

## **Culture as Human, Culture as Network:**

### **On the Theory of Bildung based on Memory Studies**

Jun YAMANA

*The University of Tokyo*

#### **Abstract**

Today, the development of digital technology is bringing about major cultural changes in society. This has brought us back to the question: What is “culture”? It has also affected the discussion of Memory Studies. Traditionally, “culture” in this field has tended to mean a state in which human memory capacity is augmented by the use of writing tools, from wax tablets to computers. In contrast, the cultural situation is now imagined as a network and archive of information supported by digital technology; the human is connected to the network as one of its nodes. Here, I discuss the shifting metaphors of memory on the basis of Aleida and Jan Assmann’s theory of “cultural memory” and Andrew Hoskins’s theory of “memory ecology.” My findings suggest that these contemporary discussions of memory theory have prompted a reconsideration of the theory of *Bildung* that has examined the relationship between human beings and culture. I also offer future perspectives in relation to the issue of education.

**Key words:** memory studies, metaphor, collective memory, cultural memory, *Bildung*.

### **Introduction: “Culture” as viewed through the metaphors of memory**

Memory is not like a personal possession. The meaning of the past is influenced by the environment and the persons around us. In this sense, one aspect of memory can be seen as the product of an interaction between individuals and their environment. Therefore, there is no such thing as a complete individual memory. Famously, Maurice Halbwachs explains this phenomenon by using the notion of “collective memory.” The field of interdisciplinary-oriented research that considers memory and recollection in a broad sense, taking into account the interaction between individuals and their

---

#### **Correspondence:**

Jun YAMANA, The University of Tokyo. Email: jyamana6s@p.u-tokyo.ac.jp

environment, is now commonly referred to as “Memory Studies” (Erl 2017: 8). This paper is based on Memory Studies and seeks to discuss education by examining the metaphors used to talk about “culture” in relation to the topic of “memory” and how they have changed.

First, I will examine how “culture” is discussed in the theory of collective memory. Here, especially the theory of “cultural memory (*Kulturelles Gedächtnis*)” proposed by Aleida Assmann and Jan Assmann is regarded as a framework for the consideration below, because it prefers “culture” as the most crucial concept for discussing collective memory. As will be mentioned in detail later, Aleida and Jan Assmann refer to the term “memory” as almost synonymous with “culture” in the cultural memory theory. It is therefore necessary to clarify what memory is in this context (Section 1). I then consider metaphors for memory.<sup>1</sup> Many theorists have dealt with these metaphors (Weinrich 1976, Roediger III 1980, Draaisma 1999, Assmann, A. 1999, Sutton 2005, Hoskins 2011, Erl 2017). Harald Weinrich emphasizes that it is impossible to think of an object such as memory without resorting to metaphors (Weinrich 1976: 294). Moreover, metaphors can be expected to serve as (hypothetical) models of thinking (ibid.) and “generate new theoretical ideas” (Draaisma 1999: 29) of memory. The theory of collective memory regards metaphors for memory as a sensitizing record of each era, reflecting its historical and social context. Here, I note that it is important that Aleida and Jan Assmann discuss collective memories while viewing “culture” as an extension of humans (section 2). I then mention that the durability of the abovementioned metaphors is being questioned in the digital technological age (Section 3). Put simply, there is a struggle between “culture as an extension of humans” and “culture as a network” in today’s society. Here, I refer to the argument of Andrew Hoskins, who leads the discussion on such metaphorical shifts. Next, I explore what the memory metaphors described above mean for the topic of “*Bildung*” (Section 4). The change in memory metaphors indicates a change in the mutual generating of self and culture, i.e., a change of *Bildung* in the German philosophical sense. I end with some comments on memory metaphors and *Bildung* in the future in light of the above considerations (Section 5).

---

<sup>1</sup> The basic framework of the issue of memory metaphors is presented in detail by Yamana (2022). My paper aims further to connect it to the issues of a digital and technological society.

## 1. What is “culture” in Memory Studies? An example of cultural memory theory

Aleida Assmann (1947–) and Jan Assmann (1938–) are two of the most important representatives of the contemporary theory of collective memory (see Erll 2017: 24–31). They place “cultural memory” as a key concept in their theoretical construction. Cultural memory is built up over the long term in texts and images, ideas, and practices as cultural heritage (Assmann, A. 2017: 181).<sup>2</sup> On the basis of such objectivities, various specialists (e.g., clerics, conjurors, archivists) mediate interpretations of the past. Thereby, each society stabilizes its own self-image and, in particular, conveys collectively shared knowledge . . . about the past (Assmann, J. 1988: 15). The Assmanns’ concept of cultural memory is broad and can include all anthropogenic objects, institutions, facilities, and behaviors. Moreover, cultural memory implies not only the activated parts that give us meaning, value, a sense of belonging, and identity in the present. Objects that lie in the background but have the potential to be activated at any time (e.g., literary works that now sit at the back of library shelves and are no longer read) are also counted as cultural memory. Aleida and Jan Assmann distinguish between the activated part, which they call the functional memory (*Funktionsgedächtnis*), and the inactive part, called the storage memory (*Speichergedächtnis*), whereby the boundary between storage memory and functional memory constantly changes (Assmann, J. 2001: 23). Their concept of culture has an almost unrestricted breadth and depth, as shown by the explanation that cultural memory in the broadest sense is the memory of human beings (Jan Assmann 2001). Such an expanded theory of memory already includes a theory of *Bildung*, which will be discussed later.

According to Aleida and Jan Assmann, collective memory is generated partly by everyday discourses and community experiences. They distinguish it from cultural memory by calling it communicative memory (*Kommunikatives Gedächtnis*) (Assmann, J. 1992: 56; see also Assmann, A. 2017). Communicative memory can be preserved for three generations (about 80 to 100 years), at most. Halbwachs assumed that the temporal limit of collective memory could exist in this approximate time span. In reality, however, collective memory is a much longer-term phenomenon. Cultural memory is introduced by Aleida and Jan Assmann as a concept to explain the mechanism by which this temporal boundary of communicative memory is crossed.

As recognized by Aleida and Jan Assmann, cultural memory theory is positioned within the German term *Kulturwissenschaften*, which is similar to Cultural Studies in the

---

<sup>2</sup> All text in the original German has been paraphrased into English by the author.

English-speaking world.<sup>3</sup> “Culture” is the most important concept in *Kulturwissenschaften* in general, as the genre’s German name includes this word. Aleida Assmann, for example, emphasizes the difference between *Kulturwissenschaften* and traditional *Geisteswissenschaften*, which is very close to the concept of Humanities in English. She writes that the transformation of traditional *Geisteswissenschaften* into *Kulturwissenschaften* is reflected in the achievement that the key concept of “**Geist**” [= spirit] has been replaced by new leading concepts, such as “**symbol**,” “**media**,” and “**culture**” (Assmann, A. 2017: 24, bold letters are the original author’s). According to her, the paradigm of *Geisteswissenschaften* relied on certain axial counter-concepts, such as spirit and material, subject and object, history and nature, explanation and understanding (ibid.). However, the strategic implications of the concept of “culture” at the core of *Kulturwissenschaften* lie in undercutting the abovementioned leading concepts of the 19th century, which were decisive until the 1970s (ibid.: 25). Aleida Assmann continues on to say that whereas the concept of *Geist* was aimed at identifying, isolating, and affirming an emphatic human factor in the cultural process, *Kulturwissenschaften* shifts its attention to structures, processes, and practices in an environment that is thought of as technomorphic from the outset (ibid.).

## 2. Culture as an extension of humans

There is no rebuttal to Aleida Assmann’s emphasis of the differences between *Kulturwissenschaften* and *Geisteswissenschaften*. At the same time, however, it should be pointed out that these two terms have some kind of continuity between them, as far as the concept of “culture” is concerned. Whereas *Kulturwissenschaften* regards “culture” as one of its keywords, the same concept is also considered to be a main term in *Geisteswissenschaften*. There are some similar features between the two. In particular, *Kulturphilosophie* (Cultural Philosophy) and *Kulturpädagogik* (Cultural Pedagogy) in the field of *Geisteswissenschaften* positioned “culture” as an externalization of the *Geist* of humans. In other words, *Geisteswissenschaften* and *Kulturwissenschaften* seem to view “culture” as an extension of humans.

From our point of view, it is first important to turn our attention to

---

<sup>3</sup> According to Aleida Assmann, *Kulturwissenschaften* in Germany emerged at the beginning of the 20th century with Georg Simmel, Abi Warburg, and Walter Benjamin. After an interruption during the Nazi era and subsequent stagnation, it was developed again in the 1970s and 1980s and ensured its status in the academic fields in the 1990s (Assmann, A. 2017: 24).

*Kulturwissenschaften* and, in particular, to the theory of cultural memory. Aleida and Jan Assmann's concept of "culture" is obviously captured through metaphor-based thinking about individual memory. This is most evident in their account of functional and storage memory. According to Aleida Assmann, storage memory is partly unaware and partly unconscious memory [in the sense of Freud] (Assmann, A. 1999: 136), which can supply meaning to functional memory, depending on the situation. Also, conversely, functional memory can be transformed into storage memory.

It is Sigmund Freud's concept of human consciousness that underlies such a two-layered account of cultural memory. As is well known, in his essay *Notiz über den 'Wunderblock'* (A Note upon the "Mystic Pad") (1925/1948), Freud describes the functioning of the human mind as similar to that of a magic tablet. This is a writing board of dark resin or wax on which sits a translucent sheet of waxed paper covered by a transparent protective sheet of celluloid. On the board, one can write some letters with a stylus and then erase them by lifting up the waxed paper. According to Freud, the human system of perception and consciousness receives new stimuli from outside, like the translucent waxed paper of the magic tablet. However, the letters that disappear do not return to nothingness but leave slight traces on the wax plate. Similarly, Freud believed that, behind the system of perception and consciousness, the mind has another system in which permanent tracks of records (Freud 1948: 3) are preserved. In his theory, the object of human memory is captured by the metaphor of the magic tablet. This in turn means that the magic tablet as a cultural product is imagined as the extension of human memory. This Freudian view of the human inside world and culture inspired Aleida Assmann's theory of functional and storage memory.

Jan Assmann also states that the concept of storage memory opens up possibilities in the direction of the cultural form of unconsciousness, and that culture . . . is similar to personal memory [at this point] (Assmann, J. 2001: 23). In extending Freud's theory of psychological repression to the theory of cultural memory, he discusses the formation of "crypts" in culture (Assmann, J. 2001: 24)—that is, the formation of background-like memory spaces similar to the stone chambers beneath churches. According to Jan Assmann, what is hidden in these cultural crypts does not return to nothingness, but is preserved as counter-memory.

This way of thinking, which extends the inner memory of humans to the memory of culture, is not strange for *Geisteswissenschaften* and for German idealism, as it is their foundation, in which the "inner *Geist*" is thought to be externally expressed as the "outer *Geist*" and to form culture. It seems, rather, that *Kulturwissenschaften*, despite the aforementioned attempts to distinguish itself from *Geisteswissenschaften*, carries the

tradition of the latter within it. At least with respect to cultural memory theory, it can be hypothetically stated that the interior (“spirit” and “memory”) and the exterior (“culture”) of humans are understood as continuous through the metaphor of the extension of humans, in both *Geisteswissenschaften* and *Kulturwissenschaften*.

### 3. Memory and culture as a network in the age of media technology

The assumption of culture as the extension of humans in cultural memory theory clearly began to falter at about the turn the 21st century. Jan Assmann states that, with the revolutionary development of electronics and the Internet as new storage media and communicative media, profound changes in the architecture of cultural memory began to happen (Assmann, J. 2001: 25). These changes have brought new phenomena in which the boundaries between communicative and cultural memory, between functional and storage memory, and between archive and crypt (Assmann, J. 2001: 25) are shifted and blurred.

Aleida Assmann also explains in her main work, *Erinnerungsräume* (Memory Spaces) that the metaphorical way of remembering reaches a limit with the network (Assmann, A. 1999: 178). As already shown by Freud’s example, understanding culture as an extension of humans is coupled with explaining humans as instruments that are parts of culture. Human memory has been portrayed through the metaphor of writing tools, from the wax tablet in ancient times to the modern computer. However, the last paradigm shift of our guiding metaphors leads to the network, which is a desensualized, hollowed-out metaphor (Assmann, A. 1999: 178).

Aleida and Jan Assmann have not actively mentioned the future of memory metaphors since the beginning of the 21st century. At the intersection of media theory and collective memory theory, hybrid research in both fields has been launched and developed as media technology has evolved (see Erll 2017, particularly Chapter 5, “Media and Memory”). It is Andrew Hoskins who seems to extend the Assmanns’ concern with memory metaphors in this context. He focuses on the condition in which the influences of media as “the holistic mix of techniques, technologies and practices through which social and cultural life is mediated” (Hoskins 2011: 20) permeate all of our life situations.<sup>4</sup> We are living under conditions of information networks and artificial

---

<sup>4</sup> Hoskins describes reality after the “connective turn” by quoting the sentence by Roger Silverstone that “just as water is a prerequisite for fish, so is media for humans” (Hoskins 2011: 20). This does not mean that the real world is already completely modeled after such a worldview. In school education, it has been common to measure

storage media. Here, “the glut of media is also a glut of memory” (ibid.: 19). Hoskins calls the changing the situation a “connective turn” that has brought “the radical networking and diffusion of memory ushered in with the advent of digital technologies” (ibid.: 23) at the beginning of the 21st century.

What will the metaphor of culture as the extension of humans become beyond the “connective turn”? According to Hoskins, this radical change “undermines the biological, social and cultural divisions and distinctions of memory” (ibid.: 21). In fact, the distinction between human memory and artificial memory becomes blurred, because “we connect to our web memory” and “our web memory connects to us” (ibid.: 24). Hoskins’s consideration style is characterized as a kind of posthumanistic way of thinking, which breaks with the tradition of capturing culture through human metaphors. His emphasis is not on reducing culture to the level of humans and limited writing tools, but on grasping the dynamics of the interrelationships between humans and the various digital and non-digital elements that make up culture in the present.

Hoskins’s interpretation of the new culture is inspired by the concept of “media ecology” in media theory.<sup>5</sup> In his understanding, media ecology is “the idea that media technologies can be understood and studied like organic life-forms, as existing in a complex set of interrelationships within a specific balanced environment.” (ibid.). Here is an observational stance that “steps back for a view of the whole, to make claims about the sum of the parts.” Hoskins applies such an observational gaze to the topic of memory as well. He continues: “So, rather than hiving ‘memory’ off into distinct and separate zones or even ‘containers’—the body, the brain, the social, the cultural etcetera—an ecological approach is interested in how these together work or don’t work in producing memory.”

Hoskins, along with Stephen D. Brown (Brown and Hoskins 2010), calls the consideration of memory from such a perspective a new “memory ecology” and emphasizes the relevance of this thinking style today. He emphasizes that media life is also memory life. Today, “[m]emory is lived through a media ecology wherein abundance, pervasiveness and accessibility of communication networks, nodes, and digital media content, scale pasts anew. An ecological modeling is therefore needed to

---

competencies by testing in “unnatural” situations where the connection to the digital network is prohibited—at least until the present.

<sup>5</sup> Hoskins names George Orwell, Neil Postman, Harold Innis, Marshall McLuhan, and Neil Postman as key figures in “media ecology” (Hoskins 2011: 24). In their time, however, culture was still perceived under the image of “extensions of man,” as McLuhan formulated it in the title of his major work (1964). From Hoskins’s perspective, it seems that today’s reality can no longer be captured by this way of thinking, which worked until the eve of the digital revolution (Hoskins 2011: 23).

illuminate a holistic, dynamic and connected set of memory's potential itineraries." (ibid.: 29).

#### 4. Transformation of the theory of *Bildung* in relation to the metaphor of memory

Instead of the consideration of culture as the extension of humans, Hoskins proposes a way of thinking that regards culture as a network of elements and a storehouse of information, with the human as an element or node of that network. In the eras of new media (big cities, new means of transportation, cinema, television, and the Internet), people have had a mixture of expectation and anxiety (see Rosa 2005). When discussing the "connective turn," Hoskins seems to be aware of the complicated situation of those times. He states: "The shifts in media memory cultures reflect a tension between those who accept a vision of memory as always already transformed—medialized—and those who resist and condemn the metaphorical and medial expansion of the memory." (ibid.: 29).<sup>6</sup>

It is not the purpose of this essay to comprehensively consider the situation of new media and to diagnose memory culture. From the viewpoint of educational philosophy, however, we cannot overlook the fact that the shift in memory metaphors is related to the theory of mutual formation between self and culture, which is called the theory of *Bildung* (see Dörpinghaus et al. 2013). Here, I return to the discussion by Aleida and Jan Assmann to confirm the relevance of cultural memory theory to the theory of *Bildung* and to connect it to the question of memory metaphor.

The most important point in the context of this discussion is that memory theory in today's *Kulturwissenschaften* maintains the idea of *Bildung* by connecting with traditional *Geisteswissenschaften* by using the concept of culture as a clamp. This is typically confirmed in Aleida Assmann's own mention of the concept of *Bildung*. For her, *Bildung* is nothing more than participation in cultural memory. It has a bindingness (*Verbindlichkeit*) that connects people both diachronically and synchronically, allowing them to participate in a common identity (Assmann, A. 2002: 25). In another text, Aleida

---

<sup>6</sup> As an example of the negative influences of the expansion of memory through media, Hoskins mentions concerns about the fragmentation of attention and the loss of memory ability through "outsourcing" to the Internet (Hoskins 2011: 26–27). As a positive example of digital technology, he presents the extensive "monumentalization" of memory through reconstruction of the past in "hyper-narratives" (e.g., the "timeline" of the circumstances of the bombing incident in London 2005 in a multimodal archive) (ibid.: 28).



Assmann mentions that knowledge based on cultural memory can be constantly repeated learned, memorized and subjectively appropriated, and embodied (Assmann, A. 2017: 187). She notes that an important part of cultural knowledge that is materialized in such a way and that concerns the way of identity is called *Bildung*. It is supported by the institution of canonization (ibid.: 188).<sup>7</sup> By inheriting a “canonized” culture, people are linked to memories separated in time and space and are given a cognitive framework of self and group identity and communality. Education is positioned as a catalyst for this process.

The way of thinking about culture as the extension of humans is also the basis for the scenario of *Bildung*. This can mean an upheaval in the hitherto familiar image of *Bildung*. Media technologies, with their dramatically increased storage, retrieval, and transmission capacities, enable the availability of even the most seemingly remote information at any time (Assmann, J. 2001: 26), so that center and periphery are no longer determined by socially and culturally predefined criteria and filters, but by the curiosity, interest, and taste of the respective “user” (Assmann, J. 2001: 26). With the realization of such networks, which are also high-performance archives characterized by immediacy and penetration,<sup>8</sup> the image of *Bildung* will have to change. The process of *Bildung* underpinned by transmission of the cultural canon will have to be significantly disrupted as individuals become increasingly able to form functional memories freely from the myriad of storage memories in the network of cultural memories. The space of transmission will be wider. The number of representations and the speed of their generation will increase. All of this can affect the culture of remembering and can strengthen a group’s identity. At the same time, such changes in cultural memory can promote the definition of boundaries of the group to the outside world. Conversely, however, these changes can create experiences that shake and transcend boundaries. We are living in the midst of such a difficult perspective in terms of the theme of *Bildung*.

---

<sup>7</sup> Aleida Assmann explains the term “canonization” in the following way: The institution of canonization, the formerly religious enhancement form of selection, extends to artistic artifacts as well. Works that acquire the status of a classic through canonization are books, pictures, films or pieces of music, which differ from the abundance of what is preserved in libraries and archives by the claim to be read, seen, heard, recognized, appropriated, or learned by heart repeatedly—in short, re-embodied (Assmann, A. 2017: 188).

<sup>8</sup> The following statement by Hoskins may suggest the unity of the Internet and digital archives today. “The seemingly obsessive immediacy of instant or real-time connection/publication/dissemination on the Internet (including the sending of texts, emails, or other messaging services) creates a digital archive that is unimaginable both in its scope and in its accessibility and searchability.” (Hoskins 2011: 26).

## 5. Some comments on the struggle of memory metaphors and *Bildung* in the future

What should be done based on such observations about the contemporary? There are two main options that immediately come to mind. One is to capture culture through a network metaphor, and the other is to stay in the human metaphor. Depending on which we choose, the picture of *Bildung* will be very different. However, a two-party answer does not seem appropriate for this issue.

It is inevitable and important to continue the search for appropriate metaphors for memory. Hoskins, as mentioned earlier, clearly recommends a network metaphor. Even in this position, he introduces arguments that point to the dangers of contemporary media-derived metaphors for memory. According to such arguments, the characteristics of modern media (permanence, precision, and immortality) can create the illusion that they also apply to finite human memory. Hoskins then affirms today's digitally enhanced human capacity and argues that media-derived metaphors are necessary to comprehend this situation (ibid.: 22).

The human metaphor of memory has not yet been fully replaced by the network metaphor. The two exist in the same place without fully getting along. The network metaphor does not limit the subject to humans, but rather suggests the possibility of breaking free from the human subject and going beyond anthropocentric theories of memory and culture. When Hoskins indicates his position by using the concept of the "ecology of memory," he is clearly trying to give a positive nuance to the term "ecology." At the same time, however, there is a (currently unavoidable) gulf between the network metaphor and the finite human being, who cannot always be on standby. In short, this gulf is the individual's fear of being reduced to a node in the vast information world of the network. Metaphors are strongly involved in shaping reality, as they introduce new theoretical ideas and establish coherence in hypothetical processes (Draaisma 1999: 29). Such a reality would, of course, include the field of education. We need an effective metaphor to mediate between the principle of not privileging humans and the principle of not neglecting humans.

## Acknowledgments

This paper is based on the manuscript of my presentation for the symposium "Oral Tradition, Images, Memory and *Bildung*: An Attempt at Pedagogy of

*Kulturwissenschaften*” at the 65th Annual Conference of the Philosophy of Education Society of Japan held at Keio University on October 22, 2022. It is part of the results of research funded by JSPS (Japanese Society for the Promotion of Science) KAKENHI Grant-in-Aid Numbers JP19K02498 and JP21K18530.

## References

- Assmann, Aleida (1999) *Erinnerungsräume. Formen und Wandlungen des kulturellen Gedächtnisses*, München: Verlag C. H. Beck.
- (2002) Drei Formen von Gedächtnis. In: P. Rautmann/ N. Scholz (Hrsg.): *Zukunft und Erinnerung. Perspektiven von Kunst und Musik an der Jahrtausendwende*. Bremen: Hauschild, S. 14–26.
- (2017) *Einführung in die Kulturwissenschaften: Grundbegriffe, Themen, Fragestellungen*. 4., durchgesehene Auflage, Berlin: Erich Schmidt Verlag.
- Assmann, Jan (1988) Kollektives Gedächtnis und kulturelle Identität, Jan Assmann & Tonio Hölscher (Hrsg.), *Kultur und Gedächtnis*, Frankfurt a.M.: Suhrkamp, S. 9–19.
- (1992) *Das kulturelle Gedächtnis. Schrift, Erinnerung und politische Identität in früheren Hochkulturen*, München: Verlag C. H. Beck.
- (2001) Das kulturelle Gedächtnis, *Kolloquien des Max Weber-Kollegs XV–XXIII V*, S. 9–27. (Archiv- und Publikationsserver der Universität Erfurt, extension://dnkjinhmoohpidjdgejhbgimgbngnkn/pdf.js/web/viewer.html?file=http%3A%2F%2Fwww.db-thueringen.de%2Fservlets%2FMCRFileNodeServlet%2Fdbt\_derivate\_00001345%2Fassmann.pdf
- (2002) »Zum Geleit«, Gerald Echterhoff & Martin Saar (Hrsg.), *Kontexte und Kulturen des Erinnerns. Maurice Halbwachs und das Paradigma des kollektiven Gedächtnisses*, Konstanz: UVK, S. 7–11.
- Brown, Steven D. & Hoskins, Andrew (2010) Terrorism in the new memory ecology: mediating and remembering the 2005 London bombings, *Behavioral Sciences of Terrorism and Political Aggression*, Vol. 2, No. 2, pp. 87–107.
- Dörpinghaus, Andreas, Poenitsch, Andreas, & Wigger, Lothar (2013), *Einführung in die Theorie der Bildung*. Darmstadt: wbg.
- Draasima, Dowe (1999) *Metaphernmaschine: Eine Geschichte des Gedächtnisses*, übersetzt von Verena Kiefer, Darmstadt: Wissenschaftliche Buchgesellschaft (1995).

- Erl, Astrid (2017) *Kollektives Gedächtnis und Erinnerungskulturen. Eine Einführung* (3., aktualisierte und erweiterte Aufl.), Stuttgart: J.B. Metzler Verlag.
- Freud, Sigmund (1948) Notiz über den “Wunderblock”, *Gesammelte Werke*, Bd. 14, London: Imago Publishing, S. 3–7 (1925).
- (1950) Konstruktionen in der Analyse, *Gesammelte Werke*, Bd. 16, S. 43–56 (1937).
- Hoskins, Andrew (2011) Media, memory, metaphor: Remembering and the connective turn, *Parallax*, Vol. 17, No. 4, pp. 19–31.
- Rosa, Hartmut (2005) *Beschleunigung: Die Veränderung der Zeitstrukturen in der Moderne*, Frankfurt a.M.: Suhrkamp.
- Roediger III, Henry L. (1980) Memory metaphors in cognitive psychology, *Memory & Cognition*, Vol. 8, No. 3, pp. 231–246.
- Sutton, John (2005) Memory and the extended mind: embodiment, cognition, and culture, *Cognitive Processing*, Vol. 6, No. 4, pp. 223–226.
- Weinrich, Harald (1976) *Sprache in Texten*, Stuttgart: Ernst Klett Verlag.
- Yamana, Jun (ed.) (2022), *kioku to sōki no kyōikugaku (Pedagogy of Memory and Remembrance)*, Tokyo: Keiso Shobō.