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## Introduction: Machine Communication

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Introduction

# Machine Communication

Paula Bialski, Finn Brunton,  
and Mercedes Bunz

This book searches for an understanding of communication, in light of the fact that more communication than ever before is being mediated digitally by machines. To understand the full scope of what “to communicate” now means, it will curiously explore the complexity of the entities we are communicating to, with, and through to other entities. Looking not just at how we communicate with digital media but also at how digital devices and software communicate with us, to us, and to each other can more precisely outline the power (imagined or not) that computers and the people who take part in building our computers hold. By looking at various dimensions of communication in history and practice, this volume serves as an account of how digital media addresses its “subjects”; how alien and invisible the mediators we built have become; and how complex communication is now that we work with and interact with our machines. With this, the volume *Communication* takes up the main theme of the book series *In Search of Media*: it searches for the shift in the mediatic and technological conditioning of communication and aims to make this shift visible.

Digital media are not just filters but are “vehicles that carry and communicate meaning” (Peters 2012, 2). Because media carry,

- x relay, and sort information, they have the ability to meddle in our communication. Mediating is about meddling—and who meddles, what meddles, and how it/they meddle is key to understanding how digital communication functions. If communication does not unfold anymore between merely two (or more) conscious entities, yet rather includes an invisible third party, this can drastically shift what *to communicate* actually means. What (a set of programs, networking systems, or interfaces) or who (a team of developers) meddles in our communication is a crucial question for the technical realities of our societies today.

To understand the many modes and facets of this shift of communication, this book analyzes the communication of machines, experts, and aliens and turns to historic and contemporary engineers, designers, and users that are all taking part in how we humanly and nonhumanly communicate. For this, the volume's chapters look at machine communication, although from three different perspectives: in chapter 1, Finn Brunton explores communication and digital technology by showing the alienlike dialogue between technical entities; in chapter 2, Mercedes Bunz looks at how digital technology, which now has even started to speak, is addressing us; and in chapter 3, Paula Bialski studies machine communication when turning to the social aspects of technical systems. Or, in other words, chapter 1 looks at the nonhuman communication between computers and the indirect communication happening in digital infrastructure, chapter 2 looks at how computers communicate to humans and examines the force of communication, and chapter 3 looks at the actual creation of digital infrastructure and machine communication through a code review system.

With these three perspectives, the volume is bringing together three contrasting scholars: Brunton is a media theorist who has written about a multitude of media-related, historically rooted topics, including surveillance and obfuscation, as well as a cultural history of spam, in which he showed that it is not humans who are producing the majority of communication traffic. Bunz is a media and technologies scholar researching digital technology and

philosophy of technology who has published on artificial intelligence, the internet of things, and algorithms, always questioning how those technical applications transform knowledge and, with it, questions of power. Bialski's background sits between sociology and ethnography of media. In the past years, she conducted ethnography around the way new media fosters new forms of mobility and togetherness, how it transforms our understanding of space (location) and intimacy. In 2016, she started a fieldwork project in a large-scale mapping software company in Berlin. Her chapter in this volume therefore draws on her ongoing ethnographic project with these corporate software developers.

Introducing the chapters in more detail, one could say that in the first chapter, Brunton looks at the ways we communicate, directly and indirectly, with digital infrastructure. Pushing the analysis of the inhuman aspect of this infrastructure further, he turns to aspects of digital communications history, starting with early interaction design and discussions by J. C. R. Licklider and Robert Taylor about whether two tape recorders communicate when they play to each other. Brunton's inquiry into nonhuman communication then brings up the problem of timekeeping in networks, ending with Google's own timekeeping system, TrueTime, all of them showing that communication means much *more* than just sending and receiving—in a complex setup, they produce the contemporary *now*. Tracing inhuman communication further, Brunton points also to the problem of automated trolling, as most of the communication that is sent and received is inhuman anyway. Following the hypothesis that we are in a process of building deeply inhuman architectures and systems on a vast scale, Brunton finally flips his approach by turning to historic projects of extraterrestrial communication in analogy to our current situation, aiming to open dimensions of analysis that might otherwise escape us.

Not far from Brunton's approach, the second chapter, authored by Bunz, also traces nonhuman communication by turning to the force that unfolds in digital communication. Like Brunton, Bunz is shifting the perspective on communication away from an anthropocentric

xii or anthropomorphic approach. Starting with the observation that a certain *force* has always been a theme in theories of communication, she aims to identify the particular aspect of this force for digital technology by asking, How is digital technology addressing us? When studying communication, Bunz thus mirrors Brunton's approach, although she is turning it in the other direction: instead of looking toward and into digital communication systems, she looks at how digital communication systems are approaching us, thereby drawing on Althusser's theory of interpellation. Turning to the historic events in digital design, such as the introduction of Apple's iPad in 2010, by analyzing digital brand communication reliance on little animals as mascots and by bringing to the fore the shift of historical storytelling through Google's Doodles, she shows that digital interfaces are addressing us as very young children. This has not necessarily to be read negatively, as it also calls on experimental–operational knowledge, which can be traced to the early history of graphical user interfaces and the influence of child psychologist Jean Piaget on computer scientists, especially on Seymour Papert and Alan Kay. Like Brunton's, Bunz's chapter also then turns in a very different direction: after following the question after the force of digital communication to its paradigm of infantilization, she becomes interested in the paradigm itself and how it refrains from following a well-behaved dialectical thinking typical for the nonhuman logic of technology—it is manipulating us at the same time as it is empowering us.

Finally, Bialski's chapter offers a rich ethnographic case study that, much like Bunz and Brunton do, explores communication with as well as through technology. After spending nearly two years at a large corporate software company in Berlin, she looks at software developers at work—specifically the way they review one another's lines of code through a standardized, mandatory "code review system." This system, while being mechanic and seemingly mundane, is also a highly variable communicative process because of the culture of communication that develops around it. Here she shows how technical systems emerge out of both human

and machine communication. Through her chapter, she draws on examples of software developers at work—communicating with one another and with their machines, and waiting (and relying) on their machines to “communicate” with other machines. Through this, she analyzes how a technical system structures cooperation and how standards of communication develop. By looking at the idiosyncrasies of human–human as well as human–machine communication, she aims to provide a grounded example of the multifaceted nature of communication in digital cultures.

What unifies all three approaches in this volume is that all chapters aim to show that there has been a shift in our communication toward an interaction *with* or *among* machines, which comes across more strongly as the three approaches cover very separate ground. Brunton carefully underlines the “opportunity to consider how we engage with machines and how machines engage with each other”; Bunz explores how “machines seem to engage with *us*”; and Bialski shows that there is a communicative interrelationship between the compilers, databases, processors, memory, servers, “clouds,” and their programmers, through the infrastructure within which both the programmers and the machines function. By ethnographically, historically, and theoretically exploring the nonhuman part in communication, by turning to machine communication, this small volume hopes to contribute to existing theories of communication.

## Reference

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