Seeing the 'light-colour' seduces a new kind of touching

Masanori Mizuno

Nagoya University of Art, Japan

When we use a computer, what do we do? Almost all of us look at some image on an electric display, grab and move a mouse, and type on a keyboard, then our right hand holds the mouse in order to point to an image called an icon on the display. This is very 'natural' for us; if our body makes some actions, then the images on the electric display change. However, this relationship between our body and the image did not exist until the computer, and especially until the Graphical User Interface, appeared. I call this phenomenon 'Display Acts': the action formed by connecting our body action with the change of images on the electric display. (Mizuno 2009) Through living with the computer, we have acquired new actions in order to inhabit this new image world. In other words, 'Display Acts' is the first step for our new actions in the man-computer world. I have already discussed 'Display Acts' on the first computer graphic system, Sketchpad, concerning the action of drawing the image with light. (Mizuno & Motomaya 2008) However, that study did not show why we touch the image on the electric display.

Now, the electric display, for example iPhone, seduces us to touch the image. Erkki Huhtamo writes that:

> While the classical cinema and even television broadcasting still emphasize distanced and physically nonactive forms of spectatorship, video game consoles, mobile phones, laptops, iPod and other *handy* electronic devices have familiarized millions to the *tactile dimension* [emphasis in original]. (Huhtamo 2008: 130)

In another article, Huhtamo adds, 'How those developments will affect the realm of tactility as we know it remains to be seen.' (Huhtamo 2007: 94) This paper takes Huhtamo's suggestion and sees a new realm of tactility which the new technology opens to us.

What do we see in the electric display?

At first, we have to consider how our body reacts to the image made from the electric light, because this artificial light has totally changed the world. Marshal McLuhan wrote that;

> In a word, the message of the electric light is total change. It is pure information without any content to restrict its transforming and informing power. (McLuhan, 2003: 77)

We should know how electric light affects us when we see it: most of us see the electric light from TV or computer displays everyday. The electric display came into our lives as TV in the late 1930s, and we could say TV is the first electric display we are familiar with. McLuhan gives TV one chapter in his book *Understanding Media* because he believes that it opens a new world. He points out the nature of the TV as:

> The mode of the TV image has nothing in common with film or photo, except that it offers also a nonverbal gestalt or posture of forms. With TV, the viewer is the screen. He is bombarded with light impulses, that James Joyce called the 'Charged of the Light Brigade' that imbues his 'soulskin with subconscious inklings.' The TV image is visually low in data. The TV image is not a still shot. It is not photo in any sense, but a ceaselessly forming contour of things limned by the scanning-finger. The resulting plastic contour appears by light through, not light on, and the image so formed has the quality of sculpture and icon, rather than of picture. (McLuhan 2004: 413)

McLuhan's statement is famous because he tells us that the TV image is made from 'light-through' and gives us, not visual sensation, but tactile sensation. Seeing the contour of 'light through' means that we directly see the light source beyond the image. As a result, we see the electric light itself in TV image.

Based on above idea, I will especially focus on the phrase 'A ceaselessly forming contour of things limned by the scanning-finger' in order to examine the nature of the relationship between our body and the electric display. This forming contour makes the apparent motion on the electric display. Nelson Goodman considers the apparent motion as 'A Puzzle about Perception' in his *Ways of Worldmaking*. Goodman writes, 'that virtually every clear case of visual motion perception depends upon abrupt shift

in color.' (Goodman 1978: 86) Goodman shows us that the apparent motion happens not because of object-shape but object-colour. Moreover, he continues that:

> With visual system taking such leaps in stride, with their indispensability for motion-perception, with object-identity dependent not upon smooth color transition but upon contrast with the background at the contour, the color-jumps in the Kolers experiments seem so inevitable as to leave us wondering how we let a false analogy trick us into expecting anything different. (ibid)

Even though we normally think that smoothly changing the colour of object causes the apparent motion, Goodman focuses on the colour-jumps at the contour between the object and the background. It means that we look at not just the object alone, but also the relationship between the object and the background. The contour is the place where the background becomes the object, and the object becomes the background; the contour is the place they are ceaselessly merged in each other through colour. This merge makes the apparent motion.

Now, I want to return to McLuhan. He gave an important role to electric light because it has the potential to merge figure and ground. (McLuhan 1988: 194) Therefore, electric light is the best media for the apparent motion, 'a ceaselessly forming contour of things' (ibid). However, McLuhan misses the colour aspect for the apparent motion that Goodman mentioned, while Goodman misses the aspect of electric light needed for it - which McLuhan mentioned. Therefore, we have to consider not only the nature of electric light but also the nature of colour formed by the electric light.

'Light-colour'

When we see the electric display, aesthetician Asao Komachiya says that we see 'light-colour'. 'Light-colour' throws away material information and extracts only colour information from the object. Komachiya writes:

> Light has no weight. This is our recognition from the experience of human history. Similarly, light-colour cannot express its weight. However, the object described does have a weight. Therefore, the description of the object conveys the weight feeling for us. Paintings have expressed this. .... However, the image made from light-colour does not essentially fit this principle.
> (Komachiya 1996: 95-96)

Furthermore, Komachiya affirms that 'light colour' opens a new image field due to the nature of no contour. (ibid: 305) 'Light-colour' is mainly made from electric light, which has the potential to merge figure and ground, therefore this new colour does not have its contour. Owing to above natures, 'light-colour' looks similar to David Katz's 'film colour'. (ibid: 7-17) However, unlike Katz, Komachiya primarily takes directly seeing the electric light into consideration, which is a similar point of view to McLuhan. I would like to suppose that humans have an innate ability to sense no materiality in the colour - like Katz's 'film colour' and the electric light enables our ability to go into the next step: 'light-colour'.

According to Komachiya, the 'light-colour' image is, however, beyond the control of our sensations because it does not fit our traditional principles. 'Light-colour' forms an image but it has no weight and contour. We try to merge this new principle into our familiar one, but this task may be beyond the capacity of our brain. Therefore the brain may ask the body to make a new reality for the 'light-colour' image. This seduces our body to touch the 'light-colour' image in order to compensate us for its having no weight and contour. In the past we have not been able to touch it because there was no such a device - until quite recently. However, we did try to touch the 'light-colour' image on TV, for example with 'Winky-Dink and you' [1953-57], even though it was just pretending to touch it.

'Light-colour' with the computer

Now, we have computers in order to control the weightless image formed by the electric light. It may mean that the pure information meets the information machine. In the traditional sense, light reflected from the material world makes the images. Although McLuhan realizes the 'TV image' is made from 'light-through', he dares to say 'TV image' although it is not an image in the traditional sense. Moreover, Komachiya shows that 'light-colour' cannot tell the nature of weight; therefore it does not show us its own materiality. In short, the image made from the electric light may be just the colour information of something in the traditional sense.

Ron Burnett gives us a unique point of view on the image in our age. He writes, 'The distinction between images and information blurs into pixels, lines, and rates of compression.' (Burnett 2004: 47) His view on the image is neither analogue nor digital, which is very suggestive. Furthermore, Masaki Fujihata re-defines the colour

as a concept because the computer releases the colour from its materiality. (Fujihata 1997: 7-11) Although Burnett and Fujihata recognize that the computer gives us the chance to control the information of 'light colour', they forget the electric display. In fact, 'light-colour' merges the image and the information into one entity on the electric display because of its nature - no weight and no contour: the computer needs the electric display to generate 'light-colour' image.

Touching 'light-colour' with the smooth materiality = believing our body

Our seeing of 'light-colour' seduces our recent new kind of touching. We have always touched materials that have their own weight. Materials such as the plastic of a mouse or the glass of a display do not change by our touch. However, touching the material causes some changes in a weightless entity on the electric display. The human and computer make a new circuit for dealing with the weightless entity made from 'light-colour' via the material object - our body - and something like the mouse or trackpad.

Moreover, the smooth materiality of plastic or glass means we only pay attention to the contact surface of the object with our fingers. For example, Apple writes 'to stay *smooth* and pristine, the new Multi-Touch trackpad is made from wear-resistant etched glass. [Emphasis is added]' (Apple 2008: online) Why is touching 'light-colour' connected to smooth materiality? 'Light-colour' merges figure and ground; therefore it is something flat, without contour in our vision field. 'Light-colour' does not show its own weight, therefore there is no friction to grab and move in our tactile field. Consequently, the smooth materiality is very close to the reality of 'light-colour'. We touch the smooth materiality and see the colour-jumps in the 'light-colour' image at the same time. However, there is a paradox. Our own bodies have weight and contour and we feel the heavy density of our bodies - by *giving* weight and contour to the weightless image via our smooth touching, when we see and touch a 'light-colour' entity.

After seeing 'light-colour' for a long time, we begin full-scale investigation for the new realm of tactility with the smooth materiality. David Katz writes, 'What has been touched is the true *reality* that leads to *perception*. [Emphasis in original]' (Katz 1989: 240) We re-train our fingers with the smooth materiality in order to touch and generate a new reality of light-colour and this demands us to believe our body's

weight and density in the 'light-colour' world. This belief creates new diverse bodily sensations in 'Display Acts'.

References

Apple, 2008: http://www.apple.com/macbookpro/features.html (Accessed June 14, 2009).

Burnett, Ron. *How Images Think*. MIT press, 2004.

Fujihata, Masaki. *Colour As a Concept.* Bijiutsu-Shuppan-sha, 1997.

Goodman, Nelson. *Ways of Worldmaking.* Hackett publishing company, 1998.

Huhtamo, Erkki. "Twin-Touch-Test-Redux" in *MediaArtHistories*, Grau, Oliver. ed., MIT press, 2007: 71-101.

Huhtamo, Erkki, "Tactile Temptation: About Contemporary Art, Exhibition, and Tactility" in *Interface Cultures*. Eds. Sommere, Chista., Mignonneau, Laurent., Dorothee King, 2008: 129-139.

Katz, David, 1989. *The World of Touch.* Translated by Krueger, L.E. Lawrence Erlbaum Associates, 1989.

Katz, David, *The World of Colour.* Translated by MacLeod, R.B. and Fox, C.W. Routledge, 1996.

Komachiya, Asao. *Chi no me Sora no me* [the human history of vision], Keisou-Shobou, 1996.

McLuhan, Eric & Marshall. *Laws of Media: the new science.* University Toronto press, 1988.

McLuhan, Marshall, *Understanding Media: the extensions of man.* Critical edition, W. Terrence Gordon ed., Gingko press, 2003.

Mizuno, Masanori & Motomaya, Kiyofumi. "To see and Touch the Light Source." in *Proceedings of ISEA 2008,* (2008): 329-330.

Mizuno, Masanori. *The formative process of 'Display Acts' on the establishment of GUI.* Doctor thesis, Nagoya University, Japan, 2009.