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**On the concept of communication
in the face of artificial conversational agents**



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On the concept of communication in the face of artificial conversational agents

Abstract

There are, as of course well known in the philosophy of communication, several conceptualisations of the phenomenon of communication throughout media and communications research. Examples include the intersubjective sharing of experience, or intersubjective sharing of understanding, and many conceptualisations boil down to James Careys oft-cited distinction between a ritual and a transmission approach to communication. Many, if not most, of these conceptualisations presuppose two “morally autonomous selves”, as John Durham Peters has pointed out. With the rapid spread of Communicative AI (ComAI), this perception needs to be re-evaluated. Much mediated conversation today occurs, not between humans, but between humans and machines, and there is a rapidly growing body of research that suggests new ways of conceptualising these communicative relations. Still, most communication theory suggest the social to be an important ingredient in communication. The paper will discuss some social situations in which ComAI has been implemented, and the implications this might have for our understanding of the concept of communication.

Keywords

communication, human-machine communication, AI, LLM, meaning-making, social context

1 Introduction

Will communicating with machines (rather than humans) alter the ways in which we think of communication as an activity? This question is prompted by the rise and spread of Communicative AI (ComAI) - that is, “devices, applications, and algorithms capable of communicating in natural language and adapting to real-life conversational situations” (Laaksonen et al. 2023: 137). The question of human-machine communication is not entirely new, but can be said to have been discussed with increasing intensity over the last decade (Gunkel 2012). In automated society (Andrejevic 2020), the implications of human-machine interactions for the activities and operations within a variety of social domains have been discussed on a general level (Gehl & Bakardjieva 2016; Guzman 2019; Guzman & Lewis 2020; Guzman et al. 2023; Hepp 2020; Hepp et al. 2024; Natale 2021).

Much research in the area is either theoretical, outlining the needs for doing research, often pointing to the hype around Communicative AI and the possible limits of technology (e.g. Bender et al. 2021; Hepp et al. 2023), or in the form of carefully delimited case studies. There is, however, still a strong need for conceptual development in this area. In this paper I will discuss some implications to the concept of *communication* in light of the increased communicative possibilities of machines. In the following, I will [1] first go through some classical conceptualisations of communication (including their derivatives with pre- and postfixes), and, following James Carey (1975), sort these under the main characteristics of communication as transmission and as ritual. I will then [2] account for ways in which HMC complicates these traditional conceptualisations. Third [3] I will add nuance to the debates about HMC and ComAI by pointing to the role of the social in communication and hence to the importance of taking varieties in social setting in which these forms of communication occur into account.

2 Varied forms of communication as transmission and ritual

ComAI is an umbrella concept that encompasses devices based on machine learning (ML), natural language processing (NLP), large language models (LLMs) trained on enormously large datasets (at huge environmental costs - see e.g. Crawford 2021; Bender et al 2021; Bolin 2024, 2025), but lately also “small language models” which are trained on more limited datasets for specific well-defined tasks (and hence less energy consuming; see e.g. Schick & Schütze 2021). ComAI includes chatbots, virtual assistants and companions, and other conversational agents. These can be both text-based (e.g. ChatGPT) or voice-based (e.g. Alexa or Siri, but also more sophisticated technologies based on natural language processing), some in the appearance of robots (e.g. Sophia the robot; see Fortunati et al. 2021). They also serve a range of purposes and can be found in most societal domains (Gunkel 2025). While such automated communication dates back to the mid-1960’s and Joseph Weizenbaum’s chatbot Eliza (see, Weizenbaum 1967), ComAI is today rapidly expanding the area of human-machine communication in various social settings. It can be found in most societal spheres, including everyday life in the family (e.g. Hurel & Couldry 2022; Mascheroni 2024), automated social services (e.g., Kaun & Dencik 2020), newsroom decision making and news evaluation (Stenbom et al. 2023), health services (Passanante et al. 2023), education (Selwyn 2019), and also serves functions as “artificial sociality” (Natale & Depounti 2024) and intimate companionships, for example in the popular chatbot Replika - “The AI companion that cares” according to the company slogan (Turkle 2024).

ComAI thus puts focus on the communicative aspect of the human-machine relation. There are, as is of course well known in the philosophy of communication, several conceptualisations of the phenomenon of communication throughout media and communications research. Examples include the intersubjective sharing of experience (Williams 1961/1965), or intersubjective sharing of understanding (Habermas 1981/1992), and most conceptualisations can be sorted under James Carey’s (1975) oft-cited distinction between ritual or transmission approaches to communication, echoed also in John Durham Peters’ (1999) distinction between communication as dialog and as dissemination.

Transmission approaches, thus focus on communication as dissemination of messages in space, for example, as described by Harold Lasswell (1948) in his famous formula “who says what through which channel to whom with what effect” (Lasswell 1948), or the ways in which communication spread from the mass media via opinion leaders to the general population as in the two-step flow of communication model (Lazarsfeld et al 1944), the structural linguist-oriented communication theory of Roman Jakobson (1960), and in rhetoric, semiotics and structural analysis more generally. It is concerned with the transport of messages in space to distant others, and in its most pure form it can be found in the mathematical theory of communication by Claude Shannon (1948). To Shannon as a mathematician and engineer, the problem was about transmitting signals as efficiently as possible, and hence he clearly states in the opening paragraphs of his article, the “semantic aspects of communication are irrelevant to the engineering problem” (Shannon, 1948: 379). In its most radical form, then, the transmission approach is about signal traffic, and is less about the meaningful content of communication (although Shannon’s friend and collaborator, the mathematician Warren Weaver tried to apply it also to use it that way, see Shannon & Weaver 1949).

To regard communication from a ritual approach is fundamentally different, and takes point of departure in the latin root of the word “communicare” - to make common, and thus focusses on questions of meaning-making and shared understanding; that is, what brings people together rather than that which separates people in space and make them have to reach each other over long distances. Raymond Williams, in his *The Long Revolution*, defined it as “the process of making unique experience into common experience” (Williams 1961: 55), and we can find the same approach among Benedict Anderson (1983)

in his famous *Imagined Communities*, which emphasises how media such as the newspaper and the novel brings people together based on the sharing of content. This conceptualisation clearly presupposes two individuals, each of whom constitutes a “morally autonomous self” that have the ability to produce intersubjective, shared meaning in the process, as John Durham Peters (1999) has pointed out.¹ This is especially so for ritual approaches, where shared understanding is the important defining feature. One can, of course, reason with oneself (and to Descartes, this was the only thing one could know for sure), but “the problem of other minds” is also the driver for communication (Coeckelbergh & Gunkel 2025: 45f). It is the attempt to bridge the fact that we cannot tap into the brains of others and read their thoughts “as angels” (Peters 1999: 74ff).

However, when we move into the area of human-machine communication it is clear that both the ritual and the transmission approach is met with problems, and although there are researchers who try to shoe-horn this approach into a human-machine relation and argue for an “agent-agnostic transmission model” of communication where machines “participate in the meaning-making process” (Banks & de Graaf 2020: 24), this seems as stretching the concept beyond what is reasonable. The authors define meaning-making as “a system’s response (behavioral, computational, or otherwise) to an environmental signal from which information is extracted and during which value is assigned” (p. 24). This is very far from the argument made at least since John Locke in the late 17th Century that “meanings are in people” (quoted from Peters, 1999: 83), and it is very unclear what is gained from this expansion of the concept of meaning-making.²

This approach is, however, not very common and most agree that machines cannot think and understand in the same way as humans. Following Alan Turing’s (1950) seminal article “Computing Machinery and Intelligence” where he famously tweaked the question “can machines think?” to the more empirically testable question “can machines make humans believe that they can think?”, research has concentrated on studying the ways in which people are deceived by the machines (Natale 2021).

Some researchers, such as Elena Esposito (2017; 2020), have argued that we need to look for other ways of defining communication between humans and machines. Hence, she suggests “artificial communication” for this specific form of communication “without understanding”, and with “a partner who does not think”. Esposito finds the solution to this problem in the social theory of Niklas Luhmann (1984), who defines communication not as reciprocal dialogue, but as an act that is defined by someone having perceived of something as communicated. Luhmann’s, and Esposito’s, understanding of communication thus emphasises the receiving end of communication, which means aligning with a transmission view of communication in the terms of Carey, and sets aside all ritual conceptualisations that emphasis dialogue, mutually shared experiences, or understandings. This seems, however, to be required for a concept of communication that involves humans and machines. But as I have pointed out elsewhere (Bolin 2024b: 71), this also would make the pre-fix “artificial” unnecessary, since if we accept that communication occurs when someone (a human) believes that she is involved in communication, then we no longer need to call this act artificial. To accept this as “artificial” communication indicates a deviance from something that would be considered “real” communication, a kind of *simulation* of communication in placement of the real thing. This would be the position of thinkers such as Jean Baudrillard (1981/1994) and his communication theory, which build on anthropological theories of symbolic exchange, an exchange that, according to him, is corrupted by mediation; the media, says Baudrillard, are in the business of fabricating “non-

¹ The concept of autonomy is not self-evident, however, but this is not the place to explore this. For a discussion of various conceptualisations of autonomy, see Wagner & Heinrichs (2024).

² Locke lays out these ideas in his *Essay* (1690), as quoted in Peters (1999: 80ff).

communication” where they can but mimic real communication (see also Baudrillard 1971/1981: 169).

Now, most conceptualisations, whether from transmission or ritual approaches, regards communication as a social process. This also goes for Esposito and Luhmann, since they emphasise the meaning-making aspect of communication. Most theories are, however, not discussing what this “social aspect” might mean in concrete communicative situations. However, as reception theory emphasises the importance of the social context for the ways in which people interpret and make meaning out of communicative acts, these acts need to be analysed in their social embeddedness. In the rest of this paper I will discuss a framework for an empirical study that aims to analyse communicative situations involving humans and machines in both text-based and voice-based human-machine communication in order to try to find a spectrum of perceptions of these communicative acts and situations. This will include communication involving chatbots, robots, and other conversational agents.

3 The social aspects of communication

Now, it is obvious that previous conceptualisations of communication have posed problems for researchers trying to understand what happens when humans start to act in relation to machines, exchanging messages, and interacting. Some leading scholars have pointed out the potential for approaches to provide insights into people’s everyday encounters with communicative technologies (e.g. Fortunati & Edwards 2020; Guzman 2023; Richards et al. 2022; Hepp et al. 2024). However, we know very little about the manifolded and dynamic implications of human-machine communication in everyday environments, and the implications for individuals’ understanding of what it means to communicate (Sundar & Lee 2022; Bender & Koller 2020).

Admittedly, some research into LLMs and human-machine communication have indeed engaged with questions of the social and there is, for example, a growing body of research into *anthropomorphization* and perceived humanness (e.g. Banks & de Graaf, 2020; Laaksonen et al. 2023; Lunberry & Liebenau 2021; Westerman et al. 2020). This research is mainly focussed on whether machines can successfully imitate humans to the extent that humans treat them as social persons, following in the footsteps of the “imitation game” introduced by Alan Turing (1950). The so-called *Computers Are Social Actors*, or CASA, paradigm (Nass et al. 1994) and the media equation approach (Reeves & Nass 1996) have been particularly influential as HMC scholars consider new ways of theorizing interactions with these dialogic forms of media (e.g. Gambino et al. 2020; Lombard & Xu 2021). This has meant a focus on social science theories and methods, particularly experiments, focussing on people’s use and perceptions of chatbots, robots, and related technologies (Makady & Liu 2022; Richards et al. 2022).

Since we know that communication between different social domains differ - a job interview is different from an educational situation, which is in turn different from a customer-consumer situation, which again differs from a doctor-patient relation - it can be hypothesised that ComAI will be perceived differently depending on communicative situation. Below I will sketch four social domains in which ComAI occur, and briefly discuss the implication of the various social settings and communicative modes adopted across this spectrum of communicative situations. These concern the recruitment interview, the educational situation, the customer-service situation, and the health information situation. In the next section will be discussed some such communicative situations and how they might be affected by ComAI, and how this might impact on our conceptualisations as such.

4 Communication modes across social domains

Arguably, most researchers include some form of social dimension in the concept of communication. Thus communication presumably takes part in a social context. However, not all social situations are alike. Even if we restrict ourselves to interpersonal communication with co-present participants, there are a number of ways in which the contextual settings of communication differ. There is, for example, a marked difference between a police interrogation at the police station, an oral exam at a university, and small-talk at the dinner table with one's children. Jürgen Habermas once made the useful distinction between strategic and communicative action to differ between communication aimed at reaching a goal, and communication aimed at reaching understanding. When a senior officer in the military gives an order, this is supposed to result in action. But when we ask our kids at the dinner table how the school-day was, this is something entirely different. Most everyday communicative situations are, however, not as clearcut as these two examples, but contain a mixture of them. There are, however, some institutional ramifications concerning communicative situations that can be observed. Below I will give four examples of such situations in the form of the recruitment interview, the educational situation, the service management situation, and the situation where an individual seeks health advice or information.

First, *recruitment interviews* utilizing ComAI technologies have become an area where new and older HR organizations have become increasingly engaged (Butcher 2025). The problems related to recruitment interviews are known since the early 1900s, and the first types of standardized forms were developed by Thomas Edison through pre-screening via questionnaires (Dennis 1984). As Buckley et al. (2000: 113f) has shown in their historical overview over recruitment interviews, attempts to refine the technologies of recruitment have followed continuously, thus successively mediatizing the practice. A key driver for standardization of the interview has been to avoid bias in recruiting, which is still a concern that is sought to be overcome and that recruitment services claim to remove. However, there are in the marketing discourse also promises of interaction similar to “actual humans”, as well as claims of “perceived social presence” and “behavioral realism”, where robots create a “feeling of being there with a real person”, promising that the interviewee will “treat the interview as reality”, and that there is a sense of “intimacy” (examples from Bolin 2024b: 76f). Much of this marketing language is deeply influenced by the language of human-machine communication, for example in what is termed “social presence theory” (see, e.g., Edwards et al. 2019). There is, however, not much literature on the phenomenon from an AI perspective (but see Grenier & Chartier-Edwards 2024), especially with a focus on the communicative aspects of human-machine interaction. As a communicative situation, the recruitment is framed by several unwritten rules: the interviewer is the active part while the interviewee is the responsive part. The conversation is goal-oriented on both parties; the interviewer wishes to sort out a group of top candidates and eventually hire one or more persons, while the interviewee has the goal of being employed. The interviewee thus wants to present themselves as good as possible according to the perceived criteria that they suspect that the interviewer has. There are thus expectations and anticipations made by the interviewee that sets their mark on the way in which they will approach the situation.

A second example of communicative situation is around *educational technologies*, or EdTech. Educational settings have always been organised around communication technologies for the transfer of knowledge and for the fostering of citizens (Ericson 2019). Since almost two decades now, there has been an expanding research area of critical studies of educational technology where the ambition is to open ‘the black box of technology’ (Selwyn & Facer 2013: 11). An increasing part of this research is also focussed on datafication and AI (e.g. Jarke & Breiter 2019, Manolev et al. 2019, Knox et al. 2020, Hartong &

Piattoeva 2021, Williamson et al. 2023; Tlili et al. 2023). Much of this research debates are of theoretical nature, and despite the fact that both well-known thinkers such as John Dewey (1916) and Raymond Williams (1962) have discussed education from the perspective of communication, few if any have taken up that approach. Although Educational AI might be a well-researched area, there is very little that touches on the communicative side of teaching and learning. ChatGPT has become increasingly popular among students in higher education (in Sweden as well as elsewhere), to the extent that it dwarfs its competitors (Malmström et al. 2023), but it is very little known how students perceive ChatGPT as a communicative device. The communicative aspect of teaching differs remarkably from the recruitment interview. Although there are some affinities between them in terms of instrumentality, there are also aspects of communication in terms of encouragement, etc. One of the tasks of education is to foster autonomous individuals that are self-directed and that can act as citizens.

A third area that differs from both the recruitment interview situation and the educational setting, is *the service encounter*. Booking tickets for events, travels, health information, social services, etc., is today highly automatised, and organised through communicative AI in written or oral form. Research has, for example analysed levels of trust for hosts when booking Airbnb (Mieczkowski et al. 2021), and on “stakeholder benefits” (Farzaneh & Delio 2024). And there is a growing literature on the uses of AI in the Hospitality and Tourism industries, mainly from business perspectives (see, Nannelli et al 2023 for overview). None of this research touches on the communicative situation or context, however. If the recruitment interview and the educational setting is steered by either the recruiter or the educator, that is, these are the ones who have the communicative initiative in the situation, the service encounter puts the customer in the active role. This role comes with expectations and anticipations of how the communication is about to occur and is captured in sayings such as “the customer is always right” and similar vernacular apprehensions. It is also regulated discursively by some standard openings of conversations (e.g. “How can I help you today?”). It is in that sense much more rule-bound than the others, and perhaps this is also the explanation for why these kinds of services have been automatised early on.

A fourth example is within the context of *health information and consultation*: There is a growing body of research into health advice with the help of Communicative AI, for example for “providing preliminary guidance, clarifying information, and offering accessible recommendations” (e.g. Liu & Wang 2023). Previous research on ComAI has, for example, found support of potential benefits from conversational AI related to vaccine information on COVID-19 (Passanante et al. 2023). Research mostly deals with the usefulness for health information seekers and does not focus on health advice and information from a communications perspective. Similar to the customer service, it is the human part in the conversation who is taking the active role, but this situation is also informed by a care ethics, where the conversation often is expected to be more explorative in order to pin down exactly what kinds of advice or treatment are suitable.

To summarise the four examples, we could say that the first two put the machine in the active role in the communicative situation, while in the latter two, the machine is responsive. They are all deserving of empirical exploration.

5 Conclusion

In the above, I have discussed some social situations in which ComAI has been implemented, as an outline for a future empirical exploration of our understanding of the concept of communication.

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