

Pui-Lam Law, Leopoldina Fortunati and Shanhua Yang, **New Technologies in Global Societies**, New Jersey: World Scientific, 2006, 293 pages, \$65.00 (hardcover).

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Introduction

New Technologies in Global Societies is similar in subject matter to both *Personal, Portable, Pedestrian* (Ito, et al 2005) and *Asia Unplugged: The Wireless and Mobile Media Boom in Asia-Pacific* (Rao and Mendoza 2004) in that it provides the reader with insights into the use of technology in a culture that has not received broad exposure. While the latter two books examine mobile communication in Japan (Ito) and Asia (Rao and Mendoza) respectively, *New Technologies in Global Societies* devotes the majority of chapters to covering the technology scene in China, in addition to material from the Philippines, Germany, Italy, Malta and Canada.

The papers from China, though, are important because they document the situation in one of the largest and fastest growing information and communication (ICT) countries in the world. This particular profile is not incidental since the papers emerged from a session at the World Congress of the International Institute of Sociology titled "Co-construction of Society and Technology in a Global World."

The book is a smorgasbord of information and insights. It gives the reader the opportunity to learn about academic/industrial policy, mobile phones in Malta, the internet's role in the Hong Kong sex trade, interactions between Chinese immigrants in Canada and their counterparts in China, and the mediascape in Italy. We are indebted to the authors and the editors for this insight.

Section 1: Technology, society, culture and the body

The first section of *New Technologies in Global Societies* looks at both broad social issues having to do with the development and execution of science policy and the interaction, in very direct and real ways, of the interaction between technology and the human body. At a broad level, the reader who is interested in different issues associated with the tension between social and technical determinism will find things of interest here.

The book begins with a thoughtful, interesting and accessible chapter by Raul Pertierra about the potential for the development of science in the Philippines. This chapter does a good job of setting the tone for the rest of the book and it lays out a thorough analysis of the broader issues of science in society. In particular, Pertierra opens up by questioning the role of the middle class in the development of scientific institutions. He outlines how the middle class, more than other groups, works in job environments that are based on formal rules and competence, rules akin to the nature of scientific inquiry. Thus, he asserts that the middle class in the Philippines is insufficiently developed and that this hinders the development of science.

Pertierra suggests that the nature of science can be either in the direction of disinterested pursuit of knowledge or in the path of technological development. This insight provides the reader with a convenient segue into the next article by Wei Hong on the mechanism of technology transfer from universities to industry in China. (There are also interesting echoes with the later article by Wenhong Chen on the practice entrepreneurship between Canada and China). Hong analyses the difference between what she calls Mode 1 and Mode 2 forms of science. Mode 1 is what Pertierra calls the disinterested pursuit of knowledge for knowledge's sake. Mode 2 is user-driven research done in the pursuit of development, often with an economic motivation. The article carries out an extended analysis of Mode 2 science in China. In the introduction to the article, Hong capably sets up the tension between these two forms of science, raising questions as to whether the focus on one to the exclusion of the other will have unintended consequences. Reading this as a social scientist, who possesses a definite Mode 1 frame of mind, but who works in a Mode 2 organization, I could understand the divide. There are benefits to be gleaned by industry and by the academicians who pursue the course of riding both these horses. Looking at the other direction, there is little Mode 1 science that arises when the policy is overly focused on the Mode 2 frame of reference. In this article, the focus is clearly on the more technical disciplines. An interesting question, then, for example, is the role of social science in Mode 1 and Mode 2 situations.

Moving to the article by Alberta Contarello and Leopoldina Fortunati, the reader is asked to move away from broad discussions at the macro level to the micro level of analysis and consider the personal psychological understanding of technology. It examines how college students make sense of technology vis-à-vis the body. The authors use semantic difference technique to understand users' orientation toward technology counterpoised against and also various scales that examine the respondents' notions on body image, touch, etc. In some cases the discussion of method and analysis is difficult to follow. However, if the reader takes a few steps back to look at the broader picture painted by the article, the difficulty of the methods arguments is only slightly problematic.

This is fascinating data that gives insight into the interactions between attitudes towards technology and attitudes toward the body. While there is some psychological analysis of mobile technology (Love 2005), it has tended toward more experimental psychology. This is an interesting examination of social psychological analysis. Among many other findings, it is interesting to note that the mobile telephone is associated with friendship. This seemingly small finding ties into and supports a much broader sweep of research in this area. Indeed, international work is beginning to show that the mobile phone supports these small friendship and family groups (Ling forthcoming). In addition, we see this theme brought up again in the chapters by Wong, Chu and Yang, as well as Law and Peng. The work of Contarello and Fortunati then joins in a broader drift of analysis on this point.

The final article in this section, by Kerstin Wüstner follows the context of that authored by Contarello and Fortunati in that it too investigates the interaction between technology and the body. Based on content analysis of German news papers, the chapter examines the German discussion regarding genetic diagnosis of embryos. To a degree, the reader is asked to shift gears, in that the discussion draws on rather technical descriptions of medical procedures. The real core of the article, however, is the way that the potentials of genetic screening are mapped into people's understanding of science. This analysis follows by examining how the representations in the press and the perceptions of

genetic screening by different groups in society (politicians, voters, journalists, experts, etc.) result in the formulation of policy. Wüstner asserts that policy is formulated by experts who only draw on public opinion when it suits their needs. Thus policy, at least in this case, is a quasi-democratic process in that the general population is only marginally associated with these developments. She takes this argument one step further when she raises the more general question of how technology develops. In the light of the articles by Pertierra and Hong, the reader sees that the discussion about technological vs. social determinism are far more complex than we might imagine.

Looking across these four articles, the arguments might suggest that social determinism functions better for some groups: the middle class for Pertierra, professors of engineering for Hong, and Wüstner's experts. Further, our generalized understanding of the technology also has many unexpected psychological dimensions (Contarello and Fortunati). There are many ebbs and flows in this discussion. The papers here give the reader much to think about on these issues.

Section 2: New media and generations

The second section of the book examines the use of technology by various groups. It begins by looking at the content of interaction on the web in order to glean a broader understanding of the arguments used in that forum. Following that we find two articles that provide a sociological analysis of teens' use of ICTs. The final article also uses a sociological perspective to examine the use of mobile communication by the elderly in Hong Kong homes for the aged.

This section's first chapter by Luca Giuliano focuses on the use of new techniques in order to extract insight into the use of language on the internet. Rather than focus on traditional linguistic approaches, the method used here applies advanced computing techniques to sort newsgroup messages. This is a paper where the reader needs to work in order to follow the analysis and the drift of the arguments. The use of so-called text mining potentially provides us with the ability to glean insight into the argumentation and the tenor of large bodies of text. In the case of this article, the focus was on the discussion of the Iraq war in Italian news groups. As these techniques are refined and applied, they will likely result in new and better understanding of how ICTs are used in the discussion of broad topics.

The second chapter in this section is a solid analysis of Italian youth and their media use by Leopoldina Fortunati and Raimondo Strassoldo. This chapter will undoubtedly become a benchmark for others studying media use among youth in Italy and also those who are making international comparisons of media use. The analysis is based on a sample of 1500 youths, ages 18 – 25. It looks particularly at TV, PC/internet and reading behavior of those surveyed and their consequent political involvement. This is a particularly important question in Italy given the monopoly of televised news.

In something of a victory for gender equality, the authors find no significant gender difference in the use of the computer. (Note: There is some confusion as to whether using the computer means using the internet or using stand-alone programs on a PC. The analysis seems to indicate the latter alternative.) Further, they find that heavy users of the internet also find time to spend with friends, while the same is not true for TV. This latter finding causes the reader to speculate that perhaps "surfing" on the internet is

not regimented by TV scheduling and thus can fit into the various folds of life. This may be a partial explanation of this finding. For some teens, there is a synergy between TV and internet use in order to gather news. There are, however, a significant number of young people whose primary source of news is the internet. When thinking about reading in the context of internet and TV, Fortunati and Strassoldo find that a cluster of particularly news hungry youth consume all three of these media in the search for insight.

As noted, the chapter also links the use of media to the respondents' political thought. This is a particularly poignant issue in Italy since Berlusconi controls all the major TV stations in the country. The authors find that there is no evidence linking this monopoly situation with the swaying of political opinion.

While in the article by Fortunati and Strassoldo, mobile telephony makes only a cameo appearance, it is at the center of Lydia Sciriha's chapter on teens and mobile communication in Malta. The analysis is based on a survey of 500 persons over the age of 14. Teens are by far the most enthusiastic users and, according to Sciriha, mobile telephones provide them with greater independence. Playing off the finding by Contarello and Fortunati in the third chapter of the book, Sciriha helps us to understand why it is that the mobile telephone is associated with friendship among teens. There is a personalization of the interaction that is not available in other channels. In addition, the mobile phone provides the teen with a communication channel which they control. They know that when they call a particular number, they are calling an individual. In addition, when they receive a call, there is not need to fear the filtering influence of parents that might be a part of landline telephony. Sciriha also documents that the communication via the mobile phone has phatic elements. In other words, it is the interaction, not the specific content, that is central to the communication.

The final chapter in this section by William Wai-lim Wong draws our attention to a group that is rarely considered in the context of ICT use: the elderly. This article provides fascinating insight into the situation of elderly persons in Hong Kong and the role that mobile communication plays in their daily life. Often in homes for the aged, there are only "hall" telephones that are largely inaccessible, or at least inconvenient. In this situation, the family often feels a need to have some sort of telephonic connection and so a mobile telephone is a useful solution. Indeed, Wong reports that two-thirds of the mobile phones used by this group have been purchased by their children. Wong outlines that the interaction often covers themes such as specific coordination of events, family chats (an echo of the phatic interaction of Sciriha) and finally there is the exchange of information. While there were some complaints about the usability of the mobile phone, it seems clear that it is easier than a PC for this group to adopt. The device is self contained; use does not require the complex setup and installation of software. In addition, the mobile phone has the same basic use metaphor as does the traditional telephone. For these reasons, there is a much lower barrier for adoption among those who are not experienced ICT users. Wong summarizes that the device allows both the parents and their children to maintain their independence. Again, there is an interesting resonance with the comments of Sciriha in the previous chapter where it was just this striving for independence that was a part of the tension surrounding mobile communication among teens in Malta.

Section 3: ICTs and work

The final section of this book features an analysis of how intent plays into various forms of enterprise, notably in relation to international entrepreneurship between Canada and China, and also to prostitution in Hong Kong. The other two chapters examine the role of mobile telephony in the context of migrant workers in China.

In a very well-drawn discussion, Wenhong Chen explores the dynamics of transnational entrepreneurship between Canada and China. The reader gains insight as to how the internet facilitates interaction across continents. However, Chen also notes that there is also the need for local connections, which represents an interesting counterpoint to the article by Hong on science/technology policy in China. In this article, we see the system from the other end. Instead of looking at the interaction between technical universities and development milieus, we see the interaction between commercial actors and their dealings with these technical milieus. The focus here is not on the development of policy, but rather on the use of the internet in order to best facilitate these enterprises. Chen does a good job of showing us that emigrant entrepreneurs can use the internet to engage in transnational business. While the internet lowers some of the thresholds, it cannot solve all the problems. Her research shows how these people use a variety of media, and face-to-face interaction when possible, in order to work out the issues of commercial interaction.

Based on extensive interviews, Wai-chi Chu and Shanhua Yang present us with an article that delves into the ways that mobile telephony is used to support kinship among migrant workers in China. Chu and Yang examine the paradox of being in communication with others, but not necessarily belonging to the local setting. Migrant workers in China live in certain communities, but are not really part of the local scene. The mobile phone provides a partial solution for this in that they can use voice and SMS interaction to communicate with others. As with the elderly persons discussed in the Wong chapter, the use of traditional telephony (such as using public pay telephones) is a poor substitute. A mobile phone is personal and convenient. Chu and Wong write "there is no other customer more durable than a cell phone that can be held in the hand and that will allow them to demonstrate their feelings, confirming their sense of freedom, and assuring their existence as a subject in a rootless time-space" (230). The point is that the mobile phone assists the individual in their pursuit of what they call *lingxi changyu* (connected sphere). This, along with the status of owning a phone is the motivation that encourages adoption. As noted, the theme examined here, namely the facilitation of social cohesion via the use of mobile telephony is becoming more commonly accepted (Ling forthcoming).

In a similar vein, Pui-lam Law and Yinni Peng also examine migrant workers in China and look into the ways that mobile communication interacts, and in some cases displaces traditional interaction. Based on interviews with more than 40 migrant workers they also look into how these workers are able to ameliorate some of the problems of loneliness via quasi-virtual interactions that allow them to play out some of their interests and fantasies. Drawing on work by Pertierra who we met in the first chapter of the book, Law and Peng examine how mobile phones help maintain existing social relationships and expand social contexts. On the one hand, as with the article by Chu and Yang, the mobile telephony allows the migrant workers to connect with their families and friends. However, they also report that the device also

facilitates connections that are more anonymous. Specifically, this chapter looks at quasi-platonic but rakish relationships between migrant workers. Through various online sites, male and female migrant workers come into contact and carry out a type of dating. According to Law and Peng, these interactions rarely result in any co-present interaction. Rather, they are often seen as more of a form of entertainment or a way to kill time. The point made by Law and Peng is that these sites allow an emotional outlet for these workers. Thus, on the one hand the mobile phone facilitates contact with their families (while at the same time using up some of the money earmarked for the family). On the other hand, the mobile phone allows migrant workers to make contact with others to play out certain romantic or perhaps sexual fantasies. That insight segues into the following article that examines the explicit sexual work of prostitutes in Hong Kong.

In the final chapter by Garland Liu and Joel Lau, the notion of enterprise includes that of sex workers and their interaction with the internet. Using various content analysis methods and some interviewing, Liu and Lau investigate the structure of the sex trade in Hong Kong and focus on the so-called one-woman brothels. Rather than look directly at the interaction between the prostitutes and their customers, the paper examines the information and mediation aspects of web sites. Liu and Lau focus on the role of web site editors who not only assist clients in finding appropriate brothels, but also take the role of providing user feedback on the various women. In addition to providing customers with access to prostitutes, these sites also have forums, information sections and even sections on "the rules of the game." Thus, they take on the role of, for example, hotel review web sites where hotel customers can rate the hotels and provide comments. Using these sites people who are seeking a hotel can use the site to gather information and book rooms. In a similar way, the sex oriented web sites perform a type of customer information service for those seeking the services of prostitutes. This gives the customers a way to review possible liaisons before committing to any one prostitute. However, Liu and Lau also examine how this practice tips the power relation between the customer and the prostitute in the favor of the customer.

Summary

In summary, *New Technologies in Global Societies* covers several different forms of mediation (the internet, TV and mobile telephony) and gives the reader insight into a broad range of both policy and pragmatic issues associated with the adoption and use of these technologies. A very strong point is the heavy emphasis on the situation in China. While there are papers that deal with the European, Philippine and the North American scene, it is refreshing and important that the English speaking world be exposed to the use of technology in China. China is, after all, the largest single mobile telephony market in the world. Thus, this volume does us all a service by providing some insight into the goings-on there.

Another positive dimension of this volume is that it does not simply equate technology with the internet. While there are several articles that focus on this technology, there are also articles covering technology policy, TV use and mobile communication. Thus, it can correctly claim, as it does in its title, that it examines new technologies in a global context.

References

- Ito, M., D. Okabe, and M. Matsuda. 2005. "Personal, portable, pedestrian: Lessons from Japanese mobile use." Cambridge: MIT.
- Ling, R. forthcoming. *Mediated Ritual Interaction: Mobile communication and the rise of bounded solidarity*. Cambridge: MIT Press.
- Love, S. 2005. "Does Personality Affect Peoples' Attitude Towards Mobile Phone Use in Public Places?" in *Front Stage/Back Stage: Mobile communication and the renegotiation of the social sphere*, edited by R. Ling and P. Pedersen. Grimstad, Norway.
- Rao, M and L. Mendoza. 2004. "Asia unplugged: The wireless and mobile media boom in Asia-pacific." New Delho: Response books.