

## 5. Culture, Interface and Research

Kun-Pyo Lee



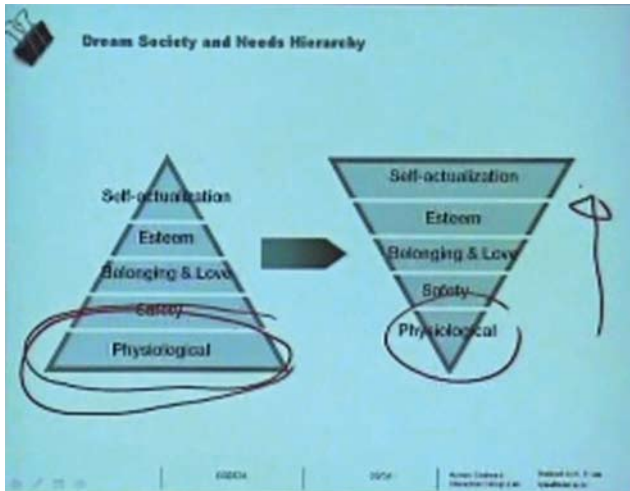
If, as Kun-Pyo Lee suggested in his presentation, “products are frozen information,” then it’s the designer’s job to select the right information to freeze. Today, that means interpreting a range of new paradigms, from ubiquitous computing to branding as storytelling. In a wide-ranging and suggestive account, Kun Pyo-Lee predicted that, with products now relying less on material functions, and more on immaterial ones, the future of designers will have a lot to do with identifying unspoken needs. How these might be established was suggested by a number of his own research approaches, aimed at arriving at just such a culture-centred design.

Kun-Pyo Lee began his talk by referencing a group of important thinkers: Jay Doblin, the design theorist; Danish futurist Rolf Jensen; psychologist Abraham Maslow; cognitive psychologist Donald Norman; and the prominent anthropologist, Edward T. Hall. While these thinkers belong to different fields, Lee argued, their work actually seems to be addressing the same basic issue: culture.

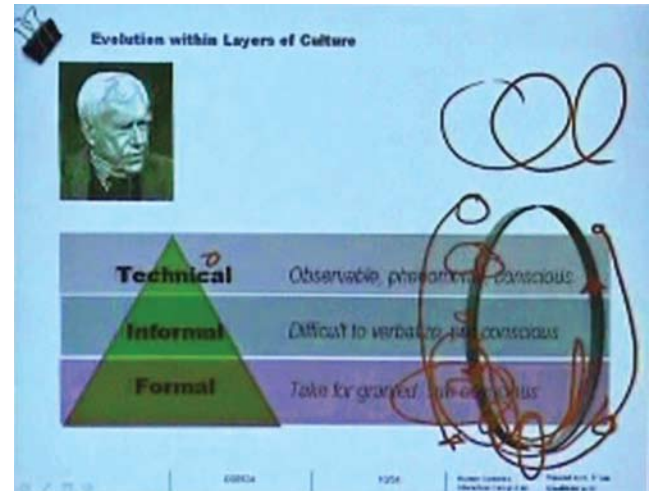
Jay Doblin, whom Lee’s acknowledged as his mentor, defined a product as “frozen information”. If we look at an ancient mural painting, we can understand how people lived long ago; we can defrost the information in the painting. Although we design an object, Lee said, it is important to remember that that process isn’t just about the object, but about the kind of information we freeze into it.

Taking the example of Lego, Lee pointed out the toy brick company’s good understanding of how to freeze the right type of information into a product, at the right time. When (in the 1970s) themeparks became popular, Lego created Legoland. In the 1980s, video games arrived, so Lego created its own video game. In the 1990s, robots such as the Sony Aibo began to hit the market; so the company developed a Lego robot range called Mindstorms. Then, at the end of the 1990s, it launched a Lego filmmaking series that allowed children to make their own movies, using Lego products - a Lego version of Spider Man, for example.

Lee went on to quote from Rolf Jensen’s book *The Dream Society*, which speculates about the new paradigms that will arrive after the Information Society. Rolf said that, “The heroes of the information society are the engineers,



THE NEEDS HIERARCHY VERSUS THE DREAM SOCIETY



CONSCIOUS, PRE-CONSCIOUS AND SUBCONSCIOUS LEVEL

the ones developing new products and those doing research into new technology. The goal is material growth.” But, “In the Dream Society, the heroes will be storytellers, those who create the culture and image of a company. The best story will come out the winner: the purely material function gradually becomes trivial, taken for granted, a by-product.” Lee argued that this new discipline is one of many emerging disciplines where no one can claim sole ownership, and that designers need to get actively involved in these.

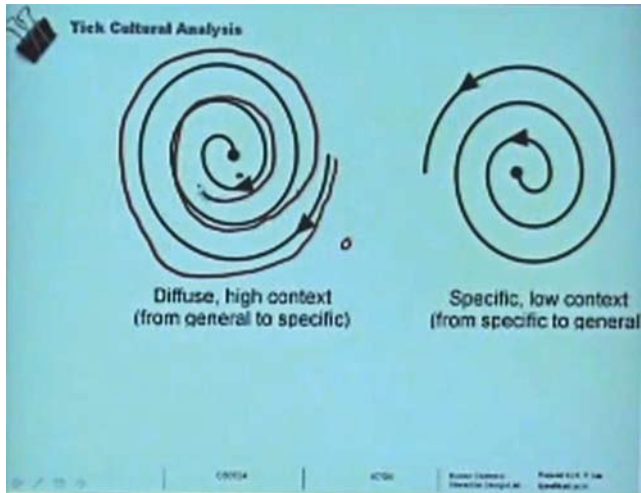
### The eternal triangle

Turning his attention to Abraham Maslow, Lee demonstrated his ‘needs hierarchy’, triangle. With physiological needs (hunger, sex, sleep) at the bottom, and self-actualization at the top, Lee argued that the needs hierarchy is reflected in the argument of the ‘Dream Society’. Now our material needs are met and taken for granted, people can focus on self-actualization, stories, and culture.

Again, Lee traced a similar triangle in the work of Edward T. Hall (author of books like *The Silent Language* and *The Hidden Dimension*), examining the layers of culture. At the top of Hall’s triangle is the ‘artifact’ or ‘technical’ level, which we might otherwise call the ‘conscious’ level.

Below that is the ‘informal’ level, where you have knowledge of the intuitive kind, know-how that’s difficult to verbalize. This is the ‘pre-conscious’ level. Then the bottom level, which consists of basic (shared) assumptions, is called the ‘formal’ level, and corresponds to the subconscious.

When a new product is launched on the market, Lee noted, most discussion takes place at the apex of the triangle: the technical level. In the case of the mobile phone, this meant that we were first occupied with its weight, how to use it, whether it worked or not. But soon, all the mobile phone manufacturers had reached the same level of technological excellence and consumers could take the qualities of the technical level for granted. Then the mobile phone became an object of value on the ‘informal’ level. It began to have different attributes associated with it, becoming a stylish accessory and desirable gadget. But the value was still perceived on the individual level. Further along the line, the mobile graduated to the ‘formal’ level. It’s now a basic assumption, a given fact in today’s world. Today, said Lee, we badly need a new kind of designer who can link the technical and formal levels together; in other words, modern design should be capable not just of crafting objects, but of understanding society’s formal subconscious needs and creating new stories.



CULTURE AFFECTS THE INTERACTION WITH A PRODUCT

Moving on to yet another triangle, Lee addressed Jay Doblin's USA theory ("Utility, Social, Aesthetics"), placing 'utility' at the apex (in place of technical). 'Aesthetics' was placed in the middle (informal) and 'social' (formal) at the base – creating an echo of Hall's triangle. Applying the USA theory to an Mp3 player, Lee noted that the design – as his theory would predict – was initially concerned solely with the functional level, like the memory and size of the Mp3 player.

However, he noted that Apple did it differently, crossing the chasm between function and aesthetics surprisingly quickly with the iPod. On the aesthetic level, variations began to emerge: different colours and finishes. Now, iPod is firmly in the symbolic level with products like the U2 iPod: an iPod with the autographs of the U2 band members protected under a transparent finish. The U2 iPod, Lee emphasised, makes a radical shift. It is no longer simply an Mp3 player. The user is not just using an audio player, but enjoying the symbolism (stories) stored in the device.

### When I hear the word 'culture'...

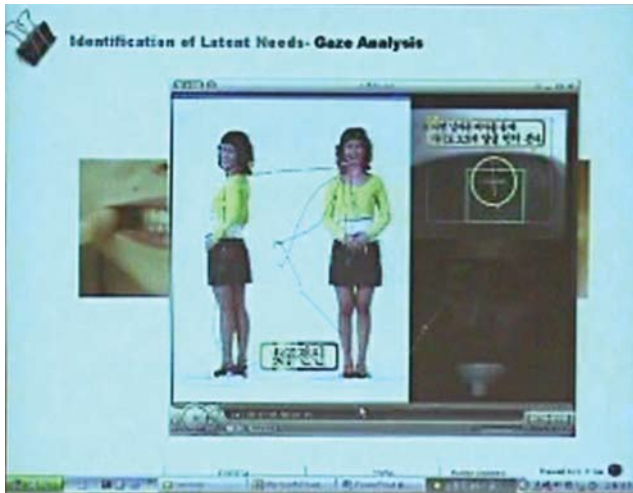
Returning to the by now familiar triangle model, Lee then discussed Donald Norman's Emotional Design, which distinguishes between the 'visceral', the 'behavioural', and

the 'reflective'. Lee changed the terms into what he called more accessible ones: visceral to 'feeling', behavioural to 'habit', and reflective to 'belief'. So, when a person first encounters an object, they have a feeling. Then, if the feeling is strong enough to cause an engagement of use, it becomes a habit. If the habit is strong enough, then beliefs can be constructed.

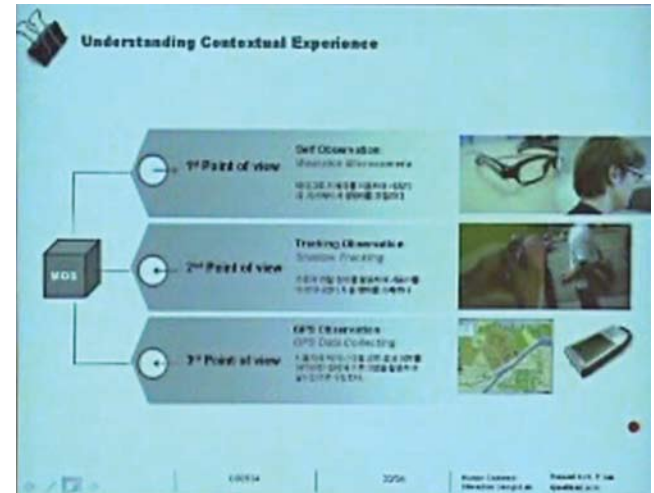
Again, like all the other thinkers, argued Lee, Norman is talking about culture. He summarised his argument by placing hardware and software in the category of tools, which occupy the top of the triangle, 'useware' and 'feelware' on the second, affective level, and finally 'cultureware' on the third, socio-cultural level. Designers should be paying more attention to cultureware, he believes.

Lee then turned to a discussion of cultural diversity. He cited the "aesthetic stereotype", illustrating this with images from a Japanese watchmaker that designs for the European market – there are specific designs for the UK, Germany, Italy, France, and Spain. The watch form is based on the intended geographic region – this is cultural design, said Lee. As for what graphic designers call "cross-cultural design", he added, this is still very much at a superficial level. To demonstrate the difficulties of cross-cultural design, Lee recounted an anecdote from his time in Chicago as a visiting professor in the 1990s. The directions on the box of a frozen pizza advised placing the pizza on the second rack of the oven. "I thought the second rack meant, second from the top," said Lee. "I took it for granted that second means from the top. But many of my American colleagues told me, "no, second means from the bottom." That was a scary moment! I asked myself, why is that?" Since then, Lee has been concerned with the ways in which culture affects human interaction with products.

Since modern tools are no longer extensions of the body, but are often based on a display, the requirements for designers are very different, argued Lee, and include skills in user testing and interface design instead of the old skills like



EYE TRACKING MAY GIVE SOME CLUES ABOUT BEHAVIOUR OF USERS



USER TESTING OF A MOBILE PHONE INTERFACE IN A REAL CONTEXT

drawing. There is also a new emotional side to products such as the Sony Aibo, he continued, requiring other sets of skills – “Perhaps facial expression design skills,” he suggested. Even more challenging is the shift for designers from designing single configurations of one tool, for one human being, with the emergence of ubiquitous computing. “How should we design this relationship, which is actually nothing but culture?” he asked.

### Geography, and the subconscious

Design as a discipline must study human interaction to arrive at an answer, yet this is far from straightforward, said Lee, pointing to the fact that a simple interview survey does not work in Asia – people are too polite to give honest responses. Instead, methods can be used such as gaze analysis (eye tracking systems), which Lee has employed in a survey of car drivers. Interestingly, the results showed differences in eye movement patterns for different generations, with younger drivers focussing more on the audio console of the car, and older drivers on the steering wheel. “These are clues we can give to stylist when designing a car interior,” said Lee.

Another solution devised by Lee’s department had to do with avoiding lab-based user testing situations, where

people are usually nervous. His team therefore developed a pair of glasses with a video camera embedded into the frame. The test user could wear the glasses and record their interaction with the device outside the lab.

Video-ethnographic techniques present a different problem, since these generate excessive amounts of video footage. Lee’s lab therefore developed a software programme for recording and analysing user patterns of experience. Another elegant software solution was developed to enable user testing of mobile phone interfaces in a real context. Designers can devise new mobile phone interfaces using a simulation tool. The new interface is then uploaded to a server, and a mobile phone can download it for testing. When the testing is complete, the user uploads the interface back onto the server. Lee’s team downloads it and can study the recorded user actions using the simulator.

In general terms, Lee argued, cultural studies are inadequate. They generally feature simple statistical analysis, like people’s favourite colours and forms. “We need to link the phenomenal behaviour with the subconscious, latent level,” said Lee. “We need a tool for understanding why people behave the way they do.” In the meantime, he recommended reading the book, *The Geography of a Thought* by Richard Nisbett, giving the example of an



experiment in it that asks you to draw a line between images of a cow, a hen, and a field, depending on how they relate to each other. While Westerners draw a line between the cow and the hen, Lee said, Asians draw a line between the cow and the field – because Asian people are more concerned with relationships, rather than individuals.

### The great divide

Such findings can – indeed, should - influence interface design. Lee used Edward T. Hall’s terminology of ‘monochronism’ (doing one thing at a time) and ‘polychronism’ (doing many things together) to illustrate the question of the appropriate depth of an interface structure: should it be shallow and wide, or narrow and deep? Since Korean people are polychronistic, argued Lee, they don’t want to go into an interface structure too deeply. But other cultures will be monochronistically inclined.

The point of discussing such cultural differences, of course, was to further demonstrate the need to develop a culture-centred design. Finally, Lee returned to the image of the triangle. This time, it showed consumers in relation to designers. Designers only focus on the top 20% of consumers, he said, while the remaining 80% of consumers are

neglected due to being of less commercial value. Designers should have the social responsibility to consider this 80% of underprivileged consumers, he argued. He quoted from the Miniature Earth’s website: “If the world were a village of 100 people, there would be 61 Asians, only 12 Europeans, 13 Africans, only 14 Americans (from both North and South America). There would be 50 men and 50 women. 26 people are white and 74 are non-white. 67 are non-Christian. Only 6 people own 59% of the entire community wealth. 80 people live in poverty. 14 people can read. 33 die of famine. Just 7 people have a higher education, and 8 will own a computer.

“If you have never seen a relative die in a war, if you’ve never been a slave, if you’ve never been tortured, you are luckier than 500 million people. If you keep your food in a fridge, you clothes in a closet, if you have a roof over your head, a bed to sleep in, you are richer than 75% of the entire world population. If you have a bank account, you’re part of the 8% wealthiest people in the world. If you can read these words you are luckier than one billion people who can’t read at all.”

“This,” he concluded, to a clearly moved audience, “is our discipline’s social responsibility.”