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Unknowing and Silent Knowledge as a Challenge: Iconic, Performative, and Material Perspectives

Christoph Wulf

Unknowing plays an important role in anthropology, philosophy, and cultural studies. Here, unknowing is often not considered negative but is deemed a constitutive condition of knowledge. In historical anthropology, we have picked up on this insight and understanding and, following Helmuth Plessner, assume that the human being must be understood as “homo absconditus,” which itself is never completely recognizable. Following the “linguistic turn” in the final quarter of the twentieth century, there have been several “turns” in the cultural sciences (humanities), in which dealing with the limits of knowledge and tacit knowledge play an important role.

Unknowing as a Condition of the Humanities

Unknowing plays an important role in anthropology, philosophy, and cultural studies. Here, unknowing is often not considered negative but is deemed a constitutive condition of knowledge. At the end of his life, Socrates said that he knew virtually nothing. He was, however, aware of this and that the highest form of knowledge lay therein. In historical anthropology, we have picked up on this insight and understanding and, following Helmuth Plessner, assume that the human being must be understood as "*homo absconditus*," which itself is never completely recognizable. The concept of "*deus absconditus*," the unfathomable God, was coined in theology to express the inscrutability of God. According to Nietzsche's God is dead declaration, the question arises as to what extent the human being has replaced God and whether it is time to clarify in the humanities that humans are themselves unfathomable, that unknowing is a constitutive condition of human life, human insight, and historical-cultural anthropology.

This is all the truer if we assume that it is not the responsibility of science to reduce complexity, but to increase complexity by acquiring new knowledge. Ultimately, with every realization, the number of new questions generated as a result grows to the extent that cognitive processes never come to an end. Therefore, in the humanities, there is talk of the contingent character of human life and knowledge. Contingency clarifies the shortcoming of ideas, which accept gradual advance and are not open to the emergent character of knowledge, limiting its foreseeability and calculability. While in the humanities today talk is often about contingency and contingent knowledge, in many parts of the natural sciences, technical sciences, and social sciences, this dimension of knowledge is actively hidden. Uninterrupted knowledge gain and success are lauded, and thus social recognition and financing for further research are received. Science is rewarded for providing assurance and upholding the prospect

of limiting uncertainty and the fundamental contingency of knowledge.

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The emphasis on the fundamental non-overcoming of unknowing in the humanities is contrary to science's legitimizing *raison d'être*: that it can recognize and diminish the unknown. Particularly in quantitative research, and above all in its official and political use and reception, a "gestus" (gesture, manner) is revealed that assumes the world is recognizable as a whole and is, as a consequence, controllable and can be improved.

In the late 1960s and early 1970s, the positivism dispute had already raised sustained doubt about the complacent reliance on knowledge. In critical rationalism, advanced by Karl Popper and others, knowledge was considered scientific if it followed a single method believed to be correct from a normative viewpoint. Mandatory use of the correct method, irrespective of the content, ensured the scientific character of research results. The method guarantees, through the reproducibility of its results, validity or truth and thus its scientific character. Thomas Kuhn (1962) raised doubts about this view with reference to the significance of paradigm shifts for the acquisition of new scientific knowledge.

Even more fundamental were the objections from the representatives of the Critical Theory against the reduction of science to methodology. They also criticized the development of research issues and the question of how the research results could be used on a social level, stating that it should not be part of science. According to this view, only the formation of "mid-range theories," which are necessary for empirical research, should be considered theory formation. Theories that claim to have a broader reach and explanatory power do not belong to science according to this opinion: they are to be viewed as part of philosophy. Quantitative empirical research, therefore, grew strongly in subsequent years, bolstered by an alliance with politics and business.

126 Other approaches in scientific development, such as the critique of the Frankfurt School of capitalism and neoliberalism, are almost forgotten today. Key concepts of Critical Theory such as “enlightenment” and “emancipation,” “reification” and “critique,” “sociability” and “reflexivity,” “theory” and “practice,” have disappeared from the vocabulary of the humanities. In contrast to the efforts of the 1960s and 1970s, when it was thought much could be overcome with a critique of inadequacies, recent decades have shown that critique and reflection are indeed important prerequisites for the improvement of social conditions, but only contribute towards this improvement to a limited extent.

In discourses on post-modernity, doubt was repeatedly cast on the value of the “grand narratives” (Lyotard 1979), which also involved the Frankfurt School. Here, there was less doubt about the quality of knowledge of the quantitative sciences and their explanatory power, i.e., about the scientism of these sciences. With reference to the previously mentioned concept of contingency, doubt was raised about the systemization, reliability, and coherence of scientific knowledge in the humanities. On several occasions, Adorno (1978) drew attention to the fact that the enlightening character of scientific knowledge may turn into its opposite and that science was in danger of contributing to the reification of humans and their relationships with the world. Derrida (1972) and others also made clear, using their idea of deconstruction, the ways in which strong knowledge and recognition are linked to certain conditions. A change in those conditions leads to a change in the logic of scientific knowledge. It is obvious that dealing with unknowing in these processes is a constitutive role.

“Turns” and Knowledge

Following the “linguistic turn” in the final quarter of the twentieth century, there have been several “turns” in the cultural sciences (humanities), in which dealing with the limits of knowledge and

with tacit knowledge play an important role. I am interested in key areas described as “iconic,” “performative,” and “material” turns.

The iconic, performative, and material turns and their associated perspectives lead to the development of new fields of research with new purposes, methods, and results. Within the framework of each perspective, areas can be identified which are excluded because of their respective focus and which, although they are closely connected to the issues being examined, are not addressed. With a focus on images, the iconic and the media in the first key area described here, the human body—its productions, performances, and movements—as well as the materiality of technology and new media, were overlooked. This is surprising as performativity also belongs to the conditions of images and the media. This changed in the second turn, in which the perspectives omitted in the first turn became the focus of attention. Although attention was now directed at the body, its movements, its productions, and performances, the implicit silent knowledge in the body was rarely a subject. Even where talk was of practical knowledge, incorporation of the knowledge was not, or only to some extent, examined. Only where performativity was addressed in connection with mimetic processes did the significance of the implicit incorporated knowledge for social activities come into view (Wulf 2013). A focus on the materiality of media, new technologies, the body, and things in the third turn was so important it sparked the question of whether its entanglement with the subjectivity of people attracted sufficient attention, and if the plurality of the subjects and the effect of this perspective on the understanding of materiality in implicit or silent knowledge was pushed aside. This meant that the focus on the different key areas led to the suppression of other aspects.

As our study “Global Youth in Digital Trajectories” (Kontopodis, Varvantakis, and Wulf 2017)—which was financed by the European Union and involved a compilation of six case studies in Germany, The Netherlands, Greece, Russia, India, and Brazil on how young

128 people deal with the digital world—shows, these key areas also play a role in the handling of the virtual world. Considering the importance of these areas in the humanities I would like to briefly describe them and develop some thoughts on the significance silent knowledge has here (Kraus et al. 2017). But first of all, some thoughts on what I understand by this term.

Silent Knowledge

With the distinction between “Knowing How and Knowing That,” Gilbert Ryle had already, in the 1940s, drawn attention to the fact that there are different forms of knowledge, of which the practical implementations described with a “knowing how” are difficult to research (Ryle 1990). With these methods, the focus is not on the acquisition of factual knowledge that can be expressed linguistically. On the contrary, “knowing how” describes a skill that enables the person to act and which is learned in mimetic processes by referring to the practices of other people. An example of this is rituals. Rituals are not statements, reasons, or explanations. They must be staged and performed. The knowledge required for rituals is a performative, practical knowledge, which differs from the knowledge needed for the description, interpretation, and analysis of rituals. “Knowing how” is thus a practical knowledge—an incorporated skill that is visible in a person’s performance. In mimetic processes today smart-phones and tablets merge with the body and expand its effects beyond tight physical boundaries.

A practice such as driving a car is only learned if the explanation of how to learn was understood. But constantly remembering this explanation is not necessary to execute the action. An action cannot be “skillfully” engaged in as long as this remembering is necessary. Once the learning has been incorporated, the person has the skill to practice, i.e., to drive a car. Practical skill is thus a form of knowledge that requires attention and social recognition. Types of practical knowledge are constitutive for many sciences

such as medicine, law, and education. In the words of Ryle: "Successful practice precedes its actual theory" (Ryle 1990, 33).

Michael Polanyi, who understands knowledge as an awareness and thinking process, as a knowing in action, writes: "I regard knowing as an active comprehension of the things known, an action that requires skill. Skillful knowing and doing is performed by subordinating a set of particulars, as clues or tools, to the shaping of a skillful achievement, whether practical or theoretical" (Polanyi 1974, VII). Polanyi indicates that if a person points at a wall using their finger and asks someone to look, the person looks at the wall and not at the finger, and concludes:

One way is to look at a thing. This is the way you look at the wall. But how is one to describe the way you see my finger pointing at the wall? You are not looking at my finger, but away from it. I should say that you do not see it as a mere object to be examined as such, but as an object having a function: the function of directing your attention away from itself and at something else. But this is not to say that my pointing finger was trying to make you disregard itself. Far from it. It wanted to be seen, but to be seen only in order to be followed and not in order to be examined. (Polanyi 1977, 313)

This is implicit knowledge that the objective of the perception reference is the wall at which the finger is pointing and not the actual finger, and therefore the focus of awareness to the movement, and then to the wall, is required. Polanyi repeatedly refers to examples that show what he means by silent knowledge; for example, a pianist who if he concentrated on the individual movements of his fingers would become paralyzed and unable to perform. Using cycling and the balancing it requires, Polanyi explains how complex the practices of knowledge are for physical skills: "We cannot learn to keep our balance on a bicycle by taking to heart that in order to compensate for a given angle of imbalance α , we must take a curve on the side of the imbalance,

130 of which the radius (r) should be proportionate to the square of the velocity (v) over the imbalance: ... Such knowledge is ineffectual, unless known tacitly" (Polanyi 1969, 144). From this consideration, it can be concluded that: "A physical understanding of the force fields of the movements cannot obviously help with dealing with the somatic-kinaesthetic interplay of forces of balance" (Huschka 2017).

What role does silent knowledge now play in the iconic, performative, and material turns and how does it appear together with the key areas described by these terms in the digital world? The question is complex, and I can only answer it with a first approximation.

Images and Picture Character of the World

Following preliminary work by Marshall McLuhan (1964), Jean Baudrillard (1981), and Paul Virilio (1996), who examined the media and picture character of new media and emphasized their speed, ubiquity, and simulation character, several studies have emerged since the 1990s about the theory of the image and imagination. These extensive studies clarified that the increase in images as a result of media is leading to profound changes in society and culture. In addition, there were several studies that presented, in detail, the importance of the computer and the internet for the development of new forms of communication and aesthetics in the globalized world.

According to Martin Heidegger and others, the growing importance of images results from the fact that human beings have "extracted" themselves from nature or God's creations and now see the world as an object; the world has become an image (Wulf 2014). During this development, the extent to which images represent iconic knowledge that can be only inadequately recognized using language became clear. In Gotthold Ephraim Lessing's interpretation of the statue of Laocoön, the special iconic character, which basically distinguishes images and statues

from language and narration, takes center stage. In the image, there is concentration on a fertile moment. In contrast, an action process is presented in a narration. The genesis of an event or an action cannot be represented with images. Action is compressed in images; it is implicit, not explicit as it is in narration. The image refers to something that can only be represented iconically and not narratively, which remains implicit. An interpretation is only possible with the help of language. The image “does not reveal” what it may look like; interpretations have only limited significance for perception and sensual understanding of the image.

An example: images initiate actions, i.e., can be performative and have an implicit knowledge of an action that is represented, showing, for example, a schematic drawing in an instruction manual for the assembly of the cabinet. Although it only shows one part of the assembly—how to join the walls of a cabinet—the drawing is much more useful than a linguistic description. The visual representation contains knowledge in a condensed format that is not explicit from a linguistic viewpoint, and is as an instruction more effective than an elaborated text. The iconic character of the visual representation has implicit knowledge that is helpful for the assembly of the cabinet.

If the world increasingly becomes an image, and image-producing media start at an early stage to shape the imaginary world of children and young people, then the image becomes a central living condition. This is the case especially with the use of smartphones, apps, and computers, whose digital image-worlds are incorporated through daily use, i.e., they become part of our physical existence. We are already familiar with many things as images before we encounter them, and then, when we do see them, we have no means of knowing to what extent the image seen earlier defines our encounter with the real thing. If Comenius spoke about the insatiable thirst of young people for images, then today the problem is increasingly how we can protect ourselves from the plethora of pictures, how we develop

- 132 the skill to perceive images consciously as images, and how we incorporate and process them in their iconic character with their silent knowledge.

Performativity: Production and Performance

Initially, many research approaches to the iconic adopted a hermeneutical method, but in recent years, interest in the performativity of images and media has increased. This happened under the influence of the development of a performative perspective in the cultural sciences. In contrast to the hermeneutical approach, in which social practices are read as text and the interpretation of their significance is foregrounded, now, it is about how to envisage and examine the production and performance of the cultural and social. The iconic approach should thereby be complemented with a perspective that is present as implicit knowledge therein, but which did not play a role in the traditional interpretation of the social aspect. The perspective that had been implicit in this approach and therefore belonged to silent knowledge should now be discovered and developed. Now, it is no longer primarily about researching the significance and meaning of social and pedagogical actions, but about examining how these practices are executed. It then becomes clear that this perspective deals with practical knowledge, whose focus is on dealing with practices, with physical and social skills.

This is particularly apparent in the research of the “Berlin Ritual and Gesture Study” (Wulf et al. 2001, 2004, 2007, 2010 and 2011), which examines how people perform rituals, how they produce them, and how the ritual act differs in several performances of the same production. In contrast to Clifford Geertz, who understands culture as a “montage of texts” (Geertz 1995, 253), here the focus is on the actual act, its physical production and performance, as well as its productive design and layout (Wulf, Göhlich, and Zirfas 2001).

The perspective of the performative aims not to replace the hermeneutical interpretation of the social element, but to complement it by shifting the viewpoint. It is less about the interpretation of the significance of practices than about the production and performance of the act, its physicality, and its interactions. The focus is not on an acceptance of a demanding interpretation of social practices, but an analysis of the concrete conditions of the act. It is "less about underlying issues than the phenomenal event, less about the structure and the functions than the process, less about the text or symbol than the creation of reality" (Wulf and Zirfas 2007, 10). The emphasis is on interaction processes and the dynamics of linguistic performances and completed actions, as well as the physicality and materiality of the social element.

The objective is to research the *modus operandi*, the manner, the way in which social practices are executed. Insofar as it relates to a skill, according to Ryle (1990), this is embedded in the silent knowledge of the body. Their institutional and historical-social conditions play an important role here. To examine these connections using a conclusive method, ethnographic research is required. Here it is necessary to examine the social situation in different ways: first, from the perspective of one or several observers not involved in the event in a participatory or video-supported participatory observation, and second, from the subjective perspective of the actors using interviews and group discussions. Then both perspectives are interrelated and integrated where possible. In this triangulation attempt, the difference between knowledge from a third-person perspective and knowledge from a first-person perspective is made clear. In both forms of knowledge, there is theoretically non-tangible, implicit practical knowledge.

Human Beings and Things: The Materiality of Educational and Learning Processes

The iconic turn led to the examination of the significance of images, immaterial aspects, and digital media for society and culture. An anthropological interest in the diversity of images, the complexity of imagination, and the social and cultural power of the imaginary evolved. At the same time, it became clear how central this area is for individual and social activities and what role these images play in desire, in feelings, and in actions. In the interest of research on performativity, the significance of the body, which has been the focus of anthropology since the 1980s, was presented. Physical dynamics in social activities, which had been overlooked for a long time, were examined. The production and performance of senses and the body, and the performativity of social practices received attention. The performativity of images and media was discovered: a new interest developed in the materiality of human interactions, as well as things and their socializing effects.

Two developments supported this focus on the material element. One led to a discovery of the importance of technical equipment and prostheses for the body and the human conception of itself. Donna Haraway's idea of a "cyborg," a "hybrid of machine and organism" (Haraway 1995, 33), became a reflection of this fusion, which generated numerous figures and narrations in science fiction. Another development was the actor-network theory (Latour 2000), which clarified that not only subjects played a role in social activities, as was long suggested by the agency discourse, but that social activities are effected by a range of factors in which the materiality of things plays an important role. The aim of this theory is to deal with the dichotomy between human being and thing, nature and human being, subject and object, and to reduce this dichotomy where possible. The comparison of human being and thing was no longer appropriate; it was thwarted, and the way new perspectives might arise for the relationship

between human beings and the world was examined. In Bruno Latour's "symmetrical anthropology" an attempt is made to overcome the sharp distinction between human being and thing. The links between humans and things are analyzed. Things are understood as being a result of human productivity and as a consolidation of cultural development. When dealing with things, complex historical processes may be experienced in a condensed form.

Today computers, tablets, cell phones, etc., are part of people. Without them, everyday life in most parts of the world is virtually impossible. In the digital native generation, these devices or their effects are incorporated from early childhood and are thus part of everyday life. They are used to expand and intensify contact with the world. These devices take on the burden of memory and make it possible to store and share large quantities of data. Apps facilitate orientation in the world and solutions to everyday problems. SatNav relieves us of searching; it suggests reliability and orientation. Without SatNav, we would be helpless and disoriented. The symbiosis between machine and human being is likely to reach new levels in the driverless cars of the future. It relieves human beings of driving, but also increases our dependency on machines. Machines are part of our activities, our body, our imagination and world of ideas. For a long time now, they have no longer been external, on the outside; they are part of us, meaning a demarcation between them and human individuals is barely possible.

Latour refers to the fact that "each thing that changes a given situation, by making a difference, can be an actor" or an "actant" (Latour 2007, 123). The result is that where human and non-human agents are combined, original "action programmes" (Latour 2000, 216) are changed; new social practices thus evolve such as people meeting up at extremely short notice via cell phones. Many new action programmes can substitute a human actor with a thing; answering machines are a good example. In addition to this "delegation" (Latour 2000, 227), Latour also makes

136 reference to the fact that nobody is aware of the character that is made up of many such hybrid actors ("blackboxing," *ibid.*, 227), meaning there is a "need for an unbiased, rigorous reconstruction of the historically developed links between people and things" (Nohl and Wulf 2013, 6). To research these links, historical and empirical studies of the materiality and the handling of the artifacts are required. In addition, historical analyses and ethnographical research are required.

In the humanities, there is a reception of the confrontation not only with the materiality of the human body and social practices, but also with the materiality of things (Nohl and Wulf 2013). Mimetic processes play an important role in these forms of cultural learning. Using the example of Walter Benjamin's "Berlin Childhood around 1900" and its reconstruction of childhood (Benjamin 1980), it becomes clear how the world of his parents' home is revealed to the young Benjamin in mimetic processes. In these processes, he incorporates the materiality of the spaces, rooms, streets, houses, and things. He shows how the rooms and things initiate feelings, how his world as a child is magically set up, how he imitates a windmill with his body, and thus experiences the machine character through his own body. In corners, hidden spots, dens, bays, cupboards, dressers, sills, etc., Benjamin feels the world of things; he has tactile experiences, and absorbs odors, which are incorporated in mimetic movement (Gebauer and Wulf 1998). The things are not lifeless. They look back, they make sounds, they smell, and convey tactile experiences. In mimetic processes, the objects and noises from early childhood are collected in the "deeper self," from where they can be recalled later by means of optical or acoustic stimuli. In the act of remembering, there is a mimetic reference to the things, the material of the memory. The mimetic ability of the child to relate to the objects of the world, to create something similar, to read them, returns to language and writing according to Benjamin's view. In the process the "mimetic ability," which was previously the "basis of the vision," creates in language and writing the

“complete archive of nonsensuous similarity.” The similarity and resemblance create central constellations through which the relationship with things and itself gradually forms. The processes described here belong to a large extent to the area of silent knowledge, of which we only have a rudimentary awareness.

The materiality of things has a demanding character. Many social and cultural products are manufactured and arranged so that they lure children into engaging with them and handling them in a certain way. Often a social or economic staging or production underlies the way these products appear. Things are also staged in the area of pedagogy. In *Emile* from 1762, Rousseau talks about pedagogy from things. The things are to ask children to handle them in a certain manner. Their demanding character “opposes the free availability of functional objects by that alone, through which the subject is disposed, because the request pre-empts him” (Stieve 2013, 92). No more or no less do the things themselves request an understanding of a cultural order, as their meaning and relevance can be read from them immediately. “The purpose only dominates in the everyday, brief or fleeting use of things and the thing is overlooked ... in favor of a function being implemented” (Selle and Boehe 1986, 11). Many contributions from early childhood and research on childhood demonstrate how objects initiate and control learning processes. Today, things are also having effects on people, in particular in and beyond the digital world. As they take on the form of images here, they may also appear—free of their materiality—in completely new combinations, possible only in the digital medium. A new world of things in the form of images emerges and leads to the development of iconic materiality in people’s imagination. The processes implemented here also create new forms of iconic knowledge of the body, which becomes part of the everyday living environment of people.

Outlook

With the focus on unknowing and silent knowledge, a research field for the cultural sciences is proposed in which important results from the “turns” of recent years can be merged. In this connection, an extension and enhancement of practical and performative-related perspectives is required, and a willingness to develop new methods of access and forms of experience and reflection for dealing with practice in collaboration with digital media. Researching social practices and the implicit silent knowledge therein from the perspectives of the actor-network theory, imagination, performativity, and iconic materiality in the virtual world is a challenge from a conceptual and methodological viewpoint.

References

- Adorno, Theodor W. 1978. *Minima Moralia: Reflections on a Damaged Life*. Translated by E.F.N. Jephcott. London: Verso.
- Baudrillard, Jean. 1981. *Simulacre et simulation*. Paris: Editions Galilée.
- Benjamin, Walter. 1980. *Berliner Kindheit um Neunzehnhundert: Gesammelte Schriften*, edited by Rolf Tiedemann und Hermann Schweppenhäuser, Volume 4.1, 23–304; Volume 7.1, 385ff. (final version). Frankfurt am Main: Suhrkamp.
- Derrida, Jacques. 1972. *Die Schrift und die Differenz*. Frankfurt am Main: Suhrkamp.
- Gebauer, Gunter, and Christoph Wulf. 1998. *Spiel – Ritual – Geste: Mimetisches Handeln in der sozialen Welt*. Reinbek: Rowohlt.
- Geertz, Clifford. 1995. *Dichte Beschreibung: Beiträge zum Verstehen kultureller Systeme*. Frankfurt am Main: Suhrkamp.
- Haraway, Donna. 1995. “Ein Manifest für Cyborgs.” In *Die Neuerfindung der Natur*, edited by Donna Haraway, 33–72. Frankfurt am Main/New York: Campus.
- Huschka, Sabine. 2017. “Bewegung.” In *Schweigendes Wissen*, edited by Anja Kraus, Jürgen Budde, Maud Hietzge, and Christoph Wulf, 625–638. Weinheim: BeltzJuventa.
- Kontopodis, Michael, Christos Varvantaki, and Christoph Wulf, eds. 2017. *Global Youth in Digital Trajectories*. London/New York/New Delhi: Routledge.
- Kraus, Anja, Jürgen Budde, Maud Hietzge and Christoph Wulf, eds. 2017. *Schweigendes Wissen*. Weinheim: BeltzJuventa.
- Kuhn, Thomas S. 1962. *The Structure of Scientific Revolutions*. Chicago: University of Chicago Press.
- Latour, Bruno. 2000. *Die Hoffnung der Pandora: Untersuchungen zur Wirklichkeit der Wissenschaft*. Frankfurt am Main: Suhrkamp.

- Latour, Bruno. 2007. *Eine neue Soziologie für eine neue Gesellschaft*. Frankfurt am Main: Suhrkamp.
- Lyotard, Jean-François. 1979. *La condition postmoderne. Rapport sur le savoir*. Paris: Éditions du Minuit.
- McLuhan, Marshall. 1964. *Understanding Media: The Extensions of Man*. New York: McGraw-Hill.
- Nohl, Arnd-Michael, and Christoph Wulf, eds. 2013. *Mensch und Ding: Die Materialität pädagogischer Prozesse*. Sonderheft der Zeitschrift für Erziehungswissenschaft 25. Wiesbaden: Springer VS.
- Polanyi, Michael. 1969. "The Logic of Tacit Interference" (first edition 1966). In idem. *Knowing and Being, Essays by Michael Polanyi*, edited by Marjorie Grene, 138–158. Chicago: University of Chicago Press.
- Polanyi, Michael. 1974. *Personal Knowledge: Towards a Post-Critical Philosophy. A Chemist and Philosopher Attempts to Bridge the Gap Between Fact and Value, Science and Humanity*. Chicago: The University of Chicago Press.
- Polanyi, Michael. 1977. "The Body-Mind Relation" (first edition 1969). In idem. *Society, Economics & Philosophy: Selected Papers*, edited by R. T. Allen, 313–328. New Brunswick, NJ: Transaction Publisher.
- Ryle, Gilbert. 1990. "Knowing how and knowing that." In idem. *Collected Papers*. Volume 2, 212–225. Bristol: Thoemmes.
- Selle, Gert, and Jutta Boehe. 1986. *Leben mit den schönen Dingen: Anpassung und Eigensinn im Alltag des Wohnens*. Reinbek: Rowohlt.
- Stieve, Claus. 2013. "Differenzen früher Bildung in der Begegnung mit den Dingen: Am Beispiel des Wohnens und seiner Repräsentation im Kindergarten." In *Mensch und Ding: Die Materialität pädagogischer Prozesse*. Sonderheft der Zeitschrift für Erziehungswissenschaft 25, edited by Arnd-Michael Nohl and Christoph Wulf, 189–202. Wiesbaden: Springer VS.
- Virilio, Paul. 1996. *Fluchtgeschwindigkeit*. München: Hanser.
- Wulf, Christoph, Birgit Althans, Kathrin Audehm, Constanze Bausch et al. 2001. *Das Soziale als Ritual: Zur performativen Bildung von Gemeinschaften*. Opladen: Leske and Budrich.
- Wulf, Christoph, Michael Göhlich, and Jörg Zirfas, eds. 2001. *Grundlagen des Performativen: Eine Einführung in die Zusammenhänge von Sprache, Macht und Handeln*. Weinheim: Juventa.
- Wulf, Christoph, Birgit Althans, Kathrin Audehm, Constanze Bausch et al. 2004. *Bildung im Ritual: Schule, Familie, Jugend, Medien*. Wiesbaden: Verlag für Sozialwissenschaften.
- Wulf, Christoph, Birgit Althans, Gerald Blaschke, Nino Ferrin et al. 2007. *Lernkulturen im Umbruch: Rituale Praktiken in Schule, Medien, Familie und Jugend*. Wiesbaden: Verlag für Sozialwissenschaften.
- Wulf, Christoph, and Jörg Zirfas, eds. 2007. *Pädagogik des Performativen: Theorien, Methoden, Perspektiven*. Weinheim: Beltz.
- Wulf, Christoph, Birgit Althans, Kathrin Audehm, Constanze Bausch et al. 2010. *Ritual and Identity*. London: Tufnell Press.

- 140 Wulf, Christoph, Birgit Althans, Kathrin Audehm, Gerald Blaschke et al. 2011. *Die Geste in Erziehung, Bildung und Sozialisation: Ethnographische Fallstudien*. Wiesbaden: Verlag für Sozialwissenschaften.
- Wulf, Christoph. 2013. *Anthropology: A Continental Perspective*. Chicago: The University of Chicago Press.
- Wulf, Christoph. 2014. *Bilder des Menschen: Imaginäre und performative Grundlagen der Kultur*. Bielefeld: transcript.