NOISE CHANNELS: GLITCH AND ERROR IN DIGITAL CULTURE
PETER KRAPP
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DALE LEORKE: University of Melbourne, Australia

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Digital media studies has developed something of a fascination with the potential for users to rework the architecture of digital technologies for the purposes of creativity. In 2004 there was McKenzie Wark's *A Hacker Manifesto*, whose 'hacker class' appear as the primary resistance against intellectual property control and its apologists in the mass media industries. In the same year, *Network Culture* by Tiziana Terranova appeared, which built on her earlier critique of 'free labour' and the 'exploitation' of digital workers by the creative industries. These have since been followed by a growing number of critical accounts of digital culture by theorists from various fields, though perhaps most notably within game studies. In particular, two books – by Alexander Galloway (2006) and Grieg de Peuter and Nick Dyer-Witheford (2009) – examine the political economy and power structures underpinning the videogame industry. These works frame videogames and gaming culture as a site of contestation, resistance and 'counter-mobilisation' by players against the game industry's ethos of 'play as work'.

During roughly the same period, there emerged a welcome intervention into these debates from 'media archaeology', a sub-discipline within media studies that delves into the past to uncover and re-examine 'dead', abandoned or forgotten media devices and platforms. Media archaeology is first and foremost about recovering these technologies and situating them within their specific 'moment' in the past. But it is also about opening up alternate paths in scholarly debates about the evolution of media technologies, and critiquing the tendency within media studies to view the history of communication technology as one of inevitable progress. This approach is most eloquently put forth in the seminal book of media archaeology, Siegfried Zielinski's *Deep Time of the Media* (2006) and his notion of 'media anarchaeology', or the attempt to articulate alternative and divergent media histories.

Noise Channels by Peter Krapp sits somewhere between these two approaches. It provides a critique of creativity and reappropriation in digital culture, while providing detailed, carefully researched accounts of specific media technologies and their historical lineages. In doing so, it takes a decidedly less radical, interventionist position than the works of Wark, Terranova and their contemporaries. This is perhaps the book's greatest contribution: its fresh insight and inventive case studies, which achieve a wider analysis of the contemporary information society without being subsumed within a manifesto-style polemic arguing for the overthrow of digital media companies and the creative industries. Yet this is precisely its most admirable and – at times – frustrating characteristic. While there is an overarching argument running throughout the book, *Noise Channels* doesn't attempt a decisive intervention into debates around the politics of the network society. Instead, its value lies in its almost archival attention to detail and its engaging and often surprising accounts of artistic and creative expression in the digital era. In this sense, it speaks to the fields of both media archaeology and network studies, albeit without comfortably or easily slotting into either of these particular areas.

Krapp frames *Noise Channels* from its opening paragraphs as both a celebration and critique of the uses afforded by glitch, error and 'noise' in digital technologies. He describes the book as going 'against the grain' of the current obsession with the most efficient and powerful computing systems and ergonomic interfaces. This ideology, he argues, seeks to 'overcome' the limitations of computer-mediated communication and erases the potentialities of glitches and computational flaws for creative appropriation. In the process, it suppresses and restrains the study and analysis of the 'failings' of computer systems (pp. ix–x). Krapp instead views glitch and error as vital and necessary resources for creativity. The project undertaken by *Noise Channels*, then, becomes to analyse the productive reappropriation of 'noise' and erroneous information in digital culture, using five specific case studies and examples, which make up the structure of the book. They include hypertext and electronic literature; hacktivism; electronic music sampling; videogame glitches and bugs; and machinima.

At first glance, *Noise Channels* is partly an attempt to reposition digital culture within the historical lineage of cybernetics and information theory. Krapp draws extensively on the seminal works of Claude E. Shannon, Alan Turing and Norbert Weiner in the early pages of the book to provide a materialist critique of the uses of digital media, revising this theory in later chapters for the era of videogame modding, hacktivism and glitch electronica. In a clever move in the book's introduction he links Shannon to game studies, citing him as an 'early pioneer in computing gaming' for the electronic toys and gadgets he invented and which he divided into three categories:

> those based primarily on rules and tables, those dominated by strategy, and those that could learn. Arguably this typology of gaming still raises productive questions in digital culture; in playing with games … its gestures may ground new media studies in the conditions of possibility of computing culture. (pp. xix–xx)

The book extensively taps into recent debates around the political and cultural potentialities emerging in gaming culture that are a growing concern to videogame scholars. *Noise Channels*, however, doesn't focus exclusively on digital games – although three of its five main chapters explicitly deal with them. It also takes a much more genealogical, historically situated approach and draws on a wide range of media practices. In a fascinating section of the first chapter, for instance, Krapp discusses hypertext – a contemporary iteration of (rather than a precursor to) the networked database for the storage and management of information. He recounts the note-taking methods of famous writers and scholars including Lévi-Strauss, Wittgenstein, Vladimir Nabokov and Arno Schmidt; but above all, he describes Roland Barthes as the writer who most anticipated hypertext. His card index method of recording information for future reference involved 12,250 cards, each of which referred to and cross-referenced innumerable notes and pieces of information and were 'constantly rewritten and reordered' (p. 11). For Krapp, Barthes' and other writers' use of the card index in their craft demonstrates the symbiotic nature of 'networked' technology and writing, long before hypertext came along. Like the best work in the field of media archaeology, *Noise Channels* re-examines these 'forgotten' devices and inventions in their specific culture and historical period, while tracing their social and cultural resonances today.

In the second chapter, Krapp turns to hacktivism, which he attempts to redefine by challenging the rhetoric of secrecy and cyberterrorism that the mainstream media have used to label hackers since the early 2000s. 'Hacktivists are neither secret agents nor soldiers, neither terrorists nor netwarriors', he writes. 'Hacktivism aims to capture attention; it is calculated for maximum media effect, trying to raise the awareness of citizens regarding certain rights and liberties, including free speech, privacy, and access' (p. 50). The chapter offers a timely discussion of the growing threats to Net art, tactical media and pirate networks, as corporations and government seek to exert political control over information and intellectual property through data mining, copyright legislation and media policy. In doing so, Krapp repositions the role of the hacker as someone who exposes these insidious practices by exploiting the flaws and limitations of network technology.

The three remaining chapters explore videogame culture and the way players of digital games repurpose game software and hardware – especially their flaws, glitches and bugs – for their own purposes. Chapter 3 looks at the role of glitch and error in the production of laptop music or 'glitch electronica', which exploit mistakes and unintended 'noise' in information technology for aesthetic purposes. Krapp recounts how glitch culture – previously the domain of 'film clichés and pop samples' – subsequently became 'reclaimed by a generation of amateurs and experimenters' following the advent of digital games (p. 66). These '8-bit music communities' make use of the limited sound effects produced by gaming consoles like the Atari and Game Boy to create a new underground culture of computer-generated music. Krapp's aim is to examine these artists and movements in their own right; rather than framing them in 'binary terms of either a counterhegemonic art strategy or mere toying with the rubble of our high-tech culture' (p. 74), he situates them within their particular historical, cultural moments. This sets the scene for chapter 4, which takes a similar approach to cheating and tactical gameplay in mainstream videogame culture.

Krapp's final chapter deals with the more recent practice of machinima (a portmanteau of 'machine' and 'cinema'), which involves 'modding' and retooling game graphics engines to serve as film animation technology. As in previous

chapters, he argues that this practice is less about directly subverting and sabotaging the film and videogame industry and its stranglehold on intellectual property rights. Instead, it exploits the bugs and glitches in game technology – the way certain characters' heads can be made to 'bob' and appear as if they are talking, for instance – in order to create new cinematic and artistic texts. Oddly, though, the role of the user/player is almost entirely absent from Krapp's discussion of these practices, and this makes it difficult to gauge their broader political potential. While it is admirable Krapp doesn't frame these practices in terms of a 'binary' opposition between participation and control, the discussion occasionally comes across instead as a way of putting aside these political issues in order to simply examine examples untethered to any broader social consequences – as 'art for art's sake' perhaps. This is closer to a 'media archaeological' perspective, since it situates them in the deeper history of creativity and engagement that occurs around new technologies. But it also makes it difficult to extrapolate broader implications from Krapp's work when the communities and individuals like those producing machinima, game mods and glitch electronica are inherently entangled in broader struggles over power and agency in the network society.

Lastly, a brief word on the language and writing style of *Noise Channels* is necessary. Like Terranova's *Network Culture* (and, earlier, the writings of Norbert Weiner), Krapp's language is dense and tightly packed, seemingly mimicking the language of networked communication, information theory and the flow of data and information in the network society itself. Terranova, however, succeeds in subtle ways at capturing the information-saturated language of contemporary society – her sentences are at times startlingly effective with their precision, intricacy and almost 'programmatic' syntax and tone. Krapp's language, on the other hand, occasionally obfuscates and complicates his argument, borrowing too freely from the terminology of information theory and posthumanist philosophy without adding a great deal to his analysis. As with other writers in this field (Wendy Chun comes to mind), Krapp would likely please more than just this reviewer by occasionally paring back his language and making his argument more accessible. There is, after all, something to be said for a bit of clarity and fine-tuning amidst all the 'noise'.

Despite these issues, *Noise Channels* is a valuable contribution to critical media studies, and stands alone as a rich archive of research and analysis of creative expression in digital culture. And while it does also speak to the media archaeological approach through its account of 'failed' and theoretically overlooked technologies and the cultures that form around them, this is only one aspect of the book. Its cross-disciplinary style is certainly admirable and contributes a great deal to both fields. However, this somewhat bifurcated approach at times gives the impression that *Noise Channels* is holding back from a clear theoretical position in order to achieve the best of both approaches and avoid stating its intentions too explicitly. Whether or not this is a fatal flaw, *Noise Channels* is undoubtedly an original and valuable resource for future research into the contemporary information society.

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