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The Sent-Down Internet: Going Online in Rural China

*“We bought a computer in 2008, when our son got married. Of course we bought it for him, he was so young, where would he have gotten the money?! (It was) part of the furniture we bought him when he got married. People do that nowadays, they buy a computer when they get married.”
Mrs. Ouyang, rural resident, Hebei*

*“In 2011, there were 136 million rural residents using the Internet, equal to 26.5% of the total number of Internet users, an increase of 11.13 millions compared to 2010.”
CNNIC 29th Statistical Report on Internet Development in China (2012)*

The Internet is now a common place technology in urban China, where people go online at home, at school, in offices, and on wireless connections everywhere. As the quotes above show, however, there is a real growth in Internet users also in rural areas, where a combination of improvements in infrastructure, increase in disposable incomes, and wider availability of computers and smart phones is creating an environment conducive to more widespread adoption of the Internet. This paper draws from ethnographic field work in three villages, one in Hebei and two in Shandong, to discuss Internet adoption and use in rural Northern China. I argue that new Information and Communication Technologies (ICT) such as mobile phones and Internet-capable computers are ‘incorporated’ into rural residents’ lives in ways that are different from their urban counterparts. Using a domestication theory perspective, I show ways of using the Internet that depend on the intervention of other people, usually children and the younger people in the village. This allows people who would otherwise be left out to also participate in the new world of Internet-mediated communication and entertainment. Looking at rural use from this perspective, rather than from the more common one that sees slow progress in rural Internet diffusion caused by low levels of education and income among rural residents, can be a first step into redefining the impact and usefulness of new ICT in the context of the rural informatization efforts.

INTRODUCTION

Let’s begin with the numbers. The first is about rural users: the latest CNNIC report, with data from 2011, puts the number of rural ‘netizens’ at 136 million (CNNIC 2012). This represents an increase of 11.13 million from the previous year, but as a percentage of the total number of Internet users -558 million - it is in fact a decrease, from 27.3% to 26.5%. The second number is about older users: the percentage of users over 40 years old is slowly but steadily growing, and has now reached 31.6% of all users. These older users have a lower educational level than earlier adopters (in 2011, 8.5% of users had elementary schooling, 35.2% middle school). This means that the Internet is gradually finding a place in the lives of older, less educated people, and although there are no specific data about older users in the countryside, some of these users are likely to be rural residents.

Quantitative data are often difficult to interpret, and these in particular are a puzzle to understand, as they seem counter-tendential: infrastructure availability (Liu 2011), the increase of incomes in the countryside (*China Daily* Jan 20, 2012), and the number of returned migrants (*The Economist*, Feb 25th 2012) would suggest a much faster increase in the number of rural netizens than what statistics show. Adding to the puzzle is the fact that in-depth, but by now dated, secondary sources on information and communication technologies in rural areas (Qiang 2009; Zhao 2008d) showed a rural diffusion of the Internet that promised to be just as dynamic as in cities.

Is the Internet making inroads in rural China or not? Is the growth slow but steady, is it flat-lining, is it unsuccessful despite the huge investments made by the central and local governments to 'informatize' the countryside (Xia 2010)? In this paper, I present ethnographic findings on rural Internet users that could help interpret the quantitative data, and illuminate types of use that are very different from urban ones and might therefore escape statistical categories. In the countryside, users might not be aware that they are using the Internet (for example when using QQ on their mobile phone, or using torrent software to watch movies); they might present a seasonal or age-related pattern of on/off use that is uncommon in urban areas; and they might be able to use the Internet only with the intermediation of other people. Such uses can escape surveys. The most common answer I received to "Do you use the Internet?" was a firm "不会 - I cannot," and only participant observation and further probing showed the richness of use behind this answer. If for any rural Internet user we imagine a 'network effect' that allows parents, grandparents, young children, and less educated people to go online with the primary user's help, we can start looking at the CNNIC numbers on rural usage differently.

The goal of this paper is therefore to start to throw some light on who some of these users are, how they make sense of the Internet, and how they use it in environments that are very far from the research centers and cities where ICT are imagined, created, and tested. This is a paper about 'unimagined users' (Burrell 2010) that can hopefully start a wider conversation on how to define an Internet user and inform quantitative research on the topic.

I begin by reviewing existing literature on Internet and ICT use in rural settings in China. I then introduce the methods that I employed in my fieldwork, as well as the theoretical framework that I propose to analyze the findings, namely that of *domestication of media and communication technologies* (Silverstone et al 1992, Haddon 2006). In the second part, I describe different categories of rural Internet users (school-age children, young - and often mobile - people, middle-aged and older residents) and how they *domesticate* and make sense of the Internet, how they integrate it - or fail to do so - in their lives, and what role gender and age play in the 'moral economy' of the family. I conclude with a discussion of specific uses of the Internet and how they spread among different age groups, with specific attention to different stages of use and the role that intermediators play in allowing people with less education, less money, or less initiative to be part of the 'Internet revolution.'

PART I LITERATURE

Starting with the 11th five-year plan in 2006, the Chinese government has invested heavily in building infrastructure to secure access to ICT in rural and remote areas, and in creating ways to support the adoption and use of ICT among rural residents (Qiang 2009). This was building up on previous efforts to extend television, radio, and phone lines in the

countryside, and as a consequence to extend economic growth outside coastal and urban areas (Xia 2010). The push towards 'informatization' was aligned with high-profile international efforts that found their most high-profile expression in the United Nations' World Summits on the Information Society in 2003 and 2005, geared at creating and strengthening the foundations of an 'information society.' Studies to assess the status quo of ICT use in the countryside and evaluate the impact of informatization policies and plans began right away. Among this increasingly abundant literature, studies published in English can be divided roughly into three categories. Firstly, there are papers that analyze macro-level policies and their sustainability and efficacy; they mostly agree that center-driven informatization has been at best a partial success, and it is not sustainable because of unclear goals, wastefulness, inappropriate localization, excessive costs, etc. (Dai 2003, Duan 2009, Xia 2010, Liu 2012, Ting & Yi 2012). Secondly, there are papers that analyze technical solutions in terms of hardware, software and content-delivery strategies to fulfill the goals of the vague informatization policies. These studies, which are becoming more and more popular in both English and Chinese, are mostly conducted from an implementation and technical problem-solving perspective; they invariably focus on hardware/software solutions (existing, proposed, or on pilot-phase) to bring more information technology and online services to the countryside, with virtually no regard to whether they are needed, requested, appropriate, affordable and useful (Yang & Xiao 2008, Zhou & Wen 2009, Yu & Qin 2011, Cui & Liu 2012). Finally, there are studies looking at the impact of Internet and mobile phones in the countryside from a developmental perspective (Ulrich 2004, Zhong 2004, Zhao, Hao and Banerjee 2006, Zhao 2008a, 2008b, 2008c, 2009, Zhang & Wei 2009, Soriano 2007, Fong 2009). These studies focus disproportionately on the lower income and educational levels of rural residents, considered the cause of the low use of ICT despite increased availability of mobile phones, computers, and Internet access, as well as rural residents' acknowledgement that they could benefit from these new tools. Very few of these studies employ long-term ethnographic techniques; they usually rely on surveys done on samples that are too small and statistically insignificant to provide insights into general behaviors, and too superficial to yield the richness of detail that in-depth interviews and participant observation can offer.¹

The findings I present in this paper come from several weeks spent between winter 2010 and summer 2011 in three small Chinese villages, two in Shandong (Village A and Village B) and one in Hebei (Village C), as part of my dissertation fieldwork. I arrived to the villages as guest of migrant women I met in Beijing in an earlier part of the project, and I lived with their families. While in the villages, I employed ethnographic techniques that included participant observation, open and semi-structured interviews, and observation of technology use. The interviews were conducted in Chinese, and the names of the

¹ Soriano, who used mixed methods in her study of telecenters in Hebei, is one of the few to acknowledge that surveys might not give a reliable picture of what farmers do and/or are after: "A survey was initially conducted to obtain the household's socio-economic profiles, livelihoods, and villagers' perception on the telecenter's role in enhancing their livelihoods. However, after an initial survey, it was deemed that this methodology alone poses limitations as results did not reflect the community's livelihood strategies and provided only limited understanding of issues hindering the full adoption of technology/information and optimal benefit from telecenter interventions. Due to the abstractness of the concept of information to the respondents, vague and non-responses to surveys posed more questions that later also necessitated the conduct of interviews and FGDs for clarification. It was through extended and informal interviews with the telecenter staff and farmers/family members and focused group discussions that more honest assessments and interesting findings surfaced." (Soriano 2008).

interviewees have all been changed. The ground-level perspective typical of ethnographic methods gave me access to the sometimes contradictory relations people have with ICT, and allowed me not only to observe ICT use and compare it with interviewees' descriptions of ideal/desired use, but also to hear the perspectives of different members of a family on the same technology, or on specific events that happened around ICT.

DOMESTICATION

How does a mobile phone find its place in its owner's life? How does a family decide to buy a computer, negotiates where to put it, allocates usage time among different members? Why do some ICT easily find a place in users' routines, while others are abandoned after a few failed attempts? The issue of ICT and their users has been studied from a wide range of perspectives in the past twenty years – from the widely criticized and equally widely used diffusion of innovation paradigm (Rogers, 2003) and technology acceptance models (Bagozzi 2007²), deployed to understand what drives the adoption of technology, to user-centered design perspectives that attempt to describe the interplay between creators of technology and users, to studies of appropriation of technology in non-mainstream and non-Western contexts (Eglash 2004, Horst & Miller 2006, Burrell 2012). Social scientists and historians have brought a temporal dimension to the study of technology adoption by looking at historical cases, and by highlighting changes through time in both the types of users and the characteristics of the technological objects (Bijker 1989, Fischer 1994, Cowan 1997). This temporal dimension is however absent from current studies of technology adoption and use, that tend to be focused on discrete moments throughout the lifespan of the ICT (purchase, moments of use, surveys about interest in use, etc). Another aspect that is often missing is the social aspect of technology adoption and use, that is not only the influence that people's social connection – families, friends, school or work-places – have on their choice and use of technology, but also the practical help and the communal efforts that often go into figuring out how to use a new tool. A theoretical framework that offers the opportunity to bring both these aspects to the fore is domestication theory. The theory was developed in the UK in the early 90s to map the adoption of computers and televisions into households, and to understand how the progressive 'domestication,' that is the integration and adaptation of the devices into the household, resulted in changed family dynamics and negotiated technology use. Domestication theory emphasizes the fact that the 'decision to adopt' (to borrow an expression dear to diffusion of innovation studies) is but an aspect of the long and tortuous road that starts with the appropriation of the device (purchase or acquisition), continues with its objectification (the physical disposition of it within the household) and incorporation in the daily routine, and ends with its conversion, that is the redefinition of the relationship between household members and between them and the outside society (Silverstone et al 1992, Berker et al 2006, Haddon 2007). Although the emphasis on 'household' is problematic, as recognized by proponents of the theory themselves (Berker et al 2006), the focus on families' adoption and use of technology, rather than individuals', draws attention to the fact that even *individual* use of technology is never a purely individual, never a solitary activity: it influences all the people around individuals, starting from their families, and including non-users. In the Chinese rural context, this attention to family and family dynamics proves particularly useful, especially in the countryside where extended families still often live in the same house. In these cases particularly, Internet use by one member of the family is often negotiated by the entire household, and has consequences for everybody. Domestication, in this context, is a

² Bagozzi's paper is a good summary of the technology acceptance theories, the criticisms that have been raised, and the following attempts at reformulating them.

response to the deterministic view of technology that too is too often implicit in assessments of the impact of the Internet in China, and which “leaves out the values and practices of the people using the technology, or the history, culture, and political economy of technological development and use” (Yang, 2011). By looking at how computers get domesticated in three Chinese villages, and how the Internet becomes, at time, part of the household dynamics, I aim at bringing back the agency of those who are usually relegated at the margins of economic and technological growth.

PART II USERS

The three villages where I carried out fieldwork all had ADSL Internet connection, but only the village in Hebei had a significant number of computer users. The village was close to a town, and people were in general better off than in the other sites, mostly because everybody, including older people, could easily find casual jobs nearby, or had family members who had migrated and helped financially those left behind. Proximity to the city also meant that there were more shops, and it was easier to find a variety of cheap computers, as well as installation and trouble-shooting assistance. As a result, several families have computers at home, and among my interviewees and from conversations in the village, there were three major motivations to buy (or start using) a computer. Families with children in school typically bought a computer ‘for school purposes’; young married couples receive one as a wedding gift; or couples with grown children may get their children’s older computers when they buy new ones. This meant that in many households there was a computer as well as someone, resident there or visiting regularly, able to use it more or less proficiently, to teach other people how to use it, or take care of the harder tasks (starting the machine, connecting to the Internet, opening a browser, finding a website or a program) to allow them to enjoy online games, tv and video watching, and video calls.

Children are often cited as a crucial factor in deciding to buy a computer, as parents do not want them to be left behind at school and miss out on opportunities that urban children have. Mrs. Kong’s daughter was 7 years-old, and just beginning to learn to write Chinese characters, but she could already find QQ games on the computer, and chat with her aunt in Beijing using QQ videos. The aunt was the one who originally bought the computer, and started the objectification and incorporation phases of domestication by placing it in an area of the house where it was accessible by the rest of the household, and by using it alongside her niece and other family members, until going online became part of the family routine. When the aunt moved to Beijing, she left the computer behind so that her niece and her family could use it. It is interesting to note that in cases where the computer remains the ‘domain’ of only one member of the household, his or her departure usually means that the computer is not used any longer. This was not uncommon: if young people left before their parents got interested enough in the potential of the computer and autonomous enough to operate it, the machine was usually abandoned until the original user came back, and started again the process of incorporation into the household. The young Ms. Kong was not so autonomous that she could search, or use instant messages – in fact, she had just began to study characters and pinyin at school and could barely write - but she was very aware of the marvels that the Internet offered her, and skillful at finding new games by clicking on icons, or asking for help and imitating her mother and her aunt. Or Mr. Guo’s 6-year-old son, who had been using a computer for more than a year when I talked to his father:

“Last year, at Spring Festival, my son started using the computer. I taught him how to use the mouse, so he watches cartoons by himself and plays simple games. I find them for him.”

Mrs. Tao and her husband, on the other hand, could not use a computer themselves, but had bought one when they were still living in Tianjin as migrant workers:

“We bought a computer in 2006, for my daughter. We paid 6,000 RMB for it! She was in middle school, and she started using it right away to browse (查词). She was 12 at the time. For her it is really, really useful for school.”

Or Mrs. Li, a returned migrant in Village A in Shandong, whose husband had learned how to use a computer in Internet cafes in Shanghai, and had decided that it could be a useful tool for work once they came back to his native village:

“我们买了是为了孩子让他们早点儿学习。”

The computer is one of the two in the village, and for now it is mostly used as a television screen, and as a game console for the 9-years-old daughter. In fact, playing games and chatting on QQ, rather than ‘looking up material for school’ is the main activity for children (and adults!) of all ages. The daughter of Mrs. Tao tells a rather different story of computer use than her mother’s: she recalls how when they were living in Tianjin her father came home with a computer for her. She was extremely happy, as until then she had only used it in other people’s houses, and started right away to play video games, which she bought and exchanged with friends. Her parents did not allow her to have the Internet until 2009, because, despite her mother’s protestations that it would be useful for school, they actually thought she would waste precious time that could be dedicated to homework. As soon as she was online, she started using QQ, with which she was already familiar from her trips to Internet cafes with classmates. Now she is very proficient at using the Internet – games, QQ, videos and music are her favorite activities, but every now and then she helps her parents to look up information for work. Neither parent has learned how to use the computer autonomously: her father usually asks her, and her mother depends more on her daughter-in-law. In fact, children often become the technology experts in the family. They learn the basics of computer use in the computer labs that were available in all the bigger villages near the research sites. Although computers were typically not connected to the Internet and each machine had to be shared between several students, the classes allowed all the students to become familiar with *pinyin* input and basic software use. After class, many students would assiduously practice their newly acquired skills in Internet cafes, under the tutelage of older friends or relatives. Thus even children who do not have computers at home are familiar with the technology and the opportunities it offers, and once their parents, relatives and neighbors acquire a computer, they are the ones called on to help.

The role that school-age children play in bringing ICT, or at least information about the potential of ICT, to their family has been noted by other scholars (Zhao 2008a), and unsurprisingly, interviews of young migrants in Beijing confirmed that this pattern of computer learning and the consequent children-to-parents training is common in other parts of China as well. For example, Mr. Qiu, a young man originally from Henan and currently living in Beijing, learned how to use a computer on his last year of elementary school. He had three classes per week, and learned how to type, how to open and save documents, and other basic tasks. When he was 12, he started going to an Internet café with his classmates, where, he said, there was always someone older to teach them, or simply to

watch and imitate. The first thing he did in an Internet café was to set up his QQ number and chat with strangers; at the time, it cost RMB 1.5 per hour, so he would skip breakfast to save the money for his daily online forays. At 16, he finally got his own computer, and when he moved away, first to Shanghai and then to Beijing, the computer remained at home with his parents. Before leaving, he taught them how to use QQ, because he thought it would be a good way to remain in touch, and cheaper than calling by phone:

"I didn't have much patience, because I had to repeat everything over and over and would get frustrated. At the end they finally learned how to use video QQ, and we could video every couple of days, if I had the time to go to an Internet café in Shanghai. My mother was a better student than my father, she paid more attention and had more patience. My father became frustrated very quickly and didn't want to listen, which made me mad and even less patient."

Now his parents, both in their late 40s, are more autonomous in their computer use, and at times his father is even using it for work, but Mr. Qiu remains the source of knowledge and advice for all things technical. The role of 'technical consultant' is a typical one for migrant workers, be it from a distance like in the case of Mr. Qiu, or during visit home, or when back in the village for good. Being in the city exposes young migrants to novelty, in terms of technologies, as well as in terms of fashionable websites and games, new software to watch film and television, etc. [Chu & Yang, 2006; Wallis 2010, 2011]. When they go back home, they spread this knowledge among their social networks – younger siblings, school friends who have remained in the village, parents and relatives. Returned migrants are also often the ones setting up small computer shops (Oreglia et al 2011, Wallis 2012), and integrating technology in their business. Mr. Hu, in Village B in Shandong, graduated from a Teachers' College in Jinan and spent his early 20s in a nearby city, teaching English and computer classes. He went back home one year because his father was sick, and then decided to remain, because his parents were getting old and needed his help, but also because he missed the slower pace of rural life. To make ends meet, he had multiple jobs: he farmed his own and his parents' land; he had transformed the front part of his courtyard into a parking space for bicycles and motorbikes; he occasionally acted as a cab driver, taking people from the bus stop to villages further away in his minibus; he taught computer and basic English to a few elementary school children; and he had opened a 'computer hospital' right in his house.



Mr. Hu's 'Computer Hospital'

Mr. Hu says that most of the computer issues that his clients bring him are not serious problems: sometimes there are mechanical issues such as keys missing from the keyboard, keys pushed inadvertently that lock programs or change something on the screen that users aren't able to change back, or disconnected cables; sometimes the dust that penetrates every surface in villages with unpaved roads becomes too much for the computers' fans; sometimes there are viruses that slow down everything, or create other errors. One day, when I was visiting his shop, a young man brought in a desktop and declared it broken. Mr. Hu put it on a chair, and connected it to his own monitor. There was no signal, so he disconnected it and took off the back of the tower to see what was the problem inside. The back came off followed by a cloud of dust: everything was covered with a thick patina of reddish dirt. Mr. Hu started cleaning everything carefully, then disconnected the motherboard and cleaned that too. A short while later the computer was up and running, connected to Mr. Hu's monitor and downloading an anti-virus. During this entire time, the owner of the computer, a local farmer who was more or less Mr. Hu's age, watched intently every step of the repair operation; he did not seem to not very comfortable with computers, but nevertheless asked a few questions. Mr Hu was very accessible: he explained all the steps he was taking with the diagnostics, and was very warm and patient. Later, as we were talking about the potential for the 'computer hospital' to grow, he acknowledged that by itself the business would not be a sufficient source of income: too few people were actually buying computers, or brought him costly repairs, and too many people brought him computers to fix that did not need much fixing, so he had to spend time to diagnose and clean the machine, but could not charge much for it. Still, he saw the shop as only one part of his diversified income portfolio, and valued it more for its potential than for its current value: he thought that technology in the countryside could only grow, and that if he got in the market early, he might be in a good position in the future. He also saw his role as very

much the role of a teacher. He had liked being a teacher in the city, because he had felt useful: teaching children English and computer basics, and explaining his computer repair work to his clients was a way to continue in that role. In a domestication perspective, he was helping the household with the process of incorporation of the computer in their daily life, which he could do because of how embedded he was in the community. When he showed me around the village, he stopped and exchanged a word with most of the people we ran across, and introduced me to most shop-keepers, who all knew him well. In this case, his shop and his business became an extension of the village's households, and the mix of his technical knowledge, entrepreneurship, and personal ties provided an anchor to attempts of using technology that might otherwise have failed. Clearly not all computer shop owners see their roles as a mix of entrepreneur and more or less free helper, and in fact he might be the exception: he and his family had other, reliable sources of income, and could afford to run this as an experimental activity. But among other young returned migrants who are trying similar activities – Ms. Hua who ran a mobile phones store in Village B, Mr. Lin who had just opened a computer store near Village C – there was an agreement that an important part of their activities consisted in setting up mobile phones and computers for their clients, helping them in figuring out the basics of use, and occasionally even looking up information online on their behalf. Together with young kids and migrants, they contribute to create an environment that allows diverse people to become familiar with technology, and to use computers and the online world, even if through an intermediary.

The role of intermediaries can be temporary, as in the case of Mr. Qiu teaching his parents enough that they could become independent users, or more permanent, as in the case of the young Ms. Tao, whose parents would not learn how to use the computer by themselves. This is often the case of older women, such as Ms. Tao's mother and many other women in all three villages, who have not had much education in their youth, who often could not afford to buy a computer or even a mobile phone by themselves (Oreglia 2012), and so depended on family members for both devices and instruction on how to use it. However, once they have access to technology, they are often able to integrate it in their lives and expand their existing activities. Mrs. Tao has had a mobile phone since 2008, initially only to stay in touch with her husband when he was away for work. More recently, however, she has discovered new functions, and she particularly likes reading romantic novels on her phone.

"My phone also has e-novels. (Q: are the novels already on the phone?) No, you download them on the computer, and then you transfer them to the cell phone. The phone can't go online, it has no Internet access. (Q: so how do you find the novels?) I don't! It's my daughter-in-law, she finds them on the computer, and then downloads them for me and puts them on my phone. I can't use the computer myself, it's usually my daughter-in-law who opens it for me, and finds me games, like 'landlord' (a card game), mahjong, things like that."

The daughter-in-law also taught Mrs. Tao how to take pictures, and now every time they visit Mrs. Tao takes pictures of her grandson. Watching other people – both family members and their peers – use technology is perhaps the most common way through which many women become curious about computers and specific functions. In this sense, for older, more marginalized people, living in a village provides a distinct advantage compared to living in a city, because different generations of a family still live together, and there is more 'communal life' such as impromptu visits to neighbors, daily chats on the way to and from the fields, time spent outside sitting and chatting in small, heterogeneous groups. This allows people who are outside of the circuit of fashion, modernization, advertising, and technology

use to be exposed to these phenomena, and to keep up-to-date with what younger, more educated and more urbanized people such as their children and grandchildren do. In early studies of technology domestication in the UK, it was noticed that for many older people “the computer was beyond their horizon not only because it would be difficult to master but because they could not envisage how they would fit into their lives and routines” (Haddon 2006:114). When the ‘unimagined user’ is surrounded by family members and friends who using technology and can observe first-hand their actions and the context of these actions, then the Internet becomes something concrete like a card game, or a QQ video call, or a different way to watch television, rather than an abstract concept tied to the city, a different economy, a different world. For Mrs. Ouyang, a 55-year-old farmer in Village C, a computer was something completely alien from her experience and the way she saw herself in the household and in the village. She did have a computer at home, but adamantly said that she could not use it at all: “电脑什么都不会!”. However, similarly to Mrs. Tao, it turned out that she could not use it autonomously, but she knew about several features, and with the help of her son she could play cards online, as well as use video-conferencing to talk with her daughters:

“I have a computer at home, but I can’t use it. (Q: not even a little?) No, not at all. (...) We bought it in 2008, when our son got married. (Q: did he buy it or did you buy it?) He was so young, where would he have gotten the money?! Of course we bought it, as part of the furniture we bought him when he got married. (...) (Q: did you buy the computer yourself?) Yes, we went to a specialized shop in the city. The elder daughter came back (from Beijing, where she is a migrant worker) and went with her brother to choose it, because she knows those things. We paid 5,400 RMB, it has a flat screen, very big. A lot of things like that it’s our daughter who helps buying them, because she lives in the city and has been in different places, so she knows what’s fashionable, what’s useful, etc. (...) Me? I can’t use the computer! The first time I touched it I didn’t know anything, so my son taught me how to use the mouse. But that was 2 years ago, when we bought the computer. Now I can use the mouse. (Q: Do you go online?) No! I can’t! But sometimes when my son is online and plays a game I tell him I want to play too, and then he finds a card game for me and helps me play. But I don’t play for a long time, because my eyes are not good, and I’m also afraid of ruining the computer... When I see my son playing, then sometimes I ask him to let me play. But not if he’s playing war games, those I don’t play, only when he plays cards then I join him. (...) (Q: Does your computer have a video?) Yes, but I can’t use it. (Q: has your son ever used it and you were there too?) Yes, we call my second daughter. I saw things on the video, too. I can talk to my eldest daughter, the one in Beijing, and see her, and I can also talk to my other daughter, and see her, her husband, and their son. The first time I thought it was fake, but then I could see that the image moved, and you can see the other people clearly, what they wear, what they are doing... We always use it in the evening. It was a while ago. My son was at the computer, and he had QQ open, so I saw that my daughter was online too, and I asked him to call her, so I saw them. (...) I can talk to people who are faraway fast, you just turn on the computer and talk to them, like a phone. If I miss my nephew, I can just see him in video, I don’t have to wait until they come to visit. That’s really nice.”

Mrs. Ouyang barely finished elementary school, and had difficulties with *pinyin*, with moving the mouse around, and with understanding the various steps needed to open the computer and launch the software she wanted to use. However, once she saw things she could relate to, such as playing cards, she immediately understood the utility that the Internet could have for her own goals, and how it could fit in her daily life – after all, she already played cards with her friends several times per week; playing on a screen and with

strangers was not such a big difference, and in fact might provide some variety in terms of fellow players. For her, independent use of a computer is very unlikely, unless there are serious changes in the interface. For other women, a similar start in use – tutored by a family member – can result in autonomous, if with difficulties, use, as Mrs. Yang describes:

“I started using (the computer) just now, to watch videos of dance. (Q: for example?) Oh, well, whatever I want to watch, I just watch! I know about Baidu (a search engine), but pinyin is very difficult for me, so slowly slowly. My daughter showed me how to search, and then she usually finds the videos for me too, then once she finds the page with the videos, I know how to click to watch them. She also helped our neighbor (Mrs. Li) to search for videos of dances, and now Mrs. Li can find them by herself too. Sometimes we look for these videos together. But it’s hard for us.”

Mrs. Li, who is slightly younger than Mrs. Yang, and who relies on Mrs. Yang’s daughter and her own son for computer help, confirms the cooperative work to look for dance videos:

“I can’t do anything on the computer! (Q: can you turn it on?) Yes, of course. Then Mrs. Yang’s daughter showed me how to find a dance video I was looking for, because sometimes in the evening I go to the city with her mother to dance in the square. So I watched that. (Q: can you watch it by yourself, or do you need someone to show you?) I can do that by myself. I can also search for things, on Baidu and other search engines. Pinyin is not a problem at all for me. I studied it very well at school, I was born in 1971 and at the time, at school, we all started from pinyin, so I know that very well. I don’t type fast, though, I’m very slow.”

The belief that computers are machines for more educated people, for younger people, for urban people and for men, is very widespread among both men and women, so it is expected that women, especially older women, would not be able to use them. As Mr. Guo says of his wife, who is only in her late 20s, but has never left the village,

“She does use the computer, mostly to chat. She uses QQ. Because she’s not well educated, so she doesn’t use it much, she can’t figure out a lot of functions, but she chats all the time”

But there is a positive aspect to this (self-)perception of inadequacy: women are more willing to ask for help, to be taught by their children, and to ask again when they forget or get stuck. Many middle-aged men did not like ‘not knowing’ about computers, and not being in a position to take them apart and figure out how to make them work, as they were – and are – used to do with mechanical machinery. This was confirmed both by men themselves, such as Mr. Yang, a man in his mid-40s in Village C who told his daughter that a computer had nothing of interest for him and that he did not *want* to use it (although it turned out that he did not want to be taught by his children, and would try to figure it out himself when they were not around), and by children who had tried to teach both parents how to go online. Mr. Qiu summarizes what many younger interviewees told me when he said that

“My parents can both use the computer now, because I taught them, but my mother was a better student than my father, because she was more attentive and patient.”

PART III USES

“Computers in the countryside are for games, it’s only for entertainment, and then for chatting, nothing else. In the countryside, most of the use is just for these purposes... I play games with

people I don't know. That's what you do on the internet, you always play with people you don't know, you just go online, and then find people and start playing. I told you, it's only about entertainment, people in the countryside don't use computers for business."

This is a common opinion of the rural Internet, shared by urban-based observers and rural residents alike. And indeed, there is a lot of online activity centered around playing games, watching tv and videos, chatting on QQ. The sophisticated Internet of searches and business is left to urban residents, and the 'browsing for school material' is a lofty goal for students that is never really expected to be fulfilled. But seeing the rural Internet as simply a tool for economic development, as much of the literature does, and contrasting a useful, urban Internet use with a time-wasting, rural Internet use geared at games and entertainment is short-sighted and ultimately pointless. Entertainment has been and still is one of the main drivers of Internet use worldwide³ and dismissing it as useless "masks an elitist and biased conception of internet culture and popular culture more generally" (Yang 2011). Moreover, entertainment is a way to get familiar with a technology that is very unfamiliar and without ready precedents, especially in rural settings.⁴ None of the interviewees cited above – Mr and Mrs. Li, Mr and Mrs. Yang, and even less Mrs. Ouyang - consider the Internet as a tool with the potential of dramatically changing their lives, or jobs perspectives. Rather, they see it as another tool in the weaving of social relationships and personal time, which can supplement—but not substitute for—existing social practices. All the migrant women I began following in 2007 in Beijing started to use the Internet in the same way Mrs. Yang, or even Mrs. Ouyang, started: they followed a friend or a co-worker to an Internet café, and were shown the ropes by more experienced users. Everybody was using QQ, so they signed up for a QQ account, and chatted with strangers and sometimes with former classmates. People were watching movies, so they watched movies too. Gradually, their confidence with the technology and their awareness of both the opportunities and the risks presented by it, increased, so they created new QQ accounts whose privacy they guarded much more carefully, and explored new ways of downloading music and watching movies and TV. In the course of the years, and as their skills, especially in terms of online search, increased, some women experimented with other ways of integrating the Internet in their lives, from looking for jobs and places to live, to shopping, to dating, and finding educational opportunities. Not all followed this path, and they have had mixed success, but they now have another 'weapon' in their survival strategy in the city.

The same path gradually will be taken by some rural residents, who will move from games to more 'business-driven' goals. The Tao family, who has a small electrical business, is trying to look for business opportunities online with the help of their son and daughter, although they usually follow up online leads with phone calls, as they think the phone is 'safer.' Mr. Li, who is a cab driver, has started looking up information about car repairs. Clearly, this behavior will not extend to the older generation of rural residents: they are

³ see for example the latest Pew Internet & American Life Project Tracking survey, <http://pewinternet.org/Trend-Data/Online-Activities-Daily.aspx>

⁴ In *What Video Games Have to Teach Us About Learning and Literacy*, Gee makes the point that video games succeed in engaging users and getting them to learn new tasks because they present information that users need to perform an activity they are engaged with, rather than offering theoretical learning. The same happens with Internet use, where students learn how to search so that they can find new games and interact with their friends. This provides them with skills that can then be transferred to other domains – although whether or not they will be transferred to other, more 'productive' domains depends on other circumstances.

unlikely to suddenly start using QQ by themselves, on a computer or on a mobile phone, and then move to banking online. There are also objective difficulties, with pinyin, with the unfamiliarity of the interface and of the conventions of use, which can be opaque also for younger and more educated users, as the following story told by Mr. Li and retold by his wife shows:

"I don't chat, though, I can't chat. I can't type either, can't at all. (Q: is it because of pinyin?) no, it's that it's too slow. One person writes to you one sentence, then you also write one sentence, it takes forever, it's not a pinyin question. Here in the countryside we type with one finger, we can't type otherwise, and it's too slow. There are some people who are better, especially young people, but mostly not. In the village there is a 30-year-old who can use a computer and can even fix viruses if they're not too complicated, because he's using the computer to play games all the time. He has a sense (悟性) for computers, but I don't." Mr. Li, Village C

"My husband was playing cards online, in a game with four people, all strangers, who teamed up by chance. He and his mate lost, and the mate was cursing him, so he wanted to swear at him too, and wrote the swearwords in the dialogue box, but didn't know how to hit enter and send it, so was incredibly frustrated." Mrs. Li, Village C

Mr. Li is young enough, educated enough, and willing to experiment (at least on his own), so he is becoming a more confident computer user, but older people are more dependent on their families to access the Internet. Sometimes this access is direct – Mrs. Ouyang piggybacking on her son's Internet use – sometimes it is indirect – people calling their children on the phone and asking them to look up information on the Internet (Oreglia, Liu & Wei 2011). This 'relatives-mediated' way of using ICT is much more aligned with the traditional way that many rural residents have of finding, receiving, and passing on information, e.g. in person and orally, rather than in writing and through the mediation of unknown information brokers (i.e. website owners). In these conditions a search query can be formulated in normal words, without Boolean operators or *pinyin* to complicate the picture, and the results are evaluated by people who are trusted; the results might not be the right ones, but the fact that they are delivered by familiar people makes them more reliable than possibly more accurate results delivered by unknown entities. The result is that even people who live away from resource-rich areas like cities can be connected to them through their personal ties and appropriate and mediated use of new ICT.

It is important to note that the role of 'technology mediators' is played equally by males and females, both within the household and in businesses. Although many young women I talked to referred to computers as something for males, they usually referred to what they saw as needing more technical skills: using specific software, building and repairing the machines. In terms of browsing sites, using social networks, listening to music, watching tv, there was both equality and perception of equality of use among males and females. For older people, computers were the domains of the young, without much distinction between males and females. This situation contributes to what in domestication theory is called a 'reconfiguration of the moral economy of the family,' which is defined as the way "different families and households managed their finances, exchanged and used money and other material and valued objects as a way of maintaining peace, order and economic viability within their four walls" (Silverstone, 2006:236). In the case of ICT, there is a reconfiguration of both economic relationships and skill-related dependencies within families. Young people are empowered because they are the ones who know how to use computers and go online, even though their parents are the ones with economic power who can decide to buy

computers and Internet access (or not). Older children who have migrated are the ones sending money back home, and bringing back mobile phones and computers for their families to use. This economic power shift contributes, to a certain extent, to a social power shift, where the old, still male-dominated generation defers to the younger one when it comes to ICT. This situation is well illustrated by the quote from Mrs. Ouyang above: she and her husband put up the money to buy the computer for her son, but it was the daughter who lived in Beijing who helped choose it, and the son who controlled it. Mrs. Ouyang emphasized how both children were very filial – the daughter always helped when she came back to visit, and the son was always very patient when Mrs. Ouyang wanted to play cards on the Internet or video-call the daughter. But older women are often the ones with the least say about the practical aspects of getting Internet at home: the computer is typically chosen by and belongs to someone else (children or husband); the decision to have an Internet connection is usually taken by their husbands even when the family budget is held in common, and even when it is the wife who can and is interested in using the computer, as was the case with Mrs. Yang. When the husband or the children decide to take away to computer, or not renew the Internet connection, women lose access to the technology in a pretty definitive way, as they don't even have the freedom to go to Internet cafes like young people do.

Age, dependency on other people, economic factors, farming seasons (spring and summer are busy seasons in the countryside, so there is less time for leisure and therefore Internet use) all create an on/off pattern of use that I did not encounter in the urban side of my fieldwork. Unlike the two other ICT that dominate the countryside – television and radio – which have been completely incorporated into the household and individuals' lives, the Internet has only been partially incorporated.

CONCLUSIONS

The depiction of rural residents as people who are not taking up the Internet because of their lack of skills and literacy (CNNIC 2012) is misleading, and this paper offers a counter-view, by showing that a focus on families and communities, rather than on individuals', might give a very different and more positive perspective on the diffusion, use, and usefulness of the Internet among rural populations. There are objective difficulties, as we saw earlier, but these should not obscure the richness of usage and of interest that exists in the countryside, and the amount of cooperation and sharing there is behind each rural IP address. If we look at the number of people using the Internet from a rural rather than the usual urban perspective, we might see a grandmother and her grandchild piggybacking on ICA use by a relative; we might see people who don't need to 'ask baidu,' because they can ask their neighbor, but who enjoy playing cards with strangers; we might see people who do not use *weibo* because in small villages the biggest problem is keeping news private rather than broadcasting it; we might see people who perhaps don't know what a computer or the Internet are⁵, but who can still video-conference with their grandchildren and play Farmville after having tilled the fields during the day. This indeed might just be a good place to begin exploring the effects that new ICT are having in the countryside.

⁵ As the CNNIC Report puts it, “然而农村居民自身缺乏电脑和网络使用技能是制约我国农村地区互联网发展的重要障碍：2011 年有 57.8% 的农村非网民表示 “不懂电脑/网络” 是其不上网的原因” (CNNIC 2012:22)

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