

Theory of Memory in the Thought of Bernard Stiegler and Its Educational Implication

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Abstract: The actual operation of school education cannot be separated from the participation of memory. In contemporary research on memory, Bernard Stiegler's memory theory is representative and worthy of attention. His memory theory has one ontology, that is, human beings are technical beings, which is represented by three types, namely, the primary retention based on perception, the secondary retention based on recall and the tertiary retention based on object. These three types of memory provide some inspiration for the study of memory in education, which is mainly manifested in two levels of concept and behavior, namely, rediscovering and paying attention to the tertiary retention of educational objects and properly handling the relationship between individual memory and collective memory in education.

Keywords: Tertiary retention; Bernard Stiegler; Digitization of education.

1. Introduction

Education is inseparable from the participation of memory. Whether it is the memory of knowledge in classroom teaching or the collective memory that needs to be shaped in the process of school culture construction, it highlights the importance of memory in education. In the history of human thought, Plato, Aristotle, John Locke, David Hume, Henri Bergson, Edmund Husserl, Maurice Merleau-Ponty, Paul Ricoeur, Bernard Stiegler and others have studied the problem of memory. But among the many discussions about memory, Stiegler's is particularly noteworthy. Bernard Stiegler, a student and friend of the French philosopher Derrida, is a contemporary French thinker and philosopher of technology, whose representative works are the series *Technics and Time*, which is considered to be one of the most influential works in French philosophy at the end of the 20th century. He once visited Nanjing University, Tongji University and China Academy of Art and offered short-term research courses, which influenced the discussion of his ideas in different fields such as technical philosophy research, media research, film research and educational research in China. It is worth noting that the internationally renowned journal of *Educational Philosophy, Educational Philosophy and Theory*, has published a special issue on him, entitled 'Stiegler as an Educational Philosopher'. The reason lies not only in Stiegler's attention to the form of memory in the digital age and its relationship with human education, but also in the contemporary French educational philosophy. The philosophical thoughts of Francois Laruelle, Bernard Stiegler, Quentin Meillassoux, Catherine Malabou, Michel Serres and others have opened up new possibilities of educational philosophy. For example, Stiegler's discussion on technology and education, Malabou's research on plasticity and education, and Serres's research on philosophy of mind and education all bring new educational philosophy theories. Among them, Stiegler's educational philosophy occupies an important position. Meanwhile, Stiegler's discussion on technology and education, memory and education is also one of the basic trends of contemporary educational philosophy innovation. Therefore, it is necessary to clarify Stiegler's memory theory and analyze its educational implication, so as

to further support the development of education and the formation of future pedagogy in the digital transformation of Chinese education.

2. Human Beings are Technical Beings: the Foundation of Stiegler's Theory of Memory

Humans are animals with memories^[1]. Memory is generally considered to be human memory. Although in the era of artificial intelligence to super artificial intelligence development trend, memory may also belong to the non-human object. But memory, both human and non-human, inevitably contains the possibility of forgetting (human forgetting) or interruption (technical interruption of technical devices or failure to extract information). Therefore, in order to overcome forgetting, human beings have to rely on the process of externalization to supplement the memory of the brain. From the physical paper to the digital Word document, all the evidence of human memory is supported by the carrier of externalization. This kind of memory, which exists outside the carrier form of human beings, has attracted Stiegler's attention and become one of the basic types of Stiegler's memory theory. Before clarifying the types of memory divided by Stiegler, we first need to clarify the theoretical basis of Stiegler's memory theory, that is, human beings are technical beings. In Stiegler's essay, he explains 'how human beings can be technical beings.' The 'technological structure of human society' suggests that although we must analyze technological human reality 'within certain limits' according to the paleontological (that is, zoological) method, this method will soon encounter its limitations, because human technology is unique and it gives man a unique place in the animal world^[2].

Therefore, in the perspective of technological philosopher Stiegler, the fundamental and essential distinction between humans and animals is reflected in the uniqueness of human technology, which means that people can use and make tools, and the technical survival mode of using and making tools is one of the important components of human civilization and progress. It is in the framework of such a constantly coupled relationship between technology and people that Stiegler

believes that people are born with defects, and this defect needs to be remedied by technical prosthetics, which is actually the problem of substitutions mentioned by Stiegler. Substitutions actually refer to devices that replace limbs, which can also be called prosthetics or prosthetics. This is closely related to the myth of Prometheus, when God allocates the instinct of fish to swim in water and the instinct of birds to fly, but does not allocate any instinct to man, then man has become a 'defective existence' with no survival function in origin, so man must rely on technical means to survive, including the use and manufacture of technical objects. It is this defect in human origin that causes man's dependence on technology, without which man would not be able to survive. From the primitive drilling wood to the contemporary technological world, human beings in every historical period live and practice by relying on the tertiary sustained cultural memory, which first lies in the individual and remains on the material carrier, that is, the historical accumulation of the individual is the existing basis for the individual to carry out the current life. The concept of tertiary retention will be elaborated in detail below and will not be explained here. In order to ensure the survival of individuals, people have to rely on external technology to make up for their own defects. This defect naturally also includes the phenomenon of human forgetting. Therefore, relying on externalized memory to overcome the phenomenon of human forgetting or as human brain memory has become the focus of Stiegler's memory field.

3. Stiegler's Types of Memory: Primary Retention, Secondary Retention and Tertiary Retention

In his famous book, Stiegler frequently mentioned the problem of memory. He mainly divided memory into three different types, namely, primary retention, secondary retention and tertiary retention. It is worth noting here that although Stiegler distinguishes the primary retention, the secondary retention and the tertiary retention, the primary retention and the secondary retention are both borrowed by Stiegler from Husserl and are not really original ideas. Only the tertiary retention is Stiegler's original contribution to the field of memory. Although these three are different types of memory, they often interact and influence each other when human memory occurs.

The so-called primary retention, mainly refers to the current perceptual memory of people intuitively facing things in a certain scene. This is not actually an original by Stiegler, but a reference to Husserl's division of memory. In Husserl's view, the so-called primary memory is actually the retention of the immediate experience in human consciousness, but this retention has continuity and time. In essence, when people sit in the theater to watch a movie, the stream of consciousness is not a direct reproduction of the picture and sound of the movie, but the sound and picture of the movie in the stream of consciousness, but this kind of dwell time is only one-eighth of a second, it is difficult for people to consciously perceive this kind of dwell process. As Husserl said, from one stay to another, without interruption. There is thus an unbroken continuity of retentions, so that each subsequent point is retentions to the previous point. And every holdup is already a continuum^[3]. Therefore, the primary memory is a retention memory developed on the basis of perception when the individual is present.

The so-called second memory, or second retained memory, mainly refers to the process of re-recall after leaving the scene. It's a concept that Stiegler actually borrowed from Husserl. However, the second memory is obviously not as simple as the 'recall – retrieval' mechanism in traditional psychology, but in the process of recall, the consciousness of the previous retention phenomenon is reprocessed, that is, the primary memory of the previous presence is reorganized and constructed. Therefore, the second memory is an off-site recalling process based on the primary memory and reconstructing the primary memory. As Husserl puts it, 'Let us consider an example of a second memory: recalling a melody that we have just heard at a concert.' It is then evident that the whole phenomenon of recollection has been modified as necessary, and has exactly the same construction as the perception of this melody.^[4] 'The re-recall itself is present, the re-recall that is originally constructed, and thereafter the re-recall that has just been there. It builds itself up in the continuum of source material and retention, and in conformity with this constructs (or, rather, re-constructs) an internal or transcendental continuing object^[5].' Although both second memory and primary memory are concepts that Stiegler borrowed from Husserl, we need to be clear why Stiegler needed to borrow them. In fact, this is to introduce his own tertiary memory on the basis of borrowing, Stiegler believes that Husserl only studies memory from the perspective of the internal structure of human subject consciousness, and completely ignores the perspective of studying memory from the outside of people (or outside the subject).

Stiegler is the representative figure who studies memory from the Angle of technology outside human beings. The so-called tertiary memory refers to the fact that human practical activities will leave marks on the material carrier of human beings to form cultural memory. For example, words written on paper are a kind of textual material retention, tapes, photos taken and CDS are also material retention, and U disks and folders stored in computers are contemporary manifestations of tertiary memory. That is, the digitized tertiary memory, which can also be called the tertiary memory of technical traces. When we need to open a document, we only need to double-click the mouse to open the document, and this opening process is the presence of the 'tertiary memory' activation, which leads to the release of the cultural memory on the past material carrier, if the document is edited and saved again, then this cultural memory will get a new transformation. There are two points worth noting. The first is that the tertiary memory has different modes of existence in different historical periods, and has undergone a transformation process from traditional material entity to virtual existence in general. The second is that no matter what kind of historical period, the tertiary memory can always be produced, modified and eliminated, that is, the tertiary memory is easier to transform than the primary memory and the second memory. Thus, a series of technical ethics problems such as memory erasure, memory implantation and memory tampering are derived. Therefore, the existence of tertiary memory in the digital age highlights the convenience and externality of memory on the one hand, and creates ethical challenges for humans to modify or erase memories in the brain on the other.

4. The Educational Implication of Stiegler's memory theory

In school education, there have always been primary memory, second memory and tertiary memory. However, the previous school education usually emphasized the primary memory and the second memory, but paid little attention to the tertiary memory. Therefore, it is necessary to pay attention to Stiegler's memory theory and dig out the hidden educational implication of this theory, which is embodied in two levels of concept and behavior. At the conceptual level, it is manifested as rediscovering and paying attention to the tertiary memory of the objects in education, and at the behavioral level, it is manifested as properly dealing with the relationship between individual memory and collective memory in education.

4.1. Rediscovering and valuing the tertiary memory of the object of education

The tertiary memory is a historical memory in education, but it is seldom paid attention to and valued. The reason is that people's understanding of memory in education is often carried out from the perspective of psychology, that is, the so-called basic process of acquisition, processing, storage and extraction. But memory is a multi-disciplinary and cross-field research problem, so the understanding of memory in education can not only be carried out from the perspective of psychology. Stiegler's memory theory gives another possibility to think about memory in education, namely, the existence of educational objects and the value of tertiary memory. A tertiary memory is a memory left on a physical object or stored in a virtual medium, which depends on the existence of a physical or virtual object. Therefore, both physical and virtual things in education should be rediscovered. This will bring about certain changes in education, for example, in the process of cultivating people, it is not only necessary to devote energy to people, but also to consider the educational value of things, the relationship between the tertiary memory of objects and the memory of people. As Stiegler puts forward the concept of 'surrogate', the surrogate itself has no life, but it determines the characteristics of the human being as one of the living beings and constitutes the reality of human evolution. The history of life seems to be continued only by non-living means other than life^[6]. Things in education do not have life in themselves, but human growth cannot be carried out without things. In this regard, Winnicott has done a great deal of research, in the early stages of individual development, when language ability and conceptual levels are low, it is often with so-called 'transitional objects.' For example, rattle, triangle iron, tambourine, blanket, wool ball, etc., these 'transitional objects' are the objects that play educational value. This is similar to Stiegler's theory of extending life by non-living means. Thus, Stiegler's memory theory suggests that we should rediscover and pay attention to the value of education and its tertiary memory to human growth.

4.2. Properly handle the relationship between individual memory and collective memory in education

Individual memory is generally subordinate to the individual, while collective memory is superindividual. As James V. Wertsch and others have argued, collective memory is a form of memory that transcends the individual and is

shared by a group^[7]. In school education, memory is a complex and changeable existence, because education aims to cultivate not only individual memory, but also collective memory, and there are various relationships between individual memory and collective memory. From the horizontal dimension, the individual memory and collective memory of students or teachers inevitably include family memory and community memory. From the vertical dimension, the individual memory and collective memory of students or teachers will change with the change of time and space. The relationship between individual memory and collective memory is also dealt with by Stiegler. He believes that collective memory itself is the retention of technology in things, in fact, the so-called 'tertiary memory', collective memory will trigger the development of education in the field of practice, but also an important basis for the development of education. The distinction to be made here is between the original collective memory at the beginning of the establishment of the new school and the other collective memory that gradually forms the style of the school. What is to be noted here is that when the new school is first established, the original collective memory is relatively weak and relatively few. This is because the new school has not yet formed a specific cultural memory, which means that there are not many memory components in the school. With the development of various aspects of the school, the collective memory (cultural memory) in the school will not be the same as the collective memory when the new school is founded, but will gradually form another collective memory, which is manifested as the formation of school culture on the explicit level. As an external object, the collective memory of the physical representation of campus culture itself will lose the group memory ability of the school collective, which includes not only the current memory but also the subsequent memory. After teachers and students collectively make some handmade literary and creative works, it seems that they no longer have more profound memories, but they condense and transfer some memories to things, shortening yesterday, and forgetting memories.

No matter what kind of collective memory, we can use collective memory to activate the primary memory (perceptual) and second memory (recall) of teachers and students. The primary memory and the second memory are the important components of individual memory, or the important components of shaping individual individuation. Therefore, we have to consider how to cultivate individuality and collectivity through memory in school education. In education, students are personalized people, so are teachers, and personalization is a process of generation. Therefore, personalization and collectivity of people (school, as a technical institution, has a collective component, and individual personality is always the interaction between individual initiative and collective and technical objects) are issues that have to be considered. Personality always looks for a certain collective as the starting point of its generation process, and individuation is also the reverse projection and care of the collective (superentity). It is necessary to deal with the relationship between individual memory and collective memory. From the specific operational level, in addition to paying attention to collective memory and individual memory in school, we should also pay attention to the profound technical relationship and technical field in school education. This is a technical complex interaction, is all technical relations and fields, which is more deeply embedded in our

daily life, and educational practice can not be avoided. Compared with the technical system integrated into school education, this technical relationship can occur when there is no technical object, that is, a utilitarian relationship. For example, collective memory in school education rarely considers individual memory, or only considers knowledge memory components in individual memory. Therefore, at the behavioral level, Stiegler's discussion on memory inspires us to deal with the relationship between individual memory and collective memory in education.

5. Conclusion

Memory is very important in education. Both the individual memory of students or teachers and the collective memory of the whole school are inseparable from the attention and discussion of memory problems. Stiegler's memory theory gives us a new perspective to think about memory in education. On the basis of Husserl's memory theory, Stiegler divided memory into primary memory, second memory and tertiary memory, which suggested that education should rediscover and pay attention to the tertiary memory of educational objects and properly deal with the relationship between individual memory and collective memory in education. It is worth further thinking that in education, the tertiary memory often interacts with the second memory and the primary memory. For example, when playing a video, the video can be regarded as the digital tertiary memory. At this time, the primary memory based on perception and the second memory recalled after the event will interact with the tertiary memory, which will cause the tertiary memory to occupy or lure people's primary memory and second memory. How on earth can we avoid the negativity or destructiveness of the tertiary memory, and really give play to the power of the three types of memory to educate people? This is something that deserves further consideration.


Disclosure statement

No potential conflict of interest was reported by the author.

Notes on contributor

Jimin Wang is a PhD candidate at Beijing Normal University. His research mainly concerns Educational Philosophy and Marxist Philosophy. He has written theses as *Realistic Pictures and Educational Implications of Children's Bodies* (2021), *Human Condition in the Society of Spectacle and Educational Transcendence* (2023), etc. He participated in several conferences, such as the *51st Philosophy of education society of Australasia conference* and did an individual presentation in the conference. He also achieved an Outstanding Student Paper Award in the *5th International Phenomenology and Pedagogy Conference*.

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References

- [1] Changwei, Li. Education: Between Memory and Hope: Centered on the emergence of self-identity. *Journal of Education*, 2002,18(02):75-88.
- [2] Stiegler, B. *Technology and Time 1: The Fault of Epimetheus*. Pei Cheng, Trans. Nanjing: Yilin Publishing House,2019:54.
- [3] Husserl, E. On the phenomenology of the consciousness of internal time (1893-1917). Ni Liangkang, trans. Beijing: The Commercial Press,2009:61.
- [4] Husserl, E. On the phenomenology of the consciousness of internal time (1893-1917). Ni Liangkang, trans. Beijing: The Commercial Press,2009:68.
- [5] Husserl, E. On the phenomenology of the consciousness of internal time (1893-1917). Ni Liangkang, trans. Beijing: The Commercial Press,2009:69.
- [6] Stiegler, B. *Technology and Time 1: The Fault of Epimetheus*. Pei Cheng, Trans. Nanjing: Yilin Publishing House,2019:55.
- [7] Wertsch James V and Roediger Henry L. Collective memory: conceptual foundations and theoretical approaches. *Memory* (Hove, England), 2008, 16(3): 318-326.