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The Four Practices?
Challenges for an Archaeology of the Screen

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Over a decade ago I began calling for a new branch of media studies – “screenology” or “archaeology of the screen” – claiming that its “focus should not be only on screens as designed artifacts but also on their uses, their intermedial relations with other cultural forms and on the discourses that have enveloped them in different times and places.”¹ I was motivated by a contradiction I encountered repeatedly in both popular and critical discourses: the overwhelming presence of screens in contemporary life was not accompanied by any systematic knowledge about their identities, including the media practices they are part of and the processes of their becoming. I found Charles Musser’s writings on “screen practice” inspiring but limited in scope, because they remained firmly embedded within the paradigm of cinema studies.² Musser managed to demonstrate that early silent cinema continued the traditions of magic lantern showmanship, but left other possibilities unexplored. The ultimate challenge, I thought, was to understand the interplay of any visual cultural forms whether they were exhibited on “screens” or not, and to situate them within proper settings.

What Musser called screen practice had been flanked for centuries by a “peep practice.”³ Some images were projected while others were peeped at through lenses. Peepholes were installed in walls, as in the Cosmorama, and embedded in a plethora of viewing machines. Peep media do not always present moving images – just think about the stereoscope – but the different forms are connected by practices of use and need to be assessed together. Likewise, a full account of screen practice should include not only magic lantern and film projections but also other forms such as shadow theater, where scenes are created by performers by means of puppet figures or simply by fingers, as in ombromanie or shadowgraphy.⁴ The moving panorama, which used neither projected images nor a screen in the proper sense of the word (the moving painting itself doubled as the screen), should also be included because the context of presentation (auditorium, audience, proscenium arch, etc.) associated it with projection-based forms
like the magic lantern show. Even Bänkelsang, the age-old ambulant practice of presenting broadside ballads with accompanying pictures, deserves a place within screen practice, in spite of its crude and “non-technological” nature.

Arguably, it is possible to identify even more media practices. I have labeled two as “touch practice” and “mobile practice,” but there may be others. By the former I mean situations where “a tactile relationship to the media machine [...] transforms the viewer into an ‘interactor.’” This differs from screen and peep practices, where a physical separation between the observer and the observed is established. Projecting images on a screen or placing them behind a peephole makes them physically unreachable and therefore beyond the observer’s manipulation. Touch practice can be exemplified by the camera obscura. A typical portable box camera obscura projects a scene on a ground glass “screen” that is part of the instrument. The user sketches it on a sheet of transparent paper placed on the glass; a tactile relationship is formed. Room camera obscuras were popular at 19th-century tourist resorts. The visitors observed moving scenery projected from the outside onto a horizontal table-like surface. They were able to touch the projected scenes with their fingers, which seems to have been a common practice, and to “follow” the tiny figures of humans and animals by manually rotating (by means of a rod or a crank) the lens and mirror assembly installed on the roof.

The everyday acts of fingering smartphones and tablet computers may seem unrelated with the experiences of the camera obscura, but from a media archaeological perspective they hark back to earlier forms of touch practice. It is worth evoking 19th-century philosophical toys like the phenakistiscope and the zoetrope. These proto-interactive devices provided optical illusions for users manually spinning handle-mounted picture discs or swiping rotating cylinders. The enormously successful Kaleidoscope, which was introduced in the 1810s, is a tactile device as well. It can be suggested that touch practice is derived from outside media culture. Tactile media machines require similar gestures as hand-operated tools, scientific and musical instruments, industrial machines, and toys. Assessed from an extended perspective, tactile media may be claimed to have received a powerful impetus from Enlightenment ideology, which emphasized human-machine relationships. It cannot be a coincidence that the Thaumatrope, a simple optical toy, was playfully compared with a machine by contemporaries or that the designs for 19th-century phenakistiscope discs depicted imaginary factory machines “operated” by the observer’s fingers.

“Mobile practice” is the least understood and the most complex. It deserves attention especially in light of recent developments. I use the term about any situation where the media user is physically in motion, whether on foot or in a vehicle (just inhabiting the planet Earth does not count). There are two variants: in the first, the observer moves through a relatively immobile environment while observing it; in the second, the thing being observed and/or used moves together with the observer. The former can be exemplified by the circular Panorama,
where the visitors must keep moving around the viewing platform to be able to examine the 360-degree painting in its entirety. The Diorama, a competitor, placed the spectators (who were either standing or sitting) in a mechanically rotated auditorium. The Cosmorama presented yet another solution. It was a picture gallery with rows of peepholes lining its walls. The visitors peeked into them one after another, which made brief repeated physical displacements necessary. Instead of presenting a continuous immersive environment like the Panorama, the Cosmorama offered a discontinuous series of disguised scenes.

Panoramas, Dioramas, and Cosmoramas were often installed in cities, but as indoor spectacles they were segregated from the urban outdoor environment. Even so, they had similarities with the mobilities inherent in everyday practices like strolling on streets or in parks, visiting museums and stores, and experiencing mechanical rides. As Walter Benjamin famously pointed out in his *Passagenwerk*, the covered passage became a symptomatic liminal zone between the interior and exterior aspects of the city. With its shop windows and cafés, it was a visual spectacle that kept the visitors strolling from one attraction to another much like the Cosmorama. Interestingly, entrances to some Panoramas, Dioramas, and Cosmoramas were located inside such passages, which created a fluid “passage” from the street into the simulated realms of the attractions. Yet, one could also evoke a seemingly quite different model: the picturesque gardens that became fashionable in the 18th century. Such gardens, which were influenced by oriental models, were designed as sequences of visual attractions – kinds of “pictures” – distributed along their pathways. By carefully orchestrated stops and motions, their creators used natural elements much like media creators would use technology to direct the visitors’ eyes and bodily kinetics.

In the course of the 19th century urban environments themselves became increasingly configured as visual attractions that competed for the attentions of the passers-by. The spectacularization of the city space manifested itself not only in buildings reaching toward the skies and in department store show windows, but also in the proliferation of posters, billboards, and “sky-signs” (commercial see-through signs posted on rooftops). Neon signs and eventually huge video displays joined a trend that purported to turn the streets and squares into alluring distractions. They appealed to both pedestrian and vehicle traffic, creating new sights for perceptions that required multitasking skills. Physical surroundings were turned into “scripted spaces.” City views and traffic circulation systems were carefully designed to anticipate and control crowd movements and to pre-empt deviant behaviors. This tendency was painstakingly implemented at the structures of mass events like the Paris Universal Exposition of 1900, which was held in the city center, making it necessary to create a huge regulatory network for movements within an already existing one.

The second variant of mobile practice presents theoretically three alternatives. The device, which is used while the user is in motion, can be either wearable...
(strapped to the body), portable (carried by the user), or vehicle mounted.\(^{18}\) In everyday life these options cannot be fully separated from each other, like motion cannot be absolutely separated from moments of stasis. The first alternative manifests itself in the habit of strapping a music player or mobile phone on the waist or arm and using it with a headset, earphones, or “hands-free” headphone-microphone combination. The device is adjusted only occasionally, normally when the user makes a brief stop. If the device has a screen, it is only viewed during such intervals. The second alternative, portability, gives the user – depending on the case – either more or less flexibility. The device is typically kept in a bag or a pocket and only pulled out when needed. It accompanies the user, but not as symbiotically as a wearable one. Since their introduction, this has been the case with snapshot cameras, which are rarely used while walking; the user pulls the device out and stops to take a photo. However, the explosive growth of smartphone use has given rise to the habit of staring at its screen, interacting with it, and even sending text messages while in actual motion. This seems to contrast with earlier habits. Its analysis requires the creation of new theoretical models.

The third alternative, vehicle mounted use, is not absolutely segregated from the other alternatives. Portable and wearable equipment can be plugged into the car’s media system and disconnected again, emphasizing the lack of definite borderlines between different forms of mobile practice. Still, modern vehicles from automobiles to jetliners have complicated built-in media systems at both their “pilots” and their passengers’ disposal. An archaeology of embedding media machines into mobile “prostheses” – particularly from the perspective of the discursive formations that influenced their inception and reception – remains largely undone. Nadar’s famous experiments with photographic cameras in hot-air balloons should be included, although the balloon mostly served as a super-elevated viewing platform. The claim that Lars Magnus Ericsson, the Swedish pioneer of telecommunications, may have installed a telephone in his car around 1910 is also relevant, even though the story may be apocryphic and the device could not have been used while the vehicle was in motion.\(^{19}\)

Such stunts were not unheard of at the time. Early on, radio amateurs, engineers, and other enthusiasts began assembling wireless radio equipment in their cars and even bicycles. Lee De Forest displayed a “Wireless Auto No 1” at the St. Louis Exhibition 1904, and a little later installed portable equipment on horseback.\(^{20}\) A 1922 article in *Popular Radio* reviewed several cases of radio equipment in automobiles.\(^{21}\) Although the author deemed the endeavor “practical but inconvenient,” he assured the reader that “[t]here is no doubt that radio on moving vehicles will be further developed to the point where it will not only be a novelty, but a convenience to the public,” listing applications that had already been demonstrated.\(^{22}\) In the coming decades, the car radio became a ubiquitous feature of the dashboard and features like cassette players were added in due course.
These days, many car models include rear view video cameras, embedded entertainment video systems, and GPS navigation facilities. By installing extra equipment, the vehicle can be turned into a “boom car” for getting attention or annoying others.

It is time to narrow down the focus and concentrate on a little researched issue: wrist-mounted screens. This issue has been made topical by the emergence of the smartwatch, specifically the hyped Apple Watch, which was released on April 24, 2015. The smartwatch raises difficult challenges for media studies in general and for screenology in particular. What kind of a device is it? Does it belong to “media culture” or is it a cultural hybrid that partakes of numerous identities, resisting classification? The smartphone has what can be called a screen, but how should one describe the practices it engenders, and supposedly engages in – assuming it can be claimed to have emerged from an existing context of uses and discursive formulations? An archaeology of the conditions and anticipations that prepared the ground for smartwatch-like devices is needed, although only preliminary peeks can be provided here. Whether the smartwatch will manage to break into the mainstream of media is an interesting future-oriented question, but does not greatly concern screenology.

As some observers have pointed out, the word smartwatch feels like a misnomer. The smartwatch is a multifunctional communication terminal, much like the smartphone from which it derives and for which it serves as a substitute or extension. One can tell the time by glancing at its customizable digital clock face, but that is only one application among many. For most uses, an active smartphone connection, a hook-up between a wearable and a portable device, is required. This has led to questions about the utility of the smartwatch. If one already has a smartphone in one’s pocket, how much difference does it make to be able to check the same information or to perform the same tasks (sometimes with less ease) by flicking one’s wrist? There are those who explain the motivations behind the development and marketing of the smartwatch by external reasons related with the high technology market rather than by any real practical needs. Even monitoring the user’s bodily functions like the heartbeat is already served by more economical dedicated devices.

The current market for portable communication devices is characterized by the already familiar. Since the introduction of the smartphone and the tablet computer there has been qualitatively little new on offer. For several years the product launches by major companies like Apple have concentrated on extolling improved details instead of offering radically new concepts. An exception was Google Glass, a wearable communication device worn in the manner of eyeglasses while a tiny virtual screen hovers in the user’s field of vision. Although it did have predecessors that deserve another media archaeology, Google Glass, which was publicly announced in April 2012, was novel enough to ignite a widespread debate, even among those who never got an opportunity to try it on.
The device was considered nerdy and arrogant, an intrusion on privacy, and insufficiently developed before its rushed public launch. In part because of the large amount of negative publicity, Google discontinued selling the Glass in early 2015. It became a warning example for those who intend to mass market untried concepts as well as a soothing reminder that corporate power, hubris, and gloss are not always enough to mesmerize the public.

It is not surprising that those who speculate on the prospects of the smartwatch have referred to Google Glass as a point of comparison. A Google Glass that would have matched the inflated expectations created by Google’s concept videos, showing the user’s entire field of vision, the visible world itself, turned into a “screen,” might well have been desirable for those who have internalized the “always-on” lifestyle. Quite another issue is the institutional and communal attitudes toward unauthorized video recordings made by an almost undetectable head-mounted camera and instantly uploaded on the Internet for anyone to view. Similar concerns have been raised and eventually allayed in earlier circumstances, for example when amateur snapshot photography was introduced in the late 19th century. Still, the current ramifications of the “wild,” unregulated uses of networked communications are much more complex and extensive. They involve not only personal privacy but also surveillance and terrorism, which makes it unlikely that devices like Google Glass would be allowed in public spaces without restrictions any time soon.

The issue of visible vs. invisible design is central to the marketing efforts and public image of both Google Glass and Apple Watch, although it has manifested itself in different ways. While undercover camera operations were part of the lure of Google Glass from the beginning, it was also marketed as a device that would be noticed, turning it into an attribute of its wearer. This corporate strategy became manifest when Google founder Serge Brin introduced Google Glass by wearing it at a Silicon Valley charity ball; bloggers immediately spread the word on the internet and Google followed up by posting promotional concept videos on YouTube. Later the New York-based fashion mogul Diane von Furstenberg began promoting it by having her models wear it on the catwalk. Google Glass was to be a token of the “new cool” of the millennial generation. Ironically, being associated with the arrogant Silicon Valley neo-yuppie elite, partly prompted its demise. The fact that Apple Watch was promoted as a fashion accessory may have reflected the company’s concern that it might not be perceived as utilitarian enough to warrant a purchase.

Compared with Google Glass, the smartwatch is less intrusive, as it can be hidden by the sleeve if the user chooses. Most of the models introduced so far do not contain a camera, although it has been rumored that cameras and other spying accessories are on their way. This leads back to the initial question: why talk about a smartwatch? This has to do with a common strategy used by advertisers, the association of the familiar with the unfamiliar. For years there has
been discussion about the declining use of wristwatches among members of the younger generations who rely on the smartphone both for their communication and time-keeping needs. The smartwatch is an effort to revive a waning but still familiar habit by associating it with features of the smartphone and branding the combination as something unprecedented. There is a persisting cultural memory that associates the wrist with a device. The industry assumes it can be refreshed, turning the obsolete into “hip” and “cool.” Ironically, after Apple Watch was launched, it was soon reported that users with dark tattoos on their wrists were experiencing problems with the censors placed on the underside of the device.

The smartwatch is a smartwatch, because it has inherited a location on the body where an earlier device, a wristwatch, used to be worn. Because it most likely borrows from a coded body language, it is important to extend the discussion into an archaeology of the encounters between technology and the wrist. What has happened on that particular body site, when, how, and for what purposes? There may be those who have never thought about the historicity of the wristwatch, even though its history is much shorter than that of time-keeping devices in general, and related with technological, social, and cultural changes. An archaeology of the smartwatch should begin with an archaeology of the wristwatch – an endeavor that may seem to have nothing to do with media culture and media studies. But why respect artificial barriers between and within cultural categories and academic disciplines? For screenology, as I envision it, such barriers are hindrances that must be breached. Overlaps and leakages between cultural practices should be embraced rather than eschewed.

Can the wristwatch be considered a media machine? The immediate answer is no. Although it has a “screen” (the clock face) and a user interface, including a winding knob, it is a single purpose device for telling time. In its basic form it has – unlike media machines – no separation between hardware and software. Even so, the wristwatch is necessarily surrounded by a “dispositive,” a schematic model of the user’s potential material and metapsychological relationship with the device. In this case it does not deserve to be called a media dispositive, but extending the uses of the familiar film-theoretical concept (formerly known as the “cinematic apparatus”) makes sense. The dispositive enveloping a wrist-mounted device has a more symbiotic relationship with the wearer’s body than a portable device. The dispositive that has gradually developed around the wristwatch has been embedded within varying social contexts that have molded its meanings. After having been a rare oddity, the device became more widely used by European women in the late 19th century at outdoor activities like hunting, horseback riding and bicycling, but was still considered a jewelry-like fashion item. The first specimens were embedded in bracelets. Males preferred pocket watches that remained hidden; only their chains indexically pointed to their presence.
The wristwatch gained popularity among men only after the turn of the 20th century. Spurred by a gender reversal in its identity, it was redefined as a functional object with potentially life-saving qualities. This shift has been symptomatically traced back to the wristwatch designed by Louis Cartier, the French jeweler and clockmaker, in 1904 for the famous Brazilian aviator Alberto Santos-Dumont. Apparently, Santos-Dumont found it difficult and dangerous to check his pocket watch while steering his dirigible in flying competitions. The technology-related profile of Santos-Dumont may have convinced others about the masculine appeal of the device. More compelling proof was gathered on the battlefields of World War I, where wristwatches were used by the infantry, air force, and navy alike. Yet more evidence originated at Taylorized factories and offices where employees had little time for breaks and few chances of even removing their hands from the machines they were operating. While the leisurely gesture of slowly reaching for one's pocket watch had matched the pace of Victorian life, it became obsolete in a modern society that valued efficiency over anything else.

As this brief and tentative foray into the history of wrist-mounted devices hopefully demonstrates, a media archaeological analysis should ideally examine both gadgets and practices, persuading them to illuminate each other. The idea of the dispositive can help in reaching such a goal. However, instead of being treated as an a-historical abstraction, it should be tested within contextual settings that are historical in nature and affected by ideological, social, economic, and other factors. Applying a notion from cinema studies to a very different situation may seem inappropriate. After all, the cinema is an architectural “viewing machine” with more or less permanent features that condition the experience. Wristwatches and smartwatches go wherever their users go – the dispositive may seem to be everywhere and nowhere. Still, their identities must never be conceived as limited to the materiality of the device only. They are both fixed and fluid, molded by the manufacturers’ intentions and by the social (inter)actions of commentators and users. The dispositive functions in the manner of a topos, as a formulaic idea traversing media culture where it is reinstated and re-interpreted over and over again.

In conclusion, it should be emphasized that the four practices I have identified are models imposed on the past, rather than something identified by the historical agents themselves. However, they are not arbitrary constructs. They give shape to traditions that have authentic historical currency, lost in the thick of things, waiting to be unearthed. Talking about screen, peep, touch, and mobile practices does not mean positing entities with “hard edges.” On the contrary, these concepts should be understood as permeable. The traditions they delineate have kept crossing and merging with each other for centuries. That is how media culture develops. Media forms and their uses are constantly negotiated, tested, and contested. Material applications meet discursive ideas; the vectors of influ-
ence can point to either direction, depending on the case. The processes are “messy” because of the multiplicity and indeterminacy of the conglomerations of contributing factors. It is the screenologist’s task to provide order, but without pretending that this order is the sole or even the determining characteristic of the essentially chaotic processes under investigation. The dialectics between observer and observed, between cosmos and chaos, should be acknowledged.