Acknowledging Differences for Design: Tracing values and beliefs in photo use

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This paper explores links between ethnographic approaches, technology design and use and values and beliefs. We document recent empirical work on the use of photographs amongst Chinese families; pointing to some differences with previous empirical studies from predominantly Western cultures and tentatively linking Chinese photo work to rather broader cultural values that may develop some 'sensitivities' for design. For some time ethnography has been interested in 'values' in methodological approaches and concerns. The notion of 'values' is also repeatedly called upon in ethnographic studies of (technology for) the home. In this appeal these studies tellingly echo Peter Winch's sentiments regarding how, in general, social life can be understood only through a understanding of beliefs. This paper documents and explicates photo work amongst Chinese families, linking the families' own explanations and comments about these practices to much wider, if particular, sets of social and cultural values and reflects on the potential influence of these values on technology design.

> "…both the ends sought and the means employed in human life, so far from generating forms of social activity, depend on their very being for these forms. A religious mystic, for instance, who says that his aim is union with God, can be understood only by someone who is acquainted with the religious tradition in the context of which this end is sought; a scientist who says that his aim is to split the atom can be understood only by someone who is familiar with modern physics."
> Winch, 2008:51

INTRODUCTION

This paper explores some of the links between ethnographic approaches, technology design and use and differing beliefs and values. In this sense it reflects on "Dō" as a sense of individual and communal mastery heritage and aesthetic and the importance of considering human values when conducting ethnography. We document some recent empirical work on the use of photographs amongst Chinese families; pointing to differences with previous design-oriented empirical studies from predominantly Western cultures and tentatively linking Chinese photo work to certain broader cultural values that we argue offer promise for developing some 'sensitivities' for design. For some time ethnography has been interested in 'values' in methodological approaches and concerns (Geertz, 1973). The notion of 'values' is also repeatedly called upon in ethnographic studies of (technology for) the home, from the earliest considerations of it as a target for new technologies. O'Brien et al. (1999) argue for the incorporation and accommodation of new technologies into existing household values because; "…*householders incorporate domestic technologies into the complex set of routines, rights, and obligations constituted in and through the social organization of the household*". Crabtee et al. (2003:2008) suggest that the home forces

attention on different groups of users and that design for the home requires a sensitivity to broader concerns – or "*cultural values*" – and activities.

> "The home offers new sets of challenges that move our understanding of interaction beyond the current focus on information and knowledge work. It exposes us to the demands of new user groups, including the elderly, the disabled and the mentally impaired [14, 5], and requires us to be sensitive to the impact of broader cultural values and the need to support activities other than work [7]."

Previous arguments more specific to the work we present here include Bell et al.'s (2000) use of an example of a school child's performance at school reflecting filial piety to argue for deploying an understanding of the broader cultural context when trying to understand the role of technology in homes in China. A similar argument about the intrusion of 'broad cultural values' into technology use has been made about photo taking and display by Richard Chalfen (1987:47):

> "Kodak culture appears to be designed and maintained by cultural and social prescriptions that remain in people's minds and are guided by public sentiment…It will become clear that picture taking habits and picture showing habits are guided by unspoken and unrealized social conventions." (ibid:47)

Chalfen's (1987) suggestion here is that snapshot use in the home is 'social' and, in being so, involves particular practices, conforms to certain norms, is selective regarding its audience and produces 'private' forms of communication, particular to the home 'community'. Chalfen (1987:139) also notes, in his discussion of 'Kodak culture', how the production and interpretation "camera-mediated life" involves placing an idealized notion of family on display:

> "Kodak culture promotes the visual display of proper and expected behaviour, of participation in socially approved activities, according to culturally approved value schemes. People are shown in home mode imagery 'doing it right', conforming to social norms, achieving status and enjoying themselves, in part as a result of a life well-lived. In short, people demonstrate knowledge, capability, and competence to do things 'right'. In these ways a sense of belonging and security is developed and maintained."

These authors argue strongly for the importance of recognizing 'broad cultural values' when attempting to understand photograph use, a sentiment shared by Peter Winch (2008:51) in the quotation above. However, there is rather less on exactly how they see the connection between such 'broad cultural values' and design. This 'gap' will become increasingly evident as we present a review of design oriented photography studies below.

It would be hard, indeed foolish, to disagree with general arguments for 'value-sensitive' design (e.g. Friedman et al., 2002). However, the 'values' are variously described in the design-centred literature. Friedman et al. (2006:349) describe values as "what a person or group of people consider

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important in life" [1] or "human values with ethical import" (Friedman et al., 2002). They also argue these 'values' are relevant to a given situation involving technology, evolve from "conceptual investigations" and list thirteen separate instances of such 'values' e.g. "human welfare", "privacy", "trust", "autonomy", "informed consent", accountability", "courtesy", "identity", "calmness". They are quite clear that they take a 'principled' approach: "such values have moral epistemic standing independent of whether a particular person or group upholds such values" (Friedman and Kahn: 2003:1186). Cockton (2006), in a seemingly pragmatic move, embraces a wider notion of 'values', noting (ibid:168) that "things of value are *worthwhile*, or things of *worth*". He distinguishes his Value-Centred design from Friedman and Kahn's (2003) Value-Sensitive Design: "VCD has a more open genesis, starting with the *worthwhile*, that is, whatever some people somewhere value, individually or collectively, irrespective of ethics, wisdom, style, taste, etiquette or the approval of others." Having shifted the focus of Value-Centred Design (VCD) from 'value(s)' to 'worth', he then pins worth on motivation(s): "The motivations of individuals and social grouping define what is worthwhile".

However we are less than convinced by the assumption that we know exactly which 'universal' values apply, whether they can easily be distinguished from practice at all or exactly which should somehow find their way into design. Behind many of the studies of technology use in the home and specifically the use and 'work' of photo technologies, lies an assumption both that there are discernable cultural values at play (see below) and that these work their way into technology use in some fashion. There is rather less on documenting exactly what those values are and even more rarely anything on where these values might come from and on how they might be linked to 'broad cultural values'. This is not to say that photo practices around the world do not exhibit family resemblances. However, there is a danger in taking similarities too far, for although "football, chess, patience and skipping are all games…it would be foolish to say that all these activities are part of one supergame, if only we were clever enough to learn how to play it" (Winch, 2008:18). Similarly there is a Brazilian style of football that is distinct from an English style and these styles are, at least to some degree, rooted in and affected by a particular culture and concerns about how football *should* be played.

This paper attempts to document and explicate photo work (Kirk et al., 2006) amongst Chinese families, linking the families' own explanations and comments about these practices to much wider sets of social and cultural values. Our starting point is simple. Returning to the sentiment of early studies of domestic technology and Winch's notes on social relations we describe 'broad cultural values' simply as 'beliefs about what people should do'. In this working definition we suggest that 'cultural' denotes being specific to a particular people in a particular location. This notion of values is only a working definition to frame our description, a definition that will, in fact, be informed through the description we present. We stress two further important points. Firstly, we have not superimposed a notion of values on this setting. The importance of values emerged from our examination of the families' practices and is therefore an integral part of the description we present here. Secondly, although our aim here is primarily pragmatic - to trace 'values' *in* design - we also wish to further inform the notion of 'values' *for* design through what we present.

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[1] This definition is derived from the Oxford English Dictionary.

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SOME KEY COMPARISONS

There has been a proliferation of (technology-centred) studies of photographs over the last ten years. We focus on two sets of studies that support the argument in this section that, although many may laud and acknowledge the importance of different 'cultural values' few actually study photograph use outside Europe and the USA and even fewer still attempt to illuminate or explore these 'cultural values'. We reviewed fifteen technology-oriented studies of paper-based and/or digital photos taken from the Computer-Human Interaction (CHI) or Computer Supported Cooperative Work (CSCW) literature between 2000 and 2007, paying particular attention to the purpose, approach, length, participants and output of the studies[2]. The review showed that almost all the studies that were explicit about the origin of their participants drew from people either in Europe or the USA except for Håkansson et al.'s (2006) study. Six studies did not describe the origin of their participants. The review also showed the propensity in these research communities to study individual people for relatively short periods of time: for 12 of the studies the single person was the focus of the analysis and only five studies exceeded one month in length. Most studies married examining and describing situated photo practices with proposals for technology (re)design, while Patel et al. (2005) and Cui et al. (2007) examined 'performance' through experimental approaches. Eleven studies achieved this through some form of fieldwork – interviews, observation etc. – or trial of a particular technology in the field. Five of the studies logged behaviour in some way other than through observation (e.g. data logging, a diary). Only two studies used laboratory experiments, and only one each used a critical literature review and prototyping. Thus many studies were "quick and dirty" (Hughes et al., 1994) and deployed to support practical, design-oriented outcomes. Harper et al., (2007) and Sellen et al. (2007) both used self-photography while Crabtree et al. (2004), Kirk et al. (2006) and Taylor et al (2007) were closest to the general approach we adopted in our own study.

A general preoccupation across the studies was 'photowork' with some discussion of design, whether that was design implications for photo technologies (e.g. Frohlich et al., 2002), the proposal of a design concept (e.g. Håkansson et al., 2006) or the evaluation of an existing design (e.g. Rodden et al., 2003). More 'theoretical' concerns included appropriation and visual communication (Voida & Mynatt, 2005) and memory (Harper et al., 2007; Sellen et al., 2007). Of all the papers, the findings presented in Miller and Edwards (2007) and Taylor et al. (2007), with their attention to privacy and obligatory concerns respectively, were the only papers with any clear focus on participant beliefs and values. In Miller and Edwards' (2007) case they addressed the impact of different ideas about privacy on photo sharing practices among two different generations of photo use 'cultures' studied – "Kodak Culture" and "Snaprs". Taylor et al. (2007) consider the role of particular family obligations in choosing which photographs to put on display in the home.

In contrast we found four studies from the (visual) anthropological literature (Chalfen, 1996; Chalfen, 1997; Harris, 2004; Chalfen & Murni, 2004) centred on social and cultural issues, including people's belief systems and society-specific observations. Each study not only examined photograph

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[2] Leichti and Ichikawa, 2000; Makälä et al., 2000; Frohlich et al., 2002; Rodden and Wood, 2003; Crabtree et al., 2004; Ljungblad et al., 2004; Patel et al., 2005; Voida and Mynatt, 2005; Cui et al., 2007; Håkansson et al., 2006; Harper et al., 2007; Kirk et al., 2006; Miller and Edwards., 2007; Sellen et al., 2007; Taylor et al., 2007

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use in detail and the (social) role photographs play in particular societies but also, more broadly, considered the *relationship* between photographs and the particular people focused on, leveraging the findings to provide insights into particular people's culture, including beliefs and values. These insights simply unraveled in the description. This may not appear a fair comparison; after all the former set of papers focuses on the practical enterprise of design while the latter focuses on describing and understanding photographic practices. However, since we are arguing for the importance of considering how 'broad cultural values' are deployed for different purposes we believe it is appropriate.

The suggestion then is that, in the need to inform design through often 'rapid' studies, the obvious "limits" and "circumstantiality" (Geertz, 2000) of the proposed designs have been left behind in the technology-oriented studies. We see a distinct recognition of the particular location and people when examining photograph(y) use in these studies yet acknowledgement of the potentially enormous range of practices and values in photograph use seems to have got lost somewhere in moving forwards to design. Perhaps because of the familiarity and similarity of these practices the importance of their differences has been forgotten. Keeping such variations and differences in mind through the design process is challenging. Our suggestion is that the notion of '(cultural) values' can serve as a reminder to be carried through the design process.

APPROACH

Over an extended period (between 18 months and 1 year) between 2007 and 2008 we studied five households in Chengdu city in China (Table 1). We recruited households subject to their availability, interest, willingness to be involved and use of both digital and 'traditional' photography. The households varied in terms of composition and life stage. The informant in Household 1 was widowed, while Households 3, 4 and 5 were all married couples with no children at home. Household 2 comprised a couple and their teenage daughter. The informants in Household 1 and 3 were retired while the members of all the other households, bar the teenage girl, worked full or part-time. Each household had one main informant (Informant x; x is the household number), although other members of Households 2, 3 and 5 participated. The main informants in Households 1, 2, 4 and 5 were all keen amateur photographers. All households knew at least one other household.

Our engagement with these households was through techniques inspired by "Cultural Probes" (Gaver et al., 1999) - deliberately constructed collections of materials and strategies used to explore and discover more about people's lives – along with ethnographic interview and observation. The Probes had properties of "space probes returning data over time from far away" (Gaver, personal communication) and "medical probes poking into intimate nooks and crannies" (ibid). This approach has parallels with anthropological studies of peoples where media are produced by (e.g. Hopi artist Victor Maseyesva among others) or with (e.g. Turner, 1992) and for local people. This approach also resonates with photo-elicitation approaches (e.g. Harper, 2002; Latham, 2003) where photographs, captured by either the researcher or informant, are deployed during interviews. Here participants responded to a series of open, under-specified instructions in a pack with a journal, digital camera and various stationery (e.g. pens, PostIts) asking them to take photographs and describe the role of photographs in their lives.

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Household	1	2	3	4	5
No. in home	1	3	2	2	2
Linked to	2, 3, 4, 5	1, 5	1	1	1,2
Age	65+	40+	70+	30+	40+
Gender	Female	Female	Female	Male	Male
Language	Mandarin, dialect	Mandarin, dialect, English	Mandarin, dialect	Mandarin, dialect, English	Mandarin, dialect, English
Religion	Buddhist	None	None	None	None
Time involved	Apr 07 - Oct 08	Apr 07 - Oct 08	Oct 07 - Oct 08	Oct 07 - Oct 08	Oct 07 - Oct 08

TABLE 1: Overview of the five Chinese households involved in the study

Thus we progressively explored and uncovered households' photo practices through Probes and interviews. We also asked each household to provide a 'photo tour' of their homes, pointing out and explaining photographs and how they used them. Each household delivered a journal with photographs pasted in and some textual description, a video-recorded ethnographic-style interview centred on their journal and a video-recorded home tour. This process involved, as we moved from one household to the next, at times revisiting and revising our findings. We interacted with Households 1, 3 and 5 through a translator (thus some quotations are in the third person) who knew the members of Households 1, 2 and 4 prior to the study and helped recruit them. We discussed our findings with the translator and Informant 5 periodically through the study and presented them with an earlier version of this paper for comment. Informant 5 provided particularly useful insights regarding Chinese values and beliefs through two in-depth interviews centred on our findings. Thus the three findings we present below emerged from an iterative and consultative process involving the informants, a key informant, a translator and us.

FIGURE 1: Probe 'pack' (left) and the first page of Informant 2's 'return'

THREE FINDINGS

All five households had readily appropriated aspects of photography that supporting showing, pointing to and handling photos with others present, giving them to and/or receiving them from others, collecting them and putting them in a particular place in the home, as well formally classifying and organizing them according to particular criteria. However there was more evidence of sharing and transferring via paper than digital means across the five households – all households preferred to give

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photographic prints to others for example. All households stored and archived photographs both via digital and non-digital means. These collections had different uses across households. There was evidence that Informant 1, 2 and 4 printed only what they considered the best photographs while storing and archiving more digitally. The connection between Household 3's digital and paper collection was weak – most of this participants' photos were in paper-based albums and did not have a digital equivalent. Household 4 did not have any paper photos in their home, albums or otherwise but stored and archived their photos digitally. Only Informant 3 did not take photos digitally or otherwise – the other 4 households used digital capture exclusively. Informant 3's participant simply collected, collated, and carefully stored photos

Table 2 below presents what the photos depicted in the five households' Probe returns. Each photograph in each return could inhabit a maximum of two categories. Thus the sum of the individual category numbers in the table exceeds the total number of photos (Photos (no)). *People* refers to individual family members living or dead (not necessarily personally known to the informant), *Vistas* to places, buildings, nature shots etc., *Events* to occasions of personal importance such as visits by relatives, attendance at events, and *Objects* to material artifacts – photo albums, cameras, computer monitors, a pram, calligraphy brushes etc.

Household	1	2	3	4	5
Photos (no)	33	32	8	68	30
People	13	5	8	12	20
Vistas	6	11	0	51	15
Events	11	5	3	2	4
Objects	20	16	0	11	1

TABLE 2: Overview of the five Chinese households involved in the study

The frequency of the category *People* consistently ranked highly across all five households. *Objects* ranked most highly for Households 1 and 2 probably because stressed the need to photograph photo equipment and technologies (although we gave identical written instructions to all households). Household 3, 4 and 5's returns were much more 'freeform' and, among these, Households 4 and 5 included a very high number of *Vista*-type photos. A general comment about each of the returns is that both Household 1 and 2, while including many 'functional' photos (e.g. of different cameras) also lapsed into 'family snapshot' and 'landscape' style photos in about a third and a half of their included photos respectively. All of Household 3's photos were either 'family snapshot' or 'social gathering' style photos, although the participant did include a newspaper clipping and a brochure of a relevant photo exhibition. Household 4 and 5's photos were the least 'personal' and the most 'documentary'-style in content. These returns included few family snapshots and many more pictures of urban life although among the 'Vista'-type photos the participant in Household 4 included 19 'pure' nature-type vistas (e.g. flowers) and the participant in Household 5 included six such photos.

In what follows, our aim is not to overstate and exaggerate differences between what we have observed in China with other 'non-Chinese' studies – indeed this would not be a fair description of what we have observed. Instead we wish to present specific findings from the households that both resembled practices in non-Chinese families - in Silverstone et al's (1992) terms, a particular

appropriation, objectification, incorporation and, to some extent conversion of photo technologies. We describe three practices that we believe both inform the notion of 'cultural values' and, through this informing, provide some support for design.

The public and private display of family photographs

The apparent regularity and significance of family visits to households and the integral involvement of photographs in these visits suggested that participants attached particular importance to the sharing of photographs. "*Okay, when she has new pictures, um, if she receives new pictures or if she has new pictures she normally, it's normal, she normally will show her family members when they come to visit her*" (Participant 1). Indeed, Participant 3 and 5 willingly produced paper photo albums and started talking about them in detail during the first visit to their homes. Participant 4 also shared digital photos and talked about them upon first visiting his home. Participant 2 and 4 suggested that this sharing also extended outside the home: "*She also, apart from sharing with family members, she also shares these pictures with her friends and she, she will talk about, uh, what they currently doing and, you know, things like that.*" (Participant 2)

> "Sometimes he gets together with other people, those people he hasn't seen for a while and they don't meet often so he takes picture of these people and he will give to these, give the pictures to these people…um, he will give as many as there are." (Participant 4)

FIGURE 2: Informant 2's semi-public photographs upstairs (left) and Informant 3's private photographs in the bedroom (right)

However, there was also certain etiquette governing the display and exchange of photos with regard to privacy and obligation. Four of the five households did not display personal family photos in 'public' spaces (Household 4 did not have any photos on display anywhere in the home) – only Household 1 displayed family photos in 'public' areas in the home. Households 2 and 5 had photographs of the household's members in areas of the home outside the bedroom: Informant 2 had five framed photographs of herself and her daughter in an area of her home for close friends only (Figure 2 (left)); Participant 5 had three small photos of himself and his wife opposite the front door. However these were not private or intimate photographs as with family photographs placed in bedroom (Figure 2 (right)): they did not feature affectionate poses and did not even include household members together in a photograph. These 'public' pictures were casual individual portraits bar one in

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Household 2 that included Informant 2 and her daughter. In this latter picture Informant 2's face was not fully visible.

Participant 2 noted the following with regard to her household's 'private' photo frames: "*And, uh, these pictures are, eh, the pictures she and her husband together and that's why they would put the pictures in their private rooms – so it, this is privacy.*" When explaining the difference between other photos in her home (e.g. Figure 2 (left)) and these photo frames she also noted:

> "And, uh, this, this place is actually for everybody, it's actually a public place. So she puts pictures that people can share, so that everyone can share. And this one, because it's privacy, private room, so, uh, only the pictures of, uh, she and her husband will appear. So the pictures normally are romantic and private."

Participant 5 described how the bedroom was the only private space in a Chinese home. "*We have a different understanding of privacy. For Chinese maybe I don't know where is the private space…only bedroom maybe.*" He elaborated concerning his opinion on Chinese notions of privacy with regard to the public display of photographs in the home:

> "…for Chinese people, they've got a different understanding with, um, photos. For them, maybe take some photos, is just leave some good memories of Life so, um, so perhaps they think all these things they see from the photos are private they don't want to show it to anybody."

The capturing and viewing of nature photographs

The frequency of 'Vista'-type photos and, in particular nature shots (see Table 2 above), among households' Probe returns and the interviews we conducted with them indicated to us that, for these households at least, these photos had particular significance. When asked about what she used these 'Nature' photos for, Informant 1 replied:

> "Because she likes Nature, so she likes take photos of flowers and nature views and she feels very comfortable and she, when she takes photos of these nature features she feels very comfortable, very happy, it, it seems that, um, she feels like she is in arms of the Nature and when, when she comes back with the photos she normally appreciate them by herself if her friends are not there but when the friends are with her she will share the photos with them as well."

Participant 2 noted: "*She, she especially like flow, likes flowers and she has a special album for flowers…different seasons suits different flowers so every, every year during the special season for the flowers, for different flowers she will go out to take pictures of flowers.*" Thus there was a sense of marking particular seasons though these photographs. Informant 2, when asked about why she took photographs of her roof garden, noted: "*Um, uh, she does take pictures of her own garden because the garden change, is very changeable – she likes gardening too so she li, likes to record the change of the garden.*"

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However this appreciation of Nature photographs was not entirely singular. Two of the families actually shared and discussed Nature photographs. Informant 5 noted the following with regard to Figure 3 (left) below: "*And also sometimes if you think, like this, something, something like this [pointing to a picture of a flower], if I like it or maybe I will sent it to my friends to share [indistinct] with my friends…email or use the QQ.*" This informant also described going on excursions to the countryside to take Nature photographs. He noted with regard to the photograph in Figure 3 (right): "*I went to Dongla Mountain to see the red leaves. I kept the scenery and I kept my memory which I will share with my friends.*"

FIGURE 3: Informant 5 pointing to a photograph of a lotus flower in a photo album (left) and a treescape photograph taken during an excursion (right)

FIGURE 4: Informant 1's landscape photograph of the rapeseed flower in Spring (left) and Informant 4's close up flower photograph (right)

Informant 4, in a comment next to the photograph in Figure 4 (left), noted the importance of taking photographs during Spring - the season of a very important Chinese festival: "*It's Spring again. We went to the countryside to appreciate Spring scenery! I always take lots of pictures of Spring flowers.*" This informant wrote next to a photograph of Jiu Zhai Gou, a place famous for its beauty: "*The Heaven in the Human World*". These landscape photographs marked a distinct kind of Nature photograph, as did close-up flower photographs (Figure 4 (right)).

From the data above it seems that these Nature photographs supported remembering and marking the seasons for these Informants. However Informant 5 also noted the importance of visiting a particular place for Chinese: "*Chinese, they've got a tradition of visiting the place, the nice place. This is part of the Chinese culture…If you see more, the flowers, the mountains, the beautiful things your heart could be much more pure.*"

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Informant 1 above also suggested that Nature photographs gave her comfort. For Informant 5 these photographs evoked positive feelings:

> "Because Nature is the most beautiful thing in the world is the natural things, flower things, trees, mountains so they want to keep the memory of that or they want to keep the beautiful things in their mind…it's not just in their mind but also in, on the paper, anytime if they want to, if they want to think about this…they can just take a look…"

The viewing of particular family photographs

From Table 2 it seems that among the older informants the 'People' category of photograph was more common. However, if we consider a photograph of a photograph of a family member to qualify for the 'People' category, against the 'Object' category, 15 of Informant 2's 32 photos in her return depicted family members. In contrast, only four of Informant 4's 68 photos and none of Informant 5's photos included family members, despite both including people in many photos. A notable difference between Household 2 and Household 4 and 5 is that there are two children in Household 2, one who lives there.

As we have already noted, it was unusual for these Chinese families to display personal family photographs in public areas in the home. However, Informant 1 displayed photos of her family on a family 'photo wall' (Figure 5 (left)). When asked about this she noted:

> I put on these pictures according to three considerations. First I have already recovered from the death of my husband therefore I want to look at him every day and therefore I centralise my husband and chose the meaningful photos during our life around him. Secondly my grandson [grandson's name] was about to go to Vancouver with his Mum and my husband was very fond of [grandson's name] and thought he was very important so in order to let [grandson's name] remember his grandfather forever and also realise grandfather's expectation of him so I chose lots of pictures of [grandson's name] and grandfather together. Thirdly my granddaugher [granddaughter's name]'s birth brought the whole family a lot of joy. In order to introduce her to everybody I chose some pictures from [granddaughter's name]'s birth until she was 2 years old to put on the wall.

FIGURE 5: Informant 1's 'photo wall' (left) and her son looking at an introduced digital photo frame (right)

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This informant also loaded photos of her grandson (e.g. Figure 5 (right)) on a digital photo frame that we gave her so that her son (the boy's father) could see them when he visited. Her grandson was currently studying in Canada. She placed the photo frame next to the front door to facilitate ease of viewing. When asked about this she commented:

> "[Grandson's name] always emails Informant 1 his pictures and [son's name] doesn't have any time to look at his son's photos because he doesn't use email so Informant 1 puts all his photos into the photo frame for [son's name] to look at. And he hasn't had time to look enough of this so he brought this photo frame into his office to continue to look."

Informant 3 was diligent in meticulously collecting and collating photos in albums. Figure 6 below depicts black and white photographs from one of Informant 3's photo albums. Informant 3 told the following story while talking about Figure 6 (left):

> "This is also me [pointing to the little girl in the middle]. This is her house [pointing to the girl on the left]. She is American…Both of them were my friends, my childhood friends. Her father [pointing to the girl on the left] met my elder brother in America so her father gave him this picture to bring back to China. The photo travelled from far away. It traveled all around the world."

FIGURE 6: Informant 3's photo of herself in her childhood with an American family friend (left) and studio photograph's of, clockwise from left, her husband's parents, mother with him and grandmother with him (right)

On a separate occasion she described the photographs in Figure 6 (right): identifying people in them and the occasion of the photograph. For example, when describing the central photograph in Figure 6 (right) Informant 3's husband noted: "*This is my mother…One month old. It's a probably a picture to celebrate [me] being one month old.*" While describing the photographs in Figure 6 (right) we passed photographs from one person to the other. This both supported turn-taking (e.g. an indication that the translator should listen and the solicit more information through questions) and moving onto another topic of conversation (e.g. from Informant 3's one month birthday to his parents).

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DISCUSSION

What we have tried to do here is, through the informants' own words, describe the order and 'sense' in their photographic practices. The account and argument we have presented is not only supported by multiple forms of evidence - photographs by informants and us, journal entries by informants, informant descriptions of their homes and in-depth ethnographic interviews - but has also been jointly constructed. Through the Probes informants could uncover and reveal their 'culture' to us and put it on display for us. What we present here was enquired into and 'discovered' by them as much as by us. At the very least what we have documented here is "in terms of concepts which are familiar to the agent as well as the observer" (Winch, 2008:45). Thus our interest has been in what people do and in taking seriously what people actually say about what they do, recognizing, of course, that these are just 'versions'. Now we wish to consider the 'broad cultural values' within these findings and the role they might play in informing design.

We pointed out above that there is little in the way of comparative work examining photograph(y) practices. On the other hand, in the rush to contrast and politicize "Asian" against "Western" (or particularly "American") values in the 1990's there was often scant attention paid to what ordinary people actually do and how these supposed values really play out in the course of mundane behaviour. Looking at the detail we see similarities and differences not polarities concerning what these households feel they 'should' do with photographs. In simple terms these families think they should not display intimate family photographs publicly while they feel they should capture and view beautiful photographs and remember family members through photographs. These broad cultural values, or 'code' to which we refer may have their roots in various religious beliefs and concepts; and whilst we are all too aware of the dangers of attempts to effectively 'pick and mix' in the sweetshop of religious ideas, these ideas require some small exposition. There are over 100 million followers of various religious faiths in China including Buddhists, Muslims, Christians and Daoists. Confucian ideas, or more generally a "Chinese value system" (Yin, 2003) arguably infuse society (Yang, 1967). The fusion of various formal religions and folk beliefs in China is often referred to as "popular religion" or "…a common underlying set of beliefs and practices… the specific strands of canonical Chinese religion: Confucianism, Daoism and Buddhism" (Adler, 2002:105). Even after the importing of Western ideas, particularly Communism, some claim Confucianism continues to hold sway in China: "Confucianism continues to deeply influence every Chinese, whether he likes it or not, for it is an essential ingredient of the culture that has made him what he is" Creel (1953:242). Similarly, Creel (1953:114) claims that Daoism forms an essential part of "the Chinese spirit": "The Taoist emphasis on man's oneness with nature has inspired Chinese art and has given the Chinese people much of the poise that has allowed their culture to endure."

These different religious beliefs and philosophies, particularly in a society of "diffused religion" (Yang, 1967)[3], also remind us that the notion of values is something *distinct to a particular group* that people *carry out* in their everyday lives through photographic practices involving technology. They also

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[3] An important distinction is between what Yang (1967) terms "institutional" and "diffused religion". The former is "religion that is practiced in social institutions that are specifically and uniquely religious" whereas the latter is "practiced in "secular" social settings such as the family, the community and the state" (Adler, 2002:105).

remind us of the subtly different ways in which they are carried into and relate to practice. However, we cannot presuppose what these rules might be and how they might play out in particular contexts, although we may have some idea what they might be or else how might we ever understand them? Both the Chinese households we have described and the Western households described in the literature review (e.g. Taylor et al. 2007) behave according to obligations, and yet these obligations have subtle differences in the way(s) they play out in practice. Thus, as Orlikowski (2000:421) suggests such 'rules' are "enacted by the recurrent social practices of a community of users". Thus our gripe with some of the studies reviewed is less their focus on 'Western' photo practices alone than the failure to acknowledge the limits of the particular aspects of the designs they promote through their work i.e. that all designs may not work for all people.

We took the stand that values are 'beliefs about what people should do' at the beginning of this paper and suggested a need to consider 'broad cultural values' in design. This definition couples values and behaviour – values are not somehow 'held' but are 'done'. A further progression in this approach is to view our families' orientation to particular religious notions as they talk about their photo practices along the lines of Wieder's (1974) account of "telling the code". In this view the "code" is used as displays, or "accounts" of actions. In layperson's terms we can understand it as 'the way we do things around here' although that 'way' may not be explicated in isolation from practice by those following (despite being recognizable). In this view when a household talks about Nature or family relations and obligations it is not simply reciting some set of religious rules but sharing, defining and performing joint actions, accounting for their actions in terms of conformity to the code as a "method of moral persuasion and justification". As such it is used as displays or accounts of what those actions 'obviously' are. As Heritage (1984) argues, this analysis:

> "vividly demonstrates that where sociological research encounters institutional domains in which values, rules or maxims of conduct are overtly invoked, the identification of these latter will not provide an explanatory terminus for the investigation. Rather their identification will constitute the first step of a study directed at discovering how they are perceivedly exemplified, used, appealed to and contested."

In Confucianism a key concept in a 'good society' is 'ritual' or practices – "all those "objective" prescriptions of behaviour, whether involving rites, ceremony, manners, or general deportment, that bind human beings and the spirits together in networks of interacting roles within the family, within human society, and with the numinous world beyond" (Schwartz, 1985:67). This is a concern with moral behaviour not just the details of ritual. Similarly, we suggest that the way family photographs are made public (or not) in the home are indications of what these families consider to be *good, polite practice* involving certain "rules of propriety" (Creel, 1953:29) regarding their display and sharing for particular audiences. As Informant 5 noted:

> "The character of Chinese is…one side of that is to uh…they like to share everything they hide with people if, if they trust this one, the people. So, most time we like to share all the things with our friends."

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We also suggest that Daoism, with its emphasis on communion with Nature and quietness, may help us understand this practice of capturing and reviewing Nature photographs in this particular context. As Informant 5 noted:

> "So if you can do something make yourself close to the Nature or being in part of that Natures it's a very meaningful things for, for Chinese. So when you take some photos you can feel you are very close to Nature or part of the Nature…It's connected the human being and the natural world…and the photos is like a bridge: you can just cross the bridge to get to the, be part of the Nature."

Likewise notions of ancestor veneration and filial piety, seem helpful: indeed, Informant 1, a widow, defied cultural conventions in order to display photographs of her husband in her home. Any ancestor veneration seemed much closer to simply remembering particular deceased people important to the family in the course of everyday life – in the case of Household 1, Participant 1's husband through the display of photographs and, in the case of Household 3, Participant 3's husband's parents circulating and talking about photographs. Within those practices - how photographs framed family relationships particularly through ordering - important family relationships became evident.

It is also important to note that any such 'values' are tied to practices and that as these practices may vary so may the values. This is a recognition that is particularly important in cross-cultural contexts. In this case perhaps 'broad' is the wrong term – although these 'values' are recognised as having impact on people's lives (e.g. filial piety), they are most specific and 'local' to the informants we describe here. This is not to embrace moral skepticism but to state that these 'values' are dependent on particular practices, like language is dependent on social interaction:

> "The impression given is that there is language (with words having a meaning, statements capable of being true or false) and then, this being given, it comes to enter into human relationships and to be modified by the particular human relationships into which it does so enter. What is missed is that those very categories of meaning, etc. are *logically* dependent for their sense on social interaction." (Winch, 2008:42)

Yet design-centred listings of 'values' seems to be particularly centred on 'the West' - 'autonomy', 'identity' etc. - or have 'Western' versions of these 'values' e.g. privacy as an individual right. We have to be careful here because, as with the sharing and display of photographs, across different settings the notion of 'should' may both be differently expressed in practices and accounts of those practices. Being too quick to embrace universals without acknowledging the context-specific differences or, in Weider's terms 'the code', may make us equate e.g. notions of family obligation over the display of photographs in 'Western' homes with the subtly different obligations regarding the production and circulation of photographic prints for those depicted in photographs for the families here.

Other work has established the existence of photo management practices in the home (Kirk et al., 2006). With the families we have examined, such management practices certainly exist and as contributing to the accomplishment of family life that we believe "photowork" (ibid) sustains. The findings here suggest that the practices around photography reinforce important rituals in family life,

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connect with Nature and preserve the family involving both those who are alive and dead. In this account family is less being represented or simulated through photographs than being held together because of a photograph's materiality. The materiality of paper-based photos means co-presence is an important determinant of being shared. Thus the photograph in these households supports a series of practices that are integral to family life. This seems an important observation when developing new designs.

These findings are also significant for they remind us how values can become subtly yet permanently ingrained into designs. Cognizance of values act as a reminder, a check concerning what we are propagating through particular designs. We suggest that our study also shows that in homes in the future there may be a role for sharing photos digitally, over a distance synchronously, particularly with distributed families. There are design challenges for such technologies' support for 'photo-talk', as Crabtree et al (2004) point out, but also opportunities for technologies that carefully and ingeniously support subtle variations in photographic practices. We suggest that minimal technologies that are 'open' enough to be tamed and transformed within the context of the home are appropriate to support photos in family life in the kinds of households we describe here. Based on what we have described other potentially important features would be: being aware of others viewing and sharing photos; appropriate security regarding publishing and sharing; 'stitching' of landscape photos, magnification of photos of flowers and; access to genealogies through photos.

CONCLUSION

What we have argued here is that in examining and designing for photo practices in Chinese households it is important to consider certain important enduring values at play – values about what one should do in order to be 'polite', values about what the value of beauty in Nature is considered to be and values about family and family members. We do not want to glibly push the argument that these practices represent "Asian values" that contrast strongly with what we have observed both in the literature and in our own studies in 'Western' homes. Instead, through documenting particular trajectories of use and considering photography as an evolving practice (Shove et al., 2007), we document ways in which practices around photography are grounded in sets of broad cultural values. In this regard, through considering photograph use in the light of Chinese thought and religion we have argued there are subtle but important differences between photography in the West and photography in China.

This study has also represented a genuine (and, we think, rare) foray into understanding photo practices and broader cultural values in Chinese households. We readily acknowledge that our findings have particular limits and circumstantiality; after all the families represent a total of ten people in a country with a population of over 1.3 billion. However the work presented here contributes to a growing corpus of studies, a corpus that documents both similarities and differences in "photowork" (Kirk et al., 2006), providing confirmation of a range of practices already documented, such as family obligations and their realization through the sharing and display of photos (Chalfen, 1987). We also provide important detail of the specifics of how these activities are accomplished or mutually achieved. So while a number of writers have commented on the idea that family photos might be regarded as essential in turning a 'house into a home' in delineating the public and the private space (Rose, 2003);

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precisely and exactly how this is done, achieved or accomplished varies according to the particular characteristics of the setting. It is precisely these characteristics that we are simply attempting to understand and appreciate through documenting a range of practices that suggests that all family photos and photo collections are not the same.

By seriously recognizing differences, as well as similarities and acknowledging the close coupling between practices and values, the chance of us imposing designs on others that are not 'value-sensitive' is reduced. What we have pointed to in this paper is the importance of recognizing particular values related to technology use through detailed examination of informants' lives, as opposed to 'top down' approaches. Ethnography as a method is ideally equipped to achieve this but we have also pointed to the role of other approaches involving 'Probes' and self-photography. We have also argued for coupling ethnographic-type investigations with the question: 'What are these informants beliefs about what people should do?' Although these answers may not be radically vary, we suggest the importance of acknowledging differences. For us, the answer to this question was itself informed by investigations into Chinese religious beliefs – beliefs that served to remind us of the differences we were working with – identified as relevant. We suggest there is utility in carrying forward and referring to such answers throughout the design process.

NOTES

REFERENCES
Adler, Joseph A.
2003   *Chinese Religious Traditions*. London, UK: Laurence King Publishing Limited.

Bell, Genevieve, Blythe, Mark and Sengers, Phoebe
2005   "Making by Making Strange: Defamiliarization and the Design of Domestic
                Technologies." *ACM Transactions on Computer-Human Interaction* 12, no. 2, 149-173

Chalfen, Richard
1987   *Snapshot Versions of Life*. Bowling Green: Bowling Green State University Press.

1996   "The Case of "Doubutsu No Haka No Shashin": The Use of Snapshots in Japanese Pet
                Cemetaries." In *Proceedings of the 1996 International Visual Sociology Association Meetings*, 273-
                84.

1997   "Japanese Home Media as Popular Culture." In *Proceedings of Japanese Popular Culture
                Conference*, Victoria, British Colombia, Canada.

PIONEERING THE PATH

Chalfen, Richard and Murui, M.
2004   "Print Club Photography in Japan: Framing Social Relationships." In *Photographs Objects Histories: On the Materiality of Images Material Culture*, edited by Elizabeth Edwards and Janice Hart, 166-185. New York: Routledge.

Cockton, Gilbert
2006   "Designing Worth is Worth Designing." In *Proceedings of the 4th Nordic Conference on Human-Computer Interaction*, 165-74. New York: ACM.

Confucius
              The Doctrine of the Mean. In *The Confucian Analects, The Great Learning & The Doctrine of the Mean*, translated by James Legge (1971), 382-434. New York: Dover Publications.

Crabtree, Andy, Rodden, Tom, Hemmings, Terry and Benford, Steve
2003   "Finding a Place for UbiComp in the Home." In *Proceedings of the 5th International Conference on Ubiquitous Computing, LNCS 2864*, edited by Anind K. Dey Albrecht Schmidt and Joseph F. McCarthy, 208-226. Berlin Heidelberg: Springer-Verlag.

Crabtree, Andy, Rodden, Tom, and Mariani, John
2004   "Collaborating around Collections: Informing the Continued Development of Photoware." In *Proceedings of the 2004 ACM Conference on Computer-Supported Cooperative Work*, 396-405. New York: ACM Press.

Creel, Herrlee Glessner
1953   *Chinese Thought: From Confucius to Mao Tse-Tung*. Chicago: The University of Chicago Press.

Cui, Jingyu, Wen, Fang, Xiao, Rong, Tian, Yuandong and Tang, Xiaoou
2007   "EasyAlbum: An Interactive Photo Annotation System Based on Face Clustering and Re-ranking." In *Proceedings of the 2007 SIGCHI Conference on Human Factors in Computing Systems*, 367-76. New York: ACM Press.

Friedman, Batya, Kahn, Peter H. Jr. and Borning, Alan
2002   *Value Sensitive Design: Theory and Methods*. University of Washington, Department of Computer Science & Engineering Technical Report 02-12-01.

2003   "Value Sensitive Design and Information Systems." In *Human-Computer Interaction Handbook and Management Information Systems: Foundations*, edited by Ping Zhang and Dennis Galletta. Armonk, New York: M.E. Sharpe.

Friedman, Batya and Kahn, Peter H. Jr.
2003   "Human Values, Ethics, and Design." In *The Human-Computer Interaction Handbook: Fundamentals, Evolving Technologies and Emerging Applications*, edited by Julie A. Jacko and Andrew Sears. Hillsdale, NJ: L. Erlbaum Associates Inc..

Acknowledging Differences for Design

Frohlich, David, Kuchinsky, Allan, Pering, Celine, Don, Abbe and Ariss, Steven
2002   "Requirements for Photoware." In *Proceedings of the 2009 ACM Conference on Computer-Supported Cooperative Work*, 166-75. New York: ACM.

Gaver, William, Dunne, Anthony and Pacenti,
1996   "Design: Cultural Probes." *Interactions* 6, no. 1, 21-9

Geertz, Clifford
1973   *The Interpretation of Cultures: Selected Essays*. New York: Basic Books.

2000   *Available Light*. Princeton: Princeton University Press.

Håkansson, Maria, Gaye, Lalya, Ljungblad, Sara and Holmquist, Lars Erik
2006   "More than Meets the Eye: An Exploratory Study of Context Photography." In In *Proceedings of the 4th Nordic Conference on Human-computer Interaction*, 262-71. New York: ACM.

Harper, Douglas
2002   "Talking about Pictures: A Case for Photo-elicitation." *Visual Studies* 17, 13-26

Harper, Richard, Randall, Dave, Smyth, Nicola, Evans, C., Heledd & Moore, R.
2004   "Thanks for the Memory." In *Proceedings of the 21st British HCI Group Annual Conference on HCI 2008: People and Computers XXI*, 39-42. Swinton, UK: British Computer Society.

Harris, Clare
2004   "The Photograph Reincarnate: The Dynamics of Tibetan Relationships with Photography." In *Photographs Objects Histories: On the Materiality of Images Material Culture*, edited by Elizabeth Edwards and Janice Hart, 132-147. New York: Routledge.

Heritage, John
1984   *Garfinkel and Ethnomethodology*. Cambridge, UK: Polity Press.

Hughes, John, King, Val, Rodden, Tom, Andersen, Hans
1994   "Moving Out of the Control Room: Ethnography in System Design." In *Proceedings of the 1994 ACM Conference on Computer-Supported Cooperative Work*, 429-438. New York: ACM Press.

Kirk, David S., Sellen, Abigail J., Rother, Carsten, and Wood, Kenneth R.
2006   "Understanding Photowork." In *Proceedings of the 2006 SIGCHI Conference on Human Factors in Computing Systems*, 761-70. New York: ACM Press.

Latham, Alan
2003   "Research, performance, and Doing Human Geography: Some Reflections on the Diary-photograph, Diary-interview Method." *Environment and Planning A,* 35, 1993-2017

PIONEERING THE PATH

Leichti, Olivier and Ichikawa, Tadao
2000   "A Digital Photography Framework Enabling Affective Awareness in Home
            Communication." *Personal Technologies* 4, no. 1, 6-24

Ljungblad, S., Hakansson, M., Gaye, L., and Holmquist, L. E.
2004   "Context Photography: Modifying the Digital Camera into a New Creative Tool. In
            *Proceedings of the 2004 SIGCHI Conference on Human Factors in Computing Systems: Extended
            Abstracts*, 1191-94. New York: ACM Press.

Makälä, Anu, Giller, Verena, Tscheligi, Manfred and Sefelin, Reinhard
2000   "Joking, Storytelling, Artsharing, Expressing Affection: A Field Trial of How Children
            and their Social Network Communicate with Digital Images in Leisure Time." In
            Proceedings of the 2000 SIGCHI Conference on Human Factors in Computing Systems, 548-54.
            New York: ACM Press.

Miller, Andrew D. and Edwards, W. Keith
2007   Give and Take: A Study of Consumer Photo-Sharing Culture and Practice. In *Proceedings
            of the 2007 SIGCHI Conference on Human Factors in Computing Systems*, 347-56. New York:
            ACM Press.

O'Brien, Jon, Rodden, Tom, Rouncefield, Mark, Hughes, John
1999   "At Home with the Technology: An Ethnographic Study of a Set-Top-Box Trial." *ACM
            Transactions on Computer-Human Interaction* 6, no. 3, 282-308.

Orlikowski, Wanda J.
2000   "Using Technology and Constituting Structures: A Practice Lens for Studying
            Technology in Organizations." *Organization Science* 11, no. 4, 404-428

Patel, Dynal, Marsden, Gary, Jones, Steve, Jones, Matt
2003   An Evaluation of Techniques for Browsing Photograph Collections on Small Displays.
            In *Mobile Human-Computer Interaction - MobileHCI 2004*, *LNCS 3160*, edited by Stephen
            Brewster and Mark Dunlop, 132-43.
Rodden, Kerry and Wood, Kenneth R.
2003   "How do People Manage their Digital Photographs?" In *Proceedings of the 2003 SIGCHI
            Conference on Human Factors in Computing Systems*, 409-416. New York: ACM Press.

Rose, Gillian
2003   "Domestic Spacings and Family Photography: A Case Study." *Transactions of the Institute of
            British Geographers* 28, 5-18

2007   *Visual Methodologies: An Introduction to the Interpretation of Visual Materials*. Los Angeles: Sage.

Sellen, Abigail, Fogg, Andrew, Aitken, Mike, Hodges, Steve, Rother, Carsten and Wood, Ken

Acknowledging Differences for Design

2007   "Do Life-Logging Technologies Support Memory for the Past? An Experimental Study Using SenseCam." In *Proceedings of the 2007 SIGCHI Conference on Human Factors in Computing Systems*, 81-90. New York: ACM Press.

Shove, Elizabeth, Watson, Mattew, Hand, Martin and Ingram, Jack
2007   *The Design of Everyday Life.* Oxford: Berg.

Silverstone, Roger, Hirsch, Eric and Morley, David
1992   "Information and Communication Technologies and the Moral Economy of the Household." In *Consuming Technologies: Media and Information in Domestic Spaces*, edited by Roger Silverstone and Eric Hirsch. London and New York: Routledge.

Taylor, Alex, Swan, Laurel, and Durrant, Abigail
2007.   "Designing Family Photo Displays." In *Proceedings of the Tenth European Conference on Computer Supported Cooperative Work*, edited by Liam Bannon, Ina Wagner, Carl Gutwin, Richard Harper and Kjeld Schmidt, 79-98. London: Springer-Verlag.

Turner, Terence
1992   "Defiant Images: The Kayapo Appropriation of Video. *Anthropology Today* 8, no. 6, 5-16.

Voida, Amy and Mynatt, Elizabeth D.
2005.   Six Themes of the Communicative Appropriation of Photographic Images. In *Proceedings of the 2005 SIGCHI Conference on Human Factors in Computing Systems*, 171-80. New York: ACM Press.

Weider, D. Lawrence
1974   *Language and Social Reality: The Case of Telling the Convict Code.* The Hague, Mouton.

Winch, Peter
2008, 1958   *The Idea of a Social Science.* London: Routledge and Kegan Paul.

Worth, Sol
1980   "Margaret Mead and the Shift from Visual Anthropology to the Anthropology of Visual Communication." *Studies in Visual Communication* 6, no. 1, 15-22

Yang, Ching Kun
1967   *Religion in Chinese Society.* Berkeley: University of California Press.

Yin, Lee Cheuk
2003   "Do Traditional Values Still Exist in Modern Chinese Societies?" *Asia Europe Journal* 1, no.1, 43-5
.