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IS THERE A CHINESE INTERNET?

Intercultural investigation on the Internet in the People's Republic of China: Theoretical considerations and empirical results

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Abstract: China is still the Internet market with the highest rate of expansion and the highest dynamics worldwide. About 80 million Chinese have been online up to January 2004. So far research on the Internet in China mostly focuses on quantitative aspects like user and usage data. The view from outside the country remains dominant. The research project, of which some results are presented here, tries to reconstruct the Chinese view on the Internet using a multi-dimensional approach which combines different methods of qualitative Internet research. Answering the question whether there is a "Chinese" Internet will be combined with theoretical considerations on the relationship between global Internet communication and its cultural specifications as well as between universalism and culturalism. Underlying these considerations is a concept of the Internet as a structure of network communication.

1. Introduction: Chineseness or Universalism?

The question, if there is something like a Chinese Internet sounds rhetorical in two ways: In one respect we are apt to react with a counter question: "Why should there be? The Internet is all the same all over the world – why not in China?" In another respect we are apt to respond "of course": We ask ourselves whether China, a country with a completely different culture, a different language and character system, a different history, a different political system, a different media system, different communication patterns in comparison to western countries, has got a special form of Internet, an Internet with a special Chinese shape. Which position we tend to take depends on whether we take a more universalistic or a more particularistic perspective on Internet communication.

Of course both positions include some grains of truth. Thinking a bit deeper the topic question leads us to two other questions, we need to answer, before we can solve the problem. First: Are there overall, global, structural attributes or features of Internet communication? And second: What could "Chineseness" of the Internet mean? What features of Internet communication are typical of China?
In this paper I will give answers to these questions on the basis of the results of the research project "The Internet in the Peoples Republic of China". which was funded by the national German Scientific Society (Deutsche Forschungsgemeinschaft). I will do this in several steps.
First I will discuss some overall aspects of Internet communication taking an intercultural perspective to get a better understanding of the potentials for a culturally specific acquisition of this medium.
Second I will describe the architecture of the mentioned research project, intending to demonstrate, how we have transformed the questions for the Chineseness of the Internet in a research design.
Third I will present some results, concerning the utilisation of the Internet in China, the content structure of the most important websites in China - the national portals - , the meta-debate on the Internet in China and the usage of the Internet by Chinese people. By that I mean the way they perceive, navigate and surf the Internet.
And *Forth* I will draw some conclusions from these results on the question of cultural identity under the conditions of global communication, the connections between communication technology and culture and the question of Cyber-centrism.

2. Internet and intercultural communication

In the course of Internet-history several metaphors have emerged, by which their creators tried to pinpoint aspects and features, they judged as typical for this medium. The most famous of these metaphors is the notion of the Internet being an "information super highway". This phrase was coined by the former Vice President of the United States, Al Gore, when in his famous speech on January 11th 1994 at the University of Los Angeles he announced, that "all people will connect and provide access to the National Information Infrastructure for every classroom, every library, and every hospital and clinic in the entire United States of America" (Gore 1994). The implications of this highway metaphor do not really throw light on intercultural communication or culturally specific forms of Internet use: They suggest an architect, with a master plan, who can control who will get access to the highway. Communication within the highway paradigm is a task of transportation capacities: As in the 19th century the railways connected the big cities now the information highway connects the big computers in virtual cities. Speed and not communication is the leading maxim within this perspective. The traffic on this highway consists only of information, regardless of the differences between political, economic, educational or personal discourse, or the differences between websites, chat rooms, news groups or e-mails. Consequently the highway metaphor is not a good starting point for questions of interculturality in Internet communication.

With the second famous metaphor, the metaphor of the "cyberspace", the principles of linearity, speed and access control, which stand behind the highway metaphor, are replaced by the principles of openness, non-linearity and free exchange of communication. In the "Declaration of the Independence of cyberspace" John Philip Barlow explicitly rejects the idea that the Internet is a structure that can be built by government: "Cyberspace does not lie within your borders. Do not think that you can build it, as though it were a public construction project. (…) It is an act of nature and it grows itself through our collective actions." For him cyberspace is "conversation", a "global social space", "the new home of Mind" and it "consists of transactions, relationships, and thought itself". And he promises "a world that all may enter without privilege or prejudice accorded by race, economic power, military force, or station of birth" (see Barlow 1996).

Especially in the light of the Internet history in China this point of view seems to be a bit naïve, although some important conditions of a specific acquisition of the new medium are mentioned. To make the picture more realistic a third metaphor, the metaphor of the net itself, might help. It was Manuel Castells who discovered the analytical potentials of this notion very early. In his book "The rise of the network society" he concludes, that "as a historical trend, dominant functions and processes in the information age are increasingly organized around networks. Networks constitute a new social morphology of our societies, and the diffusion of networking logic substantially modifies the operation and outcomes in processes of production, experience, power and culture" (Castells 1996, 469). A consequence of this "networking logic" is a change from hierarchical and centralized organizations in communication and society to a horizontal and decentralized form of organization, which shows more flexibility and adaptability. For this fundamental transformation of society the Internet has become the lever and the symbol. „As the diffusion of the printing press in the West created what McLuhan named the 'Gutenberg Galaxy' we have now entered a new world of communication: the Internet Galaxy" (Castells 2001, 3).

This conception of the Internet by Castells fits very well into the idea of the "loose Web metaphor", introduced by Burnett and Marshall. Their notion of the Internet helps to cope with the "chameleon-like nature" of this new medium (Burnett / Marshall 2003, 2). As a consequence of the loose Web metaphor the concept of "linkage" - whether it involves "the breakdown in distinctions between cultural consumption and cultural production" (Burnett / Marshall 2003, 3),the hyperlinks between websites or the possibility of real time communication – is moved to the centre of theoretical considerations about the Internet. Conceiving the Internet as a decentralized, flexible, "loose" multi-linked and multi-directional network opens a lot of space for culture oriented investigations. One of the most important implications of the metaphorical shift, which means a shift of perspective as well, is the fact, that we are not dealing with questions of media technology but with questions of communication structure.

Within System Theory, that stands in the tradition of Niklas Luhmann, structure is connected with the function of a system in relation to its environment ("Umwelt"). Accomplished communication corresponds with the operations within a system, which keep the system going (Luhmann 1984). That means communication structure – in our case the network structure of Internet communication - is the condition of possibility of communication, but does not determine the accomplishment of communication The

system-theoretical distinction between communication structure and accomplishment of communication prevents us from the dilemma between technological instrumentalism and technological determinism as well as from the dilemma between (normative) Cybercentrism and (relativistic) Culturalism: neither does the Internet determine digital communication in a specific culture nor is culturally specific communication independent of the structural conditions of Internet communication. This is the theoretical basis for the following report on the research project "The Internet in China".

3. Architecture of the research project "The Internet in China": a multi-dimensional approach

On the Internet in China we have a lot of statistical information of different aspects of Internet usage. Most of the data stem from the state-run China Internet Network Information Center (CNNIC), which, among other things like the registration of domain names under the country code "cn", conducts a series of statistical surveys on how Chinese people use the Internet on a regular basis. Some of this statistical data will be interpreted later. The character of our research project differs in several ways from these surveys. Our intention was not to collect data *about* the Internet users but to collect data directly *from* them. For this purpose we have built up a multi-dimensional approach which integrates an *analysis of the products* – the websites -, an *analysis of the reception* of the Internet by Chinese people and a *cultural analysis* of the data using philological methods of Chinese Studies. The product analysis of the websites was focused on the most frequently visited websites in China, the portals like sina.com, and sohu.com and the "Chinesed" international portals like chinese.yahoo.com, cn.yahoo.com, lycos.com.cn. To get a better understanding of the Chineseness of these websites we compared them with their western counterparts yahoo.com, lycos.com, or lycos.com.de.

To get data on how Chinese people perceive and use the Internet we combined two other methods: first we did an *Analysis of the meta discourse* about the Internet, as it is conducted in Chinese online media, i.e. online magazines, newspapers, books, forums, newsgroups or weblogs. This kind of analysis helps to find out, how the Internet is seen by Chinese people, what the relevant topics are, which attitudes people have towards the new medium, how they judge the future of online communication and how they evaluate different services in respect to their own cultural background. And Second we did *audience research* on Chinese students, to find out how they use the most frequently visited websites in China, the before mentioned portals. This audience research is the corner stone of the study, since the interpretation of the data requires the data of all other parts of the investigation.

The procedure of the audience research was a mixture of free surfing and solving some retrieval tasks so that a quite natural situation of online communication was modelled to generate *user-centred data*. The methodological design of the empirical test combines the following methods (see figure 1):

a *pre-analysis* of the portals to specify the most relevant or most problematic parts,

a *moderated testing session* of 60 to 90 minutes during which the test person was to explore the portals in a free surfing style and had to solve specific tasks,

the *thinking aloud procedure*,
Video and audio documentation of the test person,
the *digital documentation* of the visited sites and the navigation actions on the computer screen,
questionnaire and interview at the beginning and at the end of the session.
Starting point for the analysis is a videotape which combines the digital documentation of the web navigation, the video documentation and the audio documentation of the thinking aloud utterances (see figure 2).
This kind of research design guarantees primary data and direct access to the human-computer-interaction. Findings on culturally induced patterns of reception can be deducted from a wide range of different indicators: *action indicators* (cursor movement), *navigation actions* like scrolling or clicking), *utterance indicators* (comments from the thinking aloud method), *behavioural indicators* (mimic and gesture, signals of surprise and of being asked too much of, *problem solving indicator* (scrolling, navigating back, repeated reading). The interplay of these different indicators allows for highly reliable assumptions on the reception of websites and guarantees highly user-centered results for further investigations into questions of cultural patterns of use and usability.

Figure 1: Test set-up for online audience research

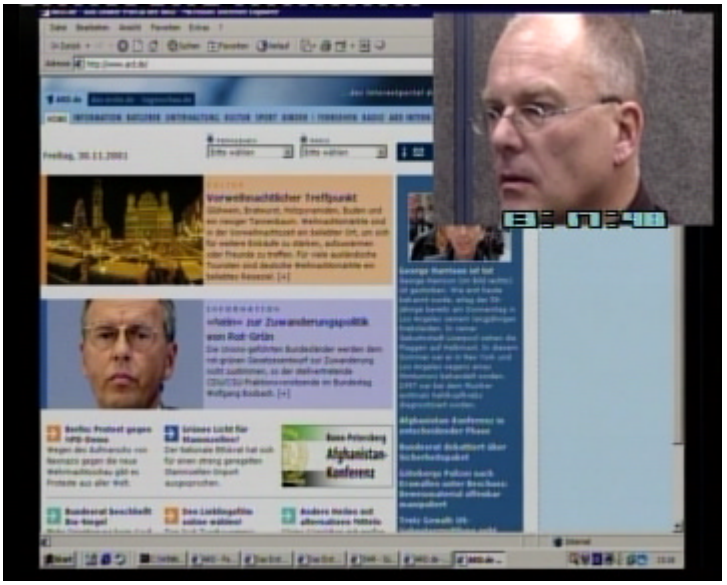

Figure 2: Screenshot of the video documentation

4. Results: The Internet in China

4.1 THE ANALYSIS OF CHINESE META DEBATE ON THE INTERNET

The analysis of Chinese meta discourse on the Internet in China clearly shows that there is a cultural difference between the view from the outside and the view from the inside: From outside China, the Internet in this country is mostly seen under the aspect of human rights and democratization. The framing of this discourse is political and critical towards the political elite which have the power. Taming the Dragon - which stands for China - is one of the leading metaphors besides the metaphor of overcoming the great wall. Even the use of the symbol of the dragon reveals an intercultural misapprehension: in western countries the dragon is perceived as a negative symbol of danger and menace, in Chinese culture the dragon stands for a positive symbol of wealth, power and good fortune. The international discourse on the Internet in China is dominated by questions on communication control, quantitative aspects of the fastest growing Internet market and on human rights problems on cyber-dissidents. The national discourse within China deals with the question on how the Internet can help to develop China economically – a discourse in which the Internet has positive connotations independent of the position of the speaker.

But there is also a Chinese discourse on the negative aspects of the Internet, in which the new medium is denounced as “electronic heroin” or a new form of “opium” which entraps young people to bunk off school, leave their parents to find their online chat

partner in the offline world, or steal money to pay for their Internet access fees (see Fang 2003a). The new opium hells are the Cybercafes – called wangba – of which the media are full of stories about young boys and girls surfing for 40 hours till they finally faint or spending all their money and wasting their time. The traditional Chinese phrase "tan hu se bian" – getting pale by the word 'tiger' - has already been transformed to "tan wan se bian" – getting pale by the word "Internet". If we summarize the observations of the meta-discourse one can state that the Internet accelerates the expansion of a public discourse and has become an important source of non-governmental information for the people in China. Examples are for instance chat room communication during the War on Iraq or the SARS Crisis (see Fang 2003a, 2003b).

The meta-discourse also proves that up to now the Internet in China is mainly a phenomenon of youth culture and no longer restricted to intellectual culture. The Internet belongs to a kind of "e-lifestyle" with the slogan: "To be young, Chinese and Weiku (Internet)". For this Weiku-Generation the Internet mainly has become a medium of entertainment: "In fact, most Chinese weren't even expecting freedom and democracy. Rather, they've grown to like it [the Internet] for a simpler reason: It's fun", said Ma Ying from Sina.com. (Ying 2002).

4.2 CONTENTS AND TOPICS OF CHINESE WEBSITES

Already one minute after the bombing of Baghdad had started the news ticker of sohu.com.cn distributed the first war message: "Baghdad was bombed by US forces. The second Golf war has started". In the following days the war related websites of the portals sohu and sina offered all the information one would expect on a website of an American television network: background information on weapons and military tactics, chronologies of war events, expert opinions, numerous flash animations and graphics illustrated the functionality of the various weapon systems or helped to visualize the complex events of the war. In China online news have become a battle field in the fight for the attention of the audience (see Fang 2003d).

What this example shows: content distribution on Chinese websites is becoming more and more equivalent to western patterns. Other topics though, like Falung Gong, Amnesty International and Human rights or forms of political critique, still remain out of bounds, as we can see from the imprisonment of the so called cyber-dissidents.

In our research project we tried to get a more detailed picture of the content structures of Chinese websites: We developped three typologies to categorize the different websites:

a typology of content provider: portals, government and party authorities, e-commerce-services, news services and illegal websites

a **typology of topics**: business and industry, politics, entertainment, daily life, science, culture and arts, medicine and health, media, travelling, sports

a **typology of functions**: information, service, business, entertainment, communication, education and advertisement.

These three typologies are tightly interconnected. For example there is a high affinity between government authorities, the topic of politics and the informational function as well as between e-commerce-services, the topic of business and industry and the functions of service or business. The most interesting cases are the most visited websites, the portals, because they combine several topics and functions – probably the

most important reason for their attractiveness. Not only because of the numbers of visits, but because of the structure of Internet communication the portals seem to be the central stations or master knots on the Chinese Internet. This result is proved by the amount of hits and visits this type of websites can attain: in the ranking list of website traffic by CNNIC, NETVALUE and IAMESIA the three portals sina, sohu, and netease are placed on the three leading positions.

A comparison with western websites reveals that the Chinese Internet regarding content does not show fundamental differences. All topics, including (European) soccer, erotic, sex, cosmetics, partnership, food, education or health care can be found on Chinese websites. Facing this topical diversity and liberality one must become more careful with the often articulated critique of censorship towards the Internet in China. A structural particularity of Chinese websites seems to lie in the emphasis they put on different topics. To rank the topics in regard of their importance we made a linking analysis of the entrance pages of each portal site: the highest number of links either point to business and industry pages or to entertainment oriented pages. This data mirrors two interesting structural features of the Chinese Internet. First: to a high degree online activities of the different providers are motivated by economic interests. And second: entertainment seems to be one of the most important motives for Chinese people to use the Internet. Links to pages with news, arts, daily life or medical information are unusual. Links to games, chat rooms, information about stars, show business, leisure or travel services dominate.

This content structure of Chinese websites corresponds with the data we have gathered from questionnaires on Internet usage published by CNNIC: 45 percent of Chinese net users are looking for entertainment oriented information, more than 45 percent frequently use online chats, for nearly one third of users “getting entertained” is the primary goal for accessing the Internet and nearly 20 percent of the most frequently used web services are online games.

In comparison to data from Germany for example a pattern of Internet use that is specific for China can be observed. The Chinese pattern is dominated to a high degree by entertainment and communication, whereas Internet use in Germany and other western countries is more information and service oriented. Especially the growing market of online games is an indicator that the Chinese Internet is undergoing a fundamental transformation (see Fang 2003e): 70 Million users are registered at the online game “The Legend” which is hosted by the provider Shengda in Shanghai. The highest number of simultaneously logged in Chinese players of “The legend” was 800 000. About 80 to 90 percent of Chinese Internet providers are offering online games, with the number of games having increased from 6 games in 2001 to more than 100 different games. As a consequence the digital entertainment branch has become one of the most successful Internet businesses: the production value has increased from 300 Millions Yuan in 2000 to 2 Billions Yuan today. Netease has been able to increase its profits due to the distribution of online games by more than 700 percent up to 233 million Yuan since 2000. Today almost 90 percent of all online games on the Chinese Internet are produced in South Korea. One can imagine how profitable this market will be in the future.

4.3. STRUCTURES OF INTERNET USAGE AND RECEPTION: RESULTS FROM AUDIENCE RESEARCH

A good starting point for building up hypotheses on culturally specific patterns of Internet reception are the statistical data collected by CNNIC. The survey of June 2003 tells us that 68 Million Chinese are online – in January 2004 the number had already increased to about 80 million. Furthermore results show that the average Chinese netizen is male (about 60 percent), younger than 30 years (about 56 percent), unmarried (60 percent), highly educated (31 percent high school, 26 percent bachelor degree), that most of the reviewed information has been distributed by domestic Chinese websites (80 percent), that most of the new websites were approached by search engines (85 percent), that speed, cost and security are the main problems for Chinese Internet users and that the abundance of Chinese information and the usability of Chinese websites is for most of them at maximum "so so". And we learn from CNNIC that in times of crisis the Internet in China has become a relevant source of information: 55 percent of Internet users have searched for information about SARS on websites, versus only 27 percent on television. The average time spent on the Internet during the SARS-period increased by more of the half of the Chinese Internet user.

As CNNIC is state-run, one has to be critical of these data. Another fundamental problem with these data is, that it does not give insights into the reasons, motives and intentions that lie behind these data. To explain, why special patterns of online use have developed, we need qualitative data about the process of perceiving and navigating the Internet. Using the research design described above, we conducted usability tests with 18 Chinese Students from the University of Trier. Each test took about an hour and was supervised by a moderator in Chinese language. The job of the students was to navigate the Chinese portal websites sohu and sina, and the international and Chinese editions of Yahoo and lycos. This opens up the possibility of a comparison between different types of websites with the same function.

A general result of this part of our project was that most of the participants judged the Chinese websites as being more complex and less transparent than their western counter parts. Despite that the users showed a clear preference for the original Chinese websites and not for the western sites in Chinese language. And despite their critical evaluation of Chinese websites as being more complex and less transparent the participants had no problems solving the search and navigation tasks. We can conclude from this alleged double incoherence that principles of transparency and clearness and the criteria of complexity are depending on a cultural background. Under a quantitative aspect the Chinese websites are obviously more complex than the western sites: whereas the American version of the homepage of Yahoo and the Chinese translation of this site contain 14 different functional elements the homepage of sina.com contains 23 different functional units and nearly 50 different categories. But it seems that Chinese users are familiar with this kind of complexity and they have managed to build up enough competence to cope with it.

The comments of participants during the empirical tests reveal, that clearness and transparency in Chinese (yi mu liaoran) not only means, to "get an overview" but also means "to find quickly what one is looking for". The structures of Chinese websites are corresponding with this sense of clearness. In contrast to western websites that are

characterized by a deep hierarchy and less elements on each level, Chinese websites have a flat hierarchy with as many elements on each level as possible. Typical Chinese entrance pages are designed under the principle "Give the people what they want at once". So if one is familiar with a website one can navigate to a special page with less clicks and much more effectively than on a website with a deep hierarchy and more structural levels. One participant expressed his impression of the sina-portal as follows: "There is a lot of information. My first impression is that the website has a big capacity. It's a little bit confusing. The structure is transparent and the categories are clear" (translation).

The hint to the "big capacity" in what the participant said leads to another explanation of the density of Chinese websites. In Chinese culture we can find two different kinds of aesthetical systems: the "aesthetics of abundance" and the "aesthetics of emptiness" (see Pohl 2004). Websites in China are usually designed along the principles of the "aesthetics of abundance" which refers to the Chinese popular culture and what can be seen in New Years pictures, calendars or paintings on dishes. The "aesthetics of emptiness" is part of the Chinese high culture and heavily influence by Zen and Chan Buddhism. The principles of this kind of aesthetics did not influence web design up to now in a significant way. The attractiveness of the "aesthetics of abundance" not only relies on its integration into popular culture but also on its symbolic meanings: strong and rich colour, density, and opulent presentation symbolize happiness and wealth.

In their historical analysis of newspaper design Barnhurst and Nerone emphasize that the mainspring of media transformation is not technology but culture. In their view the design change of western newspapers was caused by the "participation of newspaper editors and artists in the broader cultural shift from Victorian style to modernism" (Barnhurst / Nerone 1991, 802). And they conclude that "design change (…) responded in general to the avant-garde art movements collectively identified as modernism". In adopting the aesthetic ideas of cubism, constructivism, de Stijl and the "Bauhaus" functionality became the leading design principle in western countries, best expressed in the Bauhaus-Slogan "form follows function" (Barnhurst/Nerone 2001, 226/7). "Modern design by definition is rational, functional, premeditated, taming the mess by artifice" (Barhurst / Narone 1995, 40). From the newspaper this trend of functionality was carried forward to all kinds of visual media design. With this explanation for western design principles in mind, we can understand easily that design indeed is highly culturally specific and that universal principles – for example of website usability – are implausible.

To understand the form and structure of Chinese websites we also have to take into consideration the significant differences between our alphanumeric character system and the Chinese character system. The Chinese character system allows not only to write from left to right but also top-down. As Chinese people are used to read both vertically and horizontally, one can conclude that they are better prepared to perceive multi-linear objects like websites. Also their standards of transparency and clearness are quite different from those of western cultures. An experimental study which investigated visual search strategies and eye movements when exploring screens with Chinese characters helps to shed some light on this observation.

There are strong indications, that "the differing scanning patterns of people, based on their language experiences, can have an effect on visual search performance" (Goonetilleke et al. 2002, 451). In an experiment with participants from Hong Kong,

Mainland China and non native Chinese readers, in which they have to perform different search tasks on Chinese character screens with different layouts (row and column), Goonetilleke et al were able to show by measurement of the eye movement that the three groups are following three different search patterns. The natural search pattern for the Hong Kong Chinese was predominantly oriented horizontally. Mainland Chinese change their search patterns depending on the horizontal or vertical layout as the eye movement data showed, whereas the non-native Chinese reader group in general had no preference towards one of the two search patterns (see Goonetilleke et al. 2002, 464/5). The entrance point for the screen in all groups was the top-left corner. These results indicate that there is a strong correlation between cultural background and layout. From the perspective of website usability these results illustrate, that layout is the more user-friendly the more it conforms to the culturally specific search pattern. For more efficient use of screen design it may be appropriate for instance to consider vertically oriented design for Mainland Chinese and more horizontally oriented design for Hong Kong Chinese. Principles of layout and usability don`t seem to be completely universal but specific for the culture people belong to. But the interaction between layout and culture is not a naturalistic one: The horizontal reading strategies of Hong Kong Chinese can be reduced to the cultural fact, that newspapers and magazines in Hong Kong are printed in a vertical orientation, whereas in Mainland China print media show a mix of both orientations and as a result Mainland Chinese adopt a pattern depending on the stimulus material. The dominance of a horizontal orientation in the case of Hong Kong Chinese could also be traced back to the frequent use of Microsoft and Windows-based software products which have a strong horizontal structure. Mainland Chinese normally have less experience with western computer software.

Besides these culturally specific visual patterns we have to take into account that there are a lot of phenomena in Chinese web design we are only able to understand with special knowledge about the cultural background: the symbolic meanings of colors, icons and pictures, the use of calligraphy in web design, the use of numbers which has become a central part of a new Internet language. The URL of netease.com for example is written as 163.com which is a homonym of “All the best”. Especially in chat communication such combinations of numbers constitute a system of meanings participants have to know about or learn to be able to understand what other users are meaning: 520 means “I love you”, 250 means “blockhead” and 748 means “to hell with you”. If someone is called a 286, this means that he is as slow as the old PC-model with a 286-processor. (see Fang 2003f). About 2000 of such new web-words have been identified of which most point to allusions to Chinese history, popular culture or everyday life. Especially features like these are strong indicators, that the Internet as a communication structure has been integrated into a cultural discourse of Chinese people. To sum it up: We have to take into account, that there are a lot of phenomena on the Internet in China – from the visual features of web design to the number-language in web communication – that we can only understand on the basis of special knowledge on the cultural background. All of these features and aspects constitute the “Chineseness” of the Internet in China.

5. Conclusions:

The theoretical distinction between communication structure and communication event helps to escape the dilemma of either being a technological instrumentalist or determinist or to decide between a universalistic or relativistic, culturally-oriented position. I have tried to show on three levels, the level of meta discourse, the level of content of the Internet in China and the level of usage and reception of the Internet, that we can indeed speak of a Chinese Internet in China. But the communication structure, the network character of the Internet, is the pre-condition that this "Chineseness" was able to emerge. Without taking into account the network character of Internet communication we would not be able to explain the appearance of an Internet language and the kind of language change it will bring about in the long run. And without taking into account the connectivity of the Internet in China with websites all over the world, we cannot explain how public communication on the Internet in China is becoming broader and less controllable. And connectivity is the condition for all cooperative actions like many-to-many communication or online games. Communication principles can change of course. And communication itself is the strongest force for language change or transformations of design principles. But developments of this kind can not be analyzed in the vocabulary of colonialism or Cyber-centrism. It must be analyzed in the language of network oriented communication which we can see as self-generating system. In the case of Internet, technology is the sine-qua-non condition for communication, which determines the structure of communication. But the style, manner, design and content of that communication is deeply rooted in the respective cultural background of the communicating persons.

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