

'Here's Peeping at You' : The Computer Screen, the Logic of the Gaze, and the Miniaturization of the Image Window

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Much of our daily communication takes place through "image windows" that are constantly shrinking in size. The tiny cell phone screens are among the most important information surfaces today. We watch "micromovies" from dedicated windows opening up on our desktop. The videogame displays can consist of a screen divided still further into even smaller units. The purpose of this paper is to discuss this tendency towards miniaturized communication interfaces by relating it to larger media historical and theoretical issues. The shrinking of the visual interface goes back to the 19th century and can be detected from various fields from photography and mass produced images to optical toys and fantasies about personal "tele-communication" devices. This miniaturization is actually part of a cultural phenomenon I call the "gulliverization of reality". It has to do with a constant dynamics between expanding and shrinking, exploding and imploding, the static and the mobile, a phenomenon progressively moulding the mediated environment and the role of the spectator within it. This paper tries to understand the logic of the gaze occupied by and involved in such a perceptual process. By looking at neglected media archaeological layers of historical data it aims at a better understanding of our contemporary interfaces and the "traffic" that goes through them.

1. Introduction

Considering the centrality of screens in contemporary media culture, there have been surprisingly few attempts to define their identity as cultural artefacts. In spite of

their ubiquitous presence screens seem strangely evasive, constantly appearing in new places and new forms. We use them, but we rarely stop to think about them. They are treated as barely noticeable surfaces connecting us to streams of data or giving us access to virtual worlds. Screens, however, have not always had such a central role. There was a time when they did not even exist. They have evolved within cultural processes, as answers to deeply felt social, psychological, ideological and economic needs. They have, in other words, a history which can and should be uncovered. However, simply writing a chronicle of the succession of different kinds of screens would not make much sense. Screens should not be studied in isolation of the apparatus they are part of.¹ Such apparatus provide conditions for the actual viewing experience, both enabling it and constraining it. The viewer is at the same time physically related to the screen in the viewing space, and mentally connected to the space on the screen. These aspects are always interconnected and affect the total experience. Viewing apparatus change in time and are submitted to varying cultural readings depending on context.

Although work has been done on specific issues, such as Zielinski's research on the relationship between the cinema and the television screen or Manovich's studies on the computer screen, a general "archaeology of the screen" remains unwritten.² This paper should be seen as

¹ The notion of apparatus comes from cinema studies: it comprises not only the technical system, but also the elements of the viewing situation, including the relationship between the screen and the viewer, which is both physical and imaginary. See *The Cinematic Apparatus*, edited by Teresa de Lauretis and Stephen Heath, London and Basingbroke: Macmillan, 1980.

² See Siegfried Zielinski: *Audiovisions. Cinema and Television as entr'actes in history*, translated by Gloria Custance, Amsterdam: Amsterdam University Press,

a contribution toward a historical phenomenology of the screen, or "screenology". The ultimate goal could also be called more simply a history of "screen practice(s)", to use a concept coined by Charles Musser in his studies of early cinema and its precedents.³ Such a history should not only deal with the evolution of different types of screens and the relationships between them, but also with the development of visual apparatus themselves and their uses and meanings within specific cultural, social and economic contexts. Capturing the history of the viewing experiences is perhaps the most difficult challenge. We rarely have direct evidence about what went on in the viewers' minds when staring at a screen. It is usually necessary to resort to secondary sources, as Miriam Hansen has so well demonstrated in her studies about early film spectatorship.⁴ It is important to consider the general conditions that may have influenced each viewing experience. Also the apparatus itself may provide us hints about the kinds of experiences it makes possible. For verification, we also have to resort to "projective" material, such as literary texts, popular cartoons and other forms of ephemera.

In this paper I will explore the historical background of the shrinking visual interface. Although it is certainly true that this phenomenon has to do with recent technological advances, marketing strategies and emerging social practices (related to the increasing speed of the 'dromological' information society), it should also be assessed from a historical perspective. From the 19th century on, the diminishing of the screen has been inseparable from its counterpart, the expanding of the screen; a cultural dialectic has developed between 'big screens' and 'small screens'. The phenomenon could be called the "gulliverization of the visual field". This

1999 (orig. in German 1989); Lev Manovich: "Towards an Archaeology of the Computer Screen", *Cinema Futures: Cain, Abel or Cable? The Screen Arts in the Digital Age*, edited by Thomas Elsaesser and Kay Hoffmann, Amsterdam: Amsterdam University Press, 1998, pp. 27-43.

³ See particularly Charles Musser: *The Emergence of Cinema. The American Screen to 1907*, New York: Charles Scribner's Sons, 1990. It should be noted that in the title of his book Musser uses the word "Screen" as synonymous with the institution of the cinema, which reflects an actual historical usage.

⁴ Miriam Hansen: *Babel & Babylon. Spectatorship in American Silent Film*, Cambridge and London: Harvard University Press, 1991.

concept refers to the constant dynamics between expanding and shrinking screens. From the perspective of the viewer, such "cultural optics" is also related to other dichotomies, such as near and far, inside and outside, static and mobile. Under what kind of cultural conditions did the gulliverization of the visual field develop? How has its dynamics changed? How is it related to issues like the evolution of viewing apparatus and the historicity of spectatorship? This paper starts to unravel these huge and complex questions by exploring the emergence of the notion of the "small screen" as an information surface. It looks at the etymology of the word "screen" and the meanings that were assigned to it during centuries. The key question is: how did the word come to be associated with media and communication?

2. Etymologies of the 'Screen'

According to the *Oxford English Dictionary*, the foremost authority on the history of the English vocabulary, the word "screen" first appears in texts from the 14th and the 15th centuries, but its etymological origins remain unclear.⁵ In the 16th century, and probably earlier, it was used to refer to a "contrivance for warding off the heat of fire or a draught of air". The screen meant, above all, a floor-standing piece of furniture, consisting of a sheet of lighter, often translucent material (paper, some kind of fabric, etc.) stretched in a wooden frame. There were also smaller handheld versions for ladies; a text from 1548 speaks about "Two litle Skrenes of silke to hold against the fier".⁶ In addition to their main purpose, the often richly decorated hand-screens were -- like fans -- also objects of fashion, aesthetic pleasure, and erotic play. Gradually screens gained new connotations. Beside the natural elements, they were said to provide protection from "other inconvenience or danger, or to shelter from observation, conceal, shut off the view, or secure privacy", as the *Century Dictionary and Cyclopedic*

⁵ Much the same goes for the French "écran", which most dictionaries, including The Oxford English Dictionary, see as "closely corresponding with" the history and the meanings of "screen". All references to the *Oxford English Dictionary* (OED) are to the II edition, edited by J.A. Simpson and E.S.C. Weiner, Oxford: Clarendon Press, 1989.

⁶ Oxford English Dictionary, vol XIV, "screen".

(1911, orig. 1889) stated.⁷ Whether from heat, cold or an intruding gaze, the screen was, above all, considered a surface that protects a person by creating a barrier against something uncomfortable or threatening. It was essentially a piece of furniture, or a personal portable accessory, related to items like clothing and jewels.

It was during the early 19th century that the word "screen" began to attain meanings that anticipated its current uses within media culture as means of displaying and transmitting information. The earliest such occurrence recorded in the *Oxford English Dictionary* comes from 1810 and reads: "To make Transparent Screens for the Exhibition of the Phantasmagoria".⁸ This represents a departure from the domestic sphere of furniture and fashion to the world of public entertainment. In the Phantasmagoria show the audience was shown images that were projected on a semi-transparent screen stretched in one end of the hall from behind it with a movable magic lantern (often mounted on wheels and moving along rails). Although it may be true that the word "screen" had not been used in such a meaning before 1810 (which I doubt), it is clear that "screen practice" as a phenomenon had existed for a long time. Phantasmagoria itself was an improvement of the touring magic lantern show. An even earlier form of screen practice had been the shadow theatre. Although its exact origins are not known, several ancient traditions evolved in different parts of Asia from India

3. Anticipations of the Small Screen

While the emergence of the "big screen" in the 19th century can be traced fairly accurately, the origins of the "small screen" remain more open to speculation. It is not immediately clear how things like fire screens would have developed into information surfaces. One might consider the fact that fire screens were often embellished with ornaments and even pictures. During the Victorian era the large folding screens that were used in the homes of the bourgeoisie to divide spaces and also as fire screens were often totally covered with printed scraps, colored lithographs and other types of mass-produced images. They became collages, recalling the countless

⁷ *The Century Dictionary and Cyclopaedia* (CDC), New York: The Century Co, revised and enlarged edition, 1911 (orig. 1889), Vol VIII, "screen".

⁸ *Oxford English Dictionary*, vol XIV, "screen".

"scrap books" created by women and children in their spare time.⁹ Although the images pasted on screens may have served primarily a decorative function, they also became celebrations of the enormous advances within the "regime of the visible". Such naive collages anticipated the formation of visual media culture by simulating the frenzy of new images made possible by advances in printing and photographic reproduction technologies. The habit of decorating screens with cheap mass-produced images became so common, that cultural critics were concerned about their negative impact on "good taste". Meriocre, artworks were often compared with such screens spotted with cheap, banal images.

Although Victorian decorated screens can be considered information surfaces only indirectly, by relating them to the wider cultural context, the idea of the fire-screen had been adopted as a device for displaying transparent paintings in the domestic setting already in the late 18th century. Transparent paintings, known as "moonlight transparencies" or "diaphanoramas", were mounted on floor- or table-standing wooden frames.¹⁰ Illuminated from behind, they began to glow in brilliant colours. It should be noted, however, that no separation between "hardware" and "software" was yet introduced. The painting was part of the screen, it could not be changed. The separation took place in the 19th century, when forms of back-lighted images and viewing devices proliferated. Closest to the idea of decoration were "lithophanes", fine "embossed" porcelain images that produced an effect of relief when lighted from behind. Lithophane plates were used for many purposes: they were hang against window panes, inserted in lamp shades and even used as decorations for tea warmers! Decorative wooden or metal lithophane viewers, often with a candle

⁹ It would be tempting to relate this to the contemporary habit of covering the door of the refrigerator with postcards, photos, notes and little magnets.

¹⁰ The German painters Georg Melchior Kraus and Franz Niklaus König were well-known creators of such transparencies. See *Sehsucht. Das Panorama als Massenunterhaltung des 19. Jahrhunderts*, Bonn: Kunst- und Ausstellungshalle der Bundesrepublik Deutschland & Stroemfeld/Roter Stern, 1993, 198-199. See also Birgit Verwiebe: *Lichtspiele. Vom Mondscheintransparent zum Diorama*, Stuttgart: Füsslin Verlag, 1997. Transparencies were also displayed publicly in large size as part of different festivities. The connection with theatrical scene painting is obvious, but the issue cannot be elaborated on here.

stand at the back, made it possible to change the panels when desired. As a back-lit image enclosed in a frame, the lithophane functioned as visual apparatus even when serving a decorative function. It opened a new channel of visual information to the living room, clearly differing from the paintings on the walls.

The devices mentioned in this section so far have been related to furniture. They either stood in the corner of the room (like the TV set much later) or were placed on the table for viewing. When it comes to the anticipations of mobile, handheld devices it makes sense to pay attention to decorated fans that enjoyed long lasting popularity among women in the 18th and the 19th centuries. Decorated fans could be considered a form of popular art and arguably a new kind of information channel, a medium. The production and variety of pictorial fans was enormous. While there were many designs that imitated existing prints or mythological genre paintings, particularly in the 19th century special fans were often produced in connection with events like world's fairs, coronations or popular shows. Beside their practical function, they functioned as souvenirs, advertisements and even as program booklets.¹¹ There were also handheld screens with images. A particularly interesting variant was the panorama screen. It would contain a small "stage opening", across which a long strip of images was wound from one roller to another. The development of the small screen also had to do with the appearance of "optical toys", like the phenakistiscope and the zoetrope, in the 19th century. These devices that were originally scientific demonstration tools, presented short animated "movies" that could be manipulated by the users. A wide variety of topics were available. The users could easily create their own picture discs or strips. Although these devices did not have "screens" in the later sense of the word, they shared many features with recent interactive media devices: they were based on a "hands-on relationship", they created a personal relationship to the user and provided tools for one's own media production.

4. Conclusion

¹¹ For a recent study of Smith's career, see Mike Simkin: "Albert Smith: Entrepreneur and Showman", *Living Pictures*, vol 1, n:o 1 (2001), 18-28.

This article has not been meant as an exhaustive treatment of the history of screen practices. It has not even purported to say all the essential things about the "small screen". It has brought forth some important issues and interpretations, hinting at the wealth of material and approaches available for closer investigation. As the exploration of the *Oxford English Dictionary* demonstrates, over time the word "screen" has attained a large number of meanings, only a few of which have been dealt with here. How are these meanings connected? Is there any meaningful link between a 18th century fire-screen and a 20th century cathode-ray tube, beyond the obvious fact that both are "lighted" or "heated" from behind? Wasn't the traditional screen meant to isolate the person, to protect him/her from heat or a gaze, to increase his/her comfort and privacy? Isn't the function of the television screen the opposite, to expose the viewer to the "heat" and "obscenity" of commercial media culture, and to invite the public sphere to invade the private? It might be claimed that the relationship between issues like private/public is never so clearcut. While blocking something from view, the traditional screens also raised curiosity and desire towards the other side (best demonstrated by the Japanese wood-block prints showing people observing the shadows of others moving behind paper screens, or 'shozi'). The television screen also provides privacy by offering a voyeuristic vantage point to observe the event "on the other side". It protects the viewer, while exposing him/her simultaneously to the forces and temptations of consumeristic capitalism. There would be other intriguing parallels to draw. For a full treatment of the archaeology of the small screen, the history of the mirror and the discourses surrounding it should be also taken into consideration.¹² These will be dealt with in a forthcoming paper.

¹² I have dealt with this issue in more detail my article "Seeing at a Distance. Towards an Archaeology of the 'Small Screen'", *Art@Science*, edited by Christa Sommerer and Laurent Mignonneau, Vienna-New York: Springer Verlag, 1998, 262-278.