone of electro/synthpop and has inspired varied offspring (see Pattie 2011; Stanley 2013, 513–519).

A whole range of acts took up this concept. British Kraftwerk aficionados Joy Division explored the concept of digitality in their post-punk song “Digital” (on the compilation *A Factory Sample*, 1979) only a year later. It seems to draw on a mathematical reading of the word, where “digital” points at patterns of binary digits, lyrically mirroring the distance between the narrator and somebody else—possibly a reflection of the lyricist’s mental instability (“The fear of whom I call, every time I call / [...] I feel it closing in, as patterns seem to form / I feel it cold and warm, the shadows start to fall”).

Similar themes of estrangement can be found on synthpop trio Tubeway Army’s album *Replicas* (1979) which, against a backdrop of seemingly Kraftwerk-inspired sounds (see Buckley 2012, 145), fantasizes about mergers of human and machine beings, replicant-like androids,

technological anxiety, and alienation. Its lyrics are partly based on a science fiction novel by Philip K. Dick (1968) that a few years later would inspire the movie *Blade Runner* (1982). The album's two opening tracks in particular focus on the problem of communication and companionship in a world shaped by technology, much of it sounding like musings about the Internet and social-networking sites of later years. In "Me, I Disconnect from You", the (male) first-person narrator is "waiting by the screen" and "can't recognise [his] photograph" which leads to an estrangement from himself, his disconnecting; he begs to not being "turned off" by the technological self-device. This theme is further developed in "Are 'Friends' Electric?" where, set in a gloomy existentialist mood underpinned by a bittersweet limping synthesizer melody, the narrator bemoans the loss or impossibility of friendship in modernity: can people be shut off, as it were, like electric devices? Friends are constantly referred to in inverted commas, as scare-quote "friends," not unlike the idea of surrogate online companions of later decades (see Turkle 2011; Fuchs 2017, 33–64; Zuboff 2019).

In 1980, the American synthpop band Units took up this thread on their album *Digital Stimulation*. Contemplating the artificiality of modern living conditions and other urgencies, the title track introduces the by now pressing issue of online stalking ("He put the information in the firm's computer / Comparative analysis, he thought he knew her / [...] But afterwards he realized there's no gratification / Without digital stimulation"). By then, alienation and a sense of dread seem to have firmly taken root in pop music's dealings with digitization—at a point in time when digital devices were increasingly being embedded in music production (see Pinch and Trocco 2002, 316–17; Balzer 2021, 300). Testimony to the latter trend is Klaus Schulze's 1980 album *Dig It*, the first electronic album produced almost all-digittally (see Lux 2020, 176–179; Wonneberg 2022, 90). The title of its opening track, "Death of an Analogue," seems like a programmatic statement. A vocoderized voice proclaims: "Analogue is dead / Digital is an automat / [...] One bit for you, one byte for me / [...] What's it like? / It's alright." It feels like ushering in and embracing a new era.

Themes pertaining to life in digitality reached a new high watermark when Kraftwerk revisited their earlier work *The Man-Machine* that had been a source of inspiration for many a performer (see Pattie 2011) and followed up with their seminal album *Computer World* (1981). Jocular in some tracks ("Pocket Calculator"), mostly deadpan in others ("Computer Love," "Home Computer," "It's More Fun to Compute"), this album offers a sonic and lyrical exploration of the digital age from start to end and "predicted the technological future that is our digital present with surprising accuracy" (Schütte 2020, 145)—at a time when only some 621,000 home computers were in use in the United States (Buckley 2012, 164), not to speak of European countries. Kraftwerk's *Computer World* has strongly influenced the sound of 1980s synthpop, electro-funk and subsequent techno and electronic dance music genres of the 1990s and beyond (see Albiez 2011; Toltz 2011); moreover, it may be contended that this album, with all its electronic whizzes and whirrs, has provided an aural archetype of what digitality seems to sound like, as it were.

The album's opening title track, without further ado, proposes an interpretive frame for the emerging data-driven world by listing institutions of state and business power: "Interpol and Deutsche Bank / FBI and Scotland Yard." In decades to come, some of these name checks would need to be replaced by other institutions (most likely *Alphabet*, *Meta*, the *National Security Agency*, and others), but Kraftwerk's dry analysis aptly summarizes what the 'computer world' is about: "Business, numbers / Money, people." It is a crisp prediction of the data econ-

omy and the “surveillance capitalism” (Zuboff 2019) of later days. The track “Numbers,” a “pumping proto-techno” piece (Schütte 2020, 144), reinforces the global nature of this nascent power structure by contrapuntally vocalizing numerals one through eight in various languages, adding friction and suspense, whereas the segueing closing track of the vinyl version’s side A, “Computer World 2,” a reworking of the album’s opener, delivers a calmer, harmonically balanced musical vision of the effects of home computing and the emergent global datasphere. The song, however, “dissolves into some sort of frightening new space” by having various tracks of computerized voices read out something that resembles “an anarchy of binary code” (Buckley 2012, 167). It sounds sinister indeed.

Computer World’s side B offers three thematic narratives that in 1981 sounded like fancy stories from the future but have by now largely come true. First of these is a musing on (what today is called) online dating, “Computer Love.” What is now a common practise for many—“data dates” as the lyrics call them—seemed like a far-fetched fantasy in 1981. The song anticipates the emptiness of modern life and sentiments of unfulfilled romantic longings in the verse lines “I don’t know what to do, I don’t know what to do / I need a rendezvous, I need a rendezvous.” The gadget making such interactions possible finds coverage in the subsequent song, “Home Computer.” With only two lines of lyrical content (“I program my home computer / I beam myself into the future”), sung against a background of relentless, unforgiving rhythmic and melodic structures, the track conveys the drudgery of sitting at home and feeding something into a technical device, but also points out the positive returns one may earn from this, namely being able to imagine alternative futures or designs for living.

The album closes with a track in which only one line is enunciated by a computer voice: “It’s More Fun to Compute”—tellingly the only track that has an English title even on the album’s German version, *Computerwelt*. It seems like Kraftwerk really wanted to make this one point clear. This is a statement, though one cannot be sure about its sincerity given the band’s playful treatment of the computerization topic throughout this album—and the fact that it was recorded solely “with analogue equipment, but this only underlines its visionary power” (Schütte 2020, 146). The title probably references a 1960s pinball machine that lured prospective players with the inscription “It’s more fun to compete!”⁵ If we follow this line of interpretation, Kraftwerk’s song title juxtaposes a core mantra of capitalism and the developing era of home computing, thus foreshadowing the development of the digital age. The album’s stance toward digitality is, however, somewhat ambivalent: “lost on many was that the album was as much a warning about the dangers of a ‘computer world’ as it was a celebration of the micro-technology that had brought computerisation into people’s everyday lives” (Bussy 1993, 114). But listening to *Computer World* decades later, “we hear the visionary image of a bright future that our present reality has never managed to live up to” (Schütte 2020, 147), as one commentator notes. The album somehow predicted “accurately that surveillance culture is here to stay” (Buckley 2012, 165). Kraftwerk’s perspective on technology, despite their fascination with it, seems to be underpinned by a “kind of melancholia” and “a romanticism and poetic transfiguration of the developments in technology and information sciences” (Leloup 2021, 24; translation O.Z.) that is still lingering on.

Later in 1981, the Police’s highly successful album *Ghost in the Machine* seemingly mimicked *Computer World*’s perspective on computerization. However, it did so mainly via its title and

5 A photograph of a pinball machine with this inscription, taken in 1960s West Berlin, is documented in Larsson 1998, 157. It is likely that this appliance was available in West Germany as well when Kraftwerk band members were in their youth.

sleeve art, the latter showing the three band members' heads as stylized pocket calculator-inspired display graphics on the front cover and close-up photos of a circuit board on the inner sleeve. The album's title seems to reference Arthur Koestler's (1967) eponymous philosophical work on mind-body dualism, a theme already implicitly picked up by Kraftwerk on *The Man-Machine* three years earlier. Yet it appears as a perfect fit for the decade of peak angst—with its widespread fears of war, nuclear annihilation, economic decline, deindustrialization, environmental destruction, and technologically enhanced state surveillance—that was just starting to unfold (see Balzer 2021, 22). Against this backdrop, the Police's album is more about a rising consciousness of globalization and "Spirits in the Material World," as phrased in one of the songs, than truly about digitization. The track "Rehumanize Yourself" appears as a critique of the degrading effects of technology already touched upon by Kraftwerk's *Man-Machine* album. Only one track on the Police release seems particularly prescient about future impacts of an interconnected digital world. The urgently repeated chorus of "Too Much Information" stipulates the idea of a world coming closer together but not sharing much in the way of useful knowledge: "Too much information running through my brain / Too much information driving me insane." Social media users of later decades will be reminded of this long-established media cliché by the popular short-hand moniker "TMI." Or, to put it bluntly, "Computers Are Stupid," as Spliff opined on their album *85555* (1982), obviously placing undeserved mental capacities onto a technical device, thus shunning further debates.

The Firm Grip of Dystopianism (1982 into the 1990s)

The 1980s were a key decade for the widespread implementation of digital technology both in music production, distribution and society at large (see Castells 2010, 5–13; Denk 2002; Nassehi 2019, 72–77). 1982 saw the market launch of both the Commodore C64, one of the first affordable and popular home computers, and the compact disc (CD), a digital data carrier that was meant to phase out the vinyl record which had been introduced in the late 1940s (see Bartmański and Woodward 2015, 6; Byrne 2013, 129; Devine 2019, 81–128; Lux 2020, 176). At least throughout the 1980s, CDs felt like tokens of high technology. However, surprisingly few pop music productions at the time covered the transformative process towards digitality that was unfolding.

Electro-funk pioneer George Clinton had little to say regarding digitality in the lyrics to the title song of his album *Computer Games* (1982) whose line "May I invade your space?" was probably influenced by experiences of contemporary screen games and, in a wider sense, the exploration of new frontiers. Around the same time, the Alan Parsons Project reiterated their *I Robot* perspective on surveillance and control by machine entities on the eponymous title track of their 1982 album *Eye in the Sky*, one of the first albums to point out, on its liner notes, that it had been mixed and mastered digitally. Again, the lyrical treatment of the topic, partly drawing on a sci-fi novel of the same name (see Dick 1957), is rather vague: "I am the eye in the sky, looking at you / I can read your mind." In the words of the composer/producer, the song deals "with the fact that we can never feel comfortable, we will always be watched. [...] There is no such thing as privacy anymore" (Alan Parsons quoted in Ferrua 2015, 135; trans. O.Z.). Amidst a general climate of Orwellian Big Brother anticipation and dread—the year 1984 of *Nineteen Eighty-Four* fame was nearing—US band Styx, on their rock-operatic album *Kilroy Was Here* (1983), had a hit with "Mr. Roboto," a commentary on digital technology, robotics, fears of globalization and surveillance, and the modern condition ("You're wondering who I

am [Secret, secret, I've got a secret] / Machine or mannequin / With parts made in Japan / I am the modern man"). Styx at first present the hegemonic view favoring technology ("I'm not a robot without emotions / I'm not what you see / I've come to help you with your problems / So we can be free / [...] I need control / We all need control") before they eventually debunk this sloganeering as deceitful and point out its inherent dangers in the form of a morality tale ("The problem's plain to see / Too much technology / Machines to save our lives / Machines dehumanize"). Where Kraftwerk may have been ambivalent, Styx were straightforward in their dystopian vision. But apart from this influential pop musical statement, it could be argued that the technological advancements of digitization were becoming so commonplace during the 1980s that they turned into a proverbial elephant in the room: conspicuous and looming large for all to see but unspeakable and thus overlooked—or at least this is how it appears in hindsight.

Synth pop outfit *Orchestral Manœuvres in the Dark's* album *Dazzle Ships* (1983) is telling in this respect. Inspired by camouflage paint patterns on World War I ships and for the most part dealing with analog tools and technologies (telegraphs, telescopes, radio signals), and incorporating a few hints at modern science ("Genetic Engineering"), this album full of bleak melancholy is dazzling in more ways than one: it is almost in denial of digitization which was already firmly establishing itself at the time—not least in the music industry where, in addition to the introduction of the CD, new digital production tools had started to change the course of business. The *Dazzle Ships* liner notes refer to "ROBOTICS a SCIENCE / *frankenstein's* monster," though no further explanation is given. Expressing a retro-futurism not unlike the one Kraftwerk had displayed on *The Man-Machine* five years earlier, with all its yearnings for eras past, and despite its almost ostentatiously modernist stylistic appearance, *Dazzle Ships* seems like a commentary on its contemporary present, which was a time of increasing conservatism and nostalgia in Western politics as well as in pop music and other cultural domains (see Balzer 2021, 284). With McLuhan (1964, 43) we may interpret this negligence of the present as a "blocking of perception" in the context of "irritating pressures" in an "overheated" debate, struggling to come to terms with innovation. "So it is in our social lives when a new technology strikes [...]" (ibid., 67).

In philosophical terms we might call this elephant-in-the-room avoidance of directly addressing transformational processes a form of passive nihilism. The latter can be defined as a habitus of negation and denial of essential aspects of human life or social organisation—such as when new technologies arrive in the present that might most likely have an impact on the way people think, live, and work in the future. Avoiding such reflections, as necessary as they might be, is akin to seeing "in the future the past of the present," which in turn is tantamount "to let the future become the past without ever having been present," as Nolen Gertz (2018, 15) puts it. On the other hand, musicians and music producers surely cannot be expected to act as analytical futurologists. Jazz/funk artist Herbie Hancock was almost a clairvoyant in this respect when he released his Album *Future Shock* in 1983, the title referencing Alvin Toffler's (1970) famous book of the same name that, in an almost McLuhanite way, dealt with the stress caused, both on individual and societal levels, by technological change and disruptions. In line with the hypothesis of avoidance, it is telling that Hancock's album is for the most part instrumental; its few lyrics only go so far as to see a "future shock" by way of traditional topics of alienation and social struggle that could have been found on soul records of the late 1960s or early 1970s in a similar fashion. Sonically, however, Hancock's *Future Shock* felt like the future

indeed: disruptive, dense, and stressful. Electro funk act Robotron 4, produced by John Davis of Milli Vanilli fame, seemed to follow the path outlined by Herbie Hancock's sound patterns on its only release, the maxi single "Cyborg 203" / "Electro-?" (1984). Despite a futuristic cover artwork displaying a computer type font and an electrical circuit diagram, the sparse vocoderized lyrics hardly carry a message.⁶

The highly anticipated symbolic year 1984 saw the movie *1984* reimagining Orwell's classic political-technological dystopia with a title song by the Eurythmics who framed it as a "Sex Crime (Nineteen Eighty-Four)." The same year also witnessed actor Arnold Schwarzenegger famously portraying a cyborg programmed to destroy humanity (in *The Terminator*). At around the same time, computers were increasingly entering living rooms and office cubicles by way of game consoles and word processors (see Balzer 2021, 166–93). People were beginning to admit these new devices into their lives—with youthful joy or adult scepticism, or both. Funk act Zapp cheerfully focused on the merits of falling in love with online images on their track "Computer Love" (1985), emphasizing the liberating aspects of digitization: "Computerized, digital love / [...] To share in my computer world, my computer world / I no longer need astrology / Thanks to modern technology"—a rare example of pop music fully embracing digital technology.

Around the same time, US metal act Queensrÿche in one of their songs, "Screaming in Digital" (1986),⁷ similarly explored the nature of humans acting as if they were software: "I am the beat of your pulse / The computer word made flesh. / [...] Don't turn your back on me / Or you might find that your dreams / Are only program cards." But overall, while recording, mixing and mastering in digital mode became a common practise, and studios added more and more digital instruments such as synthesizers by Casio, Korg, and Yamaha, as well as production tools like samplers to their equipment during the 1980s and 1990s (Adelt 2016, 87; Pinch and Trocco 2002, 316–17), thereby practically turning the studio into an instrument in its own right (see Bartlett and Bartlett 1992; 2016; Byrne 2013, 133–41; Hegarty and Halliwell 2022, 293–94), the increasingly everyday nature of digitization made many producers of popular music turn a deaf ear, as it were. Fittingly, a US hip-hop/funk act formed around 1990 (and active into the late 2000s) was called Digital Underground, but the outfit's sampling-heavy songs hardly covered broader topics of digitization at all.

Dystopian Vagueness (1995 and onwards)

There was scant musical coverage of digitization during the remainder of the 1980s, despite widespread adaptations of digital technologies in the pop music industry that, artistically speaking, resulted in new musical genres such as techno, house, electronic dance music, and a whole range of new sonic possibilities. But apart from odd releases mostly in niche genres, pop music hardly covered these transformational processes. In subsequent years, with digitization becoming more visible in daily life, best-selling books like the euphoric *The Road Ahead* by technology entrepreneur Bill Gates (1995), *Being Digital* by Nicholas Negroponte (1995), and *Life on the Screen* by Sherry Turkle (1995) were popularizing visions of the future of information society. In such a context, digitization did indeed become palpable for a larger number of people, accompanied

6 Given the fact that the maxi single was released by a West German record label, it could be mused whether the act's name was a nod to East Germany's state-owned manufacturer of computer gadgetry and software, VEB Kombinat Robotron, founded in 1969.

7 The author would like to thank one of the anonymous reviewers for pointing out this song.

by an upsurge in affordable Internet connections and cellphone sales (see Castells 2010, 45–53; Standage 2013, 222–28). Email and websites still felt high-tech then and were gradually becoming everyday tools while mobile telephony injected ubiquity and permanent connectivity into people's lives. In a wider perspective, what one could witness was the establishment of a society bent on knowledge, information and communication as commodities.

Riding the zeitgeist, German indie-rockers Tocotronic released an album with the sloganeering title *Digital Ist Besser* (Digital Is Better) in 1995, but not even the title song carried any specific reference to anything remotely digital. It was a prime example of buzzword-dropping as would be typical of other releases at the time. 1996 saw a highly successful album, *Travelling Without Moving*, by funk/acid jazz band Jamiroquai that contained a hit song titled "Virtual Insanity." Vaguely referencing the emerging buzzword 'virtuality,' this catchy track at least looked at possible futures ("Futures made of virtual insanity") and "useless twisting, all the new technology," but without any direct reference to digital modes. Another track on the album, however, takes up the topic of digitality, at least to some extent. Punningly titled "Didjital Vibrations," it is almost fully instrumental and has no discernible lyrics: a didgeridoo underlying its rhythmic-harmonious pattern inspired the track's title. 'Digital' was obviously no more than a catchphrase when "computer-mediated communication was a small affair of a few hundreds of thousands of devoted users" at the time—worldwide, that is (Castells 2010, 386).

Drum and bass act Goldie featuring KRS One released a track named "Digital" in 1997 on which, side by side to the usual grandstanding emceeing, one hears of "UK drum 'n' bass all in your face / Got to represent UK up in this place / Representing like the Internet / All the way from New York City down to your motherfucking set." That new fashionable device, the Internet, had obviously made its way into the lyrics, but the discourse did not get more profound than that, however. Another drum and bass outfit, Roni Size / Reprazent, produced a track equally called "Digital" the same year, on their album *New Forms* (1997). With its relentlessly pumping beat and finely-tuned electronic whirrs, it indeed sounded like a dancefloor reimagination of Kraftwerk's *Computer World*. The garbled vocals vaguely refer to manipulation, isolation and hiding somewhere—perhaps a counterreaction to expectations of constant availability and visibility in the digital arena (a.k.a. the Internet) emerging then. It was a shape of things to come.

One of the best-selling albums of 1997 was the Prodigy's *The Fat of the Land* (see Larkin 1998, 30). Full of massive big beats, pumping rhythms, abrasive soundscapes and lyrics frequently charged with aggression and doom, it felt like shouting out at the future. The album equally looked at the past by intricately quoting, on the instrumental track "Climbatize," the Who's famous synthesized organ intro from their 1971 hit "Won't Get Fooled Again" mentioned earlier. One song from the Prodigy album, "Diesel Power," interestingly juxtaposes metaphors of the outgoing 20th century so strongly dominated by fossil energy sources ("diesel") with sketchy musings on the emerging data era: "Yo, I used to check out lyrics upon the format / Build with skill with technique. Computer A-DAT / My lyrical form is clouds on your brainstorm," later on followed by technology-themed buzzwords such as "Mono 706 / 8073421 / Robot sonic." As unspecific as they are, such lyrics seem to fit in with the idea of a new language for a new environment, accompanied by overwhelming sounds that quoted the past and yet seemed like they were set to shatter previous concepts of music. Following McLuhan's probing of "hybrid

energy" (1964, 48–55), it could be posited that the Prodigy album reflects the fusing, or clash, of old and new technologies which results in almost violent new forms indeed.

Arguably one of the most memorable pop musical works touching upon the topic of digitization while this trope still felt fresh is Radiohead's *OK Computer* (1997). The album "is thematically linked as a series of meditations on the state of the individual in a highly technologized consumer society run for the benefit of a small group of its members" (Hegarty and Halliwell 2022, 294). Progressive rock laden with lots of gimmicky effects, "distorted guitars and eerie atmospherics" (Larkin 1998, 24), *OK Computer* is suffused by an almost incessant wall of sound. This appears as a sonic expression of overwhelming rendered by way of a multi-track recording with (much of the time) all faders set at maximum, not unlike the contemporary Prodigy album. The lyrics convey a dystopian mood of personal loss, surveillance, dread, looming threat, and control, but strangely contain nothing explicitly on digitization—in fact, the album's sleeve artwork and the font of the printed lyrics are "probably the most explicit use of the computer of the title" (Griffiths 2004, 80). Except for its pomp and fanfare, *OK Computer* doesn't sound much like an album from the digital age at all. "A more accurate, if rather academic title might be: 'Domesticity, Transport, and Human Freedom'" (ibid., 84). The album's transportation motifs in particular may "stand as the paradigm for the increasingly decentered individual who is manufactured as a by-product of capitalist informatics" (Hegarty and Halliwell 2022, 295), and is never free.

The song "Paranoid Android," a dissonant triptych, reminisces about "the crackle of pig skin / the yuppies networking," possibly a reference to then fashionable bespoke versions of the Filofax organizer wallet, a forerunner to the culture of online profiles and networking eventually taken up by social media (see Balzer 2021, 345), thus linking the 1990s with later decades. In a similar vein, "Karma Police" muses on surveillance techniques of unnamed powers that be but may be interpreted, in hindsight, as a prefiguration of the endless cycle of social media interactions and their hollow rewards that are so typical of the Internet age ("I've given all I can / It's not enough / [...] This is what you get when you mess with us"). The most prescient track on *OK Computer*, however, is the pivotal "Fitter Happier," placed in the middle of the album's CD version with its title printed in smaller font on the back cover, thus marking it off as holding a special position in the album's track list. Against an assembled, sizzling electronic soundscape, it features a computer voice—the only such prominent use of this device on the album—that matter-of-factly reads out slices of contemporary life under the conditions of constant competition, marketization, and the transformation of humans into a commodity: "Fitter, happier, more productive / comfortable / [...] Now self-employed / Concerned (but powerless)." The way the computer voice enunciates these ideologemes of a new capitalism (see Boltanski and Chiappello 2007; Zöllner 2015) leaves no doubt that there is (seemingly) no alternative, just as neoliberal thinking has relentlessly been teaching constituencies since the 1980s: "No chance of escape," as the computer voice tells us in an almost paranoid fashion which results in "an increasing sense not just of depersonalization but of dehumanization" (Rose 2016, 44). In this context, it seems fitting that the CD version of *OK Computer* features "a stick-figure version of the businessmen on the cover of Pink Floyd's *Wish You Were Here*" (1975), as Hegarty and Halliwell (2022, 295) attentively point out. It is rendered like a corporate logo on the disc itself, in various forms within the CD booklet, and underneath the liner notes next to the scribbled statement "No data." Thus, the Radiohead album, just like the Pink Floyd production it alludes to, reeks of "alienation, social anxiety, and the escalating oppression from an expanding

corporate dystopia" (Klosterman 2022, 207), intensified by the vocalist singing "as if he was in the foetal position" (Stanley 2013, 714). Much of *OK Computer* sounds like an angst-ridden threnody bemoaning the transition to a new, less desirable era.

The eerie gloom of *OK Computer* is further exhibited by the use of a (presumably mellotroned) background choir on "Lucky" that strongly invokes the choirs found on Pink Floyd's "Atom Heart Mother" suite (1970) and on the Alan Parsons Project's "Total Eclipse" near the finale of the album *I Robot* (1977), two classic works discussed above that Radiohead appear to be quoting, thus adding to the dystopian dread of *OK Computer*. Radiohead's track "Exit Music (For a Film)" even seems to contain "a diseased version of Pink Floyd's 'Breathe' reprise [...] of 'Time' from *The Dark Side of the Moon*" (Hegarty and Halliwell 2022, 295), which—if we follow this interpretative angle—would indicate a dystopian state of existence, either individually or socially, that is "shorter of breath and one day closer to death," as the Pink Floyd lyrics state.

"Lucky," the penultimate track on *OK Computer*, deals with feelings of grandiosity, or delusions of grandeur so often exhibited online nowadays, that may or may not result in catastrophe: "I'm your superhero / We are standing on the edge." This final line might indeed be "the album's fundamental message" (Rose 2016, 145). The question is just what edge in particular the lyrics refer to. The song's background choir motif, earlier introduced on "Exit Music (For a Film)," is repeated on the ensuing track, the album's finale, "The Tourist," that with great urgency tells a man and an idiot, both unspecified, to "slow down," thus tackling the acceleration of modern life—an issue that has become even more pressing under the conditions of digitality (see Rosa and Scheuerman 2008; Burkeman 2021). "Where the hell I'm going?", the song asks, thereby musing on a possible lack of direction in modern society.

Radiohead's and *OK Computer*'s strength seems to lie "in their ability to represent the feeling of our age" (Greif 2016, 109), or what we might call its habitus. Needless to say, other releases from circa 1997 focused on other topics and followed other musical and lyrical paths, and any history of pop music will list quite a few of them (see Stanley 2013, 679–730). In retrospect, however, *OK Computer*'s enduring quality seems to lie in pointing out "what 1997 felt like" (Griffiths 2004, 114). Its message might be, "in both words and music, [...] that anyone might have to become partly inhuman to accommodate the experience of the new era" (Greif 2016, 109). Since *OK Computer* was, paradoxically, a not-too-electronic sounding rock album, Radiohead took the logical next step and delved into computerized electronica on their next album, *Kid A* (2000). Trying to make up artistically for what *OK Computer* did not deliver, employing relatively avant-garde electronic experimentation rather than the rockist idiom, this follow-up work "unfolds exactly as the Internet does. It is obscure and inexplicable [...], offering no context outside of our own personal biases, opinions, and limited consciousness. And yet ... we understand it intuitively" (Hyden 2020, 153). *Kid A* thus fulfills the promises of *OK Computer*, but in a certain way offers an interpretive frame for nearly all the pop musical works mentioned in this article: "There are no slogans on *Kid A*, only non sequiturs. And yet it *feels* political, and that *feeling* informs how the songs are perceived" (ibid., 154).

The frequently dystopian vagueness of the songs and their lyrics, their ambiguity and undecidedness, expose their inherent nihilistic tendencies. This nihilism, identifiable as the habitus of the Radiohead albums discussed here, may be rooted in "orgies of feeling" (Anker 2014), an "Ausschweifung des Gefühls" as Nietzsche (1988, 92) originally put it, that are so typical of life in digitality. People nowadays are fed an overwhelming abundance of emotion and affect by

way of mediatized political melodramas that deflect from analytical thinking (see Anker 2014); in addition, all those baby photos, cat videos, holiday pics and inflated personal profile pages that fill screens and social networking sites seem like displays of the essence of one's (digital) existence, but primarily act as fodder for engagement with social media corporations collecting and capitalizing increasing amounts of data about their users (see Gertz 2018, 155; Zuboff 2019). Radiohead sonically and lyrically foreshadowed the emotional attachments linked with these developments just before Google and Facebook *et al.* (in 1998 and 2005, respectively) became household tools, and algorithms would be monitoring and exploiting people's most intimate details, leaving people "Fitter, healthier and more productive / A pig / In a cage / On antibiotics," as the eerie computer voice on "Fitter Happier" threateningly promises. Still in the late 1990s, "[y]ou could be alone on purpose, even in a crowd" (Klosterman 2022, 337), with no social media feeds or smartphones ubiquitously accompanying, connecting and reading their users via their data. This would change quite soon.

Conclusion

This article has attempted to reconstruct how works of pop music capture the mood of a particular period by identifying the documents' habitus, the mostly unconscious and unreflected patterns of behavior and evaluation, *vis-à-vis* digitization and cybernation. As we have seen, the artistic treatment of these processes remained largely vague and ambivalent, and for the most part leaning towards dystopianism, from the late 1960s throughout the late 1990s. But in fact, rarely did pop music cover digitization at all. This relative lack of coverage is astounding since the materiality of pop music (albums, downloads, streaming), its forms and processes of production (instrumentation, performance, technology) as well as its processes of distribution (sales and promotion) have fundamentally been digitizing and automating ever since the early 1980s, to say the least. The inherent oversight of such transformations by works of pop music may be attributed, in philosophical terms, to a stance based on nihilistic avoidance unconsciously incorporated in the historical situation. This is almost surprising given the scope of the onslaught of digital technologies that was palpable at least throughout the 1980s and 90s. On the other hand, pop music is mainly about entertainment and should at all costs not be overfraught with political or social messages. The proclivity to incorporate political or social commentary, however, may vary between pop musical genres.

However sketchy this article may be in both its historiographical approach and analytical angle, its sample of analyzed works brings forth an elaborate set of topics for future research, among them the relationship between humans and machines/robots, work processes in the digital age, cybernation and dematerialization, new forms of individuality and humanism, transformations of society, data production, data processing, and data protection, digital literacy, surveillance and control, dominion in the digital age, and the ethics of such processes. How these tropes have been covered by pop music (or not) after 2000 is in need of further, and certainly more systematic, musicological, sociological, and ethical analysis. Perhaps Radiohead set the tone for this endeavor when they gave the twentieth anniversary reissue version of their *OK Computer* album the subtitle *OKNOTOK* (2017). What habitus towards digitization will pop music embody in the future? More research will be needed, as ever.

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Abstract (English)

This article analyzes how pop music has dealt with visions and impacts of digitization and cybernation, looking at selected key works from the late 1960s throughout the 1990s. Taking its perspective from the sociology of knowledge, it identifies pop music's trajectory of imaginations in the context of technological change processes. The article concludes that the artistic treatment of these processes remains largely vague and ambiguous, its habitus for the most part dystopian. In fact, rarely did pop music cover digitization and cybernation at all in the period under scrutiny. This relative lack of coverage due to oversight or denial may be attributed to a stance based on nihilistic avoidance unconsciously incorporated in the historical situation.

Abstract (German)

Dieser Beitrag analysiert, wie Popmusik mit Vorstellungen und Auswirkungen von Digitalisierung und computergestützten Produktionsprozessen umgeht. Grundlage der Betrachtung sind ausgewählte Schlüsselwerke von den späten 1960er bis zum Ende der 1990er Jahre. Aus einer wissenssoziologischen Perspektive wird die Entwicklung popmusikalischer Imaginationslinien rund um technologische Wandlungsprozesse aufgezeigt. Der Beitrag kommt zu dem Schluss, dass der künstlerische Umgang mit diesen Prozessen weitgehend vage und zweideutig bleibt und der Habitus der Popmusik größtenteils von Dystopie gekennzeichnet ist. Tatsächlich werden Digitalisierung und computergestützte Produktionsprozesse in der Popmusik im betrachteten Zeitraum letztlich nur oberflächlich thematisiert. Diese spärliche

Behandlung des Themas per Übersehen oder Leugnung kann auf eine unbewusst in die historische Situation eingeschriebene nihilistische Vermeidungshaltung zurückgeführt werden.

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