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Heidegger and Castells:
The Concept of Time in Digital Technology Era

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Contents

Abstract:

In this thesis, we use Martin Heidegger and Manuel Castells' theories to study how the concepts of time and our awareness of time are affected by the development of digital technologies.

We try to discuss the relations between time and technology. Firstly, we give a historical review on the development of the concepts of time. The history indicates that our consciousness of time is changing in digital age with the development of technology. It is our destiny to meet technology; we are in the technology of "enframing". Both danger and power saving are coming together with modern technology, it's impossible to avoid. Even if we are not meeting "digital technology", there will be "other" kinds of technologies waiting for us. It seems that digital technology is an inevitable product; we cannot refuse it, so we have to do a self-examination so that been lost in the "timeless time" is the foregone conclusion.

The conception of time either as an inner and subjective affection or as an objective and measurable reality has changed in the network society. In Heidegger's opinion, temporality is the "meaning" of Dasein's Being. When we treat time as a line, the number is related to the picture of movement. While we accturelly know that the clock is not the time, it is the symbol of time. Dasein's temporality is "primordial time" (BT, 457). In Heidegger's definition of the concept of time, our everyday experience of time is not the authentic time; but the time which filled the everydayness. Dasein is absorbed in its dealings with the ready-to-hand in everydayness. We apply a present-at-hand standard of measurement to a present-at-hand thing that we are measuring. Both time-reckoning and the clock are founded upon the temporality of Dasein, which may be shown entity ontologically (BT, 470). In Heidegger's words there are "wrong time" and "right time": right or wrong time to do things in our everyday. As time is measured by human beings' everyday life, the time line is becomes meanful.

Manuel Castells suggests that we are living in a network time or in his words a "timeless time" that belongs to the space of flow. Following Castells' theory of timeless time, we analyze the phenomenon of time in the digital age, and discuss the concept of timeless time by describing time compression and rhythm breaking.

The results obtained in this thesis are that the concept of time and human awareness of time has changed by the digital technology. While, on the contrary,

digital technology is transforming time, time is used, managed, perceived, and disciplined. The aim of this research is to show the fact that the network time plays a wider role than the real time, but it is always interrelated to the technical obsession with temporal acceleration. Actually, the real time is a fundamental misnomer; the understanding of the network time starts much more temporal possibilities.

Key words: Time, Technology, Dasein, temporal, Digital technology, network time, real time, timeless time, digital age, time compression, time rhythm

Texts

Texts of Martin Heidegger

BP   *The Basic Problems of Phenomenology*

BT   *Being and Time*

BW   *Basic writings*

HCT   *History of the Concept of Time*

ID   *Identity and difference*

PLT   *Poetry, Language, Thought*

QCT   *Question Concerning Technology and other essays*

Texts of Manuel Castells

CP   *Communication Power*

IA   *The Information Age*

PI   *The Power Of Identity*

RNS   *The Rise of Network Society*

Other authors

Augustine

Conf.   *Confessions*

Aristotle

Phy.   *Physics*

Met.   *Metaphysics*

Husserl

PCIT   *On The Phenomenology Of The Consciousness Of Internal Time*

BPP   *The Basic Problems Of Phenomenology*

Kant

CPR   *Critique of Pure Reason*

Chapter one: Start with the high speed

1.1 Background of the Problem

During the past few years, many sociologists, philosophers and psychologist have been focusing on the study of clocks, time measurement and the link between time and social culture (Rahman 2009, Bardon 2013, Dyke and Bardon 2013, Fernández 2013, Bardon 2015, Karin 2000, Caspar 2007). The reason why time has became a central topic in philosophy and social sciences, in economics and management studies, and has become a politics issue---is that the concept of time and the awareness of time has changed. This change also impacts the history and the culture of human beings. In the end of 19th century, researches in social sciences and economics were enchanted in the theory of time and the fact is that time is the value (Weber, 2001). Revolved around the essence of time, there were lots of complicated questions on time and its nature. Discussions on this newly awakened topic appear in conferences and journals, especially the so called "digital age"[1] or "information age" (Castells, 1999) appears everywhere. The concept of digital age was created with the development of digital technology. In digital age, time has been transformed, used, managed, perceived, and disciplined.

Many people in digital age are busy for catching the train to the office or works that must be done via computers. People are working in the office in front of computers; they have to attend video conferences, to arrange business through the smart phones. It seems that all those technologies are very advanced and have already save much time and energy for them, but they are still busy. On the contrary, people who lived in the past are not so busy without so many advanced tools. So, I suppose that the development of digital technology had done something on the time awareness and time conception.

Facts have proved that people like to live and work with intelligent machines. Statistics show that in 2008 the global personal computer ownership was about one

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[1] Also known as the computer age, digital age, or new media age. https://en.wikipedia.org/wiki/Information_Age

billion, but in 2014 this figure is doubled.[1] Another data[2] shows that the extensive use of digital technology has changed our society in many aspects, including education, economy, politics, personal relationship and morality. We focus on the effects on time awareness and time conception.

The fact that digital technology has formed temporality been accepted universally. Someone is not confident in facing a highly developed digital technology. Humans always are threatened by the advanced technology, for example, manual works will finally be replaced by some kinds of digital technology, and some people are doomed to lose their job. The key to grasp the effects of digital technology on time is that all kinds of things are getting faster, and that the accompanying changes are also fundamental.

As the fundamental point of view, time is an integral part of the production. But as a philosophical worldview, time is formed in human activities. In China, Mohist proposed 宙[3] (zhou) as the time (Shi, Shoukui, and Yi. 2003, 1), and the awareness of time is related to physical movements. In the West, the ancient Greek philosopher Democritus thought that time is the condition of physical movements. Modern idealistic thinkers have different viewpoints on time. For example Berkeley thinks that time is the product of human feeling; while for Kant time is a priori intuition; Hegel believes that time is the absolute idea developed to a certain stage of the product. Time is not only the scale of life, but the development of human; it is the reality of the thing itself constituted course, and is inextricably linked. Cyberspace brings the "real time" in front of us: time is been chosen and preset.

The time is fixed between two points, which we feel as the passage. We have feelings like "how time flies" or "I have waited for so long time" is because we have been "waiting" for a "passing of time". Things are established between these "passing of time". The feel of "period" will cause the character of unequal. However, before the mechanical clock was invented, people were not so tense about the time passage,

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[1] These statistical data come from Gartner newsroom http://www.gartner.com/newsroom/id/703807.
[2] http://www.gartner.com/technology/analysts.jsp
[3] As a part of 宇宙 (yu zhou), The Chinese character zhou means the Universe. But in Chinese 宙（zhou）is the infinite time and 宇（yu）is the infinite space, together is the Universe. In Chinese is "四方上下曰宇，往古来今曰宙"

because the awareness of time cannot be calculated exactly. In fact, the awareness of time is realized via important events. The clock put tense into our feeling of time slowly and silently. The history has proved that every scientific revolution will cause huge advances in science and technology; and thus also make significant changes to the temporal perception. A significant chang in the time awareness can also reflect the development of science and technology.

Heidegger found that "we remain unfree and chained to technology" (BW, 311). This fact stimulates Heidegger to discuss the question about technology. The relationship between human and technology is subtle. Technology is a double-edged sword: both advantages and disadvantages of technology are depends on human's behavior. We will "get" technology "intelligently in hand", we will master it. "The 'will' to mastery becomes all, the more urgent is, and the more technology threatens to slip from human control" (BW, 313). Heidegger has realized that modern technology is a new kind of challenging and ordering to the world. He noticed that not only technology but also our sense about the world and our self-awareness are all changed.

After a basic exposition, we can now expand the scope to interpreting the detail---Heidegger's thoughs on time. Compare to other philosophers, Heidegger's account on time seems more ontological. He points out that Dasein's being is temporal and is constituted by existence, thrownness, and fallenness. While Heidegger hints that existence, thrownness, and fallenness correspond to the future, past and present. Dasein is not only temporal, but also exists in time. The temporality of Dasein cannot be measered by a clock. A clock can only measure points in temporal sequence. For Heidegger, this kind of chronometer thinking is a derivative phenomenon. He wants to puts the phenomenon of Dasein in origianl temporality, that Dasein "temporalities" its exstence.

Heidegger shows that Dasein's being is temporality, and that "temporality is the movement of Dasein's becoming" (Johnson, P. A. 2000). But now everydayness evidently means the state of existing in which Dasein hold it "each day" (BT, 339). And each day does not signify the sum of the days that are allotted to Dasein in its lifetime. Although each day is not to be understood in the sense of the calendar, some of such time determinations still echo in the significance of the everyday.

"Everydayness means that how in accordance with which Dasein lives its day, whether in all of behavior of only in certain ways prefigured by 'being-with-one-another'" (BT, 339).

We calculate everyday life with time by year, month, and day, even by second and millisecond. In fact the counting of time on clock or watch is not the counting of authentic "experience time" but the counting of number. The authentic of counting is only possible because Dasein in temporal is its clock. In other words, Dasien's original temporality makes the counting of time possible.

Dasein determines an ontological relation to time. But this relation is not direct; is the connection with techno-logical, historial conditions, social culture, affects from and to the development of technology. The experience of time is also determined by technology, for example, we have the sense of day and night when there is no clock with twenty four hours, and we can experience the second passing when we living in the tense time in digital age.

However, it is hard to say that the network time we discuss here is the original temporality or the ordinary concept of time. The network time, which Manuel Castells called "timeless time", is very similar to the "world-time". "The clock time of the industrial age is being gradually replaced by what I conceptualized as timeless time: the kind of time that occurs when in a given context, such as the network society, there is systemic perturbation in the sequential order of the social practices performed in this context. I first found the traces of timeless time while analyzing the workings of financial networks" (RNS, xl). In Castells theory, timeless time is the product of multi tasking and multi living which based on digital technology, and timeless time helps us to understand why we are in rush all the time. "The digital media technology encourages them to pursue the mirage of transcending time" (RNS, xli). One aims to invent new tools or machines is to save time or to organize time. "Timeless time" describes time in digital age vividly, and demonstrates the form and the power of time to the network society.

Digital technology is changing our consciousness on time (Castells 2000, Giddens 1999, Borgmann 1999, McLuhan 1994). The understanding of network time starts

much more temporal possibilities. In fact, the network time performs a wider action than the actual time, but it is always interrelated to the technical obsession with temporal acceleration. It is necessary to describe the temporal in network society and to compare it with the inapplicability of actual time. Base on that people can feel "time" on a superficial level at least, Castells argues that the globalization and the information age are heralding the era of domination by real-time, or the "timeless time."

Network time is a digitally compressed clock time (Hassan 2003). But it is a time that has exploded into a million of different time fractions as many as the users of the digital applications in the amorphous and constantly emerging network ecology. This is where the important break with the analogue meter of the clock occurs. Clock time has been made digital by computer technology and been set loose in the creation of fluid networks of social interaction. In short, computer and the emergence of the network make the actions of human agency have subverted the basis upon which the mechanical clock shaped and synchronized the modern world. Technological developments promise to make this temporal transformation even more profound.

We intend to outline this introduction of Heidegger within the conceptual framworks provided by both Heidegger and Castells.

1.2 Statement of the problem

The point in this thesis is that the concept of time in digital age does change. This change is especially obvious in the measurement and our awareness of time. The awareness of time is the ability to perceive, to feel, or to be conscious of events, objects, thoughts, emotions, or sensory patterns. In a word, awareness of time is the knowing, experience and the memory.

To understand the character of "digital time", we are going to list the history of the development of the concept of time, which contains the theories of some important philosophers. Then we review the concept of time in Heidegger's theory; and add Castells' timeless time to define the "digital time".

Castells defined the network society as a social structure which is characterized by

network communication technologies and information processing. This includes social phenomena such as economic interdependence among nations, globalization and social movements related to individual identities. Based on this definition, Castells hypothesized that the network society is based on two new forms of time and space: "timeless time and the space of flows" (RNS, xli). In terms of timeless time, new technologies, such as biotechnologies and communication networks, are breaking down the biological sense of time as well as logical sequences of time. This is the rhythm broken. Castells' example of new biological reproductive technologies blurs life cycle patterns in conditions of parenting by either slowing down to or speeding up the life cycle.

Heidegger did not use the same word as Castells used, but he said that "time as right and wrong time has the character of significance, the character that characterizes the world as world in general" (BP, 262). Modern technology is becoming human's challenge to the nature. When the dam on Rhine was built, scenery on both sides disappear, the harmony between human and nature is threatened. "Enframing is the gathering together which belongs to that setting-upon which challenges man and puts him in position to reverl the actual, in the mode of ordering, as standing-reserve" (BW, 329). And the challenging is which "puts to nature the unreasonble demand that it supply energy which can be extracted and stroed as such" (BW, 320). The storage and extraction of energy, is the phenomenon of changing the ordering. Dasein is Beings-in-the-world but as the changed ordering. The ordering changing is also a form of the sequence of human towards the nature. We can treat this change as the change of the sequence of the time. The storage of energy is a change of the time for the using the energy.

However, the digital conmunication technology is not only changed the storage form of energy, but related to all aspects of human society. The biological sense of time is a typical field which has been changed by the digital technology.

1.3 Purpose and Significance

The conception of time always plays an important role in the history of philosophy. Its problematic nature was captured by Augustine, who could feel time passing but

was not able to give a definition of time. The conception of time- either as an inner subjective affection or as an objective and measurable reality- has changed in the network society. Manuel Castells, for example, suggests that we are living in "timeless time" that belongs to the flowing space. In Manuel Castells' theory of timeless time, the phenomenon of timelessness in the digital age is becoming clearly. Our purpose is to discuss Castells' concept of timeless time by describing time compression and rhythm breaking in the digital age.

Castells said that time compression is embodied in all around the human society include economical, political and culture. He highlighted that time as a sources of value in capital economies, and the shrinking and twisting of work time, blurring of the life cycle, death denied, instant wars in network society, and also described how does the real-time dialogue happens in virtual time. Time is compressed and ultimately denied in culture, as a primitive replica of the fast turnover in production, consumption, ideology and politics on which our society is based. A speed only made possible because of new digital communication technologies.

Castells said that the hypothesis on the network society is characterized by the breaking down of the rhythms, either biological or social, associated with the notion of a life-cycle. He has concluded that digital technology has already destroyed the rhythm of human and the society. "I propose the hypothesis that the network society is characterized by the breaking down of the rhythms, either biological or social, associated with the notion of a life-cycle" (RNS, 476).

All the living beings, including human, animals and plants are all living in the biological clock. In the history, human's living only depends on the biological clock of them, but also depends on other things around. For example, the people of nomads can only prey in particular period. They have to migrate with plants migrate, because it is easy to get food in a region where plant is rich. So "biological rhythms, whether individual, related to the species, or even cosmic, are essential to human life. People and societies ignore them at their peril" (RNS, 475).

We can partly apply Heidegger's reflection of modernity to the digital technology. We want to know how Heidegger dialogizes modern technology. This shall be helpful

for understanding of the time in digital technology.

1.4 Research questions

First, what the concept of time is in digital age? This will be divided into several questions. 1) What is the defenition of Castells' timeless time? 2) What is the phenomenon of the timeless time? 3) How does time compressed? How does the rhythm broken?

Second, how does Heidegger defines the concept of time? And how does Heidegger' think about the relationship between time and digital technology?

Third, can we draw a conclusion from Heidegger and Castell's theories that the concept of time is changed due to the development of digital technology?

1.5 Assumptions and Limitations of the Study

The development of transportation technology, information technology, computer and other modern technologies have lead to a collapse of the traditional concept of time. The development of digital media technology made the difference in physical space no longer obvious. Evidently, "real time" is becoming real at present. You can talk with your friend who is in the other side of the earth, which is impossible in the past. Only in the digital technology time, the "real-time" call becomes true. And human celebrate this creatively invention with the "real-time" call.

Our assumptions are: 1) the concept of time in digital age had changed. 2) And this changing is effected by digital technology. 3) Human's awearness of time has been and will be controled by digital technology.

The development of digital technology enables information transmission in a worldwide range, and makes our world into a village. The digital media technology has changed human's experience of time. At first, people feel uncomfortable because of the suddenly accelerated pace of life, but they are adapting quickly. The society is expanding but we feel it narrower. Cyberspace brings us into a synchronous and instantaneous media age. The digital media technology accelerates time speed while

makes space boundary disappear. In fact, we get used to the Network neighborhood without thinking about its meaning. We enjoy the digital entertainment but do not think about the rules in our society. We accept vast amounts information and are willing to share with others but without discussion deeply. What we can see is the fact that digital technology is advanced and will lead us to a more convenient life. While we enjoy the convenience that digital technology brings to us, we should be aware of the danger of it. As Friedrich Hölderlin's poem goes, "But where the danger is, also grows the saving power", danger and power coexist. Even though Heidegger had not saw the computer popularization in his lifetime, his discussions and criticism on technology are proactively and predictability.

Our daily lives happen in the nature but now depends on all kinds of technologies. The explain about human and human culture are all depends on the technology (Cooper 1991: 27, Feenberg 1999, Idhe 1990, Borgmann 1984, Giddens 1976: 166, Lévy 2001: 9).

I will not discuss the phenomenon of the time and technology in digital age from the point of view of psychology and sociology. Because of these limitations, I will not discuss following questions
·How do we experience time?
·What is the nature of time in the network society?
·How to compare our relationship with clock time in network society?
·What is the becoming of network time?

1.6 The methods

Qualitative research method was used in this thesis. Based on historical and life experience materials, we rise up the hypothesis that the concept of time has changed in digital technology. Based on historical records and monographes of philosophers, we described the history of concepts of time. So that can get the idea that the concept of time changes with technology development.

A correlation research methodology was used for this study. Under this methodolgy, we gathered both Heidegger and Castells's theories to get the information that both of

them have the opinion about time and technology. By comparison Heidegger's book *Being and Time* and *The Question Concerned Technology* (QCT), we know that Heidegger thinks that human beings are challening to the nature because of the modern technology; and also because of the modern technology, human beings' sense of time has been changed. By comparison Heidegger and Castells' theories, we see that both of them has the opinion that human's awearness of time has been changed and transformed by the digital technology.

1.7 Literature review

Literature review on Heidegger's time

Heidegger's conclusion on time is that Dasein exists in temporality. The reason is that all the actions- related metaphors, the anticipation of death, and resolution-are similarly temporal orientations of Dasein. Heidegger looks at the ontological significance of time in all of those metaphores. He returns to the existentials of care, understanding, and state of mind, falleness, and discourse showing how they are all temporal.

Care leads to Dasein being-ahead of itself, which leads to the existential nature of death. Being ahead of itself, Dasein comes to an end. Temporality is the meaning of care. Care has been linked to anticipatory resoluteness which is a kind of being-toward possibilities. Particular interpretations of the world are possible only because Dasein is limited by its own temporality

Heidegger argues that time not the "one". Public time is not derived from inner or subjective time. Dasein is in the world through its actions, care, authenticity and inauthenticity. Both the occurrent and the available are encountered in time and this is related to the fact of Dasein's thrownness as the reason for public time. "The understanding of being by which our concernful dealings with entities within-the-world have been guided has changed over" (BT, 412). Public time depends on Dasein's temporality, on its ability to see the world in terms of systems of measurement. "Dasein is itself the clock" (BT, 416). Dasein's activities are the origin of temporal measurement by using or creating occurrent objects such as clocks and

sundials.

Heidegger shows how deeply time is part of Dasein's nature. Dasein is not in time, rather Dasein is time. Thus for Heidegger, the being of Dasein is becoming. Heidegger shares an affinity with Hegel's organic. He process approach that Hegel contextualizes individuals by explaining their consciousness through the culture of which they are a part: individuals manifest as particular, personalized versions or images of the larger conceptual structure of their culture. As we have seen, Dasein occurs in a public world, surrounded by its tool-cntexts, Man, fate and destiny, and so on. Nevertheless, for Heidegger Dasein is the basis for the explanation of culture because it can transcend, it can stand outside of its particularity and characterize itself and its world.

Secondary Literature review on Heidegger's time

Schürmann (Schürmann, R. 1987) interpreted how Heidegger tries to find a way to approach the meaning that temporality as the meaning of Dasein. He stood on Heidegger's side and abandoned the tranditional way of description. Instead, they have chosen a new path to the phenomenological origins. William Large (Large, 2008) integrated the everydayness experience and ontological analysis to discuss Heidegger's theory of time. His criticisms about Heidegger's analytic of Dasein and temporal are failed to show restraint. It is difficult to judge his criticismis are right or wrong, but he gave us a new perspective on the relationship between Dasein and temporal. Based on ontology and phenomenology, William Blattner (Blattner, 2006) got the sense of Heidegger's temporality. He involved all conceptions of Heidegger's time; his study is so comprehensively that it is easy to get the meaning of time. He divided the work of *Being and Time* into many pasts which is an innovative array of ontological categories, prominent in which is a technical development of the ontology of the human that had been emerging within the existentialist tradition; an attempt on link ontology decisively with the philosophy of being. This kind of analysis defines an original temporality and the ontology of Dasein clealy. Thanks to Theodore Kisiel who worked out the doubt of Heidegger's self-interpretation and made people pays attention to the details of *Being and Time*. While Alexei Chernyakov's "Now" initiated the discussions on Heidegger's so called "destruction of the history of

ontology is a transformation strategy". The attempt to discriminate entities and their being of appearances as ontological is difference, so Heidegger believes that time is nothing else but the ontological difference. William McNeill leads us to pay attention that Heidegger's conception of time focuses on the sense of human but no longer stay in Dasein generally. The exploration of Heidegger does conceive in terms of time or temporal is tending to human's existence and actions (McNeill, 1999/ 2006). David Farell Krell clarifies the relationship between time and technology by stating the link between time and being: "nevertheless, the temporal quality of being in general is already know, at least insofar as time can be proclaimed the guideline for the very question of being-the concept of time….becomes the guideline of inquiry into the being of beings" (Krell, 1974/1986/2015).

As Roy Wagner wrote in the book entitled *The Invention of Culture* (Wagner, 1981) that innovation and convention are emergent effects of a single temporally constituted process of human symbolic articulation. Heidegger explicitly rejected the suggestion that he was doing "anthropology" (in Kant's sense), a branch of philosophy that starts off with human being as an objective (empirical) being. What James maintained is that before such anthropological issues are made visible, one must first pose properly ontological issues: "questions about the conditions under which the study of anthropology, or anything else, is possible" (James 2001, 3).   Miguel de Beistegui distinguished time, temporal, temporalizing and temporality, and identified that "'our time' is at the most foundamental level, time as such: not objective, measurable time, but the time that marks the unfolding unity and the continuity of a common destiny, that of the western world" (Beistegui 2003, 4).

Literature review on Heidegger's technology

Existences and temporal are discussed frequently in Heidegger's early works, while the question of technology is the most important work of Heidegger's later works. In *The question concerning technology*, Heidegger rose up the question: what is the relationship between human and technology? His aim is that "we shall be questioning concerning technology, and in so doing we should like to prepare a free relationship to it" (QCT, 3). The only way to understand technology is to get the essence, and the essence of technology is revealing. Technology is a way of revealing.

To grasp the relationship between technology and human, we have to keep the following three point in mind: first, revealing the essence of technology is the most important aim; second, modern technology is different from the ancient one in terms of the structures and the artifacts it produces; third, it's difficult to get to the essence, because we human self is also in the challenge, we are living in the heart of the danger, so that we cannot look deep into the essence of technology. "Technology is a mode of revealing. Technology comes to presence [West] in the realm where revealing and unconcealment take place, where aletheia, truth, happens" (QCT, 13).

We should overcome those difficulties, so that the essence of technology will be revealed. We will also enter into the realms of unconcealment. For getting the idea that unlocking, transforming, storing, distributing, and switching about are ways of revealing, we are still far away from the essence of technology. At the same time, we are facing another problem: the fact that "everywhere we remain unfree and chained to technology" (BW, 311). This problem stimulates Heidegger to discuss the question about technology. The relationship between human and technology is subtle. Everything depends on our manipulating technology in the proper manner as a means. Heidegger has realized that "the modern technology is a new kind of challenge and ordering to the world, modern technology as an ordering revealing is, then, no merely human doing" (QCT, 19). Technology end up reducing the whole, reach to a camplex enframing (Ge-stell) develop to reduce nature and human beings to standing revealize.

Therefore we must take that challenge that sets upon man to order the real as standing-reserve in accordance with the way in which it shows itself. That challenge gathers man into ordering. "This gathering concentrates man upon ordering the real as standing-reserve" (QCT, 19).

Heidegger noticed that the essence of modern technology has for a long time been concealing itself, even where power machinery has been invented, "where electrical technology is in full swing, and where atomic technology is well under way" (QCT, 22).

As Heidegger said, "revealing of the modern technology is not happening exclusively in man, or decisively through man" (QCT, 24). But in a word, technology happened

as the history need, modern technology is the new human reality.

But the way we open ourselves to the essence of technology is still in fog. Because in Heidegger's thought: "Enframing, as a challenging-forth into ordering, sends into a way of revealing. Enframing is an ordaining of destining" (QCT, 24). The essence of technology lies in Enframing. Its holding sway belongs within destiny. If technology is our destiny, the fate is already ruled, so the effort for opening the essence of technology is limited by the destiny. This does not mean that technology itself is dangerous.

There is no demonry of technology, but rather there is the mystery of its essence. "The essence of technology, as a destining of revealing, is the danger" (QCT, 28). And the essence of technology in Enframing is the real danger. "The rule of Enframing threatens man with the possibility that it could be denied to him to enter into a more original revealing and hence to experience the call of a more primal truth" (QCT, 28).

Secondary Literature review on Heidegger's technology

There are lots of discussions on Heidegger's question on technology; two examples are Lacoue-Labarthe (1990) and Zimmerman (1990). Both of them are focus on Heidegger's critique of technology and his philosophical struggle with modernity which is also a topic that I will discuss in this thesis. While, the question about technology become more and more important maybe because there was no an era like the one we are living in. In our era, technology occupies almost all of human's social activity. This also explains why Heidegger turns to the issue of technology in his later years. The issues of technology and modernism were big problems in Heidegger's time than now. Technology becomes the fundamental ontology and the core of human characteristics which dominated Heidegger's philosophy.

Heidegger defined the Enframing which is used to describe how agriculture is now a mechanized food industry, in essence the same as the production of corpses in the gas chambers and extermination camps, the same thing as the blockading and starving of countries, the same thing as the production of hydrogen bombs (Heidegger 2012.).

The equivalences Heidegger asserts here led to some criticisms, for example,

Davidson's wrote that "when one encounters Heidegger's 1949 pronouncement, one cannot but be staggered by his inability-call it metaphysical inability-to acknowledge the everyday fate of bodies and souls, as if the bureaucratized burning of selected human beings were not all that different from the threat to humanity posed in the organization of the food industry by the forces of technology" (Donald 1989, 424). Using the phrase "were not all that different", Davidson fundamentally misses Heidegger's central philosophical point. By concentrating solely on the expression "the same thing as", Davidson thereby ignores the crucial qualification contained in the immediately preceding phrase "in essence" (Davidson 1989, 407–26). In Davidson's opinion, Heidegger has brought human themselves to light after they interpreted the essence of technology. In fact, Heidegger also builds a bridge between digital technology and its social impacts.

Literature review on Heidegger's time and technology

Martin Heidegger's theory of time is an original theory in philosophy, but Gabriel Motzkin's commented that Heidegger's theory is "one that integrates subjective human time with the idea that all time is future time" (Ezrahi, Everett, and Howard 1995, 137). Gabriel Motzkin also said that "Heidegger's theory bases on Hermann Cohen's idea that future time is the primary mode of time" (Ezrahi, Everett, and Howard 1995, 137).

Motzkin's analysis of Heidegger's time and technology is innovative, the logic of the origin of the time and technology is clear. But his focus is not just on the origin of the time and technology, his conclusion is that: "we would never be in a position of having no technology, because technology is part of the way in which we temporalize ourselves, i.e., part of the way in which we produce ourselves and time and attribute meaning to that self-production" (Ezrahi, Everett, and Howard 1995, 149).

While, though Heidegger is not an absolute pessimist, he is the one who has belief in the essential neutrality of technology. Langdon Winner termed the "myth of neutrality" (Winner 1977, 27) and dismissed as "a truism striving to be a bromide". Despite being is seldom acknowledged by media scholars (or if acknowledged, only cursorily), Heidegger's philosophical approach to technology raises a profound challenge to

those who selectively endorse and critique technological determinism. The issues which with the advent of ubiquitous computing and such new forms of subtly unobtrusive technological mediation such as Google's new Glasses interface, has never been more pertinent.

Though it seems paradoxical, Heidegger declared that the essence of technology lies beyond the particular characteristics of any specific technological contrivance encapsulates the manner in which his work encourages us to consider the determining qualities of technological environments rather than individual artifacts. For a hammer, everything is altered to be a nail. This phenomenon expresses the determinist, and similar alteration occurs whenever we use a simple tool. The change introduced when the artifact at hand is a complex piece of technology. The change is exponentially greater, and still greater when considering the use of technologies that rely upon an integrated system of mutually referential technologies such as the digital matrices. What makes Heidegger uniquely important for the study of digital technology is the manner which his seemingly unfashionable notion of technology helps us to reflect upon the general nature of the technocratic mindset. We argue that this is ultimately much more significant than the specific peculiarities of individual artifacts whether they be computer, smart phone or the internet.

Literature review on time and technology in digital time

In network society, the development of technology and the formulation of the ideology relate to another category of the current cultural debates, represented by globalization, supporting a "new interpretation less focused on economical factors (certainly decisive) and more sensible to cultural logics" (Rahman 2009, 9). The concept of time was hiden under the system of culture and has changed dramatically. Along with the concept of time, the measurement of time is also changed. "Aristotle said that time is a number of movement in respect of the before and after, and is continuous since it is an attribute of what is continuous" (Thomas and Richard 1963, 288). It seems that there are many philosophers agree with them coincidental or intentional. Adrian Bardon said "what we call time is simply the measure of changes" (Bardon 2013, 6). Research on time and on the history of time measurement increased a lot recently. "The pre-Socratic philosopher Parmenides said that: without change

and limit, neither past nor future, entirely included in the presen" (Smith 1849, 124), which argues for the ideality of time and change, is the first example of extended philosophical argumentation. While Heraclitus, took the opposite position, claiming that change is the most fundamental aspect of reality.

While the "change" is sensed by human beings, as time is experienced by human beings. Expounding Aristotle's conception of time, Barry Dainton thinks like that time is human's experience: "Aristotle's puzzle also arises in connection with our experience of temporality" (Dyke and Bardon. 2013, 389). The close relationship between time and our awareness of change attracts lots of philosophers. The awareness is the ability to perceive, to feel, or to be conscious of events, objects, thoughts, emotions, or sensory patterns. In a word, awareness is the knowing, experience and the memory.

Our experience of time connects with our memory closely, but the relationship between them is a mystery. According to Jordi Fernández's "experience-dependent theory": "what determines the content of a memory experience that one would express by saying that one seems to remember some event is a condition about the time of occurrence of that event" (Dyke and Bardon. 2013, 333-56). He thinks that every memory presents themselves like film screenings that appears a frame by frame. Fernández finds that even though the memory represents the past by virtue of representing causal relations, we still cannot clarify the connection between memory and temporal representation.

If we focus on the relationship between time and memory, we can not avoid Julian Kiverstein and Valtteri Arstila's cognitive science of time (Dyke and Bardon. 2013, 444). They examine the range of theories about the structure of temporal experience, and argue that "our experience of temporally extended events should be regarded as a kind of projective construction, rather than as a simple reflection of events as they occur" (Dyke and Bardon. 2013, 5). Time was felt by events passing or occurring, this phenomenon is the traditional kind of analyse.

Holly Andersen also draws a picture on cognitive science of time (Dyke and Bardon. 2013, 471). Another aspect of our experience of time is the asymmetry of our

emotional attitudes towards the past and the future. All other things being equal, we prefer our pains to be past rather than future. But the pain in the past does not exist at present, while we can still remember it, so, will they remain in our memory till the future? Caspar Haresaid that "someone who cares about when things happen relative to the present moment time-biased" (Hare 2007). Awareness about the present existing really but not all the awareness will exist in the memory, something happened in the past, but been forgotten, so we do not admit it had been existed. About the past, present and future, everyone has his own opinion.

Karin De Boer points out that Heidegger used Aristotle's conception of time to exemplify the philosophical interpretation of the concept of everyday time. "He constantly shifting border between past and future" (Boer 2000, 263). We always treat the count of time as time experience, in fact the action of the clock on the wall or the watch in your hands are not the only way to experience time, for Heidegger, it is not the most primordial. We can experience time, without seen the clock. We can tell it is about 2:00 pm because our everyday life is another kind of "clock". This is Heidegger's "world time".

Base on that people can feel "real-time" at least superficially. Manuel Castells, in his book *The Information Age: The Rise of the Network Society* argues that globalization and the information age are heralding the era of domination by real-time, or in his words "timeless time".

The study of time in philosophy has never been neglected; we will see this in the first chapter. While it been neglected generally in the social sciences. But after Adam's analysis of what she called a "temporalized perspective" everything changed (Barbara 2003, 59-78). If we go back to Lukacs Georg, for example, we can find that he wrote sporadically about the role of the clock in the commodification of labour (Lukács, 1971). In the 20th century Lewis Mumford did in fact see the clock as "central to the Industrial Revolution" (Mumford, Lewis. 1934). This was in the context of a discussion on the general role of technology and technical systems. Social historians such as E.P. Thomson also have important contribution to the idea that the clock can be considered as a transformative technology in the context of an unfolding modernity (Thompson 1967, 56-97).

Paul Virilio, has the theory of temporality. He focuses on the effects of speed and velocity in politics and in social life (Virilio 1986, 6). Other sociologists like David Harvey has grappled with how our time-space horizons are being drastically curtailed in the era of "flexible accumulation" (Harvey 1990, 147). He sensed that our relationship with time and space were undergoing a profound change due to the revolutions of neoliberalism, information and communication technologies; but he does not concentrate on the spatial dimension at the expense of the temporal. The rapidity of time, as he terms (Harvey 1990, 147), makes it difficult to react to events. The changing temporal organization of everyday life within the postmodern network society is the key issue of this thesis.

One of Weiner's aims in the book *The human use of human beings: cyberneties and society* is "to warn against the dangers of a purely selfish exploitation of these possibilities in a world in which to human beings human things are all-important" (Wiener 1967, xvii). His advanced thought has also been expressed in his other books (Wiener 1993), time series and the apparatus will affect technology; on the contrast, time is affected by technology so that human beings can deal with the recording, preservation, transmission and the use of information.

The investigation and historical methods were the mains methods in this thesis. They enable us to access to the essence of technology and temporal (e.g., Heidegger 1962, 1978, 1977). So that we have the promise of elucidative what the phenomenon is. We attempt here a phenomenological description to the digital technology via its contextualization within an ontological background. In this thesis, we try to get the basic connotation of Heidegger's time and technology which founded the guidelines for composition on the attitude to the digital technology and the temporal in the modern world. The "time" we want to analyze in this thesis is not the specific experimental subjects such as a clock or a watch but as an intentional object of consciousness; and the digital technology is neither a computer nor a smart-phone, but a concrete digital technology that is recognized as a digital technology and not as something else.

We suggest that phenomenology offers a relevant way of enhancing our understanding of our environment in the world, namely concerning the pervasive

digital technologies, particularly the computer. Digital technology is changing our consciousness on time (Castells 2000, Giddens 1999, Borgmann 1999, McLuhan 1994) - we can have Skype, have video conference, surf on the Internet, watch sports competitions live broadcast on the smart-phone or computer everywhere.

And exactly this consciousness, the knowledge of the average person, is going to be an ever presented background of the following analysis. "As a series of factual beliefs, it is in principle open to confirmation or otherwise in the light of social scientific analysis" (Giddens 1976: 166), because not just the knowledge of average person is partially composed by results of scientific inquiries. Last but not least, it is important to note that consciousness is not just a set of practical knowledge. On the contrary, "it is in some substantial degree derived from, and responsive, to the knowledge and activities of experts, who directly contribute to the rationalization of culture" (Giddens 1976: 115). In Giddens' treatise on cyberculture, Pierre Lévy understands acceleration as one of the most poignant characteristics of current world: "The acceleration is so strong and so general that even the most "sophisticated" individuals find themselves overtaken by change, since no one can actively participate in transforming the entire range of technological specializations or even follow them closely" (Lévy 2001: 9). But he is not the only one who comes to this conclusion. Finally, for Christophers Lasch, "growth - which, as we will see later, is inseparable from speed – an euphemism for survival" (Lasch 1979: 50).

1.8 The structure of the thesis

In chapter two we will prove a brief history of the concept of time, and analyze the theories of Aristotle, Augustine, Kant, Huesserl, Einstein and Heidegger among others. Aristotle argued that, a piece of time is already existed, but "now" no longer exists, the "future" have not come yet. For Augustine, God is the best explanation of time Creation, or the starting point in time. However, this explanation also leads to many further problems; for instance, does God create the world in a time sequence? In Augustine's theory, creation is not in time, because time does not exist yet. In *Critique of Pure Reason*, Kant describes time as the formal condition on which all phenomena are based upon. He considers it as a one-dimensional subject that is not an empirical perception, which is given a priori and nothing else but the form of an inner

sense. He developed a concept of time, which was based on his idea of the internal sense. For him, time and space are not necessarily a combination, as he does, in *physics*, time is a formal condition upon which all phenomena are based on.

Time has always struck people as a mystery in a number of different ways. One of the mysteries of time is its directionality. What lies behind time's arrow? What is the source of the asymmetry between past and future, between earlier and later? Why, for example, can we remember the past but not the future? These are difficult and important questions. But I can not answer all of them. What I want to talk about, are the concept of time in Einstein's special and general theories of relativity. What Einstein did, in effect, was to show that time is involved with the deep structure of physics, in a strange and entirely unexpected way. The key point of Einstein is that the velocity of light is independent of the motion of the observer. This seems been implied by Maxwell's equations. In which the speed of light appears as a constant; and was demonstrated empirically in the famous Michelson-Morley experiment.

In China, the earliest conception of time is Eon (zhou 宙). Eon means the whole history, it is the sum of the past，present and future, and the most important thing is that Eon is an entity of time lasting. Nowadays, the time measurement is almost the time self. Kuantzu had mentioned that Eon is the earliest concept of measurement time, but the "long time" (久) that in the book of Mojing (墨经) is recognized as the first concept of time in China. "Long time" (*jiu* 久) is composed by past, present and future, we always feel it as morning, noon and night. "long time" (*jiu* 久) is an entity of free duration with length. In the ancient of China, time was treated as the same as the hour, while "long" is the measurement of time lasting. Chuang Tzu (庄子) said that "Eon has extensa but infinite". He believed that the time riever has no beginning nor ending. Although, there are some time conceptions on measurement of time, they are not so meticulous that there is no more research or record about the way or tool on time measuring. "Long" keeps the meaning of "Since time immemorial" (古往今来), though it involves the length of time, it only exist as a quantization. But the Chinese always use the natural to set up their life and farm works. So "time" (*shi* 时) is the first word to define the time.

In chapter three we consider Heidegger's conception of time in detail. Heidegger shows that Dasein's being is temporality. Temporality is the movement of Dasein's becoming (Johnson 2000, 26).

Heidegger considers Aristotle's conception of time to exemplify the philosophical interpretation of the everyday concept of time (Boer 2000, 262). For Heidegger, the experience of time is that we can tell the approximately time without looking at the clock on the wall. This is the world time. World time is not the objective time, is full of meaning: wrong time or right time to do something; Which Heidegger defined as "span". "Temporality is experienced as a primordial phenomenon in the authentic being- whole of Dasein, in the phenomenon of anticipatory resoluteness" (BT, 291). "Time is Dasein" implies that what Heidegger is going to determine is not the socalled "time", but the relation to time. This relation between time and Dasein is bidirectional; it connects with technological, historial conditions, social culture, affected by and on the development of technology.

In chapter four we discuss about Heidegger's conception of technology. In *Questioning on technology*, Heidegger draws deep into philosophical analysis of modern technology era of the omnipresent danger but pregnant with the possibility of rescue. Technology is a manner of truth occurred. Modern technology as the way of revelation is different from ancient technology that appears in the way of revelation, from ancient technology to modern, is from "bring-forth" to "challenging". The ancient technology gathers God, human and the whole world together. But modern technology reveals in enframing. Our aims here are get the essence of technology following Heidegger's logic, and get the relationship between human and technology. Technology is our fate, is our desnity.

Chapter five considers Heidegger's thought on time and technology. Another aim of this chapter is to show that the change of time awareness in digital time.

The aim in chapter six is to discuss the change of concept of time and the relationship between time and digital technology. "What time is it?" is not a question that usually provokes a lot of soul-searching. It's the question about the very Now, and also asks about the movement about the things in the clock, but it's generally taken for granted

that even if we don't know the correct time, a correct time does exist and that everyone on the planet-whatever time zone they are-follows the same clock.

For Castells, time is also a kind of "non-time" which means that as the network society becomes more encompassing of culture and society. I want to discuss our relationship with time and how it is changing through globalization.

It is clear that through the information technology revolution something exceptional has occurred to the foundations of our modern relationship with time. Through ubiquitous computing and ever more dense levels of interconnectivity, the network society has evolved. This is both extraordinary and unprecedented, as it constitutes the creation of a network environment; a network ecology that contains its own digitally created spaces and times. The evolution of asynchronous network time has meant that for the first time since the beginning of the industrial revolution, humans are able to create and experience timescapes that are not synchronized to, or sublimated by, the logic of the clock. This process is set to become yet more profound through developments in advanced computing. To approach the time and technology in digital age, there are many questions waiting for us. What is the essence of time in digital? Does the essence of time has changed or the way we experience time has changed? Has the digitalizing dominated our relationship with time? And what is the becoming of network time---times that interpenetrate and permeate our lives but have been displaced, marginalized and sublimated by industrial clock time?

Chapter Two: The history of time

In the history of Western philosophy, there are two main opposing views on the interpretation of time. One view is that the existence of time is objective, while another is that time is subjective. Aristotle holds the first one. He believes that because of the movement of time and objects in space are inseparable, time is a measurement of the movement of things.

Augustine believes that time is subjective. He treats time as character of human mind. Human mind sense and is affected by time. The activities of mind are carried out from the time line. People always take the point in the time line to understand their own perception, memories and expectations.

Kant argues that the space in the form of external senses, that all external perception of the phenomenon is in the congenital visual conditions; while time is in the form of inner sense, that all internal perception of the phenomenon in the form is a priori intuition.

Husserl developed the concept of inner time conscioussness. He spoke highly of Augustine's doctrine of the time. He distinguished two kinds of time: the objective time and the subjective time (or the internal time).

Einstein treats time as the fourth dimension in his theory of relativity, so the traditional three-dimensional space is replaced by a four-dimensional space-time.

The Chinese traditional philosophy of time, which emphasized on the study of the social and cultural spheres of life, is related to the humanities and the history. From the Yin (1600 BC - 1046 BC) and Zhou (1046 BC - 256 BC) era, Chinses ancestors concerned the process of life time and cultural events. Chinses philosophy of time puts less emphasis on the external physical time which can be grasped from the observation phenomenon. Confucianism, Taoism and Buddhism are all ignored the time for describing the movement of an object, only Mohism is an exception. Mohism interested in the observation time and the natural time of objects's movement.

2.1 Aristotle: is time a real exist or not

The first logical analysis on the concept of time appears in Aristotle's *Physics*. One question confused Aristotle so much is that "if the time is a real exists or not?"

Treating time as an entity faced many difficulties. Aristotle argued that, a piece of time already existed, but "now" no longer exists; and the "future" has not come yet. All kinds of time conception are composed by "past", "present" and "future". So it's untenable to suppose time as an existence. Otherwise, the so many "nows" are the same or different? If they are same, then they can be regarded as a unique "now", and they cannot be a past or a future. If they are different, how does the "now" come out one another? The emergence and the disappearance are unlikely to occur by themselves, but one sequence cannot happen in another, because there are lots of "nows" between the two "nows"; or if so, the "now" will coexist with the now before (past) and the now after (future).

These existential questions were shelved because Aristotle was unable to solve them. In addition, Aristotle asked, "What is the nature of time?" Pythagoreans thought that time is the celestial itself, Plato believed that time is the motion of the celestial sphere. In Greek, the popular argument about time is to consider time as a movement and change, and the specific movement and change that occurred in a particular place. The changes can be fast or slow, but time always evenly goes forward.

However, time cannot exist without motion. We can use numbers to describe motions. To be in number means that there is a number of the thing, and that the being of the thing is measured by its number. Hence if a thing is in time it will be measured by time. "But time will measure what is moved and what is at rest, the one qua moved, the other qua at rest; for it will measure their motion and rest respectively" (Phy. 74). If no changes, we can not be aware of the time. Time has no speed level, one can only describe the length, and it likes a number axis. "Now" is the start number in axis, the region to its left is the past, and the region to it right is the future. In Aristotle's words that "'now' is the link of time, as has been said and it is a limit of time" (Phy. 127).

In Aristotle's logic, there is confusion in concepts of "time sequentiality" and the

"passage of time". When Aristotle said that time is the "number of motion", he uttered the time sequential is aspect. While the fact is that "there is no time there will be no "now". Because "'now' is always the same in one sense but different in another, so this 'now' is about the passage of time" (Phy. 121). He means that "time sequentiality" and the "passage of time" are the two completely different sequences of time. For example, Yesterday is the day before today, but it is the future of the day before yesterday.

The relationship between absolute and relative sequence is an important issue of contemporary philosophy. Aristotle has no strict distinction on both of them, mainly because his thought basically belongs to the Greek tradition thought. In his *Physics* he said, "Time itself is a major disruptive factor because that it is the number of motion and will endangering things status quo" (Phy. 221). Time itself is not so much like the cause. It is more precise to say that time is the cause of downfall. Time can not erase the fact, but it will change with the fact. Time is just a number or measurement, if no one measure it, time will not exist, despite the movement still exists.

Since the "now" is an end and a beginning of time; in a sense, time is always at a beginning and at an end in the same thing. And for this reason it seems to be always different. "For the 'now' is not the beginning and the end of the same thing; if it were, it would be at the same time and in the same respect two opposites. And time will not fail; for it is always at a beginning" (Phy. 75).

In the category of Aristotelian physics, time plays a very important role. However, it is not the reason for change and movement but the only way to identify changes. The time was used intentionally to represents change aspects but was unintentionally avoided. The concept of measurement time has become the only legitimate physics concept of time in history.

Heidegger commented that Aristotle's concept of time that: "it basically provides for all future generations perception of time, and time for Aristotle analysis of the concept can be more clarity to know Kant's concept of time. Kant and Aristotle ontological orientation are Greek-style" (BT, 33).

Different from Plato, Aristotle disagreed on the creation of the Universe. For Aristotle "the Universe is eternal existence, movement and time versa" (Phy.130). Therefore, since the now is both a beginning and an end, there must always be time on both sides of it. But "if this is true of time, it is evident that it must also be true of motion, time being a kind of affection of motion" (Phy.130).

The aporia of temporality is the difficulty in distinguishing the time in soul and the time of the world. This is why we must go to the very end of the impasse and admit that a psychological theory and a cosmological theory mutually contain each other to the very extent they imply each other. In order to make the time of the world apparent, which the Augustinian analysis fail to recognize, let us listen to Aristotle and the echoes of more ancient words, words whose meaning the Stagirite himself did not master. The three-stage argument leading to the "Aristotelian definition of time" (Phy.69) needs to be followed through step by step. This argument holds that time is related to movement without being identical with it. The treatise on time remains anchored in the *Physics* in such a way that the originality belonging to time does not elevate it to the level of a "principle", which includes local movement. This concern not to tamper with the primacy of movement over time is evident in the very definition of nature at the beginning of Book II of the Physics: nature is a principle or cause of being moved and of being at rest in that to which it belongs primarily, in virtue of itself and not suddenly (Phy.69). Change can be rapid or slow, whereas time cannot be described by a speed.

Aristotle has the idea that "it is evident, then, that time is neither movement nor independent of movement" (Phy.69). The reason why he said so is because that time is not independent of movement and change. The possiblility of time is that every "now" is different. The differences had been noticed by human beings. The "difference" is the basis sense of time. If there is no difference or the difference is too slight to be noticed, we will not be able to realize the change. The diferrences between each "now" is the phenomenon of time. This argument of "time is movement or not" prevents Augustine from finding the measurement of time, and is worth for notice. Now we perceive movement and time together, "when some time is thought to have passed, some movement also along with it seems to have taken place" (Phy.69).

Paul Ricoeur concluded that "Aristotle did not place particular stress on the mind's activity of perception and discrimination, or, more generally, on the subjective conditions of time- consciousness" (Ricoeur 1984, 15). While in Aristotle's opinion, the movement is the sign that time has passed. We sense time as the movement, and onece a movement happen, we will connect it with the "time passage". Aristotle insists on that "if any movement takes place in the mind we at once suppose that some time has indeed elapsed; and not only that but also, when some time is thought to have passed, some movement also along with it seems to have taken place" (Phy.69).

The existence of time is based on movement, and the perception of movement exists along with the perception of time. Aristotle said that now "we perceive movement and time together; for even when it is dark and we are not being affected through the body" (Phy.69). If we have the feeling that time is passing or time has already passed, we did not see the time flow but only perceive the movements or changes. Aristotle has claimed alredy that time is not the movement itself, and it is wrong to say that time has no relation with movement. While where can we find the existence of time? What he wanted to prove is that time is in some case "belongs to movement". At first, he admited that: "hence time is either movement or something that belongs to movement. Since then it is not movement, it must be the other" (Phy.69).

This dependence of time on change is a sort of primitive fact, and our task will be to graft the distension of the soul in the way that "belongs to movement". The central difficulty of the problem of time comes from here. Maybe we will not note the affect between soul and time at first, but will accept the definitions of time that essentially as something that belongs to movement. For the reason that: "the time that has passed is always thought to be as great as the movement" (Phy.70).

The definitions of "before" and "after" are hold also in movement. To interpret these two words, Aristotle assumed that there are analog relationships between magnitude, movement, and time. But the distinction of before and after in time also must hold; for time and movement always correspond with each other. "The before and after in motion identical in substratum with motion yet differs from it in being, and is not identical with motion" (Phy.70).

In fact, it's difficult to defined time as a specific movement. For Aristotle, time is a number for counting "before" and "after". Time appears as succession because of the sequence of before and after. Only because of the "before" and "after", the characther of time succession is possibility. In Aristotle's words are "Just as motion is a perpetual succession, so also is time" (Phy.71).

The body is the carrier of our soul, each body is different. Eventhough the same body will attend in differente place. As the time passing, the body also will move from one place to another. Aristotle proofs that "But the 'now' corresponds to the body that is carried along, as time corresponds to the mention. For it is by means of the body that is carried along that we become aware of the before and after in the motion, and if we regard these as countable we get the 'now'" (Phy.71). Aristotle completes the relation between before and after by adding a numerical relation to them. "For time is just this-number of motion in respect of before and after" (Phy.70).

What is the consciousness of time? How do we become aware of time? The phenomenon of Now is a good starting point. Aristotle wants to know the soul exist in time or not. We will be dizzy when we are in front of the words of perceive, discriminate, and compare, soul or intelligence. To understand Aristotle's definition of time, we need to approch the relationship between time and movement. The phenomenology of time is ruled by the soul's motions, and this kind of motion is the "noetic activity of the soul" (Ricoeur 1984, 16-7). The motions of soul is carried by body, and only the body with soul can aware the motion. The "before" and "after" are counted, so that the "now" between "before" and "after" was awared. It seems that the now as substratum is the same, but as Aristotle said that "its being is different" (Phy.71). How can we understand the "being" is different?

"Now" is different for defferent people, and for different places. How to distinguish these different "nows"? Thus the "now" in one sense is always the same, in another it is not; for this is true also of what is carried. When we talk abouts time, the original way is that: "it's half passed four in the morrining", "the meeting is end, it's time to do the home work", everything seems related with a number and locomotion. "For the number of the locomotion is time, while the 'now' corresponds to the moving body, and is like the unit of number" (Phy.71).

But we are not only aware time as a number; we describe time as the movement that is happening at present. Is the "movement" or "what happened in the present" the time? To understand time, Aristotle given a magical power to the number that "time is number of movement in respect of the before and after, and is continuous since it is an attribute of what is continuous" (Phy.72).

Although Aristotle has introduced so many concepts to describe and demonstrate time, it is still difficult to understand time and its existence. Time is not the number which we count, but the number of things which are counted; for the "nows" are different. It seems that time is an independent but an elusive existence. "Being contained by time" (Phy.73), and because of this character, being is also contained by a thing and is affected by time. During this passage, we know that every thing becomes old. We always pay attention on the movement of the beings but forget the lapse of time. Aristotle puts himself into the enigma, but don't worry, he will lead us out of the enigma. Time wrapped around everything but is coerced by the "everything"; this strange movement was counted by us. We measure the change and remove; treat the result as being and time. It goes without saying that being and time are inseparable. "For time is by its nature the cause rather of decay, since it is the number of change, and change removes what is" (Phy.74). All the things in time are becoming being and then pass away; the passed things passed but are remembered by human beings. Though we will forget in the end, what will exist in the end? We will think spontaneously that if the measurement of being's motion is "time", the things' being has motion. That changing will fulfill the concession of motion, and the end will be far away.

We do nothing on events that are happening and developing, but these events continue to move and change. "Still, time does not work even this change; but this sort of change too happens to occur in time" (Phy.76). All the changes and movements are in time, time is a circle. Everything was measured by time, so every begin and end are in the cycle, that will cause for that time is in the circle. This theory of circle, describes time's characters exactly and also answers the question why we affair form a circle.

Paul Ricoeur concluded that: "for Aristotle, to distinguish the present from the instant and the past-future relation from the relation of before and after would be to threaten

the dependence of time on movement, the single, ultimate principle of physics" (Ricoeur 1984, 21). We must make a jump if we are to pass from a conception in which the present instant is simply a variant, in ordinary language, of the Now, which belongs wholly to the Physics, to a conception in which the present of attention refers first and foremost to the past of memory and the future of expectation.

Even though we can analyze time form two side-soul and movement, we cannot depend on only one side, because the distension of the soul alone cannot produce the extension of time; the dynamism of movement alone cannot generate the dialectic of the threefold present.

2.2 Augustine: Time of soul and God

As a devout Christian, Augustine's thought was affected by Christian ideas deeply. Augustine believes that time is subjective. His concept of time is like that time is a characteristic of the human mind. Human mind understand and determine the timethrough reflection. People always understand time through their own perception, memories and expectations. While people's childhood no longer exists, the memory belongs to the past which does not exist in the linear time. When we see the dawn comes, we can predict that the sun is about to rise. People sometimes can predict "future" from "now". He also believes that, although "the future" not yet exists, it already exists in the future "now" and "expectations". The past events have passed and no longer exist at present, but they can be kept in our memory forever. Augustine discussed the concept of time from the point of view of human's attitude towards the past, present and future: people attend the present, recall the past and expect the future.

Christian ideas affected the concept of time and made the discriminate become more and more meticulous. As the starting point of time, the Creation has lead to many problems. The core question is: does God created the world in time sequence? If yes, God would be restricted by time, and will make God's omniscience and eternity lost; if not, then how does the creation of time in Genesis come? This dilemma problem has been hovering in the patristic philosophy for a long time.

Therefore, the fact is that all "past" is forced to move on by the "preset" and the "future" comes out from the present. However, if God is not in time, how does God know everything happened in time? Augustine asked, what is time? Why the eternal God has created non-eternal time? Why the eternal God could know everything in time? These problems lead Augustine to the famous saying: "If no one asks me, I know what time is. If I wish to explain it to him who asks me, I do not know. Yet I say with confidence that I know that if nothing passed away, there would be no past time; and if nothing were still coming, there would be no future time; and if there were nothing at all, there would be no present time" (Conf. 155).

Time confusing comes from the fact that time is composed by past, present and future. If there is no past and future, there is no time. However, the past no longer exist, the future has not yet come, so the question is in what sense do they exist? Can we measure the length of time, for example, does the past have a length? The answer is no; for the same reasons, the future has no length neither. How about the "Now"? It has no length too, because if it has a length it can immediately be divided into past and future. But we know that a day is longer than a second and a year is longer than a month. It seems that we have been able to measure the length of time, and why?

No doubt, the past and the future exist there. But they cannot exist in the past and the future, they only exist in Now. The past only exists in our memory, and the future only exists in our imagination. Therefore, dividing time into past, present and future is inappropriate, instead time should be divided into the past of Now (memory), and now of Now (direct feeling) and the future of Now (expectations). Augustine had shrunken the conceptions of time into the present. He shrunken time into the inner state at that moment, and pioneered the "time internalization". Augustine said: "My soul burns ardently to understand this most intricate enigma" (Conf. 159).

While "time internalization conception" is a threat to Plato's theory that "time is the celestial movement". To this end, Augustine introduced the concept of absolute time. The absolute time is detached from any object, including the movement of the celestial sphere, it is not the movement of objects, but it became all sports frame of reference. The measurement of the absolute time is becoming a new problem. Augustine recognized that this absolute time is present in the mind of the time. The

past is over, but the memory is still fresh, the future has not come yet, but expectations have been. Although now will gallop, the impression stay long. The real time only exists in people's minds, not in terms of God.

The concept of inner time can explain well that God is not in time ilk. If God does not exist in time and his ilk, of course, time would not be a threat to God's omniscience and eternal. Because of the concept of inner time, God finally got rid of the shackles of time.

2.3 Kant: The invisibility of time

Kant is one of the most influential philosophiers in western philosophy; he interpreted time as a formal condition of the foundation of all phenomena. He describes time as a one-dimensional subject, which leads us to the inner sense.

The development of his conceptions of time is based on his theory of the internal sense. He thinks that there is no necessary to combine time and space together because both time and space are in physics.

Kant once asked a question in his *Critique of Pure Reason*: "what, then, are space and time? Are they actual beings? Are they only determinations of things, or, for that matter, relations among them? If so, are they at least determinations or relations that would belong to things intrinsically also, i.e., even if these things were not intuited?" (CPR, 77). Some researchers have pointed out that the statement of Kant shows that time and space relate to five different philosophical questions.[1]

The first question is ontologically about time and space, which is consistent with the metaphysical framework of a particular era, while the era of metaphysical template is always match with our understanding of science. In the 17th and the 18th centuries, Newton's classical mechanics as a model system formed entity-attribute metaphysical framework that will be seen as the physical world of space-time characteristics; space-time is considered to exist, either as an entity or as an attribute to some entities. However, these views are not reliable. The essence of space and time is different from

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[1] Andrew Janiak, "Kant's Views on Space and Time", Stanford Encyclopedia of Philosophy, 2009, http: //plato.stanford.edu/entries/kant-spacetime/

what we can see and feel. This difference cannot be grasped, although we can find them in each of the entities, they are not like a rock or a tree. In addition, the properties of space-time will not change with other entities because time and space are treated as eternal, they do not depend on any entity, they always remain what they are, and will no, increase or decrease. The second problem is the distinction between the ontological absolutism and relativism. Is temporal absolute or relative? The third question is what is the original representation of temporal, and how can we characterize the time and space? The last two questions are: what is the content of our concept of space-time? And what the relationship is between human and time? We can find the answers in Kant's *Critique of Pure Reason* that: the contents of representation will provide us with guidance on its possible sources. In this issue, the relationship between time and space will be discussed. Kant borrowed the thought from the Copernican revolution that the soul rather than the property extrinsic object is the source of the concept of time and space.

However, for Kant, at least superficially there are two important and difficult issues: First, do the existences of time and space do indeed depend on the soul? In other words, is there interdependence between spatiotemporal and soul? Kant believes that the dependence of space and time on soul may solve the ontological problem we have mentioned above and will provide us with a little convenience. However, if we deny this fundamental order of logos, will Kant's interpretation work? Secondly, Kant's argument implicitly distinguishes time and space. On the relationship between time and space, Kant thought that the priori of space is more basic than the temporal position

Let's look deep into Kant's interpretation of the so-called "transcendental" states. Kant said that "by a transcendental exposition I mean the explication of a concept as a principle that permits insight into the possibility of other synthetic a priori cognitions" (CPR, 80).

In the "transcendental exposition", space and time is used to show how it's possible for the pure priori judgments of mathematics, in other words, to show how geometry is possible due to space, and how is the arithmetic possible because of the time.

It seems that geometry corresponding to the space, and mechanics corresponding to time. While number belongs to the both. Based on this analysis, Kant established that the time or the possibility of general axiom of time is continuous. For example time is only one dimension, different times are not simultaneous but successive, they happen "before" and then "after". These principles cannot be discovered from experience, because experience has provided neither strict universality nor unquestionable certainty. We can only say that this is generally perceived for us. Also you can not say that it must like this. We understand that before experience teaches us.

What Kant wants to say is that time is the form of inner sense, and is also the reason why "intuitive understanding of the comprehensive" experience of the phenomenon is possible. Kant did not provide a description of prior time as he promised before in the transcendental aesthetic. He only provided time in the transcendental deduction of the categories, as he used the time to make the general experience. This motivates us to ask why Kant needs to add that time is a moving description of the condition of the possibility of change and movement.

Time was a determination or order attaching to things themselves, so it could not precede the objects as their condition does, but could not be cognized through synthetic propositions and intuited priorily. "The prior cognition and intuition can take place quite readily if time is nothing but the subjective condition under which alone any intuition can take place in us" (CPR, 88). Kant did not agree with Newton that space is an objective which existence in an infinite, huge and empty box; and time is an infinite river. He subtly combined these two objective forms into a sensible subject.

Kant is the first one who combined time with the initiative of subject. In his opinion, both space and time are the ability of subject, and space bases on time at the same time. Another interesting thing is that he put time and imagination spontaneity together and then sublimated them to an image. While Kant still be bound by traditional ideas of spatiotemporal because he still understands time as specialization. In fact, time has two different responsibilities: it is in the relationship with time itself and also the congenital conditions for all internal and external (space) phenomenon. Therefore time is "a priori condition of all appearance generally: it is the direct

condition of inner appearances (of our souls), and precisely thereby also, indirectly, a condition of outer appearances" (CPR, 88). If I can say "a priori" that all outer appearances are in space and are determined a priori according to spatial relations, then the principle of inner sense allows me to say, quite universally, that all appearances generally, all objects of the senses, are in time and stand necessarily in relations of time. It seems that the space accepted everything and packed all external phenomena into time, here time is as the frame of inner senses. At the same time, it should reflect the initiative about stimulating of innermost being, which is not affected by the external space and build things from the experience of the subject within self-experience. "Therefore this form can be nothing but the way in which the mind is affected by its own activity- viz., this placing of its presentation- and hence affected by itself; i.e., it is an inner sense insofar as that sense's form is concerned" (CPR, 100).

Of course, Kant doesn't think time in the heart is the inner truth, but the phenomena or the experience. This phenomena itself is passive. But this passive is different from the passive from the simulation of objects; it occurs in the inner of the subject. Therefore, time is formlessness, we cannot even imagine alone what time is, unless we borrow image from space. In Kant's words: "Time is nothing but the form of inner sense, i.e., of the intuiting we do of ourselves and of our inner state. For time cannot be a determination of outer appearances, [because] it does not belong to any shape or position, etc., but rather determines the relation of presentations in our inner state" (CPR, 88). And precisely because this inner intuition gives us no shape, do we try to make up for this deficiency by means of analogies. We present time sequence linear infinite: a line of only one dimension. And from the properties of that line we infer all the properties of time, except for the one difference that the parts of the line are simultaneous whereas the parts of time are always sequential. This fact, moreover, "that all relations of time can be expressed by means of outer intuition, shows that the presentation of time is itself intuition" (CPR, 88).

Regeneration of imagination can produce images; a priori imagination can represent intellectual spontaneity and experience things through "integrated" under the inclusion images, so that they get the category of format. Kant believes that imagination is the power of presenting an object in intuition even without seeing the

objects. Now, all our intuition is sensible; and hence the imagination. Yet the synthesis of imagination is an exercise of spontaneity, which is determinative, rather than merely determinable; hence this synthesis can a priori determine sense in terms of its form in accordance with the unity of apperception. "To this extent, therefore, the imagination is a power of determining sensibility a priori; and its synthesis of intuitions in accordance with the categories must be the transcendental synthesis of imagination" (CPR, 191).

Though imagination itself is no longer an "innate intuitive form", but an impossible capability "formal", it has the same spontaneity as intellectual and all activities are integrated their credit. "Synthesis as such, as we shall see hereafter, is the mere effect produced by the imagination, which is a blind but indispensable function of the soul without which we would have no cognition whatsoever, but of which we are conscious only very rarely" (CPR, 130).

But we first realized it in time, because imagination builds the rule of time which is transcendental provisions. So the invisible time has a certain image. But what is the root of the imagination exactly? It is still very mysterious. So Kant said that the image is a product of the productive imagination's empirical ability. "A schema of sensible concepts (such as the concepts of figures in space) is a product and, as it were, a monogram of the pure a priori imagination through which, and according to which, images become possible in the first place" (CPR, 214). This statement applies to both the imagination and time itself.

Heidegger had seen that Kant's concept of time is bound in the world of imagination but he found that Kant's theory has touched deeply on the existence of being, as he wrote in *Being and Time*. Interpretation of being and the phenomenon of time have been brought together thematically in the course of the history of ontology, and whether the problematic of temporality required for this has ever been worked out in principle or ever could have been. "The first and only person who has gone any stretch of the way towards investigating the dimension of temporality or has even let himself be drawn hither by the coercion of the phenomena themselves is Kant" (BT, 45).

2.4 Husserl: inner time consciousness

With the relation between perception and recollection, Husserl leads us a good way to understanding time consciousness. So as to interpretated the prephenomenal of absolute streaming of inner time consciousness, Husserl stated that the primal impression, retention and protention of the moment are all included in the concrete acts of time consciousness. Husserl believes that the so-called "subjective time" is corresponds the "internal time". Thus, the objective time is the "external time". Here the "internal" and "external" are relative terms of consciousness. Husserl pointed out that both the conduct and content of consciousness are all within the range of consciousness; and real objects are out of the range of consciousness. The so-called "real objects" are the objects in space and time. They have a wide extension in space, and thus there is a continuation in time. The measurement of the bananced changing of the things in space is "time". The moving of watch pointer in the clock and the motion of sand in hourglass are the forms of time. This kind of time, which definde by the balanced changes is the "objective time". The object in its concrete duration does not float free with respect to time: because it not only has the form of time but also in the form of time. By contrast, ideal objects, such as judgments or values, are not temporal objects because they do not, strictly speaking, endure in time; nor are they experienced as capable of changing or of coming to be or of ceasing to be in time. They also do not occupy a definite temporal location. They are neither concrete nor individual in the sense in which temporal objects are. "Still, ideal objects are recognized against the background of time and in contrast to temporal objects, for I experience them precisely as timeless" (PCIT, 103). The objective time is inseparable from space, and is inseparable from the things which move in space.

Husserl believes that the objective time, is just one kind of our understanding of time. In addition, there is a time which has no relationship with space or the moving things in space, namely the subjective time. In Husserl's opinion, the phenomenon of human's consciousness is not in the specific space.

However, the time consciousness is emerging one by one. That is, one can determine if a phenomenon of consciousness is prior to or after the emergence of another phenomenon of consciousness. Since there has "before" and "after", that the existence

of time is quite sure. While in the activities of human awareness, there is inner time-consciousness. This is called "absolute stream". The stream is not influenced by temporal change; it does not arise or perish in objective time, nor does it endure like a temporal object.

For example, there is a computer in front of you, you see it and get a visual experience; close your eyes, then open your eyes, you will get a second visual experience. Because of the two visual experiences, you can make a statement that we have sen the computer twice. The visual experiences from the first one to the later one are our consciousness intervals. This is the time interval at the phenomenological sense. We can observe the object, we can get the idea that our observation of the object does not involve any space issues, and we do not have any segmental understanding on space object. "Objects of this kind become constituted in a multiplicity of immanent data and apprehensions, which themselves run off as a succession" (PCIT, 24).

We see twice on the same object, it is a continuation in internal time-consciousness. The fact is that our consciousness has been experienced the continuation. But at the same time, it is two phenomena-the earlier one and the later one. The two phenomena are common in our consciousness exist. In the inner time-consciousness, the content of consciousness in time-consciousness is been objectifying. The process of objectifying is a process that people understand the content of consciousness in the internal time consciousness and then make it into objective consciousness.

Husserl attempted to characterize retention in relation to the original impression by use of the term "modification". The choice of this term meant to indicate that the privileged status of the original character of each new "now". The "now" extends to the series of instants and retains in its depth. It likes that the differences between the now potint and the passage in line of time had already run-off. Because of the differences, there will be impact between retention and the recollection. The impaction is the necessary counterpart to the continuity between initial impression and retentional modification. But it can be asserted that the present and the recent past are mutually. The retention is an enlarged present that ensures not only the continuity of time but also the progressively attenuated diffusion which is in the intuitive

character of the source. The present is called a source-point because what runs off from it "still" belongs to it. The now or the present is "a grasping of now takes place moment by moment; and in this grasping, the actually present phase of the motion itself becomes constituted" (PCIT, 32). Each point of the passage is the source-point of a continuity mode of running off. The accumulation of all these points forms the continuity of the time process.

As Husserl told us that we should focus on the analysis of conscious actions, but not just on the contents of consciousness. As a conscious action, imagination is connect with the current content of consciousness; but can not explain the content of the past content. Thus, it is necessary to study the action of consciousness, and the relationship between act and the content of consciousness. In Dan Zahavi's word is that "Inner time-consciousness is the prereflective self-awareness of the act, so to say that the act is constituted in inner time-consciousnesss imply means that it is brought to awareness thanks to itself" (Zahavi 2003, 90).

The action of the field of consciousness is broad relatively; it includes not only perception, but also memories and expectations. Husserl points out that in the performance of "continuous", "replacement" and "change" sequence, time is a "streaming" process. Continuous process always involves a lot of transition from one point to another. Each point is a "moment". And every moment shows the characters of substitution. It is the character of consciousness "dynamics". These continuous dynamic points are formed the time streaming. In other words, if these points are not dynamic, time is not in the streaming.

Therefore, Husserl found that people's awareness of the original dynamic objects is not a mere perception action, but with the impression, retention and protention. Husserl believes that the structure of consciousness is formed basis on a "living in the present". He describes a dynamic consciousness existence with the inner time-consciousness. "Husserl operates, first of all, with a moment of the concreteact that is narrowly directed toward the now-phase of the object. He calls this moment the primal impression" (Zahavi 2003, 83). This dynamic sense of time is not the time which is understood as an isolated "point", but as a "time field". This time field includes the concept of time which has extensive structure with a three-dimensional

space field: original impression as its core at its center; retention of memory and associated prospects around in the original impression, "surrounded by" original impression, and that the original impression as the core of the field, led the field moving direction of the movement. "The primal impression must be situated in a temporal horizon; and be accompanied by a retention, an intention that provides us with a consciousness of the phase of the object that has just been, and aprotention, a more or less indefinite intention of the phase of the object about to occur" (Zahavi 2003, 83).

In conclusion, Husserl's investigation of intentionality would remain incomplete as long as one ignored the temporal dimension of intentional acts and intentional objects. His transcendental analyses cannot simply make do with a clarification of the constitution of objects. Husserl speaks of a phenomenological absolute, and, more generally, of the analysis of temporality as constituting the Bedrock of phenomenology exactly because it is not by any means to be taken as a mereinvestigation of the temporal givenness of objects.It is also an account of the temporalself-givenness of consciousness itself.

2.5 Time paradoxes in relativity-----Einstein

Time has always struck people as mysterious in a number of different ways. One thing that is mysterious about time is the directionality. What underlies time's arrow? What is the source of the asymmetry between past and future, earlier and later? Why, for example, can we remember the past rather than the future? These are difficult and important questions. But I can not answer all of them. What I want to talk about are the implications that Einstein's special and general theories of relativity have for our conception of time. What Einstein did, in fact, was to show that time is involved with the deep structure of physics, in a strange and entirely unexpected way.

The key point of Einstein is that the velocity of light is independent of the motion of the observer. This is implied by Maxwell's equations, in which the speed of light is a constant; and was testified in the famous Michelson-Morley experiment.

The discrepancy between our common sense and the predictions of Einstein's theory

becomes progressively large as the velocities of the object increase. A strange effect in Einstein's theory is that adding the speed of light to any other smaller speed simply gives you the velocity of light. More generally, the superposition of any two velocities smaller than the speed of lightmight produces the speed of light.

This may be difficult enough for the uninitiated to understand. But there are more difficulties. Start with the constant speed of light, Einstein predicted the effect of time dilation which states that the faster a clock moves, the slower it runs. Time will stop when the clock's velocity reach the speed of light. This is a universal physical effect. It is not sensitive to structure of the objects, and can be applied to all processes, including biological processes like ageing, and physical processes like the decay of radioactive atoms.

Radioactive decay provides a very good empirical demonstration of this effect. Cosmic rays, come from out space, generate μ mesons as they collide with particles in the upper atmosphere. Their rate of decay, of half-life acts as a clock. It takes much less time for μ mesons to move from the upper atmosphere to the underground detection apparatus. If the cosmic μ mesons decay at the same rate as they do in the laboratory, when they are moving at only a tiny fraction of the light, then we would expect to detect only about one hundredth of the time that we actually do. This is very strong evidence that for the μ mesons moving in extremely high speed.

Suppose that a man leaves the earth via a spacecraft to some distant places, and then returns to the earth, according to Einstein, the man ages less during this journey than people who remain on earth. Likewise, a clock in the spacecraft registers a shorter time in the duration of the journey than a clock does on the earth. By way of illustration, let us suppose that the spacecraft's speed is one-seventh of a percent less than the speed of light, and then when it returns, people on the earth are 20 years older than when it left. Then it follows from the special theory of relativity that the man in the spacecraft have aged only one year.

Now that space travel has become a reality, such a journey sounds more practicable than it was in 1905, when Einstein first devised the clock "paradox". To reach it, we must go one step further. As Einstein pointed out, all motion is relative. This means

that we can regard the man in spacecraft as at rest throughout the journey, while the earth and its inhabitants shoot out and then return. But in this case we should expect the earthbound people to age less than the astronaut. Here then is the paradox: according to relativity a moving person ages less than a stationary one, but also according to relativity either person may be regarded as the moving one. The apparent paradox arise because in Einstein's theory is no preferred frame of reference, and hence no natural state of rest.

As the first step towards the resolution of this paradox let us think with Einstein why the astronaut ages less when he is regarded as the one who moves out and returns. After this we shall examine what happens when the astronaut is considered to be stationary. To simplify the problem let us consider just two people who are A and B. A is the one who stays at home, while B is the astronaut. Suppose that each of them carries a source of light which emits 50 waves per second towards another person. By comparing the two different lights, we can compare the amounts age they grow during the journey.

This is the argument used by Einstein to show that the moving person will age less than the one who stay at home. There is no surprise that the result is that their ages become different. Nevertheless, the paradox is still unsolved, since we can always describe the journey by saying that B remains at rest while A moves out and returns.

The difference between A and B is that B is a rocket powered spacecraft, which means he needs a powerful fuel to drive him away from A; where as if we regard A as the person who moves, he still does not need the help of any such force. In other words, the difference between A and B is that B accelerates relative to an inertial frame when the rocket fuel is burning. An inertial frame is a frame of reference relative to which objects persist in a constant state of motion or rest if no forces act on them, in accordance with Newton's first low.

If we are in a train, we can tell without open our eyes that the train is slowing down of speeding up; we shall have sensation of being pushed back onto out seat, or else pulled forward away from it. Perhaps, our astronaut B, in consequence of the acceleration he is experiencing, suffers from motion sickness. The acceleration

process is the main difference between A and B, and by extension, between these two frames: one makes you sick, the other does not.

According to Ernst Mach, all acceleration is relative acceleration. If we applied this idea to the problem, we could say that the difference between our two people is that B has accelerated relative to distant matter while A has not. In an otherwise completely empty universe, the situation as between A and B would be symmetrical. While if Ernst Mach got the correct principle there is no difference between A and B about the age. The key point is that, in the presence of stars and galaxies, Ernst Mach's principle entitles us to regard B as accelerated but A is not.

These considerations dispose of the clock paradox. No matter we take use of Ernst Mach's principle or not, there are differences between A and B. The reason why the traveling people is less aging than the one who stay at home is much clear, and what I want to add is the acceleration itself will also effects on the aging and the rate of the clocks.

According to Einstein's theory, there is another facter which will affect the rate of a clock which is, namely the gravitation. A clock runs slower in a strong gravitational background than it does in a weak one. One can testify this effect by looking at the radiation emitted by atoms at the surface of the sun, where the gravity is much stronger than it is at the surface of the earth. What we found is that the radiation is shifted towards the red end of the spectrum as compared to the radiation emitted by the same kind of atoms on the earth. This is known as the gravitational shift.

The effect can even be observed in the laboratory, by comparing frequencies of identical sources at the ceiling and at the floor. Even though the difference in the strength of gravity is minuscule, the resultant red shift is large enough to be detectable by modern instruments.

To complete our discussion we have to talk a little about black holes, which is a region of space-time exhibiting such strong gravitational effects that nothing, even light cannot escape. In other words, light cannot escape from the so called event horizon. At the location of the event horizon, all the clocks will stop completely,

because there is an infinite time dilation effect.

It's so strange! It means that if an astronaut takes off from earth and flies towards a black hole, then, from the standpoint of an earthbound observer, he takes an infinite time to get the horizon of the black hole. He gets ever closer to the event horizon, but he can never reach it. And if we could somehow observe the astronaut's watch, we would see that the watch is almost stop there. The astronaut will never reach the event horizon, because of the frozen of time.

The above conclusion bases on the fact that we are measuring time using the earthbound clock. This time is called the coordinate time. It takes infinite coordinate time for the astronaut to reach the event horizon. But coordinate time is different from the astronaut's proper time, which is the time counted by the astronaut's own clock. The proper time measures the spatial-temporal distance along one's world time. From the astronaut's own point of view, it takes only a finite time to reach the event horizon and cross over into the interior; hence he can never return, since to do so he would have to exceed the local light velocity. His fate is in a very short proper time, to be torn apart by the tidal force as he is inexorably drawn towards the singularity at the center of the black hole, the point at which the density of matter becomes infinite.

I must stress that the slow down of all physical processes in the astronaut's spacecraft is a genuine effect, not merely an optical illusion engendered by the influence of an intense gravitational field on the behavior of light. Suppose the astronauts had escaped away from the black hole, he would age less than his twin brother stay on the earth.

2.6 Chinese philosophy of time

In China, the earliest concept of time is Eon (zhou 宙). Eon means the whole history, it's the sum of the past，present and future, and the most important is that Eon is an entity of time lasting. In nowadays, the time measurement is almost the time itself.

Kuan tzu had mentioned that Eon is the earliest concept of measurement time, but the "long time" (久) means long time in the book of Mojing (墨经), is the earliest concept

of time in China. The "long time" is composed by past, present and future, we always sense it as morning, noon and night. "Long" is an entity of free duration with length. Time was treated as the same as the hour, while "long" is a measurement of time lasting.

Chuang Tzu (庄子) said that "Eon has extensa but without finite", maybe he believed that the time riever has no beginning or ending.

Although, there are some conceptions on the measurement of time, they are not so meticulous that there is no more research or record about the method for measuring time. "Long" keeps the meaning of "since time immemorial" (古往今来), though it involves the length of time, it only exists as a quantization. But Chinese always follow the nature to set up their life and farm work. So "time" (时) is the first word to define the time.

At the beginning, "Time" is about the weather and planetarium, meteorology, phenomenology and so on. "Time" was then treated as the four seasons, that made everyday life convenient, but still had no relation with the number. At the same time or even before, Aristotle had said that "time is the moving number". The ancient Chinese divided a year into twenty-four solar term (二十四节气)，they also used dawn, noon, midnight to describe the different time in a day, but only depended on the phenomenon of the season rather than exactly count days or hours.

What shocking is that ancient Chinese people can know which day is good for wedding or house moving and which day is bad for special events. And these become a very comprehensive calendar for prophecy.

The twelve years of the Jupiter cycle are also identified with the twelve months of the year, twelve animals (mnemonics for the system), directions, seasons, and Chinese hour in the form of double-hours. When a Branch is used for a double hour, the listed periods are meant. For instance, an exact time of a day, it is the center of the period, 午时 (the Horse time) means noon or a period from 11:00 am to 1:00 pm. The "jie qi" system provided single hours and 15-degree arcs in time and space.

Chinese seasons are based on observations of the sun and stars. Many Chinese calendrical systems have started the new year on the second new moon after the winter solstice.

However, the sexagenary cycle continues to play a role in contemporary Chinese astrology and fortune telling. It is used frequently used in marriage, house moving and other important things in people's life. The agricultural activities also refer to this cycle; even disease treatments were able to and had to conform to the time.

Another meaning of time is much more abstract, which state that time is the chance. This "time" is governed by a mystical powers, do things at the right time you are going to success, on the contrary, you probably will fail, while if you are not doing the right thing in the right time, things will become worse. These opinions make the ancient Chinese respecting their ancestors and God, but they didn't try to find the physical causes. Many people agreed that's why Chinese people don't like to ask questions and don't care "why". And maybe their attitude on time can partly answer the question of "Needham's Grand Question", also known as "The Needham Question", which asks why China had been overtaken by the West in science and technology, despite its ancient successes.

Confucius said that, "It passes on like this, never ceasing day or night"(逝者如斯夫，不舍昼夜)[1]. The passage indicates Confucius's view of time: time is the ceaseless passing of things and events, and of human nature. Like the stream, time has a definite past, but an indefinite future. Travelling forward, it invites the human being to participate in this movement, to take an active part in the drama of life so the person can achieve the ideal of *Jen* （仁）, humanity in its fullness.

Jen is the supreme virtue of the Confucian sage. Translated in various ways as "benevolence", "kindness", "human heartedness", *Jen* is composed of the character *Jen*, means "man", thus signifying the virtue that governs interpersonal relationships. For Confucius, "It is to love men". The *Doctrine of the Mean(中庸)* makes a pun by saying, "*Jen* is *Jen*": to become a man of *Jen* is to be human.

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[1] http://www.cnculture.net/ebook/jing/sishu/lunyu_en/09.html (Confucian Analects,James Legge ,1893, Book IX: Tsze Han,Chapter 16.)

For the Confucian, time never simply repeats itself. In the process of production, something new evolves which does not destroy the past, but recuperates it. A good teacher is one "who reviews the old so as to find out the new".

Being the completion of the self and of all things sincerity is "the beginning and end of things". Because the integration of self entails the development of the nature of things,

Therefore absolute sincerity is ceaseless（不断）. Being ceaseless, it is lasting. Being lasting, it is evident. Being evident, it is infinite. Being infinite, it is extensive and deep. Being extensive and deep, it is high and brilliant. It is because it is extensive and deep that it contains all things. It is because it is high and brilliant that it overshadows all things. It is because it is infinite and lasting that it can complete all things. In being high and brilliant, it is a counterpart of Heaven. In being infinite and lasting, it is unlimited.

Confucius was a sincere man "who conformed with the natural order governing the revolution of the seasons in heaven above, and followed the principle governing land and water below. He may be compared to earth in its supporting and containing all things and to heaven in its overshadowing and embracing all things". It is possible then for a man in time to achieve harmony with nature through sincerity.

If the *Tao* in *Confucianism* stands for the moral way, but in *Taoism* it refers to the origin of all things, nameless (but we are forced to give it a name) and eternal. As the origin of all things, *Tao*'s essence is non-being (because only what is nothing can be responsible for the being of all beings) but its function is being. Both being and non-being are simply two aspects of the one infinite *Tao*.

First of all, I shall start with a newly discovered fact that in the book of the Lao Tze, the word "heng" (恒), a key word in understanding Lao Tze's concept of temporality of dao (道), was missing during the past 2000 years. In most editions of the text, a synonym, "chang" (常), was substituted . This change may lead to a totally different understanding of the temporality of Tao. Second, based on an etymological study of the origins of the Chinese word "heng"and its philosophical use in the Lao Tze, I shall

claim that heng explores the temporality of Lao Tze's Tao as heng Tao. Unlike chang, which asks more for constant extension, and invariable and non-changeable movement, heng in Lao Tze's heng Tao focuses more on "living longer" (长生) of the myriad creatures, and on the concept of "never dying" (不死) of Tao as a natural way of giving birth.

Heng (恒): A Missing Word in *The Lao Tze*

Let us begin by looking at the temporality of *Lao Tze*'s Tao in the opening sentences of the current and the most popular version of the *Lao Tze*. A well known sentence of the book says:

The Tao that can be told of (Tao-de) is not the constant Tao;

The name that can be named is not the constant name.

Here, Lao Tze seems to use the term "constant" to describe his authentic Tao, which cannot be told of and named. However, if we follow the ordinary understanding of the Chinese word "chang" as "invariable", "everlasting", or "unchangeable", we will ask whether Lao Tze really wants to tell us that the authentic Tao is a "constant Tao".

To return to the root is simply in keeping with the harmony of nature which works in an endless cyclic rhythm of birth, growth and decay, in the ceaseless, alternating flow of the seasons. To know harmony means to be in accord with the eternal. To be accorded with the eternal means to be enlightened.

What then is the *Taoist* time? Time consists simply of the events of Nature that originate from the eternal *Tao*, a nothingness that is fullness because it is unlimited, unbounded, unnamed. Time is the movement of *Tao* in nature, following the law of *wu wei(无为)* or acting by not-acting, and the law of reversion, where opposites complement and complete each other in one whole and where the end is also the beginning. Time then travels in a circle, but each being in its own nature has a definite past since it originates from the *Tao* and is supported by the *Tao* through its *Te*（德）, the aspect of the *Tao*.

It seems that time does repeat itself in the sense that everything must return to the beginning. But each return to the beginning brings a change and transformation, so there is constant movement in nature: nothing is final. Only the *Tao* remains, unchanged, and stay as a great whole of continuous duration.

To live in the *Tao* is to practice wu-wei and to live by the law of reversion, in the harmony of opposites. *Wu-wei* is not absolutely doing anything, but doing nothing that is unnecessary, artificial or unnatural. To practice *wu-wei* is to be empty of desires, to be humble, to do things without attachment to the benefit of one's labor, and to quiet as soon as the work is done. The reason why Heaven and Earth are eternal is because "they do not exist for themselves". *Wu-wei* is what Chuang Tze（庄子）refers to as the "fasting of the heart", the emptying of faculties, so that the person is free from limitation and preoccupation and his heart, like the window, becomes full of light, secretly transforming others. Empty, still, tranquil, silent, the non-action of the *Tao*ist sage is not inaction but action, or perhaps the distinction between action and inaction is lost since joy is attained.

To live by the law of reversion is to stand in the pivot of the *Tao*, where one is in the center of the circle of change, harmonizing the opposites. "The pivot of the *Tao* passes through the center where all affirmations and denials converge." Knowing that one extreme leads to the opposite, the *Tao*ist sage stays in the middle, not taking sides, not competing nor interfering, sensitive to the changes around him but sensible enough not to be affected by them and seeing the totality. Letting things alone, one can keep his original nature.

Success is not worth for proud; failure is no shame. Even if one had all the world's power he would not hold it as his own; if he conquered everything he would not take it to himself. His glory is in knowing that all things come together in one, and that life is equivalent to death.

The key to both wu-wei and the law of reversion is the simplicity of life. Just as *Tao* is simple, so the man of *Tao* lives simply. "Though, like objects, he has form and semblance, he is not limited to form. He is more. He can attain to formlessness." (Zhuangzi and Thomas 1965, 119). Simplicity is formlessness; it is placing one's

heart not in anything else (where there is the possibility of getting lost), but in the *Tao*. The man of *Tao* "will rest in his eternal place which is no-place. . . . His nature sinks to its root in the One."

In sum, for the *Tao*ist:

There are no fixed limits.
Time does not stand still.
Nothing endures,
Nothing is final.
You cannot lay hold
Of the end or the beginning.
He who is wise sees near and far
As the same,
Does not despise the small
Or value the great:
Where all the standards differ
How can you compare?
With one glance
He takes in past and present,
Without sorrow for the past
Or impatience with the present.
All is in movement.
He has experience
Of fullness and emptiness.
He does not rejoice in success
Or lament in failure.
The game is never over.
Birth and death are even.
The terms are not final.

At first glance, Confucianism and Taoism may have divergent attitudes towards time: Confucius sees time as a travelling torwards an indefinite progressive future, while Lao Tze and Chuang Tze view time as a cycle of change, stretching indefinitely into the future and the past with the infinite *Tao* as the source and return. The former lives

in time to master oneself and return to propriety; the latter transcend time and be one with the *Tao*. The former emphasizes the way of man; the latter the way of Heaven. Both, however, find their convergence in the view of time in the Book of Changes or the *Yijing*.

The *Yijing* was a Chinese classic that Confucius regarded so highly that he written ten commentaries for it and would have devoted an entire life to studying it if given another life. Originally used as a book of divination by Confucianist and *Tao*ist alike, *Yijing* interprets symbolically all cosmic phenomena and their interrelatedness. It begins with the Tai Chi the Primordial Unity or the *Tao*, and descends into the yin and *yang* which is the two opposing principles in nature, yin is the feminine and negative, yang is the masculine and positive. The female and male principles are representing them by a broken and an unbroken line respectively. The *yi* records all the possible happenings in human and physical nature in terms of symbols, the eight trigrams and the sixty-four hexagrams (六十四卦). The hexagram is a combination of two trigrams, representing the relationships and interplay of ideas, states, and things represented by the trigrams. The word *symbols* refer to not only the symbolic representation of an object, but also the object itself. Symbols serve as models or patterns for which physical objects, including institutions. For example, the *meng* hexagram is a combination of the trigram *ken* (means mountain) on the top and the trigram *kan* (means water) at the bottom.

Mencius then symbolizes "a spring rising at the foot of a mountain", conveying the idea of "inexperience" and giving rise to "child education". The *Yi (易)* is "a reflection of the universe in miniature". There are three meanings to the word "*Yi*": ease and simplicity, change and transformation, and invariability. But the original meaning is change, all changes and transformation are the result of the movements of the two primal forces, the *yin (阴)* and the *yang（阳）*, the female passive principle and the male active principle. *Yang* and *yin* are also represent the Heaven and the Earth, represented by the first two of the eight trigrams, hexagrams（卦）of Qian and Kun (乾坤). The transformation then is from simple to complicate. Yet in the midst of this variability, there are the elements of continuity and invariability, a constant definite order, the *Tao* of Heaven and Earth.

Two rules are to be followed in interpreting the hexagrams: first, the two trigrams symbolize the past and future in time, height and depth in space. Second, the three lines of the trigram represent the three different degrees in time and space: the bottom line represents the cautious attitude, the top line the "on guard" attitude, and the middle line the active attitude. In divination, one line in the hexagram indicates the degree in time and space while the other five lines symbolize the different conditions of the universe. What is implied here is the notion of fate (ming 命) or destiny. For any action to succeed, the cooperation of the time and the situation is needed. The development of something cannot disobey to its time and situation. Moreover, nothing can divorce itself from the *Tao* and its natural order. Even the consulter himself is part of this order; as such his action must acknowledge the existent conditions of the universe and harmonize with the *Tao*.

What laws can one detect in the workings of the *Tao* in the universe? Once again, as in Taoism, the first law is the law of reversion, or put in another way that everything involves its own negation. An example is the judgment of the feng hexagram (丰卦): When the sun has reached its meridian height, it begins to decline. When the moon has become full, it begins to wane.

Perhaps, a spiral transformation is a better picture. Thirdly, in this spiral transformation, "There can never be an end of things. The things in the universe are never absolutely completed or finished; they follow a definite order to which they move everlastingly".

What then is the concept of time in the *Yi jing*; how the Confucian and the Taoist views reconciled in it? And being not simply an interpretation of the changes in the universe but a guide for human conduct, what one must do in view of such a conception?

Because Yi jing refleces the universe in miniature, and it's time is cosmic. The cosmic conception is based on the assumption that everything in the universe, natural and human, is a continum, like a chain of natural sequences. The universe is a continuum that, evolving or revolving around the *Tao*, the source of life, and in an endless cycle of change and transformation. The cosmic view conceives of time as cyclic but not in

the sense of a mere repetition of a closed circle represented. The essence of time is change, but the universe being a continuum, nothing is absolutely different and separated from other: everything is constantly changing into something else, and therefore all things are one. The change generated by *Tao* is creative, and dovetails the old and the new.

The dynamic sequence of time, ridding itself of the perished past, and, coming by the new into present existence, really gains something over the loss. So, the change in time is but a step to approaching eternity, which is perennial durance, whereby, before the bygone is ended, the forefront of the succeeding has come into presence. And, therefore, there is here a linkage of being projecting itself into the prospect of eternity.

Shi (时) is commonly translated into English as "time". Time is an intellectual concept that requires a metaphoric model since time has no concrete reality. Before 1915, space and time were thought of as a fixed arena in which events took place, but which was not affected by what happened in it. "Space and time are now dynamic quantities. Space and time not only affect but also are affected by everything that happens in the universe" (Hawking and Leonard 2005, 33). Stephen Hawking remarks, "on the personal level, it was natural to think that space and time went on forever" (Hawking and Leonard 2005, 33). Most of us conceptualize time, and conceive time as something we can spend, save, invest, or borrow, even win or lose.

There are essentially two "root metaphors" used to establish the Western conceptual schemes of time. In the Judaic-Christian tradition, God created the mortal world at a particular time and it will come to an end one day. In this scheme, God's eternal time contrasts the bounded time of the mortal world. In other words, people conceive the lives of individuals as discrete corps, with a beginning (birth) and an end (death). In this duration, each person is morally responsible for one's acts before the God create him/her. The God will judge each individual according to his acts at end of this time span. On the other hand, in the traditional Western philosophical-scientific tradition, both Aristotle and Newton believed in absolute time, moments of absolute time are understood as analogous to the continuous sequence of points on the line. Such model is associated with a progressive idea of history in which time moves forward without repeat.

In *The Analects*, Confucius said by a river: "It is what passes like that, indeed, not ceasing day or night" (Yuelin, SZ, 2491). Here, the term *shi* (逝) denotes "what passes" or "passes by", what we call time is absent. Confucius simply contrasts the passing river with "passing". The time passages include both time and life. "Passing" associated with the ultimate truth, is one of the names of Tao, or the nameless Tao in *Tao Te Ching*: "I do not know its name, so style it Tao. Forced to utter it a name I call it the Great. Great means passing by, passing by means going far away, and going far away means returning" (Gao 1996, 350).

There is no Classical Chinese word equivalent in meaning to the English word *time*. The original meaning of *shi* is "timeliness" or "seasonality," in which both time and space are affected. According to Yuelin (月令), or the *Monthly Order*, written no later than third century B.C., spring affects cardinal point east, and is dominated by the agent of wood; summer affects south, and is dominated by fire agent; autumn affects west, and is dominated by metal agent; winter affects north, and is dominated by water agent. The earth agent affects the central location of the intersections of the four cardinal directions, and dominates the four seasons (Yuelin, SZ, 1352-87). By extension, *shi*, seasonality or timeliness refers to doing something at the appropriate time (which is determined by harmonious associations with the theory of the Five Agent), and at which time an action can succeed.

In the early Chinese texts, there is no story about the creation of the world out of nothingness and about the beginning of time. In Chinese chronologies, time is not counted from a single date, such as the birth of Christ, but from repeated historical beginnings, or the foundation of a dynasty, or a royal family. On the personal level, individual lives, certainly bounded by birth and death, but each person's life is regarded as a link within the continuum of the ancestral lineage, which includes both of the living and the dead. However, the ancestral spirits related directly to the living through rituals, such as food offering etc. These spirits are neither gods like those of ancient Greece, nor souls who stood before an almighty God to be judged.

Conclusion

Every philosopher has their distinctive thought on the concept of time. Heidegger analyzed the concepts of time of Aristotle, Augustine, Kant, in *The Basic Problem (of Phenomenology)* (1927). He found that all of them have the same problem in dealing with the time of "being" or existence. Aristotle said that: Now we perceive movement and time together; for even when it is dark and we are not being affected through the body (Phy. 76). The existence of time is based on the movement, and the perception of movement exists along with the perception of time. But for Heidegger, time shows itself in such a making-present. How then, can we define the time which manifests in the horizon of the circumspective concernful clock-using in which one takes one's time? This time is something that is counted and shows itself when one follows the travelling pointer, counting, and making present in such a way that this making-present temporalizes itself in an ecstatical unity with the retaining and awaiting which are horizonally open according to the "earlier" and "later" (BT, 473).

About the question on what is the consciousness of time and how to feel, both Aristotle and Heidegger had given answers. Aristotle wanted to know if the soul does not exist, would time exist or not (Phy. 76-77). Heidegger was much more resolute that time is the concept itself, which is "there" and which represents itself to the consciousness as an empty intuition. Because of this, spirit necessarily appears in time, and it appears in time as long as it does not grasp its pure concept.

About time "beings", Augustine wandered around God. In Augustine's theory, creation is not in time, because time does not exist yet when the creation happened. Creation cannot happen before time, before the creation, there is no time. Heidegger skillfully avoided the issue of talking about God, because Dasein is the center, the Dasein here is particularly the human beings. For Heidegger, "the meaning of Dasein's Being is not something free-floating which is other than and 'outside of' itself, but is the self-understanding Dasein itself" (BT, 372). The character of "having been" arises from the future, and in such a way that the future which "has been" (or better, which "is in the process of having been") releases from itself the Present. This phenomenon has the unity of a future; we designate it as "temporality". "Only in so far as Dasein has the definite character of temporality, is the authentic

potentiality-for- Being-a-whole of anticipatory resoluteness, as we have described it, made possible for Dasein itself. Temporality reveals itself as the meaning of authentic care" (BT, 374).

Kant once asked "what are space and time? Are they actual beings? Are they only determinations of things, or, for that matter, relations among them? If so, are they at least determinations or relations that would belong to things intrinsically also, i.e., even if these things were not intuited?" (CPR, 77) Heidegger took over the baton from Kant to discussing the relationship between being and time. "In time" the point thus has actuality. That through which each point, as this one here, can posit itself for itself, is in each case a "now". The "now" is the condition for the possibility of the point's positing itself for itself. This possibility-condition makes up the Being of the point, and Being is the same as having been thought. Thus in each case the pure thinking of punctuality-that is, of space-thinks the "now" and the Being-outside- of-itself of the "now"; because of this, space "is" time.

Husserl distinguished the "objective" time with subject time and in his opinion: "No perception of a temporally extended object could occur" (CPR, 77). About the perception on time, Heidegger spent lots of words on that. He transformed perception into consciousness. He could not accept the reductions, the sharp distinctions between subject and object, and between essence and existence, on which Husserl's project depended. For Heidegger, phenomenology would be a description not of subjectivity to the exclusion of the world, but of the world as such, as it manifests itself. "It would be a study not of appearances internal to consciousness, as distinct from the external things appearing, but of the external manifestation of things themselves" (BT, xviii). In the development of this ordinary conception, there is a remarkable vacillation as to whether the character to be attributed to time is sub-jective or objective. Where time is taken as being in itself, it gets allotted pre-eminently to the soul notwithstanding. And "where it has the kind of character which belongs to 'consciousness', it still functions objectively" (BT, 457).

The differences or similarities are so very obvious between others and Heidegger, but how about Einstein? Einstein (1879-1955) and Heidegger (1889-1976) were almost in the same time.

Einstein believes that time and space only has relative significance; time and space are interrelated and mutually conditioned. Therefore, Einstein thinks time as a fourth dimension and thus, we are in a four-dimensional space-time. Einstein likes other natural scientists define the time by space, such as what we are familiar with, the four seasons, month, ring the concept of time, but is a reflection of the operation rules. In other words, the traditional concept of time, essentially refers to the space of the "pitch", we can say that, in their view, the time is canceled in the space.

According to the above, Einstein ruled time by space, so the question comes out: why did Einstein still said time is the fourth dimension? I can't get the answer from the relativity, but Heidegger leads me out of the fog. As Heidegger did, Einstein treats the fourth dimension as the "connection" of the other three dimensions, but this "connection" is not only the relationship, it is essential. Only with the "connection", space can open to themselves, in other words, only in time, can be the self. Here, we can get the same thought in both Heidegger and Einstein: human is the center concern.

But the difference between them is obvious, Heidegger, on the contrary, rules space by time. Though the expression 'temporality' does not signify what one understands by 'time' when one talks about 'space and time', nevertheless spatiality seems to make up another basic attribute of Dasein correspond-ing to temporality. Thus "with Dasein's spatiality, existential-temporal analysis seems to come to a limit, so that this entity which we call Dasein, must be considered as 'temporal' and also as spatial co-ordinately" (BT, 418). Heidegger emphasized that "we must now make an existential-analytical inquiry as to the temporal conditions, for the possibility of the spatiality that is characteristic of Dasein-the spatiality upon which in turn is founded the uncovering of space within-the-world" (BT, 419).

In China, especially in the ancient times, space and time is together, but time is composed by past, present and future, the sense of time is as morning, noon and night. In a world, the concept of time in ancient China is cyclical and together with space. That is different from Heidegger's thought. In ancient China, time was understood as historic but not as a people's life, the death of individual was not concerned in the system of time. The phenomenon that only attaches importance to ethnic or group,

while ignoring the individual significance is still popular in China. This is opposite to Dasein is the special interpretation of temporal structure for care. "The Being of an entity having the character of Dasein would become something present-at-hand" (BT, 375). "And only in so far as Dasein has the definite character of temporality, is the authentic potentiality-for-Being-a-whole of anticipatory resoluteness, as we have described it, made possible for Dasein itself. Temporality reveals itself as the meaning of authentic care" (BT, 374). About the connection of time and space, it is coincid: Heidegger discussed time and space as well as ancient China. The temporality of Being-in-the-world thus emerges, and it turns out, at the same time, to be the foundation for that spatiality which is specific for Dasein.

As Heidegger has already concluded in his book *Basic Problems of Phenomenology* there are lots of philosophers who attempt to master time conceptually. However, most of them are following the ancient's philosophers' theories, because the ancients had already got the essentials of the concept of time. For example, Aristotle and Augustine, both made groundbreaking innovation. We can find Aristotle's concept of time in his *Physics*. Aristotle set forth the two characters of time - continuity and persistence, and then said that only with the movements, can we tell the time passing and only then can we measure time as time sequences. His words challenge the ancient concepts of time, which insists the continuity and persistence of time.

History is always so strikingly similar. No matter how advanced it was, it will always be overthrow later. Kant completely subverted Augustinian view on time which comes from experience. Kant seems completely opposite to the ancient views of time, he began to regard the time as a transcendental existence, and time is the prior knowledge. He expressed his ideal in *Critique of pure reason*.

Husserl reconsidered time in the view of phenomennology. His point is that, in common sense or in the system of science, we usually assume the existence of the external world or the space, and time is the measurement of the movement of the objects in space (PCIT). For example, a year is the orbital period of the Earth moving in its orbit around the Sun. This is the time conception in science and in the objective world. But the essence of time is in the phenomenology of inner consciousness or according to Husserl, the internal time-consciousness.

With the development of modern physics, time has been gradually incorporated into the science category. Following the mathematician Minkowski, Einstein negated Newton's idea of absolute space-time. In the theory of relativity, time and space are related with each other. Einstein treated time as the fourth dimension, so the traditional three-dimensional space is replaced by a four-dimensional space-time. This is the latest concept of time we have now.

We have reviewed some of the most important concepts of time of the western world. Now, let us move to the other side of the earth, the philosophy of time in China is also compelling. The western scientific community believes that the explaination to universe of time and space dates back to Poincare, a French mathematician. Of course, we cannot deny that Albert Einstein completely and successfully combined the concepts of time and space together, however, according to ancient Chinese literature it shows that the Chineses sages had reached such a consensus. In the most complete Chinese dictionary of "Ci Hai"[1], universal defined as the combination of Yu (宇) and Eou (宙) which means time and space, respectively. Therefore, for the ancient Chinese time has already been a part of space-time. Chinese philosophers had revealed the secrets of the universe explicitly: not only include the unlimited expansion of space but also unlimited continues of time.

[1] Ci Hai is a large dictionary, it is also a large-scale integrated of words and encyclopedia, it is comprehensive. 辞海[M]. 上海: 上海辞书出版社, 1979 (1987 年重印)　Ci Hai (M). Shanghai: Shanghai Dictionary Press,1979(1987 Reprints)

Chapter Three: Heidegger and temporality

Heidegger has analized everydayness for being of Dasein and temporality. At the same time, he tries to break free from these sources of misinterpretation by taking an unusually intense look at our normal existence and developing fresh concepts to describe it, such as "Being-in-the-world" and "care". As we will see, the problem also requires a critical analysis of the history of philosophy.

Being and Time has reintetpreted that everyday exists in terms of "temporality" (BT, 38). Because of that there is a "spiral" structure in *Being and Time*, Heidegger keeps reinterpreting the phenomena in order to get a deeper understanding of temporality. He said that temporality is the "meaning" of Dasein's Being. He means that if we want to understand ourselves, we need to understand the concept of temporality clearly. Hedegger examines the rare moments of revelation in which we have to confront our own mortality and also have the opportunity to make choices of "authentically".

Heidegger wantes to show that time is the key to understanding Being. In other words, we can understand what it is to be only in terms of temporality.

3.1 Everydayness for being of Dasein

For presenting a "preparatory fundamental analysis of Dasein", and interpreting Dasein's Being as "Being-in-the-world", there will be an examination of Dasein's everyday existence. Heidegger has explained that why we have to begin with everydayness for grasping Dasein's Being. For Heidegger, Dasein is nothing at all. Things are "whats"; their Being is "presence-at-hand", and their ontological characteristics are "categories" (BT, 67-70). "Dasein is a 'who' whose Being is 'existence' and whose ontological characteristics Heidegger dubs existentialia" (Polt 1999, 43).

In order to understand ourselves, we have to answer the question about how we exist. This undercuts the traditional distinction between what something seems like and the fact that it is. In the case of Dasein, in order to understand "what" Dasein is, we have

to understand the authenticity. Heidegger's thought is that Dasein is the "entity whose what is precisely to be and nothing but to be" (HCT, 28). And "the 'essence' of Dasein lies in its existence" (BT, 67).

Heidegger seems to imply that every entity neither exists nor is present-at-hand. While there are actually other ways of Being. An important way of Being is readiness-to-hand. Readiness-to-hand can be viewed as a connection between existence and presence-at-hand. Although useful things are obviously not human beings, they from part of the human's world and has the meaning relate to human's activity. Another important way of Being is that of non-humananimals (BT, 75-85).

But the problem is that: how can we study the Being of Dasein in a way that does justice to its character as existence? Heidegger points out that "we must turn to what is ontically closest to us" (BT, 69), and that is everydayness. We must catch ourselves in the act of everyday existence. This is a challenge as signment, when we look at ourselves, it tends to misinterpret ourselves.

One typical misinterpretation is to observe ourselves as we were normally observers, or views ourselves as essentially detached viewers. In our everyday existence, we are not spectators, but engaged actors. Heidegger shows that as we do things in the world, our Being is an issue for us. We relate to our own Being, either authentically or inauthentically. This does not through knowledge or self- consciousness, but through acting, through capably dealing with the beings around us.

Heidegger claims that everydayness is "undifferentiated" (BT, 69) which presents some difficulties. By "undifferentiated", he seems to mean "a mode of existence that is neither authentic nor inauthentic" (BT, 78). But Heidegger never clearly explains this concept, and he almost portraies everydayness as inauthentic. Conflicts with his principle are "at the outset of our analysisit is particularly important that Dasein should not be interpreted with the differentiated character of some definite way of existing" (BT, 69). Heidegger seems to abandon this principle in his development of project, because he claims that "ontological interpretation base itself on ontical possibilities-ways of potentiality-for-Being" (BT, 360).

For Heidegger, ontological interpretation is an activity that is subsidiary to a more primordial Being-in-the-world. Heidegger even says that the very act of "objectively" trying to know something or staring at it presupposes "a deficiency in our having-to-do with the world concernfully" (BT, 88). When Heidegger revisits this issue, he makes it clear that "the act of knowing in volves not only adeficiency, but adeliberate 'thematizing' or objectification" (BT, 414-15). However the concerning of dwelling, rather than knowing, remains our basic way of existing. Normally "I do not perceive in order to perceive but in order to orient myself, to pave the way in dealing with something" (HCT, 30). Even when I perceive solely it has to be understood as a special mode of dwelling. If the cabbie were not engaged in his world at all, then the very concept of a traffic jam would be meaningless to him because knowledge always depend on Being-in-the-world.

3.2 Everydayness and being-in-the-world

Being-in-the-world in Heidegger's theory is the sum of the world, no matter in the subject world or the object one. The consciousness or the entity world, are all included in. Heidegger defined it as that only through the fact that Being-there is rooted in temporality can we get an insight into the existential possibility of that phenomenon. "At the beginning of our analytic of Dasein, we have designated it as basic state: Being-in-the-world" (BT, 402). The concernful being of ready-to-hand, present-at-hand and within-the-world are the everyday mode of Being-in-the-world. Dasein exists in two classifications: authentic and inauthentic. The world "is" there, but basis on the original phenomenon and the ontological entity. What we can see and feel are the "nows" and everything around us, we are in the world. But how can we distinguish us from anything else? For Heidegger Dasein is an entity which in its very Being; comports itself understandingly towards that Being. In other words, we pay attention to the formal concept of existence and notice that Dasein's existence. Furthermore, "Dasein is an entity which in each case I myself am" (BT, 78). Dasein's characters need to be understood in the mode of the "priori being" which is ground in the "Being-in-the-world". While in Heidegger's opinion, we gave thorough interpretation of that everyday mode of Being-in-the-world is closest to us and the concernful Being alongside the ready-to-hand within-the-world. "Now that care itself has been defined ontologically and traced back to temporality as its existential ground,

concern can in turn be conceived explicitly in terms of either care or temporality" (BT, 402).

Heidegger uses the active of concern to explain a term of ontological, because the being of Dasein itself is revealed by care. Heidegger said that: "letting things be involved makes up the existential structure of concern. But concern, as Being alongside something, belongs to the essential constitution of care; and care, in turn, is grounded in temporality. If all this is so, then the existential condition of the possibility of letting things be involved must be sought in a mode of the temporalizing of temporality" (BT, 404). The "letting things be involved" is concerned the things we have concerned, and let them Being-in-the-world. The term about Being-in-the-world is account the past as one kind of entity. And "when one circumspectively lets something be involved, one were not 'from the outset' awaiting the object of one's concern, and if such awaiting did not temporalize itself in a unity with a making-present, then Dasein could never "find" that something is missing" (BT, 407).

But concern is the temporal meaning, and Being-in-the-world belongs to human beings, so the Being-in-the-world is an identical concern of human in everydayness. Only in this kind of environment and depends on the temporality of concern, Dasein can understand the world and can Being-in-the-world. Heidegger alarms that even the concern remains restricted to the urgency of everyday needs, it is not a pure making-present. Because "everyday" arises from a retention which awaits and on the basis of retention, so that Dasein can exist in the world. "Thus in a certain manner, factically existent Dasein always knows its way about, even in a 'world' which is alien" (BT, 407). Under this concern of temporality, both the time and the environment of world have the character of publicy.

When Heidegger analyzes the ontological of the concerning on being-in-the-world, he mentioned that the tool which already present but will damage soon. After the machine has broken down, it is only can be conspicuous for dealing with manipulated. Even by the sharpest and most persevering "perception" and "representation" (BT, 406) of things. One can never discover anything like the damaging of a tool. While Hedeigger still did not give up the ontological argument. He said that the manners of the tools are held up regard to its absorption in relationships of involvement, but at the

same time, it also held up by what will exhibit as damage. The "towards-which" and the "in-order-to" were the first encountering for the "first time". The damage is the normal circumstances, because the making-present itself will regard to something different, no one can confirm it suitble or not. But it is unsatisfactory, because the concern dealings were merely sequence of experience which running their course. "'In time', however intimately these might be 'associated', it would still be ontologically impossible to let any conspicuous unusable equipment be encountered" (BT, 406).

If the making-present meet the unsuitable condition, in Heidegger's opinion, concern can across the condition of disturbing, hindering and endangering. Depends on the concern, Dasein can reckon on so that can avoid being retained, so that can turn the unsuitability to the ready-to-hand. That basesed on what we are concern in the ecstatical temporality. Dasein exists in world, no matter "they" familiar with the world or not, they can exist. While only because the concern which leting something be involved, we can "Being-in-the-world" and in the temporality.

The concern keeps activiting in the way of seeking the ontological genesis. For Heidegger, the scientific projection is a good example to certificate that "Dasein must transcend the entities thematized" (BT, 415). The thematized being is the articulation of the understanding of Being. The reason why Heidegger spent a lot for talking about the scientific projection is that he want to emphersize the importance of science and technology in human's culture. He said that the thematizing's aim is to free the entities we encounter within-the-world, and to free them in such a way that they can "throw themselves against" a pure discovering - that is, that they can become "Objects" (BT, 414). Due to the scientific projection, we can understand that Dasein is the basic state for entities Being-in-the-world. Also because of the scientific projection, "it is possible for Dasein to face a world must have been disclosed to it" (BT, 415).

Heidegger had worked out the further evidence of that "Dasien's Being is completely grounded in temporality" (BT, 415). Heidegger said that temporality must possible for Being-in-the-world therewith Dasein is transcendent. The transcendence in turn provides the support for concernful Being alongside entities within-the-world, "whether this Being is theoretical or practical" (BT, 415).

While, we are talking about that Being-in-the-world, what the world is? And how does the Dasein Being-in-the-world? When Being-in-the-world is traced back to the ecstatico-horizonal unity of temporality, the existential-ontological possibility of this basic state of Dasein is made intelligible. Heidegger takes the temporality into the account of understanding the world.

In the book of *Being and Time,* Heidegger said that Being, as a basic theme of philosophy, hass no class or genus of entities; yet it pertains to every entity. "Being is the transcendens pure and simple. And the transcendence of Dasein's being is distinctive in that it implies the possibility and the necessity of the most radical individuation" (BT, 62). Heidegger said that the base for understanding the ontologically of entities is the transcendence of the world. This leads us go back to Heidegger's analysis about the Being-in-the-world. In Heidegger's words, the world is already presupposed in one's Being alongside the ready-to-hand concernfully and facticalIy, in one's thematizing of the present-at-hand, and one's discovering of this latter entity by objectification; that is to say, "all these are possible only as ways of Being-in-the-world" (BT, 417). While, if the world is grounded in the horizonal unity of ecstatical temporality, we can say that the world is transcendent.

3. 3 Everydayness and temporality

For Heidegger, his early view of temporal interpretation is not enough to understand temporal structure and he does not treat the time with the apparent value of past, present and future. Temporal structure is not so simply to be exhibited. For understanding the phenomenon of temporal structure clearly, it is necessary to quiet the conception of nature time, or call it as nature of the mode of time that the phenomenon makes sense. For example, "simply to say that to be a substance involves persisting through change is not to specify what persistence is, much less to specify how the elements of time - most likely, moments - hang together" (Blattner 1999. 91).

For Heidegger, Dasein is the entity that has the feature to cover itself. The character unsettling is which obscures from the genuine character of its being. Especially the phenomena of death, declare that Dasein is in a mode of uncanny and disoriented.

This understanding of Dasein is based on the "possibility"; while it seems that Heidegger make it obscure. About the original sort of Dasein, it disrupts our everyday understanding of Dasein to a certain extent. Heidegger also mentioned this kind of phenomenon, and he calls this "violence". This "violence" doing something such as that disrupts our everyday understanding of temporal structure. Sometimes it likes that Heidegger's concept of "doing violence" has really disrupt the general conception of Being and also affect our ordinary concept of time. This disruption will penetrate into everyday understanding of time itself finally.

We called "the kind of being in which Dasein holds itself initially and for the most part everydayness" (BT, 352). As the terminology goes, the analysis of "everydayness" is the mode of being. And the normal understanding is that everydayness connects with the Dasein's life in each day, it always refers to the habit and customs.

Everydayness means how human beings live "in-the-world" and "being-with-one-another". Dasein in every day relates to the environment and another in the environment; awaiting tomorrow and retaining what happened yesterday. Everyday is the node of Desein and temporal.

When we discusses time or original temporal, we will notice that we are living days between the sunrise and sundown, only through the everyday life we can face ourselves directly, we meet someone, talk with them. On this foundation we not measure time consciously but we can remember all the things what happened and even can feel that we become older and other changes in the world.

While the modes of time in terms of Dasein affects on the sense of discontinuities is a nonstarter. The continuity is the foundation characteristic of time. Time is a line of sequences. It is plainly effect that the mode of time is nonsequential. Heidegger would probably respond as he has responded to the earlier "metaphysics" objection. William Blattner said that "the everydayness which is not successive is arbitrariness and is it not just dogmatic to assert that one already knows what the structure of time is, so that one need not even entertain the idea that there might be such a thing as nonsequential time?" (Blattner 1999. 94)

Heidegger has the idea that as subject we can settle conception of time from the terms of original temporality. But he can not use the concept of original temporality to explain ordinary time. Therefore, we demonstrate that "the time which is accessible to Dasein's common sense is not primordial, but arises rather form authentic temporality, then, in accordance with the principle" (BT, 377).

In Heidegger's conclusion, everydayness manifestly stands for the way Dasein's existence of "every day" (BT, 422). Everydayness is the way to be and to be publicly. Heidegger emphasized that the Being in which Dasein maintains itself proximally and for the most part is "everdayness" (BT, 421). The thoughts about the existence in our everyday lives always not been treated as authentic, and not been spent in reflexive contemplation of our Being-in-the-world; but the everyday lives exist like Dasein being-there. This is what exactly Dasein's mode of average everydayness. However, Heidegger sets everydayness in the domain of "inauthentic" existence, it not means that we can avoid to being in everydayness. Only in the way of everydayness, it is possible for Dasein to approach the authenticity.

Dasein and average everydayness are both the phenomenological characteristic of being's entity. While the Dasein was unrevealed; everydayness is what much near us. This undifferentiated character of Dasein and everydayness is a positive phenomenal characteristic of this entity. To fill the gap between everydayness and authenticity is Heidegger's work. Dasein's average everydayness, however, is not to be taken as an "aspect". Even in the mode of inauthenticity, the structure of existentiality lies a priori. Dasein's Being is an issue, in a definite way; Dasein comports itself towards authenticity in the mode of average everydayness. Though Heidegger has the way to the authentic world, "anything which, taken ontically, is in an average way, can be very well grasped ontologically in pregnant structures which may be structurally indistinguishable from certain ontological characteristics of an authentic Being of Dasein" (BT, 70). In order to get close to "the closest thing of all", we have to be articulated in a way of "the closest thing". But the difficult still exist. Because the average everydayness makes up what is ontically proximal for this entity, "it has again and again been passed over in explicating Dasein" (BT, 69).

It is necessary for us to clear that Heidegger leads us to the ontological structure of

Dasein's being. Heidegger said that there is a basic character of Dasein which is disclosedness. The disclosedness is grounded in care of everydayness. Care has been characterized with regard to its temporal meaning, but only in its basic features. "To exhibit its concrete temporal Constitution, means to give a temporal Interpretation of the items of its structure, taking them each singly: understanding, state-of-mind falling, and discourse" (BT, 384-5).

Every understanding has its mood. Every state-of-mind is one in which one understands. The understanding which one has in such a state-of-mind has the character of falling. The understanding which has its mood attuned in falling, Articulates itself with relation to its intelligibility in discourse. The current temporal "Constitution of these phenomena leads back in each case to that one kind of temporality which serves as such to guarantee the possibility that understandmg, state-of-mind, falling, and discourse, are united in their structure" (BT, 385). If we want to go deep into the everydayness for getting the ontological structure of human, we need to know that how does Dasien making the possibility of concept-formation ontologically intelligible. Heidegger gave us the answers: uderstanding is grounded primarily in the future (whether in anticipation or in awaiting). States-of-mind temporalize themselves primarily in having been (whether in repetition or in having forgotten). Falling has its temporal roots primarily in the Present (whether in making-present or in the moment of vision). All the same, understanding is in every case a Present which is in the process of having been. All the same, one's state-of-mind temporalizes itself as a future which is "making present". "The present 'leaps away' from a future that is in the process of having been, or else it is held on to by such a future" (BT, 401). In this way, we will close to the authenticity of Dasein. But disclosedness always pertains with equal primordiality to the entirety of Being-in-the-world to Being-in as well as to the world. Then Being-in-the-world gives a picture to everydayness. Jesús said that "from the perspective of these lectures, one better appreciates the extent to which Heidegger's analyses of Redeand Geredeand his notion of everyday communication are fed by a weighty interpretation and a stimulating appropriation of Aristotelian rhetoric" (Escudero 2013, 93). In fact, Heidegger's words confirmed Jesús' judgment. Heidegger said that: "the work of Aristotle must be taken as the first systematic hermeneutic of the everydayness of

Being with one another" (BT, 178).

Heidegger has repeatedly stressed that everydayness just the phenomenon character of Dasein, and it not equal to the authentic temporality. Heidegger said that "everydayness does not coincide with primitiveness, but is rather a mode of Dasein's Being, even when that Dasein is active in a highly developed and differentiated culture-and precisely then" (BT, 76). Everydayness is the average way of Dasein's existence, but has nothing manifested about Dasein's existence. This is the characteristic or property about everydayness. "We mean everydayness as temporality, because temporality is made possible by Dasein's Being, an adequate conceptual delimitation of everydayness can succeed only in a framework in which the meaning of Being in general and its possible variations are discussed in principle" (BT, 422-3).

3.4 Dasein's finitude and death

Heidegger treats the concept of time as Dasein's being which makes sense of time but different from the ordinary concept of time, because it is nosequential. This temporal interpretation becomes more argumentative. Heidegger argues that time does not find its meaning in eternity but in death. There are arguements that it is not evident why Heidegger's account of time should in any way be superior to the traditional conceptions of time. But death is never at our disposal to understand the phenomenon of time. It shows that although Heidegger is aware that death is never an event in our life, he nonetheless claims that it is the awareness of our finitude that informs our understanding of time. Yet if Heidegger does not think that death is never at our disposal is a problem, then it becomes questionable whether Heidegger's initial critique launched against the tradition of philosophy still holds. Because it is no longer obvious about why it matters that eternity, as a point of departure, is never at our disposal to understand the phenomenon of time.

Heidegger tried to show that time cannot find its meaning in eternity or in numbers; but in time instead no precisely to be more precise, in Dasein's original temporality. Indeed, Heidegger goes so far as to assert that "time itself is meaningless; time is temporal" (CT, 21). Here, Heidegger argues not only that the meaning of time is not derived from eternity, but also about the concept of eternity which presence itself is a

derivative of temporality.

As have learnt from Augustine that from the viewpoint of the eternal, time is nothing. Only for us humans does time pass. "For God, years neither go nor come-they are completely present. All at once, because they are at a permanent standstill" (Conf. 263). From the viewpoint of the eternal, everything is eternally present: there is no room for possibility. Heidegger believes that if this is true, then Augustine's postulate that time is an image of eternity will no longer holds. For Augustine has shown convincingly that for God there is no time. This insight should have led him to realize that the issue is not merely that we do not have eternity as a point of departure at our disposal, but that time can never find its meaning in eternity.

Thus, "the primary question is not what time is, But who is time" (CT, 22). Namely, we first need to ask what kind of being, other than the eternal, can understand the concept of time. We soon come to realize that time is intelligible only for a being that lives with a limited ability of understanding. Because when we think about time, we think of it in terms of restriction. As Shakespeare said in *Twelfth Night*, "There was a sense, carried over from the nine teenth century, that the play had an atmosphere of melancholy-'Youth's a stuff will not endure" (Shakespeare 2003, 39), or as we say in everyday speech, we can not turn the clock back. These expressions exemplify that we conceive time in a limit. The passing of time and indeed such restrictions are thus meaningful only for a being that lives with an understanding of a limit. Heidegger argues that only we human living beings live with such an understanding. For what distinguishes us from other living beings is that our entire existence is informed by the fact that we are mortal.

What defines our very existence, or, what gives the sum of Descartes' "cogito sum" meaning is that it is "sum moribundus" (HCT, 437). We humans are doom to die and Heidegger believes that this ultimate limit or end makes all possibilities on time intelligible. Death here should not been understood as "something" outstanding; rather, we humans understand our relation to death as something that we live. "As soon as man comes to life, he is at once old enough to die" (BT, 245). Our life will end in "not-yet", our life is defined and limited by death. It is the certainty of death or the certainty of finitude that reveals possibilities and thus time. Possibilities and time

are constitutively determined through finitude. Time exists only because we are mortal. In this sense Heidegger has managed to explain why time is essentially human and why, in itself, apart from us humans, it is nothing. "Time itselfis meaningless; time is temporal" (CT, 21). Only because we are finite is there something called time. Heidegger even goes so far as to argue that we should not regard time as a linear series of now-points. Time does not originate from the present; we understand the present as that eternity itself is derivative. To follow Heidegger: "The 'now' is not pregnant with the 'not-yet-now', but the Present arises from the future" (BT, 427). Time is not an image of eternity, but time finds its image in our finitude. The meaning of time does not lie in eternity which is beyond our grasp. Rather it lies in an end, and that end lies within our grasp.

3.5 Everyday mode of existing: care

Heidegger said that the original temporality that appropriate for the temporal interpretation of Dasein's being is the mode of time and that it in turn succeeds the past but not in a mode where future succeeds the present. The original temporality is the every moment of the sequential time, it is the future, present and past, and all the day in the month and year. In a word, the primary phenomenon of original temporality is the future.

All of us face to death as soon as we were born, we are anxious on the fact that we are getting old, and that we will die one day. We fear death. For example, we will be scared when we heard the death of others, we even feared to say the word of "death", we will say some one has gone, or, in China, someone has gone to meet the one who has already died.

We try to improve medical level, and to find new regimens. Lots of people are researching for the secret of health. In Heidegger's words, death is the obstacle to Dasein's possibility. "Only when we take death as the possibility of ourselves, we are able to live freedom towards death and if we foreknow death, we accept our human Dasein as authentically" (BT, 266). On the contrary, death will limit Dasein's possibility. Death is unavoidable when we totally grasp Dasein. At the same time, if we want to understand ourselves, we have to be mortal.

But even we can bravely face the death; death is still beyond our grasps. We concern about death while we are alive, we aware that death will come finally. We always think that the death is more complicated than expected, so we live carefully and think about our future. We make plans for the next day, next week, and next year even for the next ten years. These kinds of plans are the things what we aware ahead of ourselves.

We fear death. We know it is the end of our life. We can see the death of others, so we know that we are the beings existing but also dying. This explains why Dasein can experience death of other beings. But the fact is that we cannot experience the others' death directly, each one will only die once. We are not able to know when and where will we die. This explains Heidegger's idea that even we are mortal we will develop social structures.

Anxiety is different from fear. For fear, one always has "something" to fear about, but when one is anxious, he is not anxious about anything concrete, and one is anxious without reason. Aanxiety essentially is anxious of death and "nothingness". So we can accept death, every moment in our life is worthwhile and precious. Humans will do their best to make their life color-full and significant. This can be seen in Johnson words that "Dasein can hear the call of conscience" (Johnson 2000, 28). We care about the present but not so much about the future. We remember the past, enjoy the present and forget the future. That is a kind of self-understanding.

Dasein is the special interpretation of temporality structure of care. Past, present and future constitute Dasein's temporality. That present is in the sense of making present, and only in this condition of "making present" the possibility of temporality can be achieved. This present lies in the original present, which is the becoming of conception of world-time. While the world-time is the ordinary understanding of temporality, and temporality is the meaning of care.

Care should be understood as the being-towards death. Care is not an entity but a phenomenon exists in "Time River". While based on this phenomenological Care, time is known as endless. This "endless" is not the character of infinite. The "endless time" was exhibited so that we can understand time as "fully visible" that only

"because primordial time is finite can the derived time temporalize itself as infinite" (BT, 379).

As Heidegger summarized that the original time is finite, and that the temporality temporalizes itself originally bloom form the future. He moves forward a single step that the being of Dasein has been defined as care. "Care is grounded in temporality" (BT, 43). Care is the element that force and help us to understand temporality. Dasein's being exists as the unity of existence. The possibility of exist is comes from temporality. Temporality not only makes possible the unity of existence, but also the falling and facticity.

The reason why Dasein exists in that "letting-itself-towards-itself" and the possibility that "letting-itself-towards-itself" is because we take care of the coming future. When we consider our remaining life, we imagine what will happen, the "happen" is happening, it will be affected by the environment. "Letting-me-towards-myself" is the feature of future. We put ourselves into the world and think about the conditions and make a better plan. While when we making the plan, we know we will die, but we are not making plans to die, we prefer to live better. Finite temporality makes existence of Dasein possible. But at the same time, the possibility of temporality is also based on the Dasein's "care". We "care", so we define "before" and "after", promote factors of care-future, past and present in the timeliness.

Dasein is a particular interpretation of original temporal structure for care. We care and the care pushes us to understand the structure of temporal and do things for a better understanding. As this "understanding" goes on, we can get more and more meanings about human being. While care is an entity, but is not phenomenon in the time river. For the original temporality, future, present and past is successive. In other words, the original temporality is successive only when we care for timeline in time. Thus we need to take Dasein as a unique in the understanding of care. It is not expected in the course of time.

Care is, thus, not temporally determined in this sense. "Care is-in the structure already explained-the being of Dasein" (Blattner 1999. 106). Thence William Blattner thinks that care is not an entity even in the sense that something happened.

Heidegger concluded that the temporal interpretats care by linking the future and past to the present, and this happens in the interpretation of the temporal structure of concern. Letting things be involved makes up the existential structure of concern. But concern, as being alongside something, belongs to the essential constitution of care; and care, in turn, is grounded in temporality. "If all this is so, then the existential condition of the possibility of letting things be involved must be sought in a mode of the temporalizing of temporality" (BT, 404). We care the beings which as the issue for Dasein in the special concern of human beings.

3.6 Temporality and spatiality of Dasein

Heidegger admitted that when people are talking about time, they always fall in the context of "space and time". Thus with Dasein's spatiality, existential-temporal analysis seems to come to a limit, "so that this entity which we call Dasein, must be considered as 'temporal' and also as spatial coordinately" (BT, 418). Temporality, Dasein and space are the core phenomenon of us. When Heidegger analyzed Dasein's temporality, he question that has our existential-temporal analysis of Dasein been brought to a halt by that phenomenon? And with which we have become acquainted as the spatiality that is the characteristic of Dasein, and which we have pointed out as belonging to Being-in-the-world? Heidegger gave a negative answer. For him, temporality is the meaning of the Being of care. Dasein's constitution and its ways to be are possible ontologically only on the basis of temporality, regardless of whether this entity occurs '"in time" or not. "Hence Dasein's specific spatiality must be grounded in temporality" (BT, 418). Also because of the demonstration the spatiality is existentially possible only through temporality, we cannot aim either at deducing space from time or at dissolving it into pure time.

Heidegger summed the relationship between Dasein, temporality and space as follows: "Dasein can be spatial only as care, in the sense of existing as factically falling. Negatively this means that Dasein is never present-at-hand in space, not even proximally. Dasein does not fill up a bit of space as a Real Thing or item of equipment would, so that the boundaries dividing it from the surrounding space would themselves just define that space spatially. Dasein takes space in; this is to be understood literally" (BT, 418). That is only the understanding of literally, so are there

others answers? Yes, the answer is Dasein is "spiritual" (BT, 419). However, how to understand this statement? Heidegger treats Dasein as spiritual, because his aim is to be able to say that Dasein is present-at-hand at a position in space, "we must first take this entity in a way which is ontologically inappropriate" (BT, 419). Does Heidegger mean that Dasein is a spiritual entity? Maybe he dosen't, because he only wants to state that "it is possible the ontological meaning of the coupling together of space and time" (BT, 420). Heidegger said that the function of temporality as the foundation for Dasein's spatiality will be indicated briefly. He used the word "region" to describe the room that Dasein makes. In Heidegger's words that "making room for oneself is a directional awaiting of a region, and as such it is equiprimordially a bringing-close of the ready-to-hand and present-at-hand" (BT, 420). So we can get the idea that a Thing is present-at-hand genegrally means that an apace in general. But the fact is that only on the basis of its ecstatico-horizonal temporality is it possible for Dasein to break into space.

To make sure that temporality establishes spatiality, Heidegger shown that the ecstatical temporality of the spatiality has character of Dasein which makes space is independent of time. The same temporality also makes Dasein depends on space. The relationship seems becoming complex. While Heidegger takes this opportunity to explain that "'dependence' which manifests itself in the well-known phenomenon that both Dasein's interpretation of itself and the whole stock of significations which belong to language in general are dominated through and through by spatial representations" (BT, 421). Temporality falls itself into making present, that based on the terms of Dasien's concern, then we can say that the temporality is the clue for spatial to have presence. So it is possible for us to treat the structure of temporality as an abstract term from care and Dasein's being-in-the-world. This is in accordance with the temporality structured by past, present and future. Heidegger further explain that Dasein temporalizes itself is the same as the whole world. By temporalizing itself with regard to its Being as temporality, "Dasein is essentially 'in a world', by reason of the ecstatico-horizonal constitution of that temporality" (BT, 417).

About the world, Heidegger said that the world temporalizes itself in temporality but not in the eraly mentioned present-at-hand or ready-to-hand. We have mentioned that Heidegger has emphasized that Dasein depends on space; here Heidegger also

clarified that the world depends on Dasein-it "is", with the "outside-of-itself" of the ecstases "there". "If no Dasein exists, no world is 'there' either" (BT, 417). The world is already presupposed in one's Being alongside the ready-to-hand concernfully. Factically, it si in one's thematizing of the present-at-hand and in one's discovering of the latter entity by Objectification. All these are possible only in one ways: Being-in-the-world. Having its ground in the horizonal unity of ecstatical temporality, the world is transcendent. Based on this analysis, Heidegger stated that world-time is included in the temporality, and this definition is in the conception of existential-temporal.

However, what are the concepts of "temporality temporalizing itself", "Dasein's projection", and "the temporal projection of the world"? In Heidegger's words, these are Dasein's behaviours, and "all Dasein's behaviour is to be interpreted in terms of its Being-that is, in terms of temporality" (BT, 457). These different kinds of behavior are the ways to interpret how Dasein being-in-the-world. Dasein discovere the world and happens in the world. Heidegger called that "is concernful, and the concernful Being-in-the-world is directional self-directive" (BT, 420).

Arisaka finds way to understand Heidegger's concept of space, namely to redescribe spatial experience without presupposing objective space, or in his own terms, world-space (Arisaka 1995, 36-46). This is to describe lived space grasped within the finite perspective or an active being. There is no ontologically significant "space" outside the configuration of Dasein's movements in oriented regions.

However, if we think follow this way temporality has no creation relationship with spatiality. Even though, spatiality is built into the notion of care which is identified with temporality. But nearness and remoteness are spatio-temporal phenomena and cannot be conceived without a temporal moment. This is still far from that temporality is the foundation of spatiality.

We still can say that temporality is the foundational project of spatiality in context of *Being and time*. Heidegger treated the spatio-temporal structure of being-in-the-world as inauthentic, but the authentic temporality comes from Dasein's being-towards-death. In this case we know that the authentic temporality is based on spatiality, since

Dasein's spatiality is determined by resoluteness. This reading moreover enables Heidegger to construct a hierarchy in temporality and spatiality within Being-in-the-world rather than going outside of it to a formal transcendental principle, since the choice of spatiality is grasped phenomenologically in terms of the concrete experience of decision (Arisaka 1995, 36-46).

It seems that Heidegger's standpoint is that Being-towards-death is a mode of spatio-temporal. This theory also gives Dasein a feature of Being-in-the-world. So we can say that authentic temporality is able to be the foundation of the spatiality. This is based on the fact that Dasein is not as a lived body but a generality "Dasein". Since the concept of spatiality is the authentic spatiality but not the specific place.

The authentic spatiality is the place of dwelling according to Heidegger's *Building Dwelling Thinking*. Dwelling is the basic character of the relation between our Being and locations, and through locations to spaces, one inheres in his dwelling. "The relationship between man and space is none other than dwelling, strictly thought and spoken" (PLT, 155).

The notion of dwelling expresses an affirmation of spatial finitude. Heidegger certificates that "a world is not an object standing over against a subject; it is where we live our lives, the milieu in which we dwell" (BT, xix). The reason why Heidegger highlights the dwelling from his early work *Being and time* to the late one *The question consider technology* is that he wants to highlights the essentially "worldly" character of the self of Dasein.

3.7 Original temporality

Heidegger's definition about temporality originates from the interpretation of "phenomenon". The issue here is a kind of "self-evidence" which we should like to consider in detail, as it is important in casting light upon the procedure of our treatise. "We shall expound only the preliminary conception [Vorbegriff] of phenomenology" (BT, 50). Heidegger uses phenomenon to substitute for thing in itself, and he is not follow Kant's dualism, so that we can regard Heidegger's phenomenology as the origin of structure monism. "Only when the meaning of something is such that it

makes a pretension of showing itself-that is, of being a phenomenon-can it show itself as something which it is not; only then can it merely look like so-and-so (BT, 51).

After we gain insight into the phenomenon and got the idea that the phenomenon is the sense of temporality, Heidegger leads us to the characteristics of the existence. In his theory the core feature of the unity phenomenon of temporality is the "future". The "future" becomes the "present" is triggered by the care about "towards-onself". Temporality itself has been put together in the course of time out of the future, the having being, and the present. In this kind of interpretation, Heidegger denies that temporality as an entity, in his words "temporality is not an entity at all. It is not, but it temporalizes itself" (BT, 377). Heidegger treats temporality is based on the idea that "Being and that of the 'is' in general" (BT, 377). Heidegger said that the Dasein is the "to be", "to be" out of self, and then "toward-onself". Temporality is the primordial "out-side-of-itself" in and for itself. We therefore call the phenomena of the future, the character of having been, and the present, the "ecstases" (BT, 377) of temporality. Temporality is "to be" by the way of "letting-oneself-be-encountered- by". This is the general way for Dasein being to come into the world. This kind of ekstase has the possibility both of authentic and inauthentic. This happens because Heidegger divided the present into the "present" and the "moment of vision". The present which is held in authentic temporality and is authentic itself, is called as the "moment of vision" (BT, 378). But Heidegger has emphasized that if we bring the "moment of vision" into present, we must understand temporality as the ekstase. The authentic presents as the moment of vision united the "have been" and "future" together, because temporality has already temporalized the "have been", present and "future". So that every "moment of vision" of Dasein "to be" and "towards" continuously and eternally. We therefore call the phenomena of the future, the character of having been, and the Present, the "ecstases" of temporality.

"Temporality is not, prior to this, an entity which first emerges from itself; its essence is a process of temporalizing in the unity of the ecstases" (BT, 377). According to the above discussions, we can get the idea of what is characteristic of the "time" which is accessible to the ordinary understanding, consists, among other things, precisely in the fact that it is a pure sequence of "nows", without beginning and without end, in which the ecstatical character of primordial temporality has been "levelled off" (BT, 377).

But this ordinary understanding of time is far away from the authentic temporality. The ordinary understanding of time also is not the same as primordial time. But for Heidegger, the reason why the time is the time is because the sense that original temporality explains ordinary time. The original temporality is the core of interpretation of Dasein and also the core phenomenon of world-time.

About the persistence endurance, it's puzzling that is sequential or continuous; otherwise, it is instantaneous or discrete. If we want to get the temporal of phenomenon, we should take the structure of time uniquely so that the phenomenon makes sense. Which is called time is not so firmly underline the structure; it just says that there is time and the time has structure. There are lots of time and time structure. No one can tell which kind of time is the real time or the right time. For Heidegger, there are two main modes of time: "original temporality," and "the ordinary conception of time".

One might already have objected. For example Blattner questioned what business it is for Heidegger's to ask what the structure of time is, or to speculate on modes of time. Surely such claims could be supported only by an independent metaphysics of time, or even a physics of time. The temporal interpretation of Dasein's being could proceed only on the basis of such an inquiry that is already complete (BT, 92).

To get into the details, we must clear out the way to epotential misconception about original temporality, namely, it is the temporal structure of authentic Dasein, as opposed to everyday, as well as inauthentic, Dasein.

The original future is the sense of the Dasein's existence which shows the kind of temporality exhibited by Dasein. That is also the original present and the original past have to base on. In the theory of Heidegger's existentialism, the original future is inside in which for analyzing the original temporality and the original future is nonsequential. As to the original past, it has the character of nonsequentiality, but this "nonsequent" comes from future. The original present arises from the original future and the original past. Thence, the original future is the primary explanation that explains the nonsequentiality of the past and present in original temporality.

Original temporality is the sense of care, is finite. But it is different from the ordinary temporality which has end and stop. The original temporality has no sequence. There are teleological elements about the original future which is always projection into some ability-to-be directivity. While this kind of teleological projection is finite because of the death. Death provides limits for the definition of future. The original future is too high to reach, thus makes a specific sense about the finite original temporality. And because of the unattainable of original future, we can't take future as "not yet".

The "not yet now" and the "already past" are encompassed in the concept of time. Future and past as two unites of the unity of time can be conferred on participates in time structure. The "not yet" future and the "already" past of each point purposiveness and givenness are authentic. The original temporality has no possibility for explaining the unity of care. While Heidegger defined the future and past as the structure of care, and both of them are already in the structure of care.

But in fact, Heidegger just interpreted the care, didn't construct a template to an independent phenomenon. He described the care with words like "painter apply meanings from drawing". He mentioned that temporal elements constitute the original temporality, but he also showed that there is no contradiction to interpret the care.

Heidegger interpreted time as past, present and future, because he wanted to emphasize that time is the sequence and has the feature of flow. While William Blattner not agrees, he said that "Heidegger cannot appeal to the putative primordial unity of some undifferentiated flow of time" (Blattner 1999. 129). Why? Original temporality is in sequence, present appears, and then the future comes, every point continuously come. So we can say that the original temporality is successive. Heidegger clearly associated the "flow" of time with the ordinary conception of time. "Time is understood as a succession, as a 'flowing' stream of 'nows', as the course of time" (BT, 474). But this "time" is the ordinary concept of time, not the original temporality.

Although the original temporality is not the "flowing", the features of continuity can also be demonstrated and proven. These features are used to appeal for that original

temporality is successiveness. Temporalizing does not signify that ecstases come in a "succession". The future is not later than having been, and having been is not earlier than the present. And "temporality temporalizes itself as a future which makes present in the process of having been" (BT, 401).

3.8 Ordinary concept of time

The ecstatic-horizonal makeup of temporality, in which the datability and significance of the ordinary interpretation of time is a sequence of "nows", both datability and significance are missing. In *Basic Problems of phenomenology* Heidegger wrote, "Time as right and wrong time has the character of significance, the character that characterizes the world as world in general" (BP, 262). That is, there is no time that belongs inherently to nature independently of Dasein. As we shall see, nature itself does not depend on Dasein. Nature is an occurrent entity, and Heidegger does not have idealism about occurrent entities. Although nature is independent of Dasein, its time is not. That is, there is no nature-time. "Being which belongs to existence is at bottom temporality; all Dasein's behaviour is to be interpreted in terms of its being, that is, in terms of temporality" (BT, 456-7).

Heidegger's theory of time always depends on Dasein. In the ordinary interpretation of time as a sequence of nows, both datability and significance are missing. The characteristic of time as a pure succession does not allow characteristic "to come to the fore". The ecstatic horizonal makes up of temporality of concern, in which the datability and significance of the Now ground, for getting banlance through the "unrevealed".

We understand that the ordinary time out of world-time axiomatically, but how to consider the role played by the feature spanness and the public of world-time, or more fundamental problems, why time is spanned? Only the world-time which has sequence of past, future and present is spanned. Only under the Dasein's concernful of common sense, we are reckoned and date with time because of the sense of measure every day time. The history is full of stories happened in time and even the history itself is a part of the ordinary time. People in each era use themselves to define the domination, especially in ancient China, each year was named by the emperor's

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name, begins form the first day the emperor become the emperor, end at the day when he or she die.

It seems that time is continuous but only a small sequence flow. Those sequences are able to be measured and counted by number. Dasein comes out from this sequence and exists in this sequence. Dasein makes present in the sequence and present out "now". Someone in harry would complain that he or she has no time. They take all present as "now", there is no "later on" for them, because they make plans and these plans occupy all the sequences. Even though, Dasein has no time because Dasein is always in time. In fact, there is no end for Dasein, just has end for each one's life. "Life" is irreversible and is infinite.

Why and how can Dasein feel the time is irreversible? Heidegger did not say that the original temporal is "flowing" but the ordinary time is. Our ordinary conception of time flows from past to present and then future. Present comes after and then becomes the past, future will present at hand. Time flows from past to present. The sequence continues but is irreversible; the irreversible time goes on and has no end. Though the existence of an ultimate theory of physics has been proved by Hawking, it was then overthrown by Hawking himself.

Maybe you will wander who controls the time and has the power that makes time continue but unable to reverse. The answer is "time itself". The impossibility of this reversal has its basis in the fact that the public time originates from temporality, "the temporalizing of which is primarily futural and 'goes' to its end ecstatically in such a way that it is already towards its end" (BT, 478). No one is able to take him or herself into the childhood when he or she is thirty years old. That because world-time is irreversible. One cannot "go backwards" through world-time. In Heidegger's *Being and Time*, he said "in the ordinary interpretation, the stream of time is defined as an irreversible succession" (BT, 478). We can get the point from this sentence that-time is continous and irreversible. Time will not let itself stop or even has a halt. When we let time flown away and we cannot pull it back. Time is irreversible, because the future has priority in original temporality.

The impossibility of this reversal roots in the fact that the public time originates from

temporality, the temporality of the primarily futural and goes to its end ecstatically is already towards its end. Therefore, "there is a directional flow to world-time: the past must be already available, so that one might strive for the future. World-time flows from its past to its future, and it could not be otherwise" (Blattner 1999, 223).

The irreversible flow of time is "endless", or in Heidegger's words "infinitude". "The ordinary way of characterizing time as an endless, irreversible sequence of 'nows' which presses away, arises from the temporality of falling Dasein" (BT, 478). The sequences of "nows" appear from "now" one by one, with no breakpoints. Every "now" is not only the "just now" but also the "present now", and after this "now", other "now" will come. In this sense, there is no beginning or ending in time.

Every last "now", as "now", is always already a forthwith that is no longer, thus, it is time in the sense of 'no-longer-now' or in the sense of past. Every first "now" is just now that is 'not yet now'-in the sense of future. "Hence time is endless 'on both sides'" (BT, 476). Heidegger emphasized that the condition of time is endless, time has no beginning or ending and time is irreversible. The irreversibility makes sure that time cannot flow back, and time flees directly to the future, this fleeing is continuous and will not stop. We are in the fleeing, but cannot indicate when we are beginning. We are in the chaos. But day after day we find that although we are in chaos there are orders. A linear structure is the order of the spatiotemporal.

While the time is irreversible, infinite and successive, these words are abstract and elusive, but we can feel vividly the sunrise and sunset, and the change of seasons. The day and night can be numbered. We can visualize how existing the first who found the circadian rhythm. "The sun dates the time which is interpreted in concern" (BT, 465). Heidegger is right; the "day" is the first measure and also the first natural measure of time.

The measure of day is accustomed. Because of the concern of the awaiting and retaining, Dasein begins to divide up the day. This "dividing up" based on the fact that time is able to be dated. Heidegger used the word "regard to" to describe that "the dividing up is done with regard to that by which time is dated---the journeying sun" (BT, 466). The dating from day to day is "the Dasein historizes which is a way

adumbrated in its thrownness into the there" (BT, 466). The thrownness is towards every man in the world, the dating of time is public. This public dating, in which everyone assigns himself his time, is one which everyone can 'reckon' on simultaneously; it uses a publicly available measure. This dating reckons with time in the sense of a measuring of time. Heidegger then draws forth the tool for measuring----clock. Clock was discovered accompanied by the process of discover the world. Heidegger discussed that the process of clock emerges with the theory has implied that clock is along with the temporality of Dasein. As thrown of Dasein, clock abandoned to the world and gave itself time, "something like a clock is also discovered----that is, something ready-to-hand which is in its regular recurrence has become accessible in one's making present awaitingly" (BT, 466).

"The question regarding movement, and therefore also the question regarding time, undoubtedly play a crucial role in Heidegger's hermeneutic appropriation of Aristotle's philosophy" (Escudero 2015, 76). Does Heidegger connect time with the movement? No, because he always treat time or temporal as the abstract conception. Until I read the book *Heidegger and the Emergence of the Question of Being* of Professor Jesús, I know that Heidegger also think time is linked to the movement, the measurement of time is based on the movement at least.

Temporal is the reason for clock. Heidegger thinks this is the relationship between temporal and clock. But in fact the temporal is not the only reason. Dasein threw itself into the world. With the improvement of the level of productivity, people can do more and more in their daytime. The speeding up of produce force to divide a day into smaller unites; the invention of sundial and water clock and then the modern clock was created with the development of technology. Temporal is just the appetizers for the clock, the technology of prolificacy is the detonators.

Conclusion

We can find that Heidegger's concept of time is very different from the time we ordinarily thinking about. But Heidegger did not mention this distinction. We can anticipate that he tries to diagnose our usual concept of time as a product of inauthentic falling. Get the authenticity is the aim of *Being and Time*.

We always treat time as the time line, the number which is counted by clock or the picture of movement. While we accurely know that the clock is not the time, it is the symbol of time. When we try to think of time itself, we usually consider it as a line. We are standing in the time line; all the changes happen with the direct of the future. But as the momory goes, we can get the idea that time line is extending forever in both directions- past and future. The moment of "now" is a single point. As the time line goes, clock runs to the direction of the future. And everything goes into the future along with us.

Although we can consider the passing of time as a moving picture or the tick-tock of the clock, time has an objective reality or it is something subjetive. When we consider it deeply, it proves to be full of puzzles. Heidegger claims that "puzzles such as these results from focusing on the superficial phenomenon of the timeline instead of on Dasein's temporality" (Polt 1999, 106). To understand why Dasein's temporality is "primordial time" (BT, 457), we have to draw on our ontology of Dasein and examine how our conventional pictures of time arise in the first place. As we do to defend ourselves against the concepts such as "subjective" and "objective".

In Heidegger's definition of the comcept of time, our everyday experience of time is not the authentic time; but a time which filled by human's everyday experience, made the timeline meaningful. For Heidegger, Dasein is absorbed in its dealings with the ready-to-hand in everydayness. It awaits the results of its dealings, retainsits equipment and past situations by keeping track of them as necessary, and makes present its current situation by paying attention to what it is producing and achieving. Heidegger gave us the result that "making present has a peculiar importance" (BT, 459). For us, the past and future is just the connection to present. All these happen in everydayness.

While the past, future and presnet are full of meaning because we concern the time passing in our everyday life. And we defined time not only by counting the hours and the miniutes, but also by the experience that "yesterday when we are walking", or "now it is time to send E-mail to the Graduate schoool". In Heidegger's words is "wrong time" and "right time": right or wrong time to do things in our everyday. As time is measured by human beings' everyday life, the time line is becomes meanful.

While, how did we find that the measurement of time is possible? For Heidegger, temporal is the reason for clock. However, the fact is not so simple. Heidegger described how our need to keep track of what we are doing now leads to the use of clocks. Since we count things and events, we can arrange our activities. At the beginning, we mearsure time by watching the rise and set of the sun and the seasons changing; and then we divided a day into many hours. We use such events to measure how late or early it is – always keeping the present as our main point of reference. For example, when I see that the sun is going to down and my shadow is long, I know it's time to have supper. That is what we have menstioned above, in our everyday use of clocks, not only are we primarily concerned with the present, but our activity of measuring requires a "specific kind of making present". We apply a present-at-hand standard of measurement to apresent-at hand thing that we are measuring (BT, 470).

Consequently, when we try to conceive of time itself, it is too easy to focus on the "now" and presence-at-hand, and to focus on the act of measuring instead of on what is being measured (BT, 471). We can ignore the fact that we were measuring in order to carry out practical projects in the world, and come to think of time as a mere timeline -a sequence of countable "nows" in which objects are present-at-hand. We have then forgotten the richness of our everyday Being-in-the-world.

Heidegger tried to show that this forgetfulness is the originn otonly of our common-sense notion of time, but also of all previous philosophical conceptions of time. For Heidegger, the notion of time as a timeline is the result of the clock-reading behavior of inauthentic, everyday Dasein. This activites focuses on counting "now points". But the behavior of clock-reading is based on the temporality of everydayness. The everydayness is much richer than a timeline. There are purposes and activities, and thus requires the complex structure of the everyday environment. Everyday temporality is based on the underlying structure of care. Care is revealed most fully in authentic temporality, which involves resolutely facing up to mortality and repeating one's heritage in a moment of vision. "When we are authentic, instead of evaluating the past and present in terms of the 'now', we recognize that the present gains its significance from the past, and even more so from the future. The authentic temporality of Dasein is far more primordial than any time line" (Polt 1999, 108).

Heidegger's account of time opens a clarifiation for the thinkers. What should not be ignored is that Heidegger wants to lead us to pay attention to our lives. No matter how advance the scientific time keeper, we need to go back to our own living temporality. Regardless of the subjectivity and objectivity, go and care about our life in nature enviriment and keep speed with the rhythm of ourselves.

Chapter Four: Heidegger's question on the essence of technology

The essence of technology is Heidegger's central issue in *The question concerning technology*. Technology is not equivalent to the essence of technology, this make it's difficult to get the essence of technology. Indeed, Heidegger maintained that what is the essence of modern technology after the exact science worked on it? What is modern technology? "It too is a revealing" (BW, 320).

Heidegger led us to the essence of technology and tried to liberate human to freedom. For grasping the relationship between technology and human, Heidegger told us three points: first, revealing the essence of technology is the most important aim; second, modern technology is different from the ancient, that appears in the structures and artifacts it produced; third, it's difficult to get to the essence, because we human self also face challenges, we are living in the heart of the dangerous, that we cannot look deep into the essence of technology. If we can overcome those difficulties, the essence of technology will reveal and open to us, we will also enter into the realms of unconcealment.

The fact that "everywhere we remain unfree and chained to technology" (BW, 331) motivates Heidegger to discuss the question about technology. The relationship between human and technology is subtle that everything depends on our manipulating technology. We will, as we say, "get" technology "intelligently in hand". We will master it. The will to mastery becomes all, the urgent the will the more dangers will be slipped from our control. Heidegger has realized that modern technology is a new kind of challenge and order to the world, he only noticed the change of technology but there is another problem that human's sense about the world and the self-awareness also changed.

Technology is the way for revealing of truth. It has the possibility of "bring forth". "Bring forth" is one kind of the rising of truth, it is the revealing. Human does not act a decisive role in process of truth rising. Following the call of Dasein, beings make themselves disclosed to the disclossedness then get the free will. Modern technology is the complete form of metaphysics, it's the challenge revealed. The ancient technology originated from the fear and self-protection. To avoid natural disasters,

people invented lots of machines to protect themselves. More and more species of technology make the modern technology coming towards us. Human belongs to "setting-in-order" in modern technology era; this "setting-in-order" of technology is enframing. Technology is human beings' fate, the mysteriousness of the enframing adds more mystical to human history.

4.1 From ancient technology to modern technology

The ancient technology and modern technology are both the way for revealing, but reveal in different ways. Ancient technology reveals via "bring-forth" which is in the sense of poesies; but modern technology challenges the nature. Challenging is the everyday meaning that creats disturbances even though there is nothing. Heidegger used it to express the way of the revealing of modern technology.

A small wooden or stone bridge over a small river can be seen as one of the ancient techniques. It cross over the river but did nothing to the river, did not challenge the river. The river still flows freely. The bridge connects the two sides of the river; because of this "connection", the two sides of the river and the landscape were highlighted. In China, the bridge and the flowing river are always the main role of landscape painting. The sky, the land and the people who are crossing the bridge can be found in many paintings. The founction of the bridge is transporting human from one side to the other. Due to the bridge, everything around it is revealing. This revealing was bring-forth by the river.

Modern technology presents as a challenge to the nature, presses nature to provide the energy and then stores it. Modern technology has the character of challenging the nature. The revealing that rules in modern technology is a challenge, which "puts to nature the unreasonable demand that it supply energy which can be extracted and stored as such" (BW, 320). The challenge destroyed the peace between human and nature. Heidegger said that "the closer we come to the danger, the more brightly do the ways into saving power begin to shine and the more questioning we become" (BW, 341). We always talk about peace; we need peace, so every country creates all kinds of modern technology and use them to the military, in order to protect their own people. While the fact is like the poet of Friedrich Hölderlin "but where danger is,

grows. The saving power also" (BW, 333). This verse is so romantic but the reality is ruthless. Nowadays the amount of nuclear weapons is increasing. It is impossible to keep a tab on the number of nuclear bombs in the world, as every country is using the excuse of strategic defense to acquire these destructive weapons. Defense experts also say that it would not be a wise decision to try to scrap all nuclear weapons, when various hostile states are acquiring them in large number.[1] Their usage is considered to be highly immoral and dangerous. When a Nuclear weapons test is conducted, its aftereffects can last for decades. The more weapons we have, the more risks to humans' life.[2]

It's dangerous from the beginning. It costs lots of money and becomes a permanent harm. When we began to discuss the plan of the nuclear the dangerous arise, this dangerous will continue forever. Heidegger has the words-only a god can save us.

About the relationship between technology and nature, the ancient irrigation waterwheel uses water without stores it. It uses water directly, the flowing of the water bring-forth the waterwheel and then takes the water to the plants. The water from the waterwheel nourishes the cropper, and brings a harmonious scene. The modern Three Gorges Dam in Hubei, China is the largest power station in terms of installed capacity in the world; it is also the largest operating hydroelectric facility in terms of annual energy generation. Generating 83.7 TWh in 2013 and 98.8 TWh in 2014.[3] In addition to the producing of electricity, the dam is designed to increase the Yangtze River's shipping capacity and reduce the potential for floods downstream by providing flood storage space. But it also brought about lots of environmental problems. It will cause the erosion and sedimentation, that will make the downstream riverbanks to become more vulnerable to flooding and will cause biological damage and reduces aquatic biodiversity. It also will bring frequent earthquakes. The Dam will make the water stagnant that will subjoin polluted and murky. However, it is not only the Three Gorges Dam, but also other Dams has done the same to the nature. It have already caused 1.24 million residents leaving their hometown, this number will increas as the water level rises. The problems are too many to enumerate. While you will ask why build this dam, the answer is "national strategic plan" and it produces

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[1] Buzzle: http://www.buzzle.com/articles/nuclear-weapons-pros-and-cons.html
[2] Buzzle: http://www.buzzle.com/articles/nuclear-weapons-pros-and-cons.html
[3] https://en.wikipedia.org/wiki/Three_Gorges_Dam

huge amount of energy.

The most important is that, the research shows that, the Three Gorges Dam had slowed the rotation of the earth. According the news from the California Institute of Technology in Pasadena, due to the big Dam, we will get 0.06 microseconds extra for each day. "Chao compares it to the great Three-Gorge reservoir of China. If filled, the gorge would hold 40 cubic kilometers (10 trillion gallons) of water. That shift of mass would increase the length of day by only 0.06 microseconds and make the Earth only very slightly more round in the middle and flat on the top. It would shift the pole position by about two centimeters (0.8 inch)".[1] While, there are nine dams which are much bigger than the Three Gorges Dam in the world, and numbers of dam almost like it. How many microsecends slowed down? If there are some other products which had done something on the earth's rotation?

As Heidegger said the dam is the way of storage that means the conversion for a continuing presence. That breaks the presence of the associated structure, the material becomes a storage object from the scene in order to be open and used anytime. As Heidegger said that "the will to mastery becomes all the more urgent the more technology threatens to slip from human control" (QCT, 5).

The land around the Three Gorges Dam will become the bottom of Yangtze River, the relationship between human and the cultivated field will end. The revealing of the submerged farmland is a "challenging happens in that the energy concealed in nature is unlocked" (BW, 322). Heidegger said that "the work of the peasant does not challenge the soil of the field" (BW, 320) in ancient times, and the Three Gorges immigrants also did not challenge to the field they had before. Because the fields were disappearing, they will not appear until the dam disappears; even though the dam disappear, it's possible that they will be covered by sands. The unconcealment will not happen, so there is no revealing. The "no revealing" is the surface. The fields become the bottom of the river; the dam should be big enough for the function of shipping, electricity and flood protection.

"The revealing of the fields rules throughout modern technology has the character of a

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[1] http://www.jpl.nasa.gov/news/news.php?release=2005-009

setting-upon, in the sense of a challenging-forth" (BW, 321). It seems that Heidegger can anticipate future such challenging happens in that the energy concealed in nature is unlocked, what is unlocked is transformed, what is transformed is stored up, what is stored up is, in turn, distributed, and what is distributed is switched about ever anew. Unlocking, transforming, storing, distributing, and switching about are ways of revealing. But the revealing never simply comes to an end. Neither does it run off into the indeterminate. The revealing has its own manifold paths and regulating course. "This regulating itself is, for its part, everywhere secured. Regulating and securing even become the chief characteristics of the challenging revealing" (BW, 322). This large segment of quote is going to say that all of the technologies, no matter in ancient time or in modern age are challenging and setting-upon although the ways of revealing are different. While all of the revealings are manipulated by human, who accomplishes the challenging setting-upon through that we call the really revealed standing reserve? Obviously, is human.

However, human did not act as a decisive role; on the contrary, his role was defined by the occurrence of a particular way of truth. He just opening toward the unclouded realms, face the gift of destiny. Thus, in the presence of beings were challenging and setting-upon, human also been challenged and set upon, both of them are becoming the standing-reserve. Man is challenged more originally than the energies of nature. Human have never been transformed into standing reserve into the process of ordering. Since man drives technology forward, he takes part in ordering as a way of revealing. "But the unconcealment itself, within which ordering unfolds, is never a human handiwork, any more than is the realm man traverses every time he as a subject relates to an object" (BW, 323-4). Heidegger gave us the example about the patient resource in the hospital; he said that human beings are resource now. In fact is not in hospital, human beings are resource everywhere. Human resource even is the most important part in the community production, due to the development of the transport industry, human becomes the globally resource now. In order to save cost of production, many companies move their factories to China and to other countries where the labor costs are cheaper. You can find that the cheapest products in the supermarket are "made in china". Human beings become unconcealed, but they are not will to be as unconcealed but forced by technology. As Heidegger said that "the unconcealment of

the unconcealed has already propriated whenever it calls man forth into the modes of revealing allotted to him" (BW, 324). Human in the age of technology consciously or unconsciously, are involved in the challenging and ordering. On one side, human was been challenged and ordered; on the other side, human are able to challenging and ordering to nature through technology. But modern technology, as a revealing, is thus no more human doing (BW, 324). Why? Human invent all the technologies and use them. Heidegger says that maybe "because the challenging of technology is the propulsion that gathers man into ordering" (BW, 324).

Modern technology becomes a complete metaphysical extreme state, human are rooted in modern metaphysics.

The modern metaphysics started from Descartes' philosophy. The define time of existence is the presence of a representation object. Truth appears in the certainty way. The reason why human is the center of subject is that it's able to explaining the whole existence. Beings present as the existence because it was placed in front of human, and became the object of representation. This made the relationship between human and beings the fundamental appearance relationship, the world which as the entirety of beings is in the world picture. The so-called world picture not means giving a picture to the world, but that the world is existence of a fundamental picture. Due to the world is a picture, beings are all as appearance and exist as objects. Because the world appearas as a picture and performs beings on its own way, it is totally new.

Human always present and emerge as self-beings. The relationship between human and other beings is open to each other. Through the process of preservation, accommodate and aggregation, human become themselves. Plato treats the appearance as the stating-nature of beings that prepared a prerequisite for the picture of the world.

As a representation, human take beings as confrontation and also set themselves into such a public field, so that all kinds of beings become pictures inevitably. This set of human constitutes a representation by their status, and this setting post like that human self composed entirely by them. Thus, appearance totally is controlled by human as if the presence of significant is totally dominated by human too.

In fact, the world becomes pictures and human become the subject are two sides of one thing. "The more importantely, does the subjectum rise up and all the more impetuously, too, do observation of and teaching about the world change into a doctrine of man, into anthropology" (Spanos 1993, 175). After the world become to the picture, the position of human is conceived as a "world view". In the picture production, human fight for their main position, struggle towards all kinds' forms of existence and this form of struggle is usually carried out by the modern technology.

4.2 The essence of technology

The essence of technology is the core issue in Heidegger's *Question concerning technology*. Heidegger focuses his thought on the modernity which is the key point when we discuss technology. While, thinking of technology is not chose one question among all the questions but to make every question appearant and been reflected.

Technology is the most significant phenomenon of modernity. It affects on and been affected by every aspects of modern society, including art, theology, political and science. In Heidegger's opinion, technology is the phenomenon of the definition in phenomenology, due to that technology as a phenomenon is disclosed. We always stay far away from the essence of technology.

Heidegger did many things in order to reveal the technology from the phenomenon. Why the essence of technology is hidden so deeply? Maybe the main reason is the metaphysics. Traditional technology connected tightly with metaphysics. But in modern society, technology as the completed metaphysics affects on metaphysics conversely. Heidegger said that "the name 'technology' is understood here in such an essential way that its meaning coincides with the term 'completed metaphysics'" (Heidegger 1973, 93). Heidegger held this view till the end.

The basic character of Heidegger is that he is always close to the heels of being itself, which exceed the level of beings. He thinks that "truth is the revealing, and technology is a way of revealing, and it is the realm of revealing of truth" (BW, 318). In his opinion, technology is bound to the way of revealing of truth. In fact, technology is already the most significant phenomenon; our life is wrapped by all

kinds of technologies. In Heidegger's theory, technology is the phenomenon of defining of phenomenology. But the phenomenon is not so obvious, because the modern technology administrated the whole world. This "administration" also covers human beings in the shadow of technology. We are in the shadow, use all kinds of machines, our actions depend on the machines. That leads to a prevalent custom of conception of technology. "Everyone knows the two statements that answer our question. One says: Technology is a means to an end. The other says: Technology is a human activity" (QCT, 4). Heidegger mentioned casually but told the most important two kinds of definitions of technology: instrumentalism and teleological.

The way that treating technology as an instrument is correct. As Heidegger admited that human being is seeking to control the world. But the modernity is threatened by this will; technology is so strong that they push human into a relationship which is not controled by human beings but by technology. Heidegger has never denied both instrumentalism and teleological. But he said it's necessary to find a way to rethink the neutral view on technology.

We need to rethink the neutral technology because it is right. However, it's easy for us to find the right thing, but the right thing does not equal to the truth. All kinds of machines are invented for particular usage and purpose. We used them without rethought about them.

When I wrote here, I heard news that a woman was killed by a broken elevator when she is taking the elevator with her son. A person dies because of the machine! It seems that, the thinking of instrumentalism and teleological is not enough to close to the essence of technology.

Heidegger is the first one who looks into the relationship between philosophy and technology. He said that "Everywhere were main unfree and chained to technology, whether we passionately affirm it or deny it" (QCT, 4). In order to recover the freedom, we must find out the essence of technology.

We can find the statement which was always used in theory of social function that "technology is a double-edged sword". Technology is neutral; it will bring both harm

and benefits. The technology itself is innocence even brings harms to human. But who need to take the responsibility? The answer is: human beings themselves. Humans want to get more and more benefits from machines. The avarice is the original sin.

The character of "ready-made" will lead to ignorance on the variations and development about machine itself. In fact, every tool is restricted by aims, but at the same time serves for aims. In contrast the motivation for reaching our aims will also help us to recreate new machines. So the difference between means and aims exists only in a very limited range.

Heidegger masterly had drawn on Aristotle's causality. What technology is when represented as a machine? "Discloses itself when we trace instrumentality back to four fold causality" (QCT, 6). Heidegger describes the phenomenon of modern technology using Four Causes which is different from the one in the ancient Greek. Aristotle said that there are four causes: the material cause, the formal cause, the final cause, the efficient cause. The classical example is the imperial crown. To make an imperial crown, gold is the material cause, the beautiful shape is the formal cause, the King wears it to present the ceremony is the final cause, the handicrafts-man understand those three cause and create the crown who is the efficient cause.

The efficient cause is the decisive one, and it is the rule for the causality. "The causa efficiens, but one among the four causes, sets the standard for all causality" (QCT, 7). Efficient becoming the protagonist is a very important thing in seventeenth century, after that moment, the final cause was ruled out by the modern ideological. The arising of one thing is described like that a force on the ready-made then will come out. The causality is not about the things "coming to", but only the changes of numbers, because in a sense things are the ready-made and the substances. Heidegger said that maybe we have misunderstood the causes of the Greek. I think he is right, though we can get the meaning of the Four Causes, it's full of brand of the time. "What technology is, when represented as a means, discloses itself when we trace instrumentality back to four fold causality" (QCT, 6). The understanding of the essence of technology depends on the understanding of the causality. If we cannot clarify the fourfold causality, we cannot understand technology well.

Heidegger spent so much on the Four causes, he wants to show us that the "cause" is the thing that makes other out; what he called "to occasion" (QCT, 10). He believed that the so-called occasion can explain the causality better.

But in the theory of Four Causes, what was drawn out is the ready-made. As the example goes, although the gold as the material cause, the shape as the formal cause and for celebration is the final cause, before it was finished, in another word, before the handicrafts-man done something on it, it presents but not as the imperial crown. The four causes occour together.

While we cannot say that the handicrafts-man did things on the crown, because when the handicrafts-man appears there is no crown, it is not the ready-made. Because of the handicrafts-man, the crown was bring-forth. "This is the force bring what presences into appearance" (QCT, 19). The reason why the crown was occasioned after the working of handicrafts-man is because the handicrafts-man knew the character of the gold and what the former King wanted. With the knowledge of all the things and crafts, the handicrafts-man makes crown coming to the world.

With the force of "bringing-forth", the four causes get together and the presence present. As the Greek called "poiesis", which is thing makes no-presence bloom and present then appearance. Bringing-forth is always from the concealment to unconcealment, and it is the process for the truth to occur. Heidegger said that bringing-forth comes to pass only insofar as something concealed comes into unconcealment. This coming rests and moves freely within what we call revealing. The Greeks have the word aletheia for revealing. The Romans translated this with verities. We say "truth" and usually understand it as the correctness of an idea (QCT, 11-2). Based on this, Heidegger began to revealing truth form the technology.

As everyone doing, Heidegger analyzed that "technology by splitting it into poises and episteme" (QCT, 13). Heidegger investigated the word "technology" from ancient Greek. The word stems from the Greek. "Technikon means that which belongs to techne" (QCT, 12). But in fact the modern technologies are different from those in ancient Greek. Heidegger claimed that he also had realized that in opposing to the definition of the technology. The meaning of technology indeed holds for Greek

thought and that at best it might apply to the techniques of the handcrafts man, but the meaning simply does not fit modern machine-powered technology. However, in fact, the analysis from episteme treats modern technology as the same as the Greek techne.

In Greek, technology is technikon, which means the techne. Techne is the name not only for the activities or skills of the craftsman, but also for the arts of the mind and the fine arts. "And techne had the tight link with the poiesis, which is always together with episteme that means proficiency and understanding, both words are names for knowing in the widest sense" (QCT, 13). The "knowing" will opens to us and becomes the revealing. Heidegger carries forward lots of elements from Aristotle about the problem of technology and revealing. Heidegger had said that "Aristotle has distinguished episteme and techne. Techne is a mode of aletheuein. It reveals whatever does not bring itself forth and does not yet lie here before us, whatever can look and turn out now one way and now another" (QCT, 13). When does the revealing happen? During the period of the technology been invent or when it was used by human? When does the opening up happen? Thus the decisive part in techne does not lay in making or using of tools, but in the aforementioned revealing. "It is as revealing, and not as manufacturing, that techne is a bringing-forth" (QCT, 13). It is abstract that one still cannot tell when the bringing-forth occurs, if we are not awareness we cannot grasp the revealing, thus we are still far away from the truth.

Technology is a mode of revealing. "Technology comes to presence in the realm where revealing and unconcealment take place, where aletheia, truth, happens" (QCT, 13). Maybe this definition is enough to explain technology in the handcrafts time but not fit for the modern technology. The essence of technology is revealing and the essence coming out along with a blooming of truth.

On the difference between modern technology and handcrafts technology, Heidegger said that modern technology is based on modern physics, which means that modern technology is something incomparably different from all earlier technologies because "it is based on modern physics as an exact science" (QCT, 14). There is one question: is it correct or not to say that modern technology based on modern physics? Heidegger claimed that the establishing of this mutual relationship between technology and physics is correct. But failed to describe how the exact science affects

the modern technology. Fortunately, Heidegger told us that "only when we allow our attention to rest on this fundamental characteristic does that which is new in modern technology show itself to us" (QCT, 14).

We should reunderstand the instruments. Technology is not neutral, the tools and the aims exist independently but affect each other. In the consideration, beings appear as beings. Beings being are highlighted in the using of the tools. Tools which been used will determine what kind the world is. Thus, technology is used not only for the aims but also for the construction of the world. The tools are included in the technology only because that the tools have adapted to the world- which was produced by the ready-made technology. In general when machines are invented and manufactured, they are not technology itself yet - it is only an instrument concordant with technology. "The nature of technology is established in the objective character of its raw materials" (PLT, 110).

In Heidegge's words, the essence of technology will become the truth of beings. But "The sudden flashing of the truth of Being into once truthless Being, which comes to pass in the essence of technology, in Enframing" (QCT, xxxiv). That means we need to catch the "sudden flashing". While how to get this "flashing"? The flashing is about the sense of human beings. The things are different and are revealed in different technology era. For my father, the sandals, straw hat, log cabin are full of meaning about the memories of childhood. "The word stellen [to set upon] in the name Ge-stell [Enframing] not only means challenging. At the same time it should preserve the suggestion of another Stellen from which it stems, namely, that producing and presenting which, in the sense of poiesis, lets what presences come forth into unconcealmen" (QCT, 21).

In our age we are surrounded by all kinds of digital technologies but we do not know how it works or how it is brought about. We attribute the credit to the people who invent or produce the digital technology such as Bill Gates and Steve Jobs. They invented the computer and the iphone. But we do not know how these technology products were made or what they are made of and just like the four causes we have made the four causes the most important we have not questioned the products we have just accepted that that's the way things are.

Heidegger means that the essence of technology is what we must strive toward. To reach this essence, we must question everything that we see and do not take it as true. The fact is that Heidegger does not thinks the essence of technology is technological, and the new way of thinking done nothing on human's will of freedom. "This producing that brings forth, the erecting of a statue in the temple precinct. And the challenging ordering now under consideration is indeed fundamentally different, and yet they remain related in their essence" (QCT, 21). It is possible that technology does not enframe us that we do not need to get ourselves out, because technology could actually be doing that for us.

The essence of technology is in nothing technological because anything that is technological can be a physical piece, and therefore can be taken, named and fixed in place, and finally be understood. We are able to use computers because we understand them. The essence is something that can not only be linked to technology but to most parts of our daily life. Religion can be used as an example because in all religions people believe in something. Anything religious can be a physical object like a book but what the people believe in is something, which cannot be seen or heard or felt.

Heidegger believes that the essence of technology is not just what we call technology such as a computer or anything that can be "categorised" as technology even in its earliest forms. It is more like an idea that people can feel but no one can really think of. It is a chance for us to think a new way and join with technology not just to understand it but to question it, and to see it as ever changing and expanding, understanding that we can never stand still with technology that we have to move with it.

4.3 Modern technology and Enframing

In Heidegger's words "Technology is complete metaphysical form", the "technology" means the "modern technology" which is the way for truth to open firstly and certainly. Modern is technology refers to the "technological age" and "the technology in technological age". The so-called "technological age" is "modern", while the feature of "modern" is marked by technology. Therefore, to say "modern technology" refers to the "technological age", that's tautological. But synonyms repeatedly are not

devoid of content. From the "technological age" perspective to grasp the so-called modern technology, is to focus on the tips, technical rule and an era known as the "technological age", which is the way of "modern dominant" to shelter.

On the sense of distinguishing ancient technology from modern technology, we can list some of the features of modern technology. For example, the modern technology is something incomparably different from all earlier technologies "because it is based on modern physics as an exact science" (QCT, 14). But that still can not expose the essence of modern technology, because the essence of technology is not a technical thing. From the differences of technical things, we neither find the essential between ancient technology and modern technology. This difference is not decisive; but the difference between ancient technology and modern technology determines the things of different technical. It also determines the speed of modern technology. All of that characters show that technology should based on exact sciences.

What will happer if the challenging and ordering to nature is not in the sense of a pure human behavior? Usually unconcealed beings are sheltered in the state of themselves. To discuss the way that the unconcealed happen, one will meet a barrier which ruled by the unconcealment. "We now name the challenging claim that gathers man with a view to ordering the self-revealing as standing-reserce: Ge-stell (enframing)" (BW, 324). Enframing is the whole of technology, and in this meaning of technology, human put the resource of nature in front themselves. Technology reveals beings, and we always treat this as the essence of technology because technology is the way to discover the world. Honestly that's true, but on the contrary, the discovered things become the resource and been controlled by technology.

In the enframing, technology is extorting from nature. "The revealing that rules in modern technology is a challenging, which puts to nature the unreasonable demand that it supply energy which can be extracted and stored as such" (BW, 320). However Heidegger was not so object to technology. He admitted that even in the technology era, our thought can catch the secret of fate.

The way of unconcealment always lies on the gathering, this gathering controls the technology era and it is the original way of occurs. In Heidegger's words, "enframing

is the gathering tighter which belongs to that setting-upon which challenges man and puts him in position to reveal the actual, in the mode of ordering, as standing-reserve" (BW, 329). Enframing, is a daily word in German- "Ge-stell", it means some kinds of apparatus, gestell is also the name for a "skeleton" (BW, 325). Though the more specific, the more misinterpretation, because Heidegger not merely means the essembly. "It is like that Plato's "eidos". For idea names not only the nonsensuous aspect of what is physically visible" (BW, 325). Ge-stell here has the same situation, it is not in the usual sense of those shelves which can be used to assemble the parts, but the essence of the components that can be assembled and become the whole. Enfarming is the way of setting-upon to man. For recealing the actual, Enfarming is the mode of ordering, and which is the standing-reserve. "Enfarming means the way of revealing that holds sway in the essence of modern technology and that is itself nothing technological" (BW, 325). Only the enframing can let human into the force, so that things become the standing-reserve. Besides, assembly complete of machine is based on the ordering of technology.

Heidegger dished out this sentence "the essence of modern technology lies in enframing, modern technology must employ exact physical science" (BW, 328). His opinion is that, physical science can explain things work, but cannot tell what things are. For example, physical science can explain clearly the force between hammer and nail, even include the direction and magnitude of the force, but not able to tell "what the hammer and nail acturally is?"

Heidegger's consideration of the science aspects is particular: it is a specific way to discover existent. Characteristics of the scientific approach are numeracy, objectify, and imagining. Those characteristics shape the way of seeing and interrogating for natural processes. Heidegger emphasized that both subject and object parts are considered as being. The only thing which human can bring in front of him is being. Heidegger also highlight the method of determine. This opinion emphasized man's center status. Human can feel and think about the appearance object at the central position.

Through the observer on the beings, technology peels off the essence of beings from the association of the world. However, this "peels off" does not work smoothly.

Everything has connection with the world and others; beings cannot exist without meanings. There is no necessary to worry about that technology will cause the detachment between human and beings. Being will have no meaning at all if it is a singular object.

In metaphysics, beings are pure exists; it's the same for science and technology. Heidegger rescued metaphysics in the modern era by joining it with the critique of technology. Then the essence of technology is historically created. Even though, we cannot resist the dominant position of technology, which is so-called enframing.

All come to presence, not only modern technology, and keep themselves everywhere concealed to the end. "Nevertheless, it remains, with respect to its holding sway, that which precedes all: the earliest" (BW, 327). To approach the essence of technology will face the difficult that the origin of enframing is still not clear. History happened based on the unconcealment of being, but the unconcealment is not spontaneous, it is the presence of fate of deportation. The reason why people's behavior is historic is that he should co-exist with the fate. Similarly, only when the fate comes to human, history as the object of history can be accessible; and then it's possible to mix historical stuff and historiography stuff.

Enframing can only be understood as the fate of the history of modernity, but destiny was not the usual sense of predestination. "Enframing, as a challenging-forth into ordering, sends into a way of revealing. Enframing is an ordaining of destining, as is every way of revealing. Bringing-forth, poiesis, is also a destining in this sense" (BW, 330). Always the unconcealment of technology will go upon a way of revealing. Always the destining of revealing holds complete sway over man. But that destiny is never a fate that compels. A man becomes truly free only when he belongs to the realm and so becomes one who follows, rather than one who simply force to obey his fate. "The essence of freedom is originally not connected with the will or even with the causality of human willing" (BW, 330). To get the freedom, one needs to a space for unconcealment, this unconcealment happens when fate fallen.

In modern technology era, human beings are always in the situation of falling into the revealing of challenging and ordering, so it's a short experience of destining. Humans

are occupied by freedom. Freedom is not free of the possibility of preparing for itself. Been placed in these possibilities, man is in dangerous of the destiny. "The destining of revealing is as such, in every one of its modes, and therefore necessarily, danger" (BW, 331). Heidegger put forward the danger from the analysis of technology, but he said what dangerous is not technology. Technology is not demonic; but its essence is mysterious. "The essence of technology, as a destining of revealing, is the danger" (BW, 333). Whether humans and technology can form a new and reflexive relationship is based on the history of thought, but does not depend on subjective decisions. The dangerous technologies also make the following possible: the understaning of technical will exist in ideological thought. He quoted Hölderlin's words: "but where danger is, the saving power also" (BW, 333). The word "where" clarifies the rescue site, both the source and the danger is connected with it. But in Heidegger's words, the danger are always far from human, the action of human will never react to the unfolding danger. But the danger will never been driven out. It seems that we are never in danger but are on the way to danger, maybe because of the existing of saving. "In the frame of technology, human reflection can ponder the fact that all saving power must be of a higher essence than what is endangered, though at the same time kindred to it" (BW, 339).

To say technology is our fate means that enframing of technology is the means for revealing. In Hedegger's words is "Bring-forth is the way of revealing, revealing is that destining which, ever suddenly and inexplicably to all thinking, apportions itself into the revealing that brings forth and that also challenges, and which allots itself to man (BW, 335). No matter how mysterious the realms of revealing are, the essence of technology will open to us.

The frame constitutes the active nature of the modern world of technology. "In the frame we witness a belonging together of man and Being in which the letting belong first determines the manner of the 'together' and its unity" (ID, 38). Human always is the curious child, no stopping invent, go on undeterred by the dangers ahead. Heidegger said art and poem can lead us to the revealing, while the truth is that "only a god can save us".

4.4 Will and freedom in modern technology era

It seems that everyone has different favorite about the technology. Some may think that we invented the technology and we can control them. Conversely, "an eye that looks out upon the integral whole of beings will receive a hint from the phenomena of rising technology, directing it toward those realms from which there could perhaps emerge a surpassing of the technical a surpassing that would be primordially formative" (ID, 38).

If we treat technology as the way of truth blooming, we need to re-understand the definetion of technology in anthropology. In common sense, the truth always comes from the thing that we think correct, under this condition, human beings are the judges. Human is rational who judge what is correct. In this case, human can define truth, human beings are the dominator. "It is enough, one would think, to say the words 'atomic age' in order to let us experience how Being becomes present to us today in the world of technology" (ID, 33). Technology has no sprint. We put them in our plans and so that they can serve for us. We can invent technology, or shelve it, in a word, we are the master.

Technology, conceived in the broadest sense and in its manifold manifestations, is taking part in human's projects. In this conception of the technological world, human do their best to call for an ethics of the technological world. "Caught up in this conception, we confirm our own opinion that technology is of man's making alone. We fail to hear the claim of Being which speaks in the essence of technology" (ID, 34). When we are on the way to the truth, we will question about the relationship between human and technology, and the definition of human and technology will also be asked.

Only when we understand the essence of human being deeply, we can enter into the essence of technology, the activity of human.

Truth opens itself into revealing as a free posture, this is the will of human that revealing to the realms where is also the freedom realms. Humans who belong to the Dasein will receive the destiny donatives where the truth revealing. Here "human"

plays a dominating role. What if we take human as the beings belong to the Dasein but not the Dasein? Because human is so prominent, we always separate human from the Dasein, and then discuss the relationship between them. For example, we can say that human is a kind of Dasein, while a human being in the Dasein is a "Dasein". We can go further, a human in Dasein is the one who awares about his existence. He can understand the existence and show himself before the Dasein, and then adapt the Dasein. At the same time, the presence of Dasein is also a human opening up to the presence. There is also a presence in the open state of human presence. Because when Dasein is opening up, it needs a field or a range for its opening. We also can call this as relegation.

Heidegger's later works shows that human beings belong to Dasein. We can see the subtle changes in the essay *On the essence of truth*. "That man ek-sists now means that for historical humanity the history of its essential possibilities is conserved in the disclosure of beings as a whole. The rare and the simple decisions of history arise from the way the original essence of truth essentially unfolds" (BW, 127). Thus, even the opening up of human and beings are mutually related, the blooming of truth is not in the realms of human but in the realms of revealing. Human beings are not the cause for the essence of truth. Beings being, human being as Dasein, are all occurring in the realms of freedom. Freedom is responsible for the existence of the Dasein, of other beings exist and of human. So freedom is not only human's characteristic but the element that makes human as human. "We not have the freedom, but freedom possess human, and the essence of truth reveals itself as freedom" (BW, 128).

"Precisely because betting be always lets beings been a particular comportment that relates to them and thus discloses them, it conceals beings as a whole. Letting-be is intrinsically at the same time as a concealing. In the ek-sistent freedom of Dasein there is a concealing of being as whole proprieties. Here there is concealment" (BW, 129-30). This letting-be discloses the individual but conceals the whole, and also formed the second mystery. Where beings are not very familiar to man and are scarcely and only roughly known by science. The openness of beings as a whole can prevail more essential than it can. "Where the familiar and well-known has become boundless, and nothing is any longer able to withstand the business of knowing, since technical mystery over things bears itself without limit" (BW, 129). The opening

station of individual is clear; the concealment of the whole is firm. This concealment of the whole provides a guarantee for the truth opening. The essence of truth is hidden in the "concealment".

Mystery as another kind of conceal of Heidegger is always be forgotten and sheltered. Mystery was forgotten, so, human beings exist as human beings in the wider world. Because of this forgotten, human beings ignored the concealed whole and made plans for themselves. The plans for humans are necessary and desirous. "As ek-sistent, Dasein is insistent. Even in insistent existence the mystery holds sway, but as the forgotten and hence unessential essence of truth" (BW, 132). But he insists that "only by being already ek-sistent, since, after all, he takes beings as his standard" (BW, 132-3).

The essence of truth opens to us slowly; we can understand the technology as a means of generating the truth but never be a simple human activity. On the contrary, the fact is that modern technology provisions human to activities follow technical but ignorant of the essence of technology. The essence of technology will be forgotten if we are keep inventing technology in such a speed.

Chapter Five: Time and technology in Heidegger's thought

Technological developments affect the human's history, for example the culture history, habits and customs. To avoid technological determinism, it is essential to clarify precisely how technology and culture interact (Kern 2003. 6). Kern Stephen's analyses lmotivate us to consider time and technology with a philosophy question. The study of time was widely neglected in the social sciences and in corresponding theories. About the role of the clock in the commodification of labour, Lukacs Georg said that "in the environment where time is transformed into abstract, exactly measurable, physical space, an environment at once the cause and effect of the scientifically and mechanically fragmented and specialised production of the object of labour, the subjects of labour must likewise be rationally fragmented" (Lukács 1971, 90). Lewis Mumford did in fact see the central role of clocks in the Industrial Revolution and think clock was in the context of a discussion on the general role of technology and technical systems. The clock has been the foremost machine in modern techniques. In the whole process of the Industrial Revolution, clock has always been regards as a perfection which promotes the development of other machines. "The clock, moreover, served as a model for many other kinds of mechanical works, and the analysis of motion that accompanied the perfection of the clock, with the various types of gearing and transmission that were elaborated, contributed to the success of quite different kinds of machine" (Mumford 1934, 15).

The changing temporal organization of everyday life within the network society is the key issue of this thesis. Network time is a digitally compressed clock time. As there is no sense of connectiveity, of digital networks, of speed, of compressed time, and no sense of the fact that more and more of our life is being colonized by the blandishments and the demands of "commerce and industry". Crucially, there is no sense about the existence because the goods and services existes not only in the supermarket but also online. We are feeling the genuineness of the networked and globalized life. However, "the time of the clock no longer schedules and meteres our individual and collective in as predictable a fashion as it once did" (Hassan 2003, 2). But it is an era that has exploded into a million of different time fractions, as many time fractions as there are users with information and communications technology

applications, in the amorphous and constantly emerging network ecology.

This is where the important break with the machine clock occurs. Clock time has been made digital by computer technology and set loose in the creation of fluid networks of social interaction. In short, computing, the emergence of the digital technology and the actions of human agency, have subverted the basis upon which the mechanical clock shaped and synchronized the modern world. Technological developments make the temporal transformation even more profound.

5.1 Heidegger: time and technology

The link between time and technology was questioned by Heidegger in a note of his book *Being and Time*. Maybe Heidegger did not think that the modern physics is good enough to explain the relationship. He said that: "we shall not go into the problem of the measurement of time as treated in the theory of relativity. If the ontological foundations of such measurement are to be clarified, this presupposes that world-time and within-time-ness have already been clarified in terms of Dasein's temporality, and that light has also been cast on the existential-temporal Constitution of the discovery of Nature and the temporal meaning of measurement. Any axiomatic for the physical technique of measurement must rest upon such investigations, and never, for its own part, tackle the problem of time as such" (BT, 499).

Heidegger's theory of time is very important in the original theory of philosophy, that "one integrates subjective human time with the idea that all time is future time" (Ezrahi, Everett and Howard 1995, 137). Heidegger's theory bases on Cohen's idea that future time is the primary mode of time. Cohen's view can be traced back to Kant's conception of anticipation. Though anticipations were conceived in terms of experience, and were not accounted for time. In fact, "Past and future times are of course not actually present in the perception; our awareness of them is a construction of the imagination. Similarly, our perceptions of finite regions of space include the recognition that these regions are embedded in an infinite space" (Buroker 2006, 129). Kant's conception of anticipation was the source for most ideas about future time in subsequent philosophy, but it was detached from experience. Each passage of our expreience of time is bounded with past, present and future. Kant points out that the

imagination plays a more basic role in experience, namely unifying the pure manifold into a representation of one global time.

Heidegger retrospected Kant's theory but from a different angle. He said that a priori it is an experience. Heidegger interpreted technology to starting from the link between science and technology. To sum up that "in keeping with the notion that experience is itself a priori structure and not a posteriori one, Heidegger also believed that the experience of technology is ontologically prior to the elaboration of science" (Ezrahi, Everett, and Howard 1995.138). Heidegger wanted to emphasize that technology is prior to science. But all of Heidegger's interpretation of technology is based on the premise that technology is a human activity. Heidegger agrees with Kant that experience is a priori indirectly. While if technology is human's activity, it should not be preexisted. Because Heidegger never adopted dichotomy between innate and acquired; and he did not agree with the dichotomy between existence and experience. The instrumental definition of technology which treats technology as human activity is only correct but far from the truth. While Heidegger's thought is conformed that the technology as human activity is the given one by specific, it's just appear in the past history. Technology in terms of the history of philosophy has the same question that if itself occurs in accordance with its natural tendency or a contingent history.

The quest on inauthenticity of philosophy could not be avoided though the history of philosophy, it can only be avoided in the special level. In fact it is impossible to avoided completly the inauthentic experience. It seems that history of philosophy is a collection of incidental things but not contingent for the history of being. So in Heidegger's opinion, the fact that the technology is able to do something is not based on how we use it but on how we treat it. Heidegger said in *Being and Time* that "when we are use the tool circumspective, we can say, for instance, the hammar is too heavy or too light. Even the propostions that the hammer is heavy can give expression to a concerful delibretion, and signify the hammer is not an easy one-in other words, that it takes force to handle or that it will be hard to be manipulate" (BT, 421). So human's experience is inauthentic. On the one hand, because technology has both positive and negative sides; on the other hand, human can not give up the technology which has already appeared. In Heidegger's words is: "When something cannot be used-when, for instance, a tool definitely refuses to work-it can be conspicuous only in and for

dealings in which something is manipulated. Even by the sharpest and most persevering, 'perception' and 'representation' of Things, one can never discover any-thing like the damaging of a tool" (BT, 406).

For Heidegger, the pure existence of beings or other physical existence without human awareness and experience have no value. For example, a goldmine under the mountain is no more valuable than normal stones before it was discoveried. Technology is positive or negative to the society depends on whether it contributes or not. So even the nuclear weapon has the ability to destroy our earth for thousand times, the nuclear power is still unuseful for us because of its applications in military, energy, industrial, aerospace and other fields. Save always is the adjacency besides the dangerous which as the poem goes: "but where danger is, grows, the saving power also" (BW, 333). While if the nuclear power is misused, it is the fault of human but not from nuclear technology; in contrast, if it was used for generate electricity, will be benefited. At this point, the criterion of positive or negative on technology is not so pure; it must be checked from the human history. The danger comes out with the power, both of them are need to consideration in Dasein's temporal. The essence of technology will reveal in the future, or has revealed in the past or revealing, in a word, in the temporal where human activities occurs.

Although the discussion of time begins before technology[1], we can find that Heidegger's approach to the question of technology is a logical consequence of his concept of time. And I have the idea that Heidegger's analysis of technology was based on his analysis of time.

Heidegger is a man who holds on the technological pessimism. He made a detailed inquiry about the essence of technology which along the way of revealing. Heidegger thinks that the technology is face to face with the human's destiny; even enframing would be absolute as the essence of technology, the danger will come but not disapperance. When Heidegger confronted the danger of technology, he became the one of technological pessimism. The destiny comes involuntarily, with both danger and saving power.

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[1] The question about time arise in the book Being and Time published in 1927, the question on technology is emerged in the lectures in 1949 and The question concerning technology published in 1953.

When we think logically, technology may depend on time; but it will be the reverse if we think historically. That is the reason why Heidegger's conception of time originated from the theological conceptions of time. For Heidegger, the process of technology invention is a faith.

Heidegger's conception of time was impacted by theology at the beginning; his conception of time was a derivation from Christian time of salvation. The eschatological thrust of early Christianity, the expectation of the Parousia, opens up an absolutely unique understanding of time wherein all questions of "when" are transposed from chronology into "the moment of insight". Heidegger was captured by "the insight that the finitude and temporality of human existence are what open up the primordial realm within which can happen the self-manifestation of phenomena: dis-closure ore a-letheia. This was the original and unifying meaning of what the tradition called 'Being'" (Sheehan 1981, 9). The thouhgt of Christian also reflected in technology that "modern science caused the modern age that phenomenon of the modern age is the loss of the gods" (QCT, 116). Though Heidegger pointed out that "modern age is the loss of the gods", but never means that modern technology doing nothing with gods. "But the loss of the gods is far from excluding religiosity that rather only through that loss is the relation to the gods changed into mere 'religious experience'. When this occurs, then the gods have fled. The resultant void is compensated for by means of historiographical and psychological investigation of myth" (QCT, 116). Even though the ways of thought and the cultures between Christian and post-Christian age are different, but still has links. Distinguishing Gods from the common religiosity is a whimsy; but that is a opportunity to close to the philosophy.

The difference between traditional technology and the modern one is that: modern technology and modern sciences depends on the exact mathematical but not on the sense, everything in modern technology age is able to be quantified. While the researches in Middle age were sensible so the Christian conception of time was a similar as the traditional one. We can treat Heidegger's conception of time as a secularization of primitive Christianity, which was opposed to religious. Because of that everydayness, world-time can come into the world. While the wrong time and the right time are still in the range of sensible; the wrong time and the right time in

modern technology especially in the digital technology is quantification accurately that correct to millisecond or shorter.

Heidegger's conception of time is rooted in primitive Christianity, developed in the traditional culture but also mixed with the modern thought so can be list in the linear concept of time. We can remember the things happened in past but have no idea about what will come future, concept of linear time rules the order of the world. Heidegger tried to explain that out concern makes temporal meaningful. Our concern about the time passing will make us care the whole world. Jesús Adrián Escudero has the idea that "Heidegger makes it clear that selfhood is rooted in temporality. More fundamental than the personal ego or the rational subject is the temporality which generates itself" (Escudero2014, 6-17). And "because of the concern of circumspective common sense is grounded in temporality-indeed in the mode of making-present which retains and awaits" (BT, 458). But the concern of ourselves cannot eliminated the scientific illusion, Heidegger's explanations of the roots of inauthenticity and of what he viewed as the scientific illusion, was aware of the epistemological necessity of spelling out the logic of illusion. However, he tendes to characterize that logic is proceeding from false premises. "Failing" shows how the illusion is being constantly modified in relation to its object. Heidegger's aim is to get the explanation of surpass intuitions. This is the foretaste and the key to transfer his conception of time into modern thought.

Heidegger's technological pessimism also embodied on the fact that he never believes that there is a preexisting harmony between nature and human world, especially in the modern age. So he cannot saw the scenery of the Rhine after the dam was built. In his opinion there is a connate disharmony between nature and human. Our ability to adapt nature is weakening or even become vestigial. We are not in so many natural hazards like before; the modern science and technology have the resistance toward the nature of the natural world.

As mentioned before, Heidegger believed that people in modern society cannot get good intuitive like the people lived in primitive society. Marshall Mcluhan has the same idea as Heidegger. Mcluhan thinks that the primates in ancient had more skills to living in the world than modern human. We rely on the tools invented by us too

much, at first we were so happy that we will be much more relaxed and free from some manual labor. As Mcluhan said that "all kinds of tools and machines are extension of man, any invention or technology is an extension or self-amputation of our physical bodies, and such extension also demands new rations or new equilibriums among the other organs and extensions of the body" (Mcluhan 2001, 45). Clock is the machine and it's the extension of human's sense-the sense about the speed of time passing. As the extension of sense of life, clock affects the sense conversely and immediately. Day after day, we will accept the extension of man-the clock, and treat it as one part of our personal system. The relation between human and technology is simply: invent and been invented. The development of technology modifies human's culture; the process of technology invention is successive as the time goes. Those "extensions" were used to increase power and speed, which is for getting much more control from nature and changing the range of the space, so that do much more things in the limit life time. "The clock dragged man out of the world of seasonal rhythms and recurrence, as effectively as the alphabet had released him from the magical resonance of the spoken word and the tribal trap" (Mcluhan 2001, 155). Technology of clock which was hottest once is accepted by almost all the people. But not all the people enjoy the intense time. Especially, we can say time expression and can heard time tick tock everywhere that "whereas modern man feels obligated to be punctual and conservative of time, tribal man bore the responsibility for keeping the cosmic clock supplied with energy" (Mcluhan 2001, 155).

The point above-mentioned is coincidental with Heidegger's technological pessimism. The machines will lead to disharmony and in Heidegger's opinion there are no innate harmony between nature and human. The existence of inter-subjectivity means that the senses about individuals are different, and it is also different in different subjects. The differences cannot be ignored. The phenomenon is that each individual of human has their own particular temporality sense. We cannot tell the difference by ourselves; but the distinction between human and nature is obviously. We need to get resources from the nature; we need to growing plants and rearing animals. Our breath depends on the air. We get what we need and then give garbage back to nature.

Now the time becomes the resources, even the human beings are resources now. In fact, the hypothesis is that: temporal theory always has disharmony between its own

time and the other times which it confronts, this kind of "disharmony" exists inherent and is not easy to escape in the hypothesis.

Even though the disharmony in temporal is an assumption, we have to admit that Heidegger is right to think about the phenomenon that human in modern era don't have well intuitive of their interaction with nature environment. The reason is that people in modern age depend on technology. Along with unfolding the discussion of the relationship between subject and world, Heidegger leads us to the new way for recognize time. Only when human realize his identity in the world, can he feel his individual independence and then try to grasp things in the world. But the identity between subject and world is hidden and is difficult to grasp.

In Heidegger's essay *The Age of the World Picture*, he points out that "measurement lets human become the 'subject', which is also the reason why put man into the center of himself. Only where man is essentially already subject does there exist the possibility of his slipping into the aberration of subjectivism in the sense of individualism. But also, only where man remains subject does the positive struggle against individualism and for the community as sphere of those goals that govern all achievement and usefulness have any meaning. Human got the world view and the world becomes a picture" (QCT, 133). Man is in the picture, and also sees the picture with the time sequences passing. No point in time has preference over any other. "Every force is defined according to-i.e., is only-its consequences in motion, and that means in magnitude of change of place in the unity of time" (QCT, 119). From the standpoint of academism Heidegger began with the problem of Being, and as the way of admitting, to defining a new characterization of time. Heidegger did not stay in the level of epistemology that only discusses the world or the relationship between subject and world; he turned inter-subjectivity into ontology to focus on human survive and the coexistence between subjects. Survive is the foundation of ontology, and the relationship between subjects is much more direct than the link between subjects and world. Man's inability to grasp the world will reflect the inter-subjectivity which only be understood in terms of the particularity of human temporality. After inter-subjectivity has the ontological meaning, contemporary philosophy get the general tendency: back to life, back to practice, back to reality, back to the people's real survival, and explained the relationship between man and the

world fundamentally. Heidegger believes that there are two kinds of coexistence. One is in a state of coexistence destruction of alienation that the existence is the individual engulfed group. The other is transcendent in truth, and there is a freedom relationship between one individual and others. We can see that inter-subjectivity is not anti-subjectivity or anti personality, but is the subject of reconfirmation and beyond, the personality of generalization and ought existence.

The rising of science allows human get more information and knowledge about the world and also about themselves. Modern technology is a consequence of this science rising. The technology especially the modern technologies prevent us from been harmonious with nature. This is mainly reflected in the change of rhythm: our sense of the temporal disharmony between ourselves and object. This disharmony stimulates us to chase the trace of time.

Heidegger was aware of the link between time and technology quite early in his career. "If the ontological foundations of such measurement are to be clarified, this presupposes that world-time and within-time-ness have already been clarified in terms of Dasein's temporality, and that light has also been cast on the existential-temporal Constitution of the discovery of Nature and the temporal meaning of measurement" (BT, 499). In his lecture of 1915 he gave an account of the concept of time in historical science that chronological time was viewed as the primary way for understanding time. He dropped a hint that our intuition of time is not succession or even cannot make chronology possible. The measurement of technology permeates with chronology and our being so that we can have sense of time, and intuits it as succession. Therefore the tense time is a prior to successive time that brewing out transformed time from human activity-this is the conception of historical time. The historical time is measured by human and defined by human's activity; the measurement is depending on the technology. Afterwards Heidegger clearly put forward that time and technology formulates each other. Ostensibly, time is the form of inner intuition, and a transformation must have already occurred so that the temporal quality of appearances can be apperceived. While the action which related to human's own time was transformed into historical time. This transformation is the way to making the original temporal appears. The time which was measured is human's experience of time, it was been transformed so that it can be measured. The

inner intuition which is been transformaed is the temporal quality of appearances that can be perceived.

But Heidegger's though is not so simple. Heidegger thinks historical time is full of meaning but there are many other things hint behind the measurement of time, as he said in the note of *Bing and Time* that "the connections between historical numeration, world-time as calculated astronomically, and the temporality and historicality of Dasein need a more extensive investigation" (BT, 499).

About the changing of sense of human on time, Heidegger's opinion is that after we measure time with number, it seems that the time is limited and it will become tense, though there are no beginning or ending in the succession of time, we will precious it after we know there are only two days before the end of the holiday. "When Dasein concerns itself with time, then the less time it has to lose, the more 'precious' does that time become, and the handier the clock must be"(BT, 471). The chronology and succession exist before the concept of historical time.

We "precious" time because we aware it is tense. When we measure, we transform the succession of moments into a succession of a more determinate character. For example, hours, minutes and seconds, we assume that all the categories are assertive of the same foundation of succession. The activity of measurement is a technological activity. The technology can make us to assume that tense time can be treated or measured successively forever.

After we are familiar with the system of measuring, we will ignore the character of the measuring time and the purposes, and without mention the instruments. Technological measurement on time is the question of the characters of time which we investigated, but also the question on the essence of technology. But Heidegger has not discussed much about the time measurement technology in his early research. He even made a sharp division between time and its measurement, and he didn't mingle measurement of time in the discussion of nature time. In *Being and Time*, Heidegger talked about the original temporality and the ordinary concept of time, but did not mention the exactly measuring time even though he distinguished the sociality time from right time to wrong time.

The fact is that Heidegger did not admit the time which we are measuring everyday is time itself. The interpretation of the motivation behind the measurement of time was the primary action. Not all the phenomena can be measured, but time is an exception. When the machines for measuring time are invented, we can describe time much more meticulously, and can have an intuitive feeling on the subdivided unite such as minute or second. In Heidegger's words is "any axiomatic for the physical technique of measurement must rest upon such investigations, and can never, for its own part, tackle the problem of time as such" (BT, 499). This note in *Being and Time* shows that machines for measuring time derivative their ability to tell time because they are made by man in accordance with his propensity to historicize.

Heidegger analyzed the theory of time and technology both logically and historically, but without given any link between them. That will cause difficult to understand the essence of technology, because the connection between logic and history exists really in any kind of production of technology. The difficult will spread from the understanding of truth to the humans' life in the temporal. It's reckless to say that technology has affected on time, but the time experience and the sense on truth are changed. We can not deny that there are connections between the intuition and the sense.

5.2 Heidegger and time in digital technology

The relationship between time and digital technology makes us anxious. For example in the fiction films, people are desperate when they faced with advanced technology. The key grasp of information technology on time is that all kinds of things are getting faster. And the accompanying changes are much more fundamental.

The important things and some kind of significant events were remembered by human. History did not erect gap between the logical and the historical. Because human being's time were transformed by the historical. In this kind of condition time is successve. If we take temporality as historical, and get the link between logical and historical we will understand the essence of technology better.

Heidegger did not interpret technology from the point of view of logic but he

questioned the connection between logic and experience. We can get information from Heidegger's theory that digital technology is only a tool but not the manipulation of history or the manipulation of nature. The debatable thing is the develepment of the time measurement machine was really influenced by human beings. This "debatable" will cause difficults in temporality discussion. In Heidegger's early research, he paced up and down between teleological and instrumentals. He began to discuss with the example of two ways of though: "the one is that technology is a means to an end. The other is technology is a human activity" (QCT, 4). It is necessary to know how does the tecnology advanced; but not going to question the meaning of machine. That is what we do in digital age: we treat technology as the evident thing. In fact, the truth is always unfolded. We can not get the truth if we are stay on the side of the neutral view of technology. Thus, we should question further about the meaning of tools and aims. We praise the advance of digital technology, discuss the ethical issues on digital media and commit to enhance our technology. That will be dangerous if we ignore the essence of digital technology.

Heidegger applied the same categories of temporality to history that he had already applied to untransformed human existence. Technology is our fate and enframing of technology is the means for revealing. Bring-forth is the way of revealing. "Revealing is that destining which, ever suddenly and inexplicably to all thinking, apportions itself into the revealing that brings forth and that also challenges, and which allots itself to man" (BW, 335). No matter how mysterious the realms of revealing are, the essence of technology will open to us. But the digital technology will be different. In the ancient time, the cause of the technology is clear and can be understood by common people; even, the structure and working principle of modern machine is intuitive and easy to learn. However, almost everyone use the digital technology but only very few people know how it works. We get the benefit, but don't how to get it. Heidegger suggested that the historical process is itself as teleological, a presupposition he had already entertained in 1915 when he had recommended the turn from a causal approach to history to a teleological one. "A teleological approach to history, however, is one for which the essence is revealed at the end" (Ezrahi, Everett and Howard 1995, 147).

Digital technology has changed our experience of time. In ancient time, people can

not express the past, because past not exists at present; we only can understand history after it happened, we experienced it and then understood it. While the concept of time has changed: "the future constitutes the past. That which is earlier with regard to the arising that holds sway becomes manifest to us men only later. That which is primally early shows itself only ultimately to men" (QCT, 22). Heidegger has views like that because of the idea about the essence of the phenomenon, which means that this constitution must also be evident in history. He takes the relationship between science and technology as the example. "Chronologically speaking, modern physical science begins in the seventeenth century. In contrast, machine-power technology develops only in the second half of the eighteenth century. But modern technology, which for chronological reckoning is the later, is, from the point of view of the essence holding sway within it, the historically earlier' (QCT, 22). The technology of the Industrial Revolution developed in the late of eighteenth century; but modern science developed in the seventeenth century. Technology, the 'historically subsequent' is the 'historically earlier'." Heidegger used his language genius, perpetrated a fraud between the two words: "earlier" and "primally". He said that science is "earlier" but technology is "primally". In fact the difference between "earlier" and "primally" is evidence, Heidegger confused them deliberately. Heidegger wanted to claim that what is prior in essence is also prior in time. Thus what happens later is prior to what happens earlier. While the successively relationship between science and technology is blurred. "It is challenged forth by the rule of Enframing, which demands that nature be orderable as standing-reserve" (QCT, 23). In this case, Heidegger told us that the real challenge reside is that it allows us to treat the temporality of logic as the temporality of history.

The most important thing for understanding the relationship between temporality and technology is to distinguish the logical temporal and historical temporal. "The temporality that is inherent in what we call logic is inverse to historical temporality; and the cross between the two lies rather in their revealing obverse aspects of the same phenomena, so that the apparent identity between the two is purely a matter of the perspectival position that we adopt, where, however, we have no way of privileging our perspectival position, since it too is subject to the same rules of the logic of illusion and the temporality of the historical process" (Ezrahi, Everett and

Howard 1995,147). In this way we can conjecture that Heidegger's pessimism of technology lies on a nostalgic pessimism. Because of the abusing of technology, our history and culture become dull, even the fact is even worse than we thought. But as we mentioned before, Heidegger is not an absolute pessimists, he admit that technology had done something to change. He uses the poem to pray for the poetic dwelling, "but where the danger is, grows, the saving power also" (QCT, 28). This poem exposes that Heidegger wishes the modern technology will not stop but develop together with the archaic significance. Heidegger never gave up attempting to draw us back to the poetical dwelling. He also thinks that technology itself should be viewed as a possibility for the production of poetry, as it is a medium of constituting our world.

Since Heidegger admits that it's our destiny to meet technology, there is no possibility to avoid; even though we are not meeting this technology, there is other technology waiting for us. It seems that technology is an inevitable product. "Technology is part of the way in which we temporalize ourselves, part of the way in which we produce ourselves and time and attribute meaning to that self-production" (Ezrahi, Everett and Howard 1995,149). Heidegger is neither a technological pessimist nor a technological optimist, he only want to "retain the poetically man dwells on this earth" (QCT, 34).

For getting a definite cocept of time and temporal in digital age, I want to reference Gonzalo Iparraguirre's idea that temporality as the apprehension of becoming, which "every human being accomplishes through his cognitive system in a cultural context, and time as the phenomenon of becoming in itself, which the human being is capable of apprehend as temporality" (Iparraguirre 2015, 7). We can trace the difference between time and temporal in *Being and Time*. Heidegger has the idea that "as a mode of temporalizing, the 'leaping-away' of the present is ground in the essence of temporality, which is finite" (BT, 399). And that remains a problem in itself to define ontologically the way in which the senses can be stimulated or touched in "something that merely has life, and how and whrere the being of animals, for instance, is constituted by some kind of 'time'" (BT, 396). Time is connceting with the concept to the being-toward-death of daily life. This kind of ontology defines in *Being and Time* is full of consideriton of human beings and social elements. As Heidegger thinks, "being-in-the-world is closest to us, concern for Being alongside the ready-to-hand

within-the-world. Now that care itself has been defined ontological and traced back to temporality as its existential ground, concern can in turn be conceived explicitly in term of either care or temporality" (BT, 402).

Kant summarizes the concept of time in his *Critique of Pure Reason* that "time is not something which exists of itself, or which inheres in things as an objective determination, and it does not, therefore, remain when abstraction is made of all subjective conditions of its intuition" (CPR, 76). But for complement, Heidegger says that time exists as a kind of phenomenon. The original words in *Being and Time* is that "if Kant is claiming to make a transcendental assertion grounded in the facts when he says that space is the a priori 'inside-which' of an ordering. If, however, the phenomenological conception of phenomenon is to be understood at all, regardless of how much closer we may come to determining the nature of that which shows itself, this presupposes inevitably that we must have an insight into the meaning of the formal conception of phenomenon and its legitimate employment in an ordinary significatio" (BT, 55). It seems that Heidegger thinks the phenomenon of time is the most important, in each case, whatever the entity in question, it is time that makes sense of being, that is, makes it intelligible to us.

Gonzalo Iparraguirre's ideal is that "time as phenomenon, is intrinsic to every human being; on the other hand, temporality, besides being intrinsic to every human being, acquires instead a cultural character since it depends on an experience in context, thus constituting an interpretation" (Iparraguirre 2015, 7). Time is the time in the sociality, the character of time is depending on the realm, such as culture and technology. While the most important is that time is always human's experience. So the time in digital age is defined by the human culture and digital technology.

In Heidegger's opinion, time belongs to nature science; temporality belongs to science of history. Since the phenomenology is a preferred method for the study of information, the way of time analysing is the way from phenomenon to the nature. On this way, the rhythms are the object studying. It is temporality but not time when alluding to notions of time of a socio-cultural group. Notions of time, as conceptualisations on the time phenomenon placed in a socio-historical context, are temporalities.

Time is only for a being that lives with an awareness of its own mortality. Time is thereby interpreted as a modification of presence, we call past what is no longer present, and future what is not yet present. The present is the nodal moment which makes past and future intelligible. The tradition has taught us that the point of present can never be a moment of time because it makes the flow of time possible in the first place. Time is thus nothing but a moving picture of eternity.

If our own consciousness is either absolutely unchanged, or has changed but cannot be felt, we would not think that time has passed. The time is linked with some kinds of natural ontology; time is compared with the location and movement. Time is elusive, we can't have specific feel, but, if we are aware of the occurrence of a number of sports, we will at the same time immediately thought of some time and this movement together and passed.

The way we encounter time in everydayness also has the character of measuring. We use clocks to fix arbitrarily a now-point in the endless flow of minutes. A piece of machine like a clock, obviously, cannot understand we need to calculate with time and count the whole world as being in time. According to Heidegger the calculating mind is prior to such equipment, and makes anything like the use of clocks possible at all.

The "now" is the link of time, and it is a limit of time, because it is the beginning of the one but the end of the other. The now also is in one way a potential dividing of time, in another the termination of both parts, and their unity. And the dividing and the uniting are the same thing and in the same reference, but in essence they are not the same.

Since the "now" is an end and a beginning of time, not of the same time however, but the end of that which is past and the beginning of that which is to come, it follows that, as the circle has its convexity and its concavity, in a sense, in the same thing, so time is always at a beginning and at an end. And for this reason it seems to be always different; for Now is not the beginning or the end of the same thing; if it were, it would be at the same time and in the same respect two opposites. And time will not fail; for it is always at a beginning.

Aristotle's idea is that as the Now is a boundary, it is not time, but an attribute of it; in so far as its numbers, it is only number. For boundaries belong only to that which they bound, but number is the number of these houres, and belongs also elsewhere.

"What time is it?" is not a question that usually provokes a lot of soul-searching. It's the question about the very Now, and also asks about the movement about the things in the clock, but it's generally taken for granted that even if we don't know the correct time, a correct time does exist and that everyone on the planet follows the same clock, no matter which time zone they are living in.

In the tradition of west philosophy, time was discussed in the field of physics not in metaphysics. The problem is that what character the time get from the physics defines. About the way appearance appears, physics can not embody clearly. The answer of the question of original temporal in physics is impossible; nature covered the original temporal when it covered the original question. Nature as a kind of appearance appeared from original temporal, we only can aware time when we quest the appearance. Now, we can see that the appearance needs an occasion, which means the "right time" to appear. "Beings being" is not taken for granted but need to being in the right time. Sun rise up when it's right time and wild animals prey at "right time". Sun is the actually sun only when it rise in the right time. Time is the being that able to being itself, and all kind of "right time" are only present, that leads us to the real-time.

Real time or what Manual Castells calls "timeless time" (RNS, xl-xli). Real time, for Castells, is also a kind of "non-time" which means that as the network society becomes more encompassing of culture and society. It is about the discussion on our relationship with time and how it is changing through globalization. It's also the network time.

Real-time is a fundamental misnomer, the understanding of network time start much more temporal possibilities. In fact, the network time perform a more widely action than real-time, but it's always interrelated to the technical obsession with temporal acceleration.

Thanks to the high speed of the computer systems, real-time was defined as

something occurring immediately. Base on that people can feel "real-time" and on a surface level at least. Castells argues that globalization and the information age are heralding the era of domination by real-time, or "timeless time."

We can readily appreciate that the concepts of "timeless time" but make no sense at all. We can not change the fact that we are human under the temporal environment as temporal beings no matter outside or inside the network. Temporal suffuse all kind of beings, regardless of the exits we can see or not, the no sprout tree and the eggs of ladybugs in this tree, all of us grow up from zygote. It seems that there is no beginning, even though some one has told us that there is Big Bang fifteen billion years ago. We may more readily appreciate the absurdity of simultaneous real time if we think about our own involvement with the network society.

Network time is a digitally compressed clock time, but it is a time that has exploded into a million of different time fractions, as many time fractions as there are users with information and communications technology applications, in the amorphous and constantly emerging network ecology. This is where the important break with the analogue meter of the clock occurs. Clock time has been made digital by computer technology and set loose in the creation of fluid networks of social interaction. Technological developments promise to make this temporal transformation even more profound.

Obviously, along with the development of digital technology, the revolution also brought anomalous changing between digitize and time conception. Because of the ubiquitous computing and increasing intensive rate of interconnectivity, the digital society has evolved. Traditional way of communication vanished; print media was replaced by internet media. It's more and more difficult to find the nature of information while we are submerged by the vast amount of information. In the digital technology age, we forget the pace when we come and lost in the deformation spatiotemporal. We are looking forward to the upheaval with scared. Like the child lost in the street, we want to explore the new world but afraid inexperienced things around us. We are pessimistic when lost in the development modern age but optimistic when we find the machines to save us power and time.

Chapter Six: Time in digital age

"Solar clocks would offer a level of measure, provided it was sunny, but the parceling of time into small, precise accounting units, such as hours and minutes, had to wait for the advent of mechanical technology".(RNS, xl)

------ *The Rise of the Network society*, Manuel Castells

Castells said that the concept of time in digital age is "timeless time" (RNS, xl). Timeless time refers to speeding up and rhythmicity changing. Things becoming faster is one of the most important imperatives of the information age. The quick change takes place so fast that it has become impossible to relate it sensibly. And when something happens all the time, nothing really happens. Speed is a key factor in bringing this paradoxical situation. Temporality brings out its own countermovement or cultural commune. The very idea of slow living is provocative. The fact is that "A faster pace of existence, and an increasing "busy-ness" in the time we have, is a central feature of global culture" (Parkins and Geoffrey 2006, 1). Space and time are closely related in the logic of networks and flows. Time - space distanciation, where the link between time and space is decoupled. "So instantaneity is one form of timeless time" (Bell 2007, 75). Another form of timeless time is desequencing which is a result of living in a multimedia age with limitless access to streams of live and archived material. In David's words are "as well as ever more wondrous ways to predict or imagine the future, we are exposed to a montage of instants wrenched from temporal context: past, present and future are disassembled and reassembled for us and by us" (Bell 2007, 75).

Without the anchoring of temporality, we live in a "perpetual present": the future arrives almost before we have thought about it; the past comes back at us in soundbites. "We are not in a culture of circularity, but in a universe of undifferentiated temporality of cultural expressions" (RNS, 492). We can use the video camera or our mobile phone to take photos and videos. In this way, we can review parts of our lives. "Digitization is surreptitiously shaping our acts of cultural memory – the way we record, save and retrieve remembrances of our lives past" (Van 2005, 312). The form of our memory had been changed, and out sense of temporality changed too.

In fact, timeless time not only presents in human's personal experience. In Castells' opinion, "our society is a society that, therefore, we may properly call the network society, characterized by the pre-eminence of social morphology over social action" (RNS, 500). We have a curious mix: the culture of the ephemeral and of the eternal. Castells calls this the breaking down of "rhythmicity". The mastery of time, the control of rhythmicity, colonized territories and transformed space in the vast movement of industrialization and urbanization accomplished by the twin historical processes of formation of capitalism and statism. "Becoming structured being, time conformed space" (RNS, 497).

6.1 Time and technology changing in society

Technology changes the concept of time. Human's experience of time determines the development of technology. Thanks to the multimedia and other communication technology, real-time becomes real. "But the effect of the mechanical clock is more pervasive and strict: it presides over the day from the hour of rising to the hour of rest. When one thinks of the day as an abstract span of time, one does not go to bed with the cock crowing on a winter's night-one invents wicks, chimneys, lamps, gaslights, electric lamps" (Mumford 1934, 17). Lewis Mamford thinks that the technology effects the time conceptions, especially on the habits of human in the everyday life. The clock which is the technology of time measurement is an important technology in human's history. In Munmford's words is "The clock is the key machine of the modern industries age" (Mumford, 1934, 17).

It happened like that no matter the clock is invented by Galileo or others; it will be created. As a technology, all kinds of time measurement tools prefigure by being-with-one-another. Clocks have made major leaps and bounds since of the shadow clock. The clocks nowadays work day and night, they tell us the hour, the minute and the second. Human invented clocks to measure time, and the clock divides human's life into small piece. Exact time manages of human, machines and all existences.

The clock will appreas since technology is our destiny. That because we human need a tool to calculate our life, we feel not safe if we don't know what time it is. And all

of our life is based on the plan. At the same time, all kinds of technology come to the world. Time is pre-set and stored. "The essence of modern technology lies in enframing. Enframing belongs within the destining of revealing" (BW, 307). But some one will take exception that "technology is not our fate. It's means that we do not have to blindly accept the framework of technology. However, it also means that our experience of technology may provide us with an option other than rebelling helplessly and cursing technology as the work of the devil" (Johnson 2000, 79).

No matter the technology is our fate or not, we should face the fact that we are in front of different kinds of machines today. Heidegger gave us a conclusion that "Man is not the lord of beings. Man is the shepherd of Being" (BT, 245). This sentence was used to describe human beings in the modern word. The machines were purduced by human, used and controled by human. But at the same time, human's life is in the operation of these machines. Technology is the understanding of being in modern time. Heidegger's description of technology is revealing. "Since destining at any given time starts man on a way of revealing, man, thus under way, is continually approaching the brink of the possibility of pursuing and pushing forward nothing but what is revealed in ordering, and of deriving all his standards on this basis" (QCT, 26). Just as Dasein shepherds or attends to the revelation of Being rather than controls its revealing, in our building we are not trying to master nature or become "the lord" of the things we build, but are instead inviting Being to show, bring-forth, or un-conceal itself, again serving as the "shepherd of Being." However, technology as "enframing" does seek a lording over and total mastery of nature.

It is also the beginning of the tragic. We humans have been given the uncanny capacity to use tools and to build. Technology did not make us out from the limit of the nature, but lead us to the way to nature's destructive power. The products of the machines are just temporary impositions no matter the form or the matter, and they are doomed to be violent for both the world and the nature.

While the fact is that the way on "philosophy of technology" is side on politics and programs of reform. If there is no political activity, the challenge of technology will not be recognized. "Until we ourselves are taken up as standing-reserve we will not recognize the danger of our age" (Tabachnick 2007, 109-110). Only when we have

sense about the danger, we will become cognizant to have a new relation with the technology. But even we human relize the danger, how to change the role of technology and when or where to change is also the mystery. We will not destroy the advanced technology or back to use the undeveloped one, but we should be vigilant toward the technology. The advanced technology like the artificial intelligence will bring human a disaster of extinction. However Heidegger has not worried so much. Heidegger writes, "The closer we come to the danger, the more brightly do the ways into the saving power begin to shine and the more questioning we become" (BW, 341). The "closer" is about both time and space. When we are presence, the danger and saving power will become close to us. But even we are nearly present in danger, we will belive that we can invente more advancer technology to solve the problem of danger. "Danger" and "saving power" chase each other during the whole process of technology develepment. This is a dangerous game for human---we are pursuiting eternal, but failed in the instantaneous. Now we are in the timeless time and flow space due to the digital technology in the network society.

Manuel Castells described the social change in the network society accurately. And he clears the relationship between time and space. He believes that "timeless time belongs to the space of flows" (RNS, 495).

Because of the "biological time", socially determined sequencing characterizes places around the world. Because of the "biological time", our society is restructured and become a segmented one. "Biological time" is included in all kinds of form of living thing which exist in space. Space is where we live in and which shaped time with the society development. Thus the predetermined sequence of history following the reason that the impulse of productive forces. And this action aims to escaping the constraints of the bounded of societies and cultures with space. "The mastery of time, the control of rhythmicity, colonized territories and transformed space in the vast movement of industrialization and urbanization accomplished by the twin historical processes of formation of capitalism and statism. Becoming structured being, time conformed space" (RNS, 497).

No matter how does the concept of time change, our existence is structured in the four-dimensional space and time. Space and time change "as with all historical

transformations, the emergence of a new social structure is linked to the redefinition of the material foundations of our existence, space and time" (CP, 33). The relationships are embedded in the social construction of space and time, while being conditioned by the time-space formations and then characterized in the society. Network society is characterized by digital forms of time and space, but also coexists with prior forms. It presented as "space of flows" and "timeless time". Space and time are related in nature and also in society. In Castells' words: "In the industrial age, clock time gradually emerged, inducing what I would call, in the Foucauldian tradition, disciplinary time" (CP, 35). In social theory, space can be defined as the material support of time-sharing practices which is also called the construction of simultaneity. The digital technology can be understood as the decoupling of contiguity or time-sharing. The flowing space refers to the technological and organizational possibility of practicing simultaneity without contiguity. It also refers to the possibility of asynchronous interaction in chosen time, and at a distance. Most important functions in the network society are organized around the space of flows. However, Manuel Castells didn't treat the space of flows placeless. "The space of flows is constituted by its nodes and hubs" (RST, 443); that is, through the digital communication one can make sure that the new type of time will circulate and interact regularly. While in the tranditional space, based on contiguity of practice, the meaning, function and locality of space are closely inter-related. In the space of flows, places receive their meaning and function from their nodal role in the specific networks to which they belong. Thus, the space of flows is different between the financial activities and science, and also different in media networks and political power networks.

The form of social time changes, "Time, in social terms, used to be defined as the sequencing of practices. Biological time, characteristic of most of human existence (and still the lot of most people in the world) is defined by the sequence programmed in thelife-cycles of nature" (CP, 34). Social time in institutions is individual's everyday life, and affects the rhythms of individual's biological time. Before the modern age, social time was equivalent to the biological time of human. In the digital age, timeless time gradually emerged. It is the organization of sequencing with enough precision measurement. With the digital time, the tasks of every moment of

individual's life are starting with standardized industrial work. "Two fundamental components of industrial capitalism that could not work without clock time: time is money, and money is made over time" (CP, 35). In the network society, the emphasis on sequencing is reversed and impossible. The relationship between time and human is defined by the use of digital technologies.

6.2 Time compression in digital age: rhythm breaking

As an essential precondition to the development of industrial culture, clock time was introduced and promoted in the world against the background of Western industrialization and "modernity", as Adam said that "Clock time has become naturalized. This re-construction of time to human design is an essential precondition to the development of industrial culture" (Adam 2003, 62). The subsequent naturalization of the mechanical clock as "universal" time has created a temporal foundation that it is indispensable for capitalist production, accumulation and consumption. Because a homogenous temporal framework has been made, it is easier to understand both time and the relationship between time and space. From a critical perspective the hegemony of clock time on a global scale has had at least two negative impacts. These negative impacts will last long. Clock time has been marginalized, oppressed and, even, annihilated. Other temporalities or temporal logics are associated with other cultures, places, histories and human experiences. This happened along with their underlying ways of thinking and living. "Decontextualizing time has not only fixed the hierarchy for Western-central and peripheral times, but has also obscured the historically constructed asymmetry of power embedded in clock time. This has laid a foundation on which global capitalism can and does produce and reproduce further inequalities across times, places and peoples" (Zhou 2013, 4). Clock time is also characterized as quantified, linear, invariant and external. It has been rationalized by us as our "prime organizing tool" for creating, managing and making sense of our daily lives. That is, "the clock-time and linear perspective norm act as filters through which reality is sieved and as lens through which all social relations and structure are refracted" (Adam 2003, 64). As a consistent result, the "dictatorship of speed" is rarely questioned in our society, because in a highly competitive world "standing still is equivalent to falling behind" (Hassan and Ronald 2007).

Despite their interconnections, the "universality" of clock time has been increasingly challenged by the advance of information and communication technology. Thus our relationships with time have transformed. The theory of "time-space compression" is not only discussed by Castells. Harvey argues that the information and communication technology powered the acceleration of capitalist production. The circulation and exchange of capital have changed the relationship between time and space. He said that "The experience of time-space conpression is challenging, exicting, stressful and sometimes deeply troubling, capable of spaking, therefore, a diversity of social, culture and political responses" (Harvey 1990, 240). Compressing time has even annihilated space and distance. The "modern" and "objective" clock time has evolved into "postmodern" and subjective temporalities. In addition, the network society created by the internet has allowed tens of millions of people produceing their own "space and time". Where the network space can make their actions in their everyday lives knew by others. The evolution of asynchronous network time also suggests that "humans are able to create and experience timescapes that are not synchronized to, or sublimated by, the logic of the clock"[1]. In the context of globalization and the internet, therefore, temporal multiplicities and diverse human experiences with time that have been downplayed and shadowed by clock time are about to be rediscovered.

Yet multiple temporalities are not solely the product of globalization or the Internet; in fact, the complex relationships among different temporalities have constituted globalization itself. In the article *The global city: The de-nationalizing of time and space*, Hope also points out that "the structures and activities of globalcapitalism are riven by contradictions and conflicts between opposing temporal logics, in part because global networks of finance, production and corporate governance may weaken the conjunctures between nation, state, economy and society, exacerbate temporal disjunctures within them" (Hope 2009, 62-85). Rosa described "multitemporality" in a high-speed society: "Not all social groups accelerate equally: some, like the sick, the unemployed, the poor, or, in some respects, the elderly, are forced to 'decelerate' ... This desynchronization entails an increasing 'simultaneity of the nonsimultaneous': high-tech and stone-age methods of warfare, transport, or

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[1] Hassan Ruqaiya (2005) Timescapes of the network society. Fast Capitalism 1(1). Available at:
    http://www.uta.edu/huma/agger/fastcapitalism/1_1/hassan.html

communication persist side by side, not only between different countries, but even within the same society, and fast and slow paces of life can be observed on one and the same street"(Rosa 2003, 22).

The concept of digital time was organized around the idea of progress and the development of productive forces. The digital time structured beings and conformed space. In the digital age, the space of flows dissolves time by disordering the sequence of events. Under this condition, every sequence is simultaneous in the communication networks. The construction of space and time is socially differentiated. The multiple media makes the space fragmented and disconnected, but displays diverse temporalities. That also makes the most traditional domination of biological rhythms controled by network-time. "In the network society, the emphasis on sequencing is reversed" (CP, 35). The alternative projects of the structuration of time and space which appears as an expression of social movements, and aim to modify the dominant programs of the network society.

The sense of space and time are redefined by the new social structure and the power struggles over the programs of the social structure. However, space and time express the power relationships in the network society. The "redefineding" reflected in rhythmics changing. The variants term of rhythm has replaced of time, such as temporal, temporals, a-temporals, and temporalisation. These words usually reduce meanings to other convention. The question how to study the notion of time in social group and its temporality is become cunfused.

The correspondence between time and rhythms was developed based on musical knowledge. In music, terms such as tempo, rhythmic, rhythm, or pulse are commonly used. Rhythm referres to the different appreciations on the flux of becoming always present in every piece of music.

The transference of information is made in this minimum differentiable rhythm which is usually called instant. Instant is the only moment of continuity maintaining, is the cognitive of present in connection to its past and the future. In this sense, to study rhythm of time is in the instant which the whole subjective and social past continuously recreates itself in connection to the group rhythmic. That provides us

essential information on the logic which operates in the assimilation and naturalisation of a certain temporality. These reinterpreted concepts relative to the study of temporality where social rhythms are described, and make it possible to address the problem by analysing the collective life rhythm of a group. The rhythm is transferred by its members during daily collective activities, thus it is able to be apprehended in the participant observation. Therefore, the temporality of a society can be understood from the life rhythms of social, economic and worldview organisation.

The articulation between rhythm and temporality was already present in the sociological and anthropological studies on time. Émile Durkheim mentiond the term rhythm to refer to the time category: "The calendar expresses the rhythm of collective activities, while at the same time its function is to assure their regularity what the category of time expresses is the common time for the group, the social time" (Durkheim 1965, 10). It can be said that rhythmics are the language of time. "This time created to human design, however, had/has a number of features that are fundamentally different from the temporal processes of nature: where nature's rhythmic cycles are marked by variance, the hourly cycle of the clock is invariable and precise. Where each rhythmic return in and of nature is simultaneously a context-dependent renewal, the return of the same hour of clock time is independent from context and content" (Adam 2003, 62). No matter the time or the rhythm is in the content of society, the rhythm of time will change when the rhythm of society changes.

Manuel Castells uses "timeless time" to describe the concept of time in network society. "The clock time of the industrial age is being gradually replaced by what I conceptualized as timeless time: the kind of time that occurs when in a given context, such as the network society, there is systemic perturbation in the sequential order of the social practices performed in this context" (RNS, xli). The "timeless time" in network society is the fact that the rhythm of time has changed which because of the emergence of the digital technology. On one side, the development of digital technology affect human's sense of time; on the other side, "Timeless time, using technology to escape the contexts of its existence, and to appropriate selectively any value each context could offer to the ever present" (RNS, 433). But the Timeless time only appears in the digital age. Only the digital technology can let the time chang into

timelessness. In Manues Castells' opinion, "Compressing time to the limit is tantamount to make time sequence, and thus time, disappear. I argue that this is happening now not only because capitalism strives to free itself from all constraints, since this has been the tendency of the capitalist system all along, without being able fully to realize it" (RNS, 464). Castells treats capitalism as the direct reason of time compressing. The development of capitalism simulates the development of technology; on the contrary, the technology is the base for capitalism.

  Castells also argues that "this is happening now not only because capitalism strives to free itself from all constraints, since this has been the tendency of the capitalist system all along, without being able fully to realize it" (RNS, 464). Social character the decisive for the time conception changes in human history. The concept of time is not tit for tat with the social culture, we can not ignore the role in promoting of the society developing. Castells moveS forward a single step: "Capital's freedom from time and culture's escape from the clock are decisively facilitated by new information technologies, and embedded in the structure of the network society" (RNS, 464). The time in network society will creat a new kind of philosophy of time. This philosophy of time is totally different from the ancient ones. The time in digital age is not disscussed in the four dimensions, and is not relate to the God too. The fact is that "this new time regime is linked to the development of communication technologies" (RNS, 460).

Castells said that time compression is embodied in all human social movements include economical, political and culture. He highlighted that time is a sources in capital economies: life time and work time are shrinked and twisted, life cycle was blurred, death was denied, and instant wars happed in network society. Time is compressed and denied in culture ultimately, and is a primitive replica of the fast turnover in production, consumption, ideology, and politics on which our society is based. A speed up is possible when new communication technologies are used. The hypothesis of the network society is characterized by the breaking down of the rhythms, either biological or social, associated with the notion of a life-cycle.

All the living beings, such as human, animals and plants are all living in the biological clock. In history, human's life depends not only on their biological clock, but also on

things around them. For example, the nomads can only get prey in particular period. And they need to migrate with plants, because it is easy to prey in a region where plant is rich. So "biological rhythms, whether individual, related to the species, or even cosmic, are essential to human life. People and societies ignore them at their peril" (RNS, 475).

In recent two handred years, human tried their best to find a way for "prolonging life, overcoming illness, regulating births, alleviating death, calling into question the biological determination of roles in society, and constructing the life-cycle around social categories" (RNS, 475). Due to the advanced digital technology, roborts can be put into human's body to check and even can finish some special operation in the blood vessels and internal organs. Indeedly, this kind of interventions changed human's fate on death, but also destroy the rhythm of human body. The extensive use of advanced medical technologies changes the rhythm of human life and the rhythms of nature. Not only in the biological field, digital technology has also changed the rhythem of our social life-cycle. The biological determination of roles in society is obvious. The constructing of the life-cycle around social categories such as education time, working time and life time became paramount. "However, although the principle of a sequential life shifted from being bio-social to becoming socio-biological, there was and still is a life-cycle pattern to which advanced societies tend to conform, and toward which developing countries try to evolve. Now, organizational, technological, and cultural developments characteristic of the new, emerging society are decisively undermining this orderly life-cycle without replacing it with alternative sequence" (RNS, 475-6).

Castells has concluded that digital technology has already destroyed the rhythm of human and the society. "I propose the hypothesis that the network society is characterized by the breaking down of the rhythms, either biological or social, associated with the notion of a life-cycle" (RNS, 476). The phenomenon of "rhythms breaking down" is reflected in the social work. The "working" is not only in the day time, but also in the night. The workers in China in the field of stock exchange are a typical case. They are living in China but their working time table is as the same as the one in America. They are working in the whole night and sleeping in the day time. Another example is that base on the digital technology, people can work anywhere in

any time, the fragments time become to the working time. The digital technology also let women free from the tradtional housework. Thanks to the advanced medical facilities which let women free: because of the advanced medical technology, they are able to pregnancy and childbirth during almost any age. In Castells words, "All combinations are possible and are socially decided. Our society has already reached the technological capacity to separate social reproduction and biological reproduction of the species" (RNS, 480). Under this society, we cannot easily say it is good or not. The technology is advanceed, and the changing happened actually, "Yet what is essential is that we are not on the fringes of society, even if these are still embryos of a new relationship between our social and biological condition" (RNS, 480).

The fact is that: "A secular biological rhythm has been replaced by a moment of existential decision" (RNS, 481). We human have no time to rethinking, or even have not sensed the breaking of the rhythms. We initially try to promote the development of technology, but gradually, our society develops follow the pace of the technology. We did not relized the seriousness of this phenomenon. Castells had summed up that: "these are growing social trends, whose technological and cultural diffusion seems unstoppable, except under conditions of a new theocracy. And their direct implication is another form of the annihilation of time, of human biological time, of the time rhythm by which our species has been regulated since its origins. Regardless of our opinion, we may have to live without the clock that told our parents when they were supposed to procreate us, and that told us when, how, and if to pass our life on to our children" (RNS, 480-1).

6.3 Timeless time: eternal and ephemeral time

We feel happy that the World Wild Web makes us not lonely even we are far from our friends and family members. Because the computer and other digital media makes the "real time dialogue" possible and bring people around world together into a cyberspace. What the most important is that the computer overcomes the time-delayed problem, and the communication can be hold on and transform.

The digital technology led by computer mixes different kinds of social times. All the things we should deal with are what already have dated in the computer. Computer

creates a temporal collage, where not only genres are mixed, but their timing becomes synchronous in a flat horizon- with no beginning, no end, no sequence. The timelessness of multimedia's hypertext is a decisive feature of our culture, shaping the minds and memories of children educated in the new culture context.

Castells proposes the idea that "timeless time, as I label the dominant temporality of our society, occurs when the characteristics of a given context, namely, the informational paradigm and the network society, induce systemic perturbation in the sequential order of phenomena performed in that context. This perturbation may take the form of compressing the occurrence of phenomena, aiming at instantaneity, or else by introducing random discontinuity in the sequence. Elimination of sequencing creates undifferentiated time, which is tantamount to eternity" (RNS, 494). For Castells, timeless time belongs to the space of flows. While social time, biological time, and socially determined places are around the world and materially structuring our segmented societies. Time is shaped by space, especially in the digital society. Thus space is reversing the sequence of time, following the impulse of productive forces and escaping the constraints of spatially bounded societies and cultures. The time in mastery is the control of rhythmicity, colonized territories and transformed space. Becomings structured being, time conformed space. "As a result of the nearly unlimited recording capacity of the new media and the already discussed increase in occurences of a simultaneity of the nonsimultaneous, time is beginning to lose its unilinear, orientation-giving character because the connection of sequences and chronologies appears to be progressively dissolving" (Rosa and Jonathan 2013, 102).

Timeless time leads us to the concept of time eternality in the network society. Timeless time was produced in a given paradigm of digital technology and the network society. That caused the sequence of events and order of occurrence of the phenomenons disruption. These disrupt include: time space compression, real time, and the character of net work sociality. The most important is the saboteurs of the rhythmicity. We human beings feel that we can exploit nature and our life become more and more convenient: we invent kinds of things to save time. Modern technologies help us save time, but make us more and more busy. We are in the society that fulls of "flows" and "fluids". The fact is that "the streams of persons, information, financing, and commodities that circulate rapidly and almost without

resistance across the globe" (Rosa and Jonathan 2013, 108).

The conflictive differentiation of time which understood as the impact of opposed social interests on the sequencing of phenomena should be retained. Such differentiation concerns, on one hand are the contrasting logic between timelessness that structured by the space of flows, subordinate temporalities and associated with the space of places. On the other hand, the contradictory dynamics of society opposes the search for human eternity that through the annihilation of time in life and to the realization of cosmological eternity. Between subdued temporalities and evolutionary nature, the network society rises on the edge of forever.

As McLuhan said, technologies are extension of ourselves, "Today, after more than a century of electric technology, we have extended our central nervous system itself in a global embrace, abolishing both space and time as far as our planet is concerned" (Mcluhan 2001, 3). We can take plane as the extension of our foots to travel from Shanghai to Barcelona, which only takes 15 hours, but what we must do is "jet lag". I don't know "jet lag" before, because I have not been out of China before. But should people Jet lag before the modern age? Of course there is no necessary. They are living under their biological clock without need to move as fast or far as we do. They only need to sleep in the night, eat when feel hungry. But now our living are in the order of the round clock and the whole earth becomes a village. The globalization is happenening; it is real rather than a theory. We can move to anywhere in a very short time.

Contemporary societies are still largely dominated by the notion of clock time. Time is the pure form of the phenomenal world, shows up in the emotion of variation world. Time can be defined as natural phenomenon which has physical movement and persistent, intermittent and sequential. Time is a dimension in the four-dimensional space-time, and the basic characteristic of the time dimensional is irreversibility. Linear time is the only one which can be measured from the past to future. In the real world, the basic character of space is that it is three-dimensional. The measurement of the three directions, through the space at any one point can be drawn three mutually perpendicular straight lines. Any object has three directions: its length, width and height. The orders of up and down, left and right, back and forth are three basic

relations. We are living in the space and also in the time. In other words, we are just live in the measurement of the world. Exquisite clocks pointer is a leader of us with a whipping in her hands.

"Human's experience of time in different ways depending on how their lives are structured and practiced. Throughout history time was defined by a sequence of practices and perceptions" (RNS, xxxix). But the intervals and pace of the sequence were highly diverse. The experience of time depends on social organization, technology, culture, and the biological condition of the population. Organizing time was a mark of the sovereign power of kings and priests in the antient time. For the common people, time was established by the recurrence of the sun and the moon, by agricultural cycles, and by the seasons that would bring some regular pattern of sequencing into their perception. Solar clocks would offer a level of measure, provided it was sunny. But the parceling of time into small, precise accounting units, such as hours and minutes, had to wait for the advent of mechanical technology.

The law of time now is that "working time defined life time" (RNS, xl). The tools about the time measurment become very important in modern society, because clock becomes a tool for discilining society. The rhythm of human and other things are all counted and valued by time or the so called clock. So after day and day, "people fought to gain their own time beyond their subdued working time" (RNS, xl).

But time has no strict definition and was not a so important tool before the modern age. For example, people in the Middle age marked the history by big things like the agricultural cycle or the religious celebration day. So their time is not so tense, they lived in a natural state just follow the bio-rhythm of themselves and other livings. In this kind of society, the life time defined the working time. After the clock was invented, everything has changed. It is in our present society, that we must accept the fact that working time defines life time.

Because of the capitalism, time has become the dominator of the society is. For Castells, "under capitalism, time became money, as the rate of turnover of capital became a paramount form of profit-making" (RNS, xl). This is the result, but what is the process of occuring? What the relationship between time and capitalism? Castells

gave us the answer: "The faster you could secure your return, and the faster you could reinvest it, the greater the profits to be made. Finance became constructed around the sale of monetized time. Credit was based on time. Speed became essential in financial transactions. The more capitalism went global, the more differences in time zones made possible the proliferation of interdependent financial markets to ensure the movement of capital around the clock" (RNS, xl).

Then time arises as a new form. In the financial markets such as the stock market trading and the futures market, money is merchandised by computers and other digital telecommunication like smart mobile phone. In China, mobile payment has been applied in almost all aspects of daily life. A smart phone is a bus card, subway card, bank cards, credit cards, shopping card, etc. even if you buy a roasted sweet potatoes, you can pay by the smart phone.

In this kind of society, the technologies like the computer and the smart phone had changed the time forms- timeless time comes out. The time which saved by human becomes the value, and will be sold out as form of goods. "The future was colonized, packaged, and sold as bet on future valuation, and as options between various future scenarios. Time as sequence was replaced by different trajectories of imagined time that were assigned market values. There was a relentless trend towards the annihilation of time as an orderly sequence, either by compression to the limit or by the blurring of the sequence between different shapes of future events. The clock time of the industrial age is being gradually replaced by what I conceptualized as timeless time: the kind of time that occurs when in a given context, such as the network society, there is systemic perturbation in the sequential order of the social practices performed in this context" (RNS, xl). The concept of time has been changed. Has the nature of time been changed or only the sense about time been changed? There is an ontological shift in the world in which our knowledge and awareness are rooted. Nowadays time perception has been changed by the digital technology like cellular phone, computers, etc. The changing is so fast that we all are unaware. The question is what is the change of time perception and how does that happen? We are immersed in the technology and enjoy the actives of saving time. At first, we want to work in a short time so that we can go back home early or have more rest time. We invent a lot of advanced technologies and use them in the office work, traffic and other fields. Indeed

we save lots of time with these technologies but what happened then? Finally we find that we are busier which contradict to our original aim that we want more free time. We are staring on the screen of computer and smartphone when we are aim to saving time.

Thanks to the development of the digital technology, the news agencies around the world can report News about every country in the world, while not on the newspaper or the magazine, but online. Nowadays, interracial cultural exchange is possible and the speed of the communication is out of our imagination. The important news can be reported world wide within a few seconds that makes the world a "village".

The spatial and temporal distribution is becoming narrower, instantaneous spread is happened after the digital technology. If you have a computer connected with the internet, no matter where are you, you can know what happened in other places. As the earthquake which happened in Japan in 2011, when you read the news that the nuclear power plant blown up, you should be as terrified as the local Japanese.

The impaction of digital technology on time perception is enormous. As Marshall McLuhan said, all the technology like cars and roads are expend of man. The digital technology is the expansion of human's central nervous system. We invent all kinds of technology and make us in a convenient environment, we thought that we can control and use them, but sometimes we are the slaver of the technology. We appear like a lord of the machine, we go out by cars and trains, but if they are brokendown, we can't go to the office. If our computers stop working, we usually have to stop our works too. Most of our social managements depend on the computers and on other digital technologies. The Data Base in computer can save our works and data, which replaced our brain's work. Heidegger is right, we are just the Shepherd, if the sheep gone, we have to face the hungry and poor.

6.4 Time becoming: fall into digital age

The top 10 in-demand jobs in 2010 did not exist in 2004. We are currently preparing students for job that don't yet exist; using technologies that haven't been invented. In order to solve problems (we don't even know what are problems yet). The amount of

new technology information is doubling every 2 years. For students starting a 4 years technical degree this means that half of what they learn in their first year of study will be outdated by their third year of study.[1]

This article shows the High-speed development of our human civilization. It also shows that now we are running after the technology. We human are becoming the followers of the technology but not the one who control the development of technology.

I can't slow down; I must go quickly so that I will not miss the train. Everything goes quickly. Time is the enemy, confront it, and go beyond it.

Well, though you are in hurry you will miss the train because you are not run fast enough or because the train controls the speed and the timetable. There are so many trains that if you stop one, you should change the others' timetables and lines, and maybe there will be a big problem that thousands of people will in confusion on the station. Everyone is on the way for catching the time, and use the functions of all the instruments and appliances. Now we are not the managers but under the control of technology. We do all the things to adapt all kinds of machines.

In ancient time, human beings just get up with the sun rise and go to bed with the sun fallen; their daytime is lighting by the sun. But now we still can work without the sunshine till midnight. We fill ourselves into the care of period; we feel tired but can't escape from tense time. Even if you are the president of the largest country you can't ask the people in your country to stop, because they are not really your citizens but the technology's. Time performas the active presence of the man, it is an aspect of the scale of human life. We can treat society as a unit, the creation can freely dispose of their own, that is to create a science, art, and so the time. Because "time is a social form" (RNS, xlii), the temporal and spatial characteristics of the objects depends on the characteristics of the movement in the form of the material system which belongs the spatial and temporal characteristics of the different forms of exercise.

Technology is our fate and we can't avoid it, what we can do is adapt. Now we are

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[1] From http://www.youtube.com/watch?v=QNutcmyShW4

pleased to catch the plane from one place to another in a small piece of time. We will complain but we still fill our schedule with lots of things. We can't stop, but if we really can't? Whether we can get rid of all the technology of civilization and then be a "real" original human? But the reason why we human beings are human beings is that we can invent and use tools.

We wake up with the mobilphone alarm sound; go to work by driving a car equipped with GPS or automated driving train; and then work in front of the computer for a whole day. You will have a video meeting at 10:00 and you should go to the airport to pick up a client at 11:00. Of course the telephone and computer can make your work convenient, and they also remind you what you should do all the time. The transport brings to wherever you want.

The fact is that the technology especially the digital technology enables us work at home or anywhere you like. You don't need to go to office everyday and can work under a pijama that's more comfortable. Every mother will like this because they can work and take care the child at the same time. But your home is your office now, and you will feel yourself always in the working state and can not really feel at home. Early in the end of last century, Gurstein had already mentioned in her doctor thesis that although people who have computer and can work at home are satisfied with that they can arrange time and space freely, they hate that there is no gap between home and work, job and leisure, personality and function.

The violence of technology expressed as the violent that return from the destroyed nature: "these products of technology become targets of nature's wrath, destroyed or swept away by the very elements they temporarily harnessed" (Tabachnick 2006, 96). We humans begin to think about all kinds of temporality and become care that if the authentic or primal truth of all of existence. Step by step, we recognize the power of nature after we built lots of technology like boats for sailing, cities for living. In all of these things, the limits and finitude of beings come to light through a pushing back by nature. Presumably, without the building of technical products, it is coming to light.

What is the "essence" of time in digital age? Does the time follows the sun rise or walks around the clock? Or it is the number we count? We are the shepherd of the

beings but not the lord. Heidegger gains the essential property of the shepherd, which is "Being itself into the preservation of Being's truth" (BW, 210). In the modern cities of the civilization time, human beings become slaves of technology, technology threaten human beings. I think Oswald Spengler noted the essence of the problem, technology is going to control all the things in front it. And in his mind, "Mankind, however, has no aim, no idea, no plan, any more than the families of butterflies or orchids; mankind is a zoological expression, or an empty world" (Spengler 1926.17).

Traditional forms of the life of our human beings are dismantled. In Jürgen Habermas' book *The Theory of Communicative Action*, he said that the "world become colonized by technology of media" (Habermas 1984, 356). He said that criticism of the process of modernization and outlined how our everyday life is penetrated by formal systems as parallel to development of the welfare state, corporate capitalism and mass consumption. These reinforcing trends rationalize public life. In consequence, boundaries between public and private, the individual and society, the system of worlds are brokendown.

Habermas said that "I first found the traces of timeless time while analyzing the workings of financial networks. But it also appeared in a wide range of social domains, when every time sequence was canceled or blurred" (Habermas 1984, 356). Human beings attempt to improve the medical science and technology, in one hand that can extend life time; but in the other hand, the biological rhythm is changed.

About the clock, Mumford said that "The clock, moreover, served as a model for many other kinds of mechanical works. The clock is not merely a means of keeping track of the hours, but of synchronizing the action of men" (Mumford 1934, 14-5). Herbert Marcuse has the opinion that the mass communication technology such as TV, radio, newspaper and other things occupy our free time and change our life. The rights and liberties which were such vital factors in the origins and earlier stages of industrial society yield to a higher stage of this society: they are losing their traditional rationale and content. Once institutionalized, these rights and liberties will share the fate of the society of which they had become an integral part. The achievement cancels the premises.

Nick Stevenson, professor of University of Nottingham has written a book entitled *Understanding of media culture-social theory and mass communication*. In this book, he mentioned "It is undoubtedly the case that the practice of media cultures in the modern world is being rapidly transformed. These changes are being driven along by a multitude of social forces which include new ownership patterns, new technology, globalization, state policy and audience practices to name but a few. These dramatic shifts require wide ranging forms of debate both inside and outside of academic circles. Arguably the very nature of our culture is changing and this will present both current and future generations with new possibilities and dangers" (Stevenson, Nick. 2002, 7). His impartial summary of media time and media space explains the impact of media technology on the social process.

Our views of the nature of time have changed over the years. "Up to the beginning of this century people believed in an absolute time. That is, each event could be labeled by a number called 'time' in a unique way, and all good clocks would agree on the time interval between two events" (Hawking and Leonard 2005, 128). Maybe after many years the superluminal technologies will appear that there will be a unique absolute time. And the high speed technology is based on digital processing system, "The constitution of a new culture based on multimedia communication and digital information processing creates a generational divide between those born before the Internet Age and those who grew up being digital" (RNS, xviii). Manuel Castell made a clarification of the age of digital, and he also has the opinion that "everything changed with the invention of the clock and the industrial age. Production was organized around the control of time and working time defined life time. The strict definition of time became a major tool to discipline society, as the rhythm of everything was counted and valued, and people fought to gain their own time beyond their subdued working time" (RNS, xl). Contemporary societies are largely dominated by the notion of clock time. We are embodied by time, and so is our society.

There is a fact that time in medieval societies was a loose notion, only calculate time with religious celebrations, market fairs, the coming of the seasons and other major events (Hassard 1990, 105). But now everything changed. The linear, irreversible, measurable, predictable time is being shattered in the network society, in a movement of extraordinary historical significance. But we are not just witnessing a relativization

of time according to social contexts or alternatively the return to time reversibility as if reality could become entirely captured in cyclical myths. The transformation is more profound: it is the mixing of tenses to create a forever universe, not self-expanding but self-maintaining. Timeless time is not cyclical but random, not recursive but incursive. It using technology to escape the contexts of its existence, and to appropriate selectively any value each context could offer to the ever-present. Gleick is an American author, historian of science, and sometime internet pioneer whose work has chronicled the cultural impact of modern technology. He has documented the acceleration of just about everything in our societies, in a relentless effort to compress time in all domains of human activity. Compressing time to the limit is tantamount to make time sequence, and thus time, disappear. I argue that this is happening at present not only because capitalism strives to free itself from all constraints, since this has been the tendency of the capitalist system all along, without being able fully to realize it. Nor is it sufficient to refer to the cultural and social revolts against clock time, since they have characterized the history of the past century without actually reversing its domination, indeed furthering its logic by including the clock time distribution of life in the social contract. Capital's freedom from time and culture's escape from the clock are decisively facilitated by new information technologies, and embedded in the structure of the network society.

Conclusion

It has been shown, that digital technology appears in digital age as the time required. While, on the contrary, digital technology is transforming time. Time is used, managed, perceived, and disciplined. The key effect of digital technology on time is that all kinds of things are getting faster, and the accompanying changes are much more fundamental.

Maybe someone will oppose to combine Heidegger with digital technology toghter, because they are not in the same era. But Heidegger's theory is appropriate for analyzing the digital age. Heidegger described that everydayness means the mode of existing in which Dasein hold itself "each day". In everyday life, we calculate time via numbers. The exact mathematics pushes forward the developing of modern technology and hatches out the digital technology. The direct result of the mathematics to the digital technology is that time counting was subdivided infinitely. The exact time units lead to the extremely tense time experiece.

The nature of time is hiden, in other words, every express of time is a way to the nature of time. Time has spanned, it is datable, successive and linear. These characters of time make time as reckoned with the feature of public. Each one of us has our own "nows"; it is nevertheless the same now for everyone. It is accessible to everyone and thus belongs to no one. Time is thus nothing but a moving picture of eternity. Then it is possible for the timeless time to exist.

But the counting of time is not the only way to experience time. "Timeless time" means the real-time in the network society which include all kinds of culture and society. The characters of the timeless time are instantaneity and desequencing. The timeless time in digital age is the cause for rhythmicity breaking down. Human beings are not living under the bio-rhythm now but in the timelessness where the eternity and ephemerality coexist.

Rhythem broken is the most notable feature. "Temporality is the movement of Dasein's becoming" (BT, 499). In Heidegger theory of temporality, the process from past to future is linear; past, present and future happens one by one: present is the

node, past come before present and future comes after present. The world is operating in order, "that time is in a certain way" (BP, 271). Heidegger adds that everydayness also means that temporality is in a certain way, and Dasein lives its daily life in this way. For him, the certain way is "prefigured by being-with-one-another" (BT, 353). Human's each day is "the essence of concern with time does not lie in the use of numerical determinations in dating. What is existential ontologically distinctive about time-reckoning may not, therefore, be found in the quantification of time but, rather, must be conceived more originally in terms of the temporality of Dasein that reckons with time" (BT, 465). And "if the common understanding of time is aware of being only in the sense of extant being, being at hand, then time, being publicly accessible along with motion, must necessarily be something extant. As the Dasein encounters time, time gets interpreted also as something somehow extant, particularly if it reveals itself as being in a certain connection precisely with extant nature" (BP, 271). That is to say, although scientific planning should be considered in time, time is also used as a ready presence of a "now" sequence. Although movement occurs in the time, the movement itself and the time are irrelevant: the movement appears in the "now" occasionally, in the previous and subsequent "nows", it presence in the "nows" forever, while these "nows" are intermittent, and also is unrelated mutually.

Rhythm does not simply affect an objective speed which is continuous and which gets progressively faster. The rhythm is expressing in the acceleration. However this acceleration is closely retated to the developments of techniques and technologies. The digital technolgy makes the acceleration going to a peak. As Cere said, "there are two laws of acceleration, one derives from the technosciences, it concerns speed, the procligious increase in speed, the unprecedented rhythm which speed is assuming and of which we are daily feeling the effect. The political issues which you evoke bear the stamp of this form of acceleration. The second is of a quite different order and belongs to the structure of decision" (Gere 2006, 27).

But now the clock time has been increasingly challenged by the advance of information and communication technology. Thus our relationships with time have transformed. Castells has the opinion that the information and communication technology accelerated our experience of time.

The concept of time in digital age is compressed. The compressed time appears in linear time. The consecutive activities which are used to characterize linear time interrupted the connections between activities and network society. The hypertext of World Wide Web enables to visit many different issues at the same time. Timeless time also makes it possible to visit several places at the same time and to praticipate in two or even more activities in one place at the same time. That gives us a new cognition of linear time. In the digital age, linear time does not disappear altogether, but becomes arbitrary and the assembly of activities that get to be much more important than their succession. Thus, existence of Dasein assumes a continuum of events with a dissolving notion of time.

We have tried to find why and how the digital technology accelerated the concept of time. "Timeless time, using technology to escape the contexts of its existence and to appropriate selectively any value each context could offer to the ever present" (RNS, 433). This definition is describes the phenomemon that timeless time has already began. Timeless time is using technology, while the advent of timeless time is also caused by digital technology. Digital technologies, such as biotechnologies and communication networks, have broken down the biological sense of time as well as logical sequences of time. New biological reproductive technologies blurs life cycle. The patterns in conditions of parenting are either slowing down or speeding up the life cycle. Once the life cycle is changed, the timeless time comes out.

Based on digital technology, all the other technologies can help to increase the speed of both physical transportation and information communication. Then, space becomes a flowing space. The flowing of space indicates that physical distances are closer among organizations in the society, and information can be easily transmitted from one point to another by new communication technologies. This means that the logical concept of space disappears. For example, the hyperlink of a webpage collapses succession of things in time and space span, because it brings one from one location to another location in an instant. Castells said that: "space and time, the material foundations of human experience, have been transformed, as the space of flows dominates the space of places, and timeless time supersedes clock time of the industrial era" (IA, 1).

Our digital society is characterized by networked communications technologies and information processing. The phenomenon of society change includes economic interdependence among nations as well as globalization and social movements related to individual identity. The information society and global village are the new rhythm of our society. The rhythm of time will change when the rhythm of society changes.

Timeless time has already affected us: the speed of transactions at global financial markets, the just in time management of organizations, the increasing of the labour intensity for the workers with an annually decreasing employment, or changes on biological time through medical technology so that we can prolong our life. With the development of artificial intelligence, machines would replace human labor, thereby changing the trajectory of human civilization.

How to fill the gap in our perception of time in digital age? Existence becomes a succession of repleted moments, without "before" or "after" in time line, no distinction between "here" and "there". The present is filled by "now", "here" and "there".

Where am I? Will eternity end? Jumping into the digital world to enjoy the instant and eternal, and, at the same time, you can stand still to touch your heart beat. We can get the idea from Heidegger's reflection of modernity. It is a projection to the digital technology, through rethinking the essence of technology one can catch the meaning of Dasein; and the meaning of Dasein is the horizon of time, therefore, the research of time is the insinuation to the question of modernity. The extreme of subject is the character of modern technology, digital lifestyle is the dream of human beings. People want to control the entire world, but what is our ultimate goal? How to get freedom for both our sprit and body? In Heidegger's words is "the ego tarries within the horizon of the unconcealment that is meted out to it always as this particular unconcealment" (QCT, 13). Our aim is to get the freedom and the truth of unconcealedness state, but this is always along with the defending of the concealedness of the world. Living in the digital time, we find ourselves as the leader but we also aware that we are the shepherd, we are doomed to die, sooner or later. Even though human beings and the digital technology are both authentic existents, we would understand the meaning of time when get the meaning of being.

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