

# ON HOW THE INTERNET CHANGES THE WAY WE DEAL WITH TIME AND PLAN IN CHINA AND IN GERMANY

Maria Faust M.A. *University of Leipzig, Institute for Communication & Media Studies, Department for Empirical Communication & Media Research, Burgstrasse 21, D-04109 Leipzig, Germany*

## ABSTRACT

This article explains the way people in Chinese and German cultural context deal with time and plan accordingly. First, a theoretical framework is developed of the social notion of time in German and Chinese cultural context. It considers Confucian notions in order to take an emic approach for Chinese cultural context, as it is mainly based on Western theories. Second, it will be identified how internet-mediated communication can change temporal behavior. Through the development of habits and eventually through institutionalization, objectification and legitimizing, cultural change is explained. Therefore, this process crosses the individual level and becomes a cultural one. In an outlook, it is asked how quantitative empirical research can cover these issues.

## KEYWORDS

Social Time, Germany, China, Internet, Intercultural Communication, Cross-cultural comparison

## 1. INTRODUCTION

Social time has been an issue in humanities, social sciences, history and psychology for the past decades. Four strains of thought can be distinguished:

- i. social time and the way it changed throughout modernity,
- ii. acceleration phenomena like temporal change as such,
- iii. globalization processes,
- iv. and finally the way it is shaped by technologies in a broad, or media in a narrow, sense.

The processes seem to be interrelated and can only be seen as models rather than empirical reality. For clarification, they are briefly explained. First, modernity as a process of societal change in the past two centuries is mainly concerned with a new development of a temporal order. Social time becomes increasingly linear, and cyclical notions that were existential in an agrarian society were overcome. Second, acceleration phenomena took place during this

overall change and were shaped intensively by technologies (point four). Third, globalization processes refer to late modernity – sometimes discussed as post modernity – and deploy a spatial dimension of social time. Such processes are closely linked to the idea of connectivity and often cross cultural boundaries. The fourth dimension, however, comprehends an idea which is vertical to the aforementioned processes: technologies, or media, were always part of the processes of temporal change. They can be seen as core drivers of such processes. Be it the installment of train systems or the development of the automotive industry, or the telegraph, telephone and in recent decades the internet-mediated communication with e-mails or social media at the forefront these days. Internet penetration has reached a peak with more than 84% of Germans being online in early 2016 with slightly more than 50% in China in late 2015. (Projektgruppe ARD/ZDF-Multimedia, 2016, p. 2; China Internet Network Information Center, 2016, p. 45) Thus, the preceding assumptions give rise to the following question:

*Which influence does internet-mediated communication have on the way we deal with time and plan in daily life?*

As was argued, social time is not a static construct, but shaped by historical developments, key technological drivers and social interaction in everyday life. In times of globalization and mediatization, it seems plausible to ask if such developments occur on a global scale. Moreover, it seems necessary to contrast two contexts which are quite distinct from each other – therefore, German and Chinese culture were picked. (Hofstede, 2001; Triandis, 1995) And, as this article aims to provide a theoretical framework, for future empirical investigation, the notion of a ‘Most Different Systems Design’ (Anckar, 2008, pp. 389–390) is followed. Usually comparative research tends to contrast Anglo-Saxon cultures with Asian cultures (e.g. USA and PRC). However, China and Germany are even more apart from each other. Moreover, as the author was born and raised in Germany, it provides an emic perspective as well. Thus, the following overarching research question is stated:

*Which influence does internet-mediated communication have on temporal understanding when comparing German and Chinese cultural context?*

As one can see, we follow a different terminology here which will be elaborated later on in the article. Before proceeding, we try to set out popular and academic research on the change of social time in society.

- i. Exhibitions, documentaries, guiding handbooks as well as workshops and trainings give an insight, that these issues are discussed in public. (Pace Beijing, 2014; National Museum of American History, 2016; Museum for Communication Berlin, 2013; Opitz, 2013). (Long and Schweppe, 2010; Somweber, 2013).
- ii. There are semi-institutionalized formats like open lectures, NGOs or academic research communities which draw upon the notion of social time. (University of Leipzig, 2011; German Society for Time Politics e.V., 2014; The International Society for the Study of Time, 2005)
- iii. In tailored research projects receiving governmental worldwide funding, academic research looks at social time, quite often from an interdisciplinary perspective. Communication and Media Studies increasingly recognize the importance of it and provide international conferences, networks, as well as special issues of academic journals to discuss this matter. (Gamper and Wegener, 2016; Dorsch, 2010; Societe Francaise des Sciences de l'information et de la communication, 2016; Kaun *et al.*, 2016; H-Soz-Kult, 2016)

Finally, an outline of the paper is provided and the importance of such kind of research will be discussed. In a first step, the notion of time will be investigated. This serves the purpose of eliminating research desiderata on time, particularly on social time. (State Ministry for Education and Research, 2010) Second, it will be defined in what way we can speak of a cultural time, which will be termed temporal understanding. This overcomes former

conceptions of cultural time, which were either mainly descriptive (Helfrich-Hölter, 2011) very qualitative oriented (Hall, 1984) or did not withstand empirical investigation (Hofstede, 2001). Eventually, my own model of temporal understanding will be introduced. Third, the process of such temporal change through internet-mediated communication is modeled based on habits and institutionalization, objectification and legitimizing. Wherever possible, both Western and Eastern theories are incorporated, and empirical research on German and Chinese internet use is considered. Particularly Chinese internet usage is a clear research desiderate in Europe (Herold, 2013). Finally, the concluding chapter gives outlooks on how to investigate these issues empirically. As will be shown, the main theories are merely descriptive.

So in what extent can this paper contribute to overall research on internet-mediated communication? As this research focuses on permanent availability, connectivity and flexibility and a new temporal order may be established, it is particularly urgent to integrate time-outs and downtime in day-by-day activities (Nowotny, 1989, p. 42; Rinderspacher, 2011, p. 23). Everyday life relies on physical and mental health as well as well-being. Only a stable state of body and mind serves a functioning society. Last but not least, it must be politicians' chores to guarantee such basic liberties in an increasingly flexible society.

## 2. ON TIME

Not only have social sciences dealt with the study of time, but also other sciences, such as psychology, physics, biology, or history, to name a few. However, the study of time has always been linked to both epistemological and ontological problems. There is a huge body of literature on the issue, which even gave rise to the ideas of encyclopedia on time (Birn, 2009). However, the notions of time stand side by side there and are rarely interconnected. Other scholars, such as Schöneck (Schöneck-Voß, 2009) tried to approach it from the idea of collecting definitions time. However, such isolationist approaches seldom link the different layers of time to one another, and merely cross the lines of being purely descriptive. Yet, Julius Thomas Fraser, founder of the International Society of Time (ISST) (The International Society for the Study of Time, 2005) has made an effort to develop a hierarchical theory of time. He links physical time to ecological time and eventually to the more social oriented phenomena. He developed his theory consisting of six layers throughout several books (most relevant Fraser, 1975, 1982, 2007) and provides conclusive evidence how the layers are related to one another. The focus in this article needs to be on the distinction between East Asian and Western notions of time. Also in the realm of the ISST, scholars at two conferences – one held in 1983 and the other one in 2014 – discussed such topics thoroughly (follow-up publication: Fraser *et al.*, 1986 and conference proposal The International Society for the Study of Time, 2014). However, as one can see from the conferences the idea of time was and is by no means universal. Even if physics these days has come to a conclusive idea how “time as such” is shaped, this has not always been the case. It is important to notice that the discussion about time has been both a social and a historical phenomenon.

For the West, time has been a notion distinct from space. Kant, for example, set time and space as *a priori* in coming to terms with the empirical world (Kant and Heidemann, 1985] c1966). In German language “Zeit” (time) was and still is separate to “Raum” (space). However, in China 时 (shí) was not a concept until the end of the 19<sup>th</sup> century. (Mittag, 1997, p. 255) Originally the characters 时间 (shíjiān) referred to time in China. The left character

nowadays means “time”, the right one means “between” though. The distance – referred to as “between” – relates to the distance between human beings and implies that nobody can live alone. This again is linked to 宇宙 (yǔzhòu), the “universe”. The universe is comprised of “space”, which is symbolized by the left character, and “time”, the right character. The upper particles of both characters refer to the “house”. As one could see, the notion of time cannot be treated as a category along the dichotomist axis of objective vs. subjective time. First, Fraser’s model of layered time proved otherwise. Second, the idea of “time” as distinct entity is only a development of the last 150 years in China and has strong Western influences, as Mittag showed. Therefore, it is logical to focus on time as a dimension of culture, which connects to the social sphere (Elias and Schröter, 2005). When we look at “time” in this article, it has to be understood as a human concept. It comprises several layers of sociality, which will be elaborated later on.

### **3. TIME AS A DIMENSION OF CULTURE**

Throughout the 20<sup>th</sup> century, social scientists, anthropologists and researchers from the field of business and economy have tried to conceptualize the notion of time (some of the most prominent ones Geertz, 1991; Levine, 1998a; Gesteland, 2005). Researchers quite often treated it as one cultural dimension beside others (Kluckhohn and Strodtbeck, 1961; Hall, 1984). Culture dimensions became particularly prominent in the second half of the 20<sup>th</sup> century, when trying to conceptualize the notion of culture as whole. Such culture dimensions were often seen as an essential issue a social grouping has to cope with and finds means how to deal with the environment. Early research often did not seek to quantify the construct “culture”. Only in 1991, when Hofstede introduced his fifth dimension long-term-orientation (LTO), these efforts really started to kick off (Hofstede, 1991, pp. 159–174). Of course, there were other efforts to do so as well, even before Hofstede (e.g. Kluckhohn and Strodtbeck, 1961). Yet, Hofstede was the first one to approach it from a quantifying perspective. Regardless of his effort, his dimension has not been widely accepted in the scientific community (Fang, 1998, 2003, p. 350). Originally derived from the Chinese Culture Connection (Chinese Culture Connection, 1987) as a distinct “Chinese dimension”, it did not withhold academic scrutiny. There was a clear lack of solid theoretical conceptualization (Fang, 2003, p. 355). Methodologically, even more arguments against Hofstede’s operationalization were put forward (e.g. Fang, 2003, pp. 350–351; Newman and Nollen, 1996, p. 776; Redpath and O. Nielsen, 1997, pp. 329–330; Yeh and Lawrence, 1995, pp. 657–665). After that, research on the cultural conceptualization of time proceeded in different directions. Hofstede’s student Trompenaars and Hampden-Turner turned away from quantitative tested scales to a methodology of visualization. It has to be acknowledged, that their idea of applying Cottle’s circle test was a solid and original measure, as it relied on imagery instead of scales. Nevertheless, a clear terminology of how to define time in cultures was still missing. (Trompenaars and Hampden-Turner, 2000) Later on, the GLOBE Study put a more persuasive approach forward. They defined time both as cultural practice (“as is”) and as cultural values (“should be”). It therefore comprised a normative element essential for looking at culture. It also related future-orientation to gratification delay, planning activities and investment in the future (House, 2004). However, the GLOBE Study again ignored everyday timing of activities, so to speak. Even though there has been massive scholarly work

on it, new conceptualizations often ignored the outputs of former research. Moreover, research of “time” in cultures did not systematically connect different layers of time which occurred in former research.

Thus, Helfrich-Hölter was the first to suggest a layer- or level-centered approach of how to conceptualize time across cultures (Helfrich, 1996; Helfrich and Quitterer, 1999; Helfrich-Hölter, 2011). She differentiates four levels of time:

- i. Image of time,
- ii. Time horizon or time perspective,
- iii. Dealing with time,
- iv. And time perception.

As she does not provide a definition, we rely on Quitterer who states that, they range from the abstract, mental representations of time up to the tangible, behavior-related aspects, from consciousness to action (she leaves out time perception Quitterer, 2000, p. 158). Furthermore, Helfrich-Hölter divides them into sub-dimensions (Helfrich and Quitterer, 1999, pp. 104–105). However, they are not quite distinct from one another which would be problematic for operationalization. Therefore, they are not considered here. Helfrich-Hölter’s fourfold differentiation seeks to structure and order research so far and thus contributes to the development of my own model of temporal understanding. As the model presented in this article is proposed for quantitative operationalization, these type of measures are particularly considered. In the following, the author lays out the research carried out so far: In terms of image of time, there is a considerable lack of quantitative research because of its challenging measurement. Yet, on a theoretical level, a differentiation between cyclical and linear, concrete and abstract can be found across various sources (Hägerstrand, 1988, p. 36; Bodde, 1991; Jones, 1988; Quitterer, 2000, p. 158). Distinguishing these different images is often related to the process of modernity. Regarding temporal horizon, or temporal perspective as the way people relate to the notions of past, present and future, much progress has been made (for an overview and different conceptualizations see Klapproth, 2011). Unfortunately, research has not always put its focus on cultural differences (e.g. (Zimbardo and Boyd, 1999; Strathman *et al.*, 1994). Nevertheless, Usunier and Valette-Florence provide a comprehensive framework including internal and external aspects of the notion of time (Usunier and Valette-Florence, 2007, p. 338). Their work includes the distinction between general past and general future, with present falling into different sub categories. Finally, there have been a variety of efforts to capture polychronicity as one way of dealing with time in the present (Goonetilleke and Luximon, 2010; Lindquist and Kaufman-Scarborough, 2007; Bluedorn *et al.*, 1999; Palmer and Schoorman, 1999; Lee, 1999). Last but not least, time perception is probably the most comprehensively researched topic due to its roots in psychology. It remains open if there are cross-cultural differences on this level – Helfrich-Hölter proposed that such occur only, when language comes into play. (Helfrich-Hölter, 2011) It can be hypothesized that perception of time is a universally valid cognition process which needs further empirical investigation.

So far, the notion of time as a dimension of culture has been discussed thoroughly. However, what do we refer to when looking at “culture”? There has been a huge tradition in defining the term in the realm of social sciences and humanities. Reckwitz provided a historical and systematic overview. (Reckwitz, 2000, pp. 64–90) More recently Schmidt-Lux *et al.* distinguish the following notions: first, culture as nature of mankind; second, culture as sense of social phenomena; third, culture as closed social field and fourth, culture as specific experience community. (Schmidt-Lux *et al.*, 2016, p. 25) However, beyond systematic

research it is important to draw upon a clear and sharp definition for culture. In the context of this paper, we suggest definition developed by the culture psychologist Thomas. He states:

“Culture is a universally spread, for a nation, society, organisation, group, thus for every *social formation* that humans feel a sense of belonging towards, very specific, typical and identity giving orientation system. This orientation system is manifested in *specific symbols* (e.g. *language, norms, behavioral rules, behavioral scripts*) and is traditionalised in every social formation through the process of socialisation and enculturation. The culture specific orientation system *influences cognition, thinking, evaluating, judging, emotional and motivational processes* and action of all members of any social formation. It thus defines the belonging of the members (function of constituting identity). According to the culture definition of Boesch (see (1980, p. 17), culture structures a specific field of action for the individuals feeling the sense of belonging towards a social group. This field spans out from created and used objects to institutions, ideas and values. It thus lays the foundation for developing individual forms of *dealing with the environment*.” (Thomas, 2011, 100, italics added, translated by Faust)

But why is this definition superior to others? First, it may incorporate the notion of time as will be shown. Second, it is based on the psychological need for orientation. Third, it contains both individual and collective processes as does the model elaborated later on in the paper. Individually, it is perception processes which occur, and collectively, it refers to values, norms and rules and regulations (Thomas, 2005, p. 41). Fourth, this definition incorporates both material and non-material aspects and sets them in relation with one another. Fifth, it provides a comprehensive framework to understand culture beyond the mere reduction of this concept on values only. Sixth, it therefore includes the notion of Yin Yang (Fang, 2012) which comprises dynamics, paradox and holism. However, Hepp points out that culture is not a single entity in the empirical world (Hepp, 2013). This pluralism of “cultures” falls in line with most research carried out these days. Therefore, in this article the term cultural context is introduced. Früh developed the idea of the social context in the realm of his theory on entertainment, referring to the external circumstances surrounding media use. Those which go beyond situative circumstances, where classed as social context. (Früh *et al.*, 2002) On base of this assumption, cultural context seems a viable construct.

#### **4. TIME IN GERMAN AND CHINESE CULTURAL CONTEXTS AND MODEL OF TEMPORAL UNDERSTANDING**

So far, discussion has focused on China and Germany, but at the same time highlighted that there are different cultural contexts. In this sense, one has to bear in mind that cultural contextualization can take place on a national level, yet at the same time acknowledge that there are other cultural contexts within this framework as well. However, why does it make sense to contextualize on a national level after all? One can distinguish three reasons:

- i. There has been a huge research desiderate on cultures on a national level (Leung *et al.*, 2005).
- ii. Regardless of the criticism Hofstede received for his research, his results showed that German and cultural context could be placed on different ends e.g. in terms of individualism and collectivism and therefore recognized national culture as such (Hofstede, 2001, p. 10). The same goes for the work of Triandis (Triandis, 1995).

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- iii. Internet-mediated communication, as a primarily text-based form, is to a great extent language based communication and furthermore can be narrowed down to political legitimacy (Chevrier, 2009).

In order to understand the notion of time in German and Chinese cultural context, it will be discussed thoroughly in the next section. Some linguistic terminology was already introduced; however, it does not suffice yet. It is rather problematic, though, that former theoretical and empirical research on time in Chinese and German cultural context *does not* paint a *clear and straightforward* picture of how it is conceptualized. The research field is rather diverse and offer different approaches to analyze it. As already drawn upon, some scholars are mainly concentrating on linguistic structures (e.g. Mittag, 1997, p. 256), others with individual action in everyday life (e.g. Plocher *et al.*, 2013), and finally there are analyses of management efforts on a meso level (e.g. Faure and Fang, 2008; Chen, 2002), etc. However, in order to structure this research field, Helfrich-Hölter's already introduced model will serve as framework for explication (Helfrich-Hölter, 2011).

As was already touched up, the Chinese image of time still heavily relies on a creation myth perspective (Mittag, 1997, p. 261) and is viewed as cyclical (Bodde, 1991, p. 133; Chen, 2002, p. 186). On the contrary we have the Western image of time, including German image of time, which is mainly seen as a linear, one-directional process leading towards the future (Hägerstrand, 1988, p. 36; Helfrich-Hölter, 2011, p. 126). As pinpointed earlier, this is strongly related to the notion of modernity in Western cultural contexts. However, Quitterer and Helfrich-Hölter oppose this view and argue that Confucian image of time, central to Chinese notions of time, is linear yet two-directional thus pointing towards past and future. (Quitterer, 2000, p. 158; Helfrich-Hölter, 2011) It could be hypothesized that we do not have clear state of the art here due to the variety of religious beliefs in Chinese cultural context. Buddhism, Confucianism and Daoism exist side by side and have shaped Chinese thinking and living thoroughly. However, this assumption would need further theoretical and empirical investigation.

According to the fourfold-model, the second level is referred to as time horizon. Sometimes it is also known as time perspective, even though there are distinctions here. Some scholars treat it as only relating to the future whereas others use it synonymously with time horizon. Therefore, here it is only referred to as time horizon. Time horizon is defined as the cultural process of dividing time into sub-categories, mostly split up into past, present and future (Zimbardo and Boyd, 2008; Kluckhohn and Strodtbeck, 1961, p. 12). Some indigenous cultures follow different distinctions. Yet, for both Chinese and German cultural context, this three-fold division holds true. As far as empirical research is concerned, Hofstede suggested the concept of long- and short-term orientation (LTO). He defines LTO as "fostering of virtues oriented toward future rewards, in particular, perseverance and thrift. Its opposite pole, Short Term Orientation, stands for the fostering of virtues related to the past and present, in particular, respect for tradition, preservation of 'face' and fulfilling social obligations" (Hofstede, 2001, p. 359). He finds that China is long-term oriented. It scores 118 on the scale, with 100 usually being the highest achievable score (Hofstede, 2001, p. 356). As already pointed out earlier, Hofstede received much critique for his work. Faure and Fang for example highlight, that long- and short-term orientation coexist in Chinese cultural context (Faure and Fang, 2008, p. 204). They introduce the notion of Yin Yang and argue that management is a matter of *wei-ji*: "acting when the time is right – responding quickly but with a holistic, long-term view" (Chen, 2002, p. 186). Following Hofstede, Germany is found to be a medium

long-term oriented country, where people and organization invest less in future goals and plan less ahead (Hofstede, 2001, p. 356).

Time horizon and the next layer, dealing with time, are closely related to one another as action is undertaken and always relates to the future in one way or the other. On the level of dealing with time, it is usually distinguished between polychronicity and monochronicity. Originally derived from Hall (Hall, 1984), they were later classed as two distinct ways to organize activities. Bluedorn defines polychronicity as “the extent to which people in a culture prefer to be engaged in two or more tasks or events simultaneously and believe their preference is the best way to do things” (Bluedorn *et al.*, 1999, 205; italics added). Bluedorn’s definition overlooks the complexity of the construct, though. Earlier literature already distinguished human-orientation and interruption for communication for polychronicity vs. task-orientation, straightforward, punctual work for monochronicity (compare e.g. Quitterer, 2000, p. 159; Hall and Hall, 1990, pp. 14–15 for more detailed explanations). It is important not to confuse it with multitasking, which refers to the process of doing several things at a time (compare Helfrich-Hölter, 2011, p. 130). Mistakenly, management literature located Chinese cultural context on the polychronic side. However, Hall’s original work only comprised Japan as an example (Hall, 1984). And even Japanese cultural context was not solely polychronic – in working environments there was still a dominance of monochronicity. For German cultural context Hall found them to be monochronic (Hall and Hall, 1990). Later research already painted a different picture with an increase in polychronicity in German cultural context as well. A second sub-dimension relevant for dealing with time is pace of life meaning the speed of day-to-day activities (Levine, 1998b). Levine hypothesized, that “[i]ndividualistic cultures are faster than those emphasizing collectivism” implying that pace of life would be faster in German than in Chinese cultural context (Levine and Norenzayan, 1999, p. 182). In his results, one can see that Germany scores third in the country pace rank. China only takes place 23 out of 31 countries, so the pace of life is much slower there (Levine and Norenzayan, 1999, pp. 182–183).

Regarding time perception, Helfrich-Hölter used an experimental set-up to look at the differences between German and Japanese students when discriminating minutes, seconds and millisecond intervals. Differences only occurred, when language came into play. Even though this research is only partially applicable to this article, as she focused on Germany and China, she found evidence that time perception is widely invariant across cultures (Helfrich-Hölter, 2011, pp. 133–134).

After laying out the research, the next logical step is setting up an own model of Chinese and German time. This model should suffice empirical investigation. Hence, image of time – the first layer – will not be considered as it is hard to verbalize and thus complex to investigate. (Möhring and Schlütz, 2010) Visual measures would be more appropriate, yet they would require a complex method of data interpretation. Moreover, if image of time is going to be changed through internet-mediated communication, it would certainly be a long-term process of several decades and therefore cannot be considered here either. Similarly, time perception is left out due to its highly cross-cultural invariance. In addition, measurement would require an experimental set-up which is not feasible here.

Rather than terming the notion of time “social time”, in the following we will refer to “temporal understanding”. Social time has been used in a variety of contexts and therefore lacks a clear terminological understanding. The same goes for “time”, as it has multidisciplinary connotations. Temporal understanding therefore focuses on both individual and social sense making processes relating to time. It should thus be defined as



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“a human category of time which is individually undertaken but socially constituted. It encompasses the act of standardising two or more events of which at least one must be progressing and is used as reference system in order to relate the other event(s) to it. This relation constitutes the interdependent levels of time horizon and dealing with time“ (my own definition, based on Elias and Schröter, 2005; Helfrich-Hölter, 2011).

Based on the definition of culture, the model (see Figure 1) incorporates preferences as in the sense of normative prescriptions which are closely linked to habits. This will be discussed thoroughly later on in the paper.

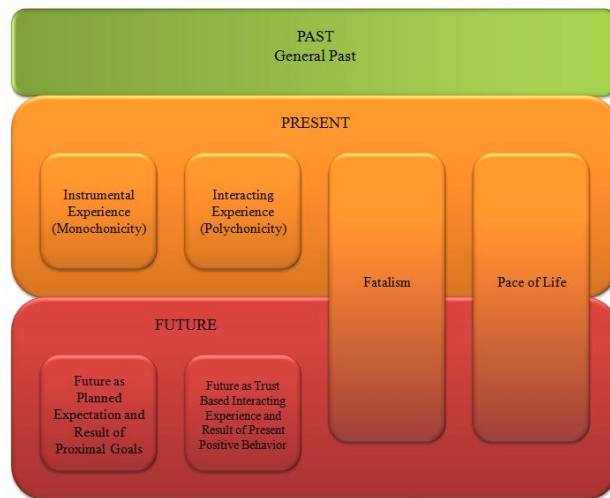


Figure 1. Model of Temporal Understanding

The model generally distinguishes between the notions of past, present and future, which hold true for both German and Chinese cultural context. Both present and future are divided into sub-dimensions, which include emic and etic aspects of either cultural context. For the sub-dimensions fatalism and pace of life, we find an interconnection between present and future. The sub-dimensions instrumental experience (monochronicity), interacting experience (polychronicity), future as planned expectation and result of proximal goals as well as future as trust based experience and result of present behavior relate either to the present or to the future as seen in the model above. The dimensions and sub-dimensions can be defined as following:

- i. *Past* defines as classifying personal and social events as former and relation towards these events.
- ii. *Present* defines as classifying personal and social events as ongoing and dealing with these ongoing experiences to help to give order, coherence and meaning to those events.
- iii. *Future* defines as classifying personal and social events as prospective and relating these to the current situation through different means to help to give order, coherence and meaning to these events.
- iv. *Instrumental Experience (Monochronicity)* is based on classification acts and implies the extent to which people in a culture prefer to do one task at time and believe their preference is the best way to do things
- v. *Interacting Experience (Polychronicity)* is based on classification acts and implies the extent to which people in a culture prefer to be engaged in two or more tasks or events simultaneously; and believe their preference is the best way to do things

- vi. *Fatalism* is based on the classification act but lacks active engagement in tasks or events as future is predestined and not influenced by individual action and has thus be accepted
- vii. *Pace of Life* is based on classification acts and implies the extent to which people prefer tasks or events to be close together i.e. immediate follow-up events
- viii. *Future as Planned Expectation and Result of Proximal Goals* is based on classification acts and implies an either transactional relationship between present ideas and envisioned long-term tasks and events or a focus on proximal goals in the believe they add up to long-term goals
- ix. *Future as Trust-Based Interacting Expectation and Result of Present Positive Behavior* is based on classification acts and implies positive outcomes of tasks and events due to balanced interaction in the present

After defining the dimensions and sub-dimensions, we will clarify, what transactional means in the context of the sub-dimension viii. A transaction can best be explained as interconnection as defined by Früh and Schönbach. (Früh and Schönbach, 1982) As Früh and Schönbach originally refer in their theory to communication processes only, we just adopt the general idea of the transaction without media specifics. Früh elaborates this later on as

„[...] simultaneous interplay between A and B, during which both the transitive effect aspects  $A \rightarrow B$  and  $B \rightarrow A$  are only defined through their complementary effect aspect: As  $A \rightarrow B$  evolves,  $B \rightarrow A$  is already considered within, i.e. each of the two analytically isolable partial relationships does not exist without ‘self-reflexive co-orientation’.” (Früh, 1991, 123, translated by Faust)

Furthermore, dimension ix. is derived from the Chinese Culture Connection. (Chinese Culture Connection, 1987) However, other than Hofstede, we provided a theoretical framework first and then looked at various values which serve as a framework to underlie this idea. Dimension xi. is therefore based on values 3 容忍 (tolerance of others), 4 随和 (Harmony with others), 8 礼尚往来 (Reciprocation of greetings, favours, and gifts), 26 报恩与报仇 (Repayment of both the good or evil that another person has caused to you), 30 信用 (Trustworthiness), 33 安分守己 (Contentedness with one’s position in life) and 35 要面子 (Protecting your “face”).

## 5. THE INFLUENCE OF INTERNET-MEDIATED COMMUNICATION ON TEMPORAL UNDERSTANDING

There is a broad range of literature on (social) time and information technology (e.g. Bukow *et al.*, 2012; Wurm, 2012; Nowzad, 2011; Westerbarkey, 2010; Neuberger, 2010; Neverla, 2010a, 2010b; Hauser, 2008; Felsmann, 2008; Rantanen, 2005; Funken and Löw, 2003; Ellrich, 2003; Faulstich and Steininger, 2002; Eriksen, 2001; Geißler and Schneider, 1999). Most of the time the theoretical conceptions do not clarify the nature of change of time though. Quite often arguments are made on a rather abstract theoretical level, and they are often related to macro level change (e.g. Castells notion of ‘timeless time’ Castells, 2010). Medium-range theories with specified time-space-applicability are the exception. Furthermore, meso and micro level change processes are rarely discussed. Few authors dedicate their works to such investigation, e.g. Lee and Sawyer (Lee and Sawyer, 2010, p. 296). Empirical perspectives are even rarer (e.g. Dimmick *et al.*, 2011; Faust, 2010; Flaherty, 2005; Lee and Liebenau, 2000). So if these abstract theoretical models focus on a macro level (Lee and Sawyer, 2010, p. 294), how do they explain cultural change in temporal understanding? We are clearly missing a micro-meso-macro link (Averbeck-Lietz, 2010) here which is rather

important to understand the full nature of change. A rather descriptive approach using metaphors to capture time and internet technology (e.g. Leong *et al.*, 2010) does not solve the missing explanations. A comprehensive, causal attributions seeking model overcomes such issues, though. It has to be conceptualized in such a manner, that empirical investigation may follow. Thus, a twofold strategy is followed here. In a first step, individual reception processes are investigated, which are grounded in micro level change. Second, collective reception processes are clarified to link meso and macro level and eventually explain cultural change.

## 6. A MODEL OF CHANGE OF TEMPORAL UNDERSTANDING THROUGH INTERNET-MEDIATED COMMUNICATION

Earlier on it was shown, that temporal understanding is a cultural construct. Thus, processes of change have to be both of individual and collective nature, implying changing processes overcome one person and spread among society. Yet, at the same time another problem occurs: If such processes are treated as an Eastern and Western phenomenon, taking place in German and Chinese cultural context, how can these processes be compared? We have to propose some form of similarity and functional equivalence. And this is argued to take place, even though the Chinese internet is drastically censored and Western web sites are a rare exception (for further discussion see Becker, 2011; Dong, 2012).

What does *similarity* and *functional equivalence* mean?

- i. *Similarity* means that internet-mediated communication situations occur on a regular basis and under the same circumstances and generally take place in one cultural context, yet occurs in both German and Chinese cultural context.
- ii. *Functional equivalence* means that situations and internet use, i.e. selection and reception processes, are comparable in both German and Chinese cultural context.

*Similarity* means that a certain process occurs frequently. It does have a *vertical dimension* in terms of cultural change in *one* culture and implies that habits are developed, which will be explained later on. As far as internet-mediated communication goes, certain routines are undertaken again and again, for example, every morning the online newspaper is read. It implies that internet-mediated communication is part of everyday life. However, even though called vertical, such processes take place on a global level and therefore appear in both German and Chinese cultural context.

*Functional equivalence* means that selection and reception processes of the communicates are increasingly similar in several cultural contexts. It thus has a *horizontal* – or cross-cultural dimension – and would usually be empirically investigated using online content analysis and survey designs in experimental set-ups. In order to look at reception processes more thoroughly, physical measures could also be used. However, the main idea behind functional equivalence is though that Chinese and German web sites and applications are alike – e.g. WhatsApp is comparable to WeChat/微信, Twitter to Sina Weibo/新浪微博 or Google to Baidu/百度. Of course, certain technical features are less developed in the Western world, especially with WeChat overtaking its Western competitor by lengths these days in 2016.

However, main characteristics are similar and so is the actual use – such as sending texts or creating groups and interacting with several friends at the same time.

So what role does the *Golden Shield* (jindung gongcheng, 金盾工程) play? Of course, internet-mediated communication processes are not exactly the same in German and Chinese cultural context. However, there is evidence that people prefer culturally proximate content on the internet (Harsh and Xiao Wu, 2013). Language is key to what is chosen – of course, netizens go for their native language first. This decreases the actual impact of the Chinese firewall. One could say that there a multitude of internets – clustered on language areas in the world. Since the Chinese diaspora is huge and largely based in the US, a greater community from abroad accesses the Chinese internet through Google USA for example, thus German sites are more isolated from the English web sites (German-speaking internet users access German sites through Google Germany, and so forth, ...) (Harsh and Xiao Wu, 2013). Due to their relative isolation – we deal with a Chinese net and a German one alongside several others – the impact of the firewall is less huge than considered. Nevertheless, its influence cannot be eradicated – thus, the issue of *internet separation* has been thoroughly debated throughout research on Chinese internet. Usually it is discussed in terms of the differences of both “Internets” (Herold, 2013, p. 2). Some scholars made an effort to investigate such distinctions more thoroughly (Bolsover, 2013; Yang, 2012; Tang, 2011; Lan, 2004). There are different layers of investigation, ranging from a mere technological perspective, to language based variety, to imagery. For example, Yang pointed out in terms of technological features, that image and video sharing as well as more complex retweeting functions are typical for Sina Weibo (Yang, 2012, p. 50). Verbal communication is more complex on the Chinese net, as users discuss political issues and entertainment more thoroughly when compared to US users. Bolsover came to this conclusion after investigating dissemination spread on Sina Weibo (Bolsover, 2013, p. 16). Imagery on the internet also differs in China when compared to North America. By means of content analysis, Tang found that whereas “Chinese universities focused on featuring a university’s buildings and landscapes in their institutional promotions, (...) US universities portrayed their institution as a place where students and faculty were learning and enjoying the environment” (Tang, 2011, p. 426). Even though the aforementioned scholars made an increasing effort to apply content analysis to Chinese and foreign internet sites in order to look at differences, a key issue is that *similarities* are left out and so is *functional equivalence*. However, especially the latter is crucial to comparative investigation both conceptually and methodologically (Rippl and Seipel, 2008; Harkness *et al.*, 2003). Similarities were essential for projects like the World Internet Project (USC Annenberg School Center for the Digital Future, 2016), where both China and Germany were investigated in terms of internet use in the early 2000s. Nowadays, ARD/ZDF Online-Survey and China Internet Network Information Center’s report on internet use of course feature similar categories (e.g. the sub division into certain internet categories – communication vs. instant messaging, online-news, etc.). (Projektgruppe ARD/ZDF-Multimedia, 2016; China Internet Network Information Center, 2016).

Furthermore, there is a need to integrate emic perspectives into data interpretation. So far, culture dimensions, often derived from quantitative empirical cross-cultural research, have been used for data interpretation with collectivism for Asian countries being the most relevant (Tang, 2011; Bolsover, 2013, p. 5). Yet, Thomas’ culture standard model may provide a more intriguing explanation. For German cultural context, he suggests the following standards: object/task orientation, regulation orientation, interpersonal distance differentiation, internalized control and differentiation of personality and life areas. (Thomas, 1999) As far as

Chinese cultural context is concerned, Thomas stresses the following culture standards: tricks/tactics, social harmony, face (面子), social ties (关系), etiquette, work unit (单位), hierarchy and bureaucracy. (Thomas, 1999) Culture standards do not seek to oversimplify cultural differences by placing culture dimensions along bipolar axes, but pay attention to cultural distinctions and relate to specific features in one cultural context. They therefore contribute to the De-Westernization discourse (for an overview of the discourse see Glück, 2015) remarkably.

Internet-mediated communication, as every type of communication, is based on individual reception of communicates, which may be of interpersonal or mass mediated nature. If communication now takes place in increasingly similar situations, it allows for the development of *habits*. How could we picture the development of habits then?

Habits are defined as knowledge structures, which are learned through regular repetition and trigger a certain automated behavior (and the mental processes connected to it) when indicative cues appear (Koch, 2010, p. 44). For the internet, it means that the user has the drive to go online regularly, so for example multiple times a day, when he intuitively checks his messages on WhatsApp or just glances at his smart phone because of maybe having missed something. Following Koch, the user does it automatically, and does not think about it beforehand thoroughly. Koch explicates the four aspects of the definition as follows (Koch, 2010, pp. 33–41): First, habits are learned through regular repetition. They are more likely to be developed if the action undertaken has a positive outcome and if situations, under which these actions occur, are similar to one another. In our example, the user develops habits if the message received provides positive feedback to his message earlier on, or if he enjoys reading online news every morning with his cup of coffee. Second, habits are knowledge structures and do not refer to the actual behavior. According to Koch, knowledge structures can be conceptualized differently – either as neuronal associated response patterns, decision heuristics or behavioral scripts. Again, in our example the habit is not the actual process of checking the smart phone, but the underlying mental processes that make it happen. Third, habits trigger behavior automatically. It remains debatable whether habitualized behavior is automated or just the triggering process is. However, since automation is relevant regardless of its degree, Koch follows the Weberian differentiation and subsumes habits under behavior rather than social action. In this sense, when checking the smart phone becomes more frequent, it happens subconsciously, thus, non-intentional. Finally, triggering is caused by certain indicative cues such as external circumstances, times, mood, or prior respectively ongoing behavior (Koch, 2010, pp. 53–55). Koch specifies it for TV use, however, here it is tried to apply it to internet-mediated communication. Again, in our example, it could be external circumstances such as seeing the smart phone on the table or the computer in the room to go online. Furthermore, it could be every morning or evening, maybe even during lunch break when reading online newspapers for example. In terms of mood management, it is likely that a single person would turn towards interpersonal communication at night via WhatsApp or Skype in order to overcome his or her loneliness. As far as prior or ongoing behavior is concerned, Koch provides an example that certain fulfilled tasks may lead to habitualized media use. Such fulfilled tasks could be household chores, homework, or just coming back from work. An example for ongoing behavior might be internet use whilst driving or even more so during public transportation. Checking social media accounts such as Instagram, Snapchat, or WeChat during bus rides is common amongst youngsters and older generations alike.

However, this still remains on base of the individual. But concluding from this, how would we generally be able to explain cultural change? Collective reception should not be misunderstood as reception of mass communication. It actually relies on Berger/Luckmann's theory of the social construction of reality. The three core notions are institutionalization, objectification and legitimating (Berger and Luckmann, 2010). It is particularly useful in overcoming the perspective of the individual and clarifying cultural change.

Institutionalization is the first step and refers to the process of developing habits and alongside types of behavior (Knorr-Cetina, 1989, p. 87). We have already seen earlier on, how Koch described the process. Berger/Luckmann go beyond it and describe it as an interaction situation, with face-to-face interpersonal communication. Both individuals pay attention to the behavior of the partner and relate to it. They are eventually able to foresee the behavior of one another (Berger and Luckmann, 2010, 60ff.). Now, since we look at internet-mediated communication here, it is not only face-to-face communication, we apply their notion to. We argue here, that such presumption of behavior also takes place in mediated interpersonal communication, even mass communication. Früh and Schönbach, whom we already introduced with their notion of transaction, would put it as inter-transaction, a non-causal relation between two communicators who rely on each other and presume what the other one intends before communicating (Früh, 1991). To give an example: If temporal understanding is going to change, it is likely that individuals change their expectations when it comes to responding to E-Mails, WhatsApp Messages and the like. Hurrying up, apologizing for not getting back in time and anxiously waiting for the other to respond are some examples of this phenomenon. We foresee a similar process when it comes to mass mediated communication: journalists face increasing pressure to deliver news. The constant availability of online mass media accelerates this process (Neuberger, 2010). Eventually, this reciprocal process of habitual behavior on base of stable societal situations is reflected in social roles. Institutionalization becomes complete, when social roles are passed on to future generations that reach beyond the individual behavior of two actors. (Berger and Luckmann, 2010, p. 63) For internet-mediated communication, this process is underway. It will be a matter of decades only, until the children of the digital natives will learn new habits and their behavior reflects a different temporal understanding than before. According to Berger/Luckmann roles deploy threefold knowledge: cognitive, affective, as well as norms and values (Berger and Luckmann, 2010, p. 83). In terms of the earlier elaborated understanding this implies, that this construct must also have cognitive, affective and normative components. It is a matter of solid operationalization to highlight this. Finally, objectification and externalization cross the level to the institutional world. (Berger and Luckmann, 2010, pp. 65–66) Objectification means reification. In our example, it implies that objectified knowledge has been passed on – children and teenagers past the millennial generation (12 to 19 years old) already spend hours in front of their smart phone, communicating with their peers with more than 40% internet-mediated communication reserved interpersonal communication. (Medienpädagogischer Forschungsverbund Südwest, 2015, pp. 29–30) To them it is natural; they have grown up in a mediatized world. It can be assumed, that they have increased communication response latency. It would be worthwhile to analyze their temporal understanding as well. So when generations change, legitimating as 'secondary' objectification comes into play (Berger and Luckmann, 2010, p. 98). For those who have not been participating in the production process, this explanation and justification of such institutionalization processes is important (Knorr-Cetina, 1989, p. 87). Both explanation and justification allow for allow for sense-

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making: actors make sense of their different roles, but also throughout their lifetime (Berger and Luckmann, 2010, p. 99). Four types of legitimizing can be differentiated:

- i. Pre theoretical knowledge (something is the way it is; it happens to be done this way) e.g. it is impolite to respond to WhatsApp messages a few days after.
- ii. Rudimentary theoretical postulates such as folk wisdom, legends, fairy tales e.g. the older generation tells about the days when they sent out letters and went to other people's houses to phone some with a lower expectancy to keep in touch with each other via mediated communication.
- iii. Explicit legitimating theories as system of reference for institutionalized action e.g. you may or may not use your smart phone in school as formulated in school regulations.
- iv. Symbolic sense worlds which reach beyond traditions and institutionalization. (Berger and Luckmann, 2010, p. 99) e.g. a prospective media system which is mainly based on internet-mediated communication and leads, among other factors, to an increase in temporal understanding.

Concluding from the explicated processes, both individual and collective reception lead to a *qualitative* and *quantitative* change of temporal understanding if situative situations and the use, selection and reception of internet-mediated communicates are similar and functionally equivalent (see figure two).

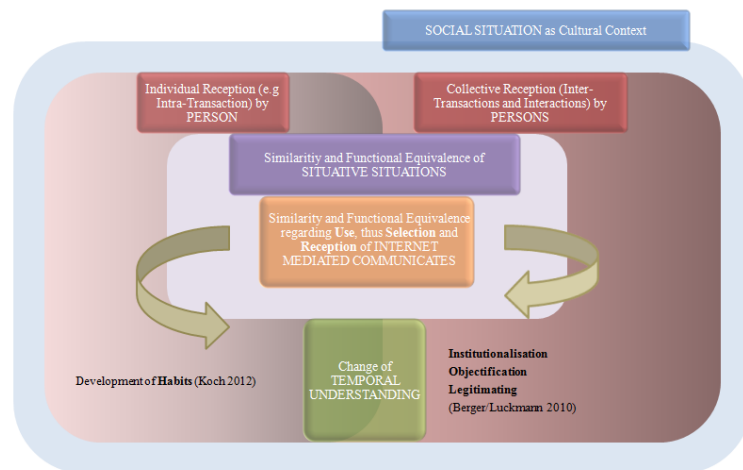


Figure 2. General model of change of temporal understanding

## 7. CONCLUSION

This paper looked at the construct temporal understanding and a general model of change of temporal understanding due to internet-mediated communication in Chinese and German cultural context. The process was shown to be both individual through the development of habits and collective due to institutionalization, objectification and legitimating. Advantages, possible applications and limitations of the two theoretical developments carried out are as follows:

First, the construct temporal understanding comprehends a Western and an East Asian perspective. It includes notions from both German and Chinese cultural context. It remains open if this construct may be applicable to other Western and East Asian countries, e.g. Scandinavian cultural contexts or the South Korean cultural context. It offers with it a meaningful and applicable definition of both culture and time for social processes. However, there are clear limitations as well. Helfrich-Hölter suggested four levels of time, and only two (temporal horizon and time use) were looked at thoroughly. Its reasoning lies in the fact that it is developed for empirical operationalization. However, especially image of time (e.g. circular vs. linear) may be operationalized by graphic means. Yet, at the same time, change of time horizon is a highly long-term process taking probably several decades rather than years. Therefore, it would not be suitable for an internet-mediated change process in 2016. Moreover, it could be presumed to be a rather overall societal process.

Second, the modeled process of internet-mediated change combines both individual and thus psychological processes with processes of cultural change. By drawing on the concept of habits as knowledge structures, it provides a stronger fundament to eventually refer to meso and macro processes. As Koch originally developed his concept for TV use, and here it was transferred to internet phenomena, it can be assumed that media use can be explained in general. Limitations of the cultural change process are due to its non-internet-specificity. It has to be described more thoroughly, ideally for both interpersonal and mass-mediated communication.

Such clear limitations on both ends bring up the following issues which further research needs to address:

- i. Specify hypotheses modeling a differentiated change of temporal understanding,
- ii. Operationalize the construct temporal understanding,
- iii. And operationalize internet-mediated communication both for interpersonal and mass-mediated communication

In any case, further literature has to be consulted. The hypotheses should be based on a thorough literature review of the authors listed at the beginning of chapter on time and technology. Moreover, a comprehensive measurement research has to be carried out, considering scales with high reliability and validity in both target languages Chinese (Mandarin as it is the major language for mainland China) and German. Finally, it is mandatory to test hypotheses on base of data from German and Chinese internet-mediated communication, and evaluate.

*“No book can ever be finished. While working on it we learn just enough to find it immature the moment we turn away from it.”*

- Karl R. Popper

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