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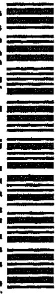

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1
What Is a Screen Nowadays?

Francesco Casetti

Mike Figgis' film *Timecode* recounts 93 minutes in the life of a group of people living in Los Angeles (*Timecode*, 2000). The duration of the movie and of the events it relates coincide: the story is captured in one long take without intervals or cuts. Most surprising is the possibility of following more than one situation simultaneously: it was shot with four different digital cameras, and all four takes are presented contemporaneously, on one screen divided into four sections. Sometimes the plotlines of the various characters intersect with one another more or less haphazardly, and when this happens the camera that has been following one of the characters may shift to another character and follow him or her instead. At other points the plotlines converge, and we discover retrospectively the correlations. More often, however, the events proceed in parallel, without intersecting, but also without excluding the possibility of eventually crossing paths. We watch the stories in the four adjacent sections of the split screen, jumping from one to another, attempting to establish connections, selecting what seems to be the central point, at the mercy of the flow of images.

This is not the first time that cinema has experimented with the split screen (Hagener, 2009, pp. 145–155). However, there is something new in Figgis' film: something quite different from the traditional desire to enlarge visible space or to juxtapose contemporaneous events that take place in separate spaces. His screen, divided into four, evokes the new kinds of screens that already constituted a familiar presence at the beginning of this millennium. It reminds us of the mosaic structure of the television screen, inside of which many conduits of communication coexist. It suggests the computer screen, with all the available applications in view, or the television monitors placed one next to the other that display images from surveillance cameras in the security centers of

office buildings and malls. It also reminds us of the conglomeration of screens in the great media-facades of many cities, such as New York's Times Square. *Timecode* suggests that the movie screen no longer stands by itself; on the contrary, due to outside influences its very nature is changing. We can on longer observe it as we did before, nor can we expect that it will offer us the same kind of images as it used to.

I shall attempt here to think about how the proliferation of screens has led to a general transformation of their nature. They are no longer surfaces on which reality is relived, so to speak. Rather, they have become transit hubs for the images that circulate in our social space. They serve to capture these images, to make them momentarily available for somebody somewhere – perhaps even in order to rework them – before they embark again on their journey. Therefore screens function as the junctions of a complex circuit, characterized both by a continuous flow and by localized processes of configuration or reconfiguration of the circulating images.

This transformation of the screen is actually the symptom of a more general media transformation. The advent of the network and of digital technology has led us out of an era in which media operated as instruments for exploring the world and for facilitating dialogue between people – that is, as instruments of mediation vis-à-vis reality and other people. Media have become devices for the "interception" of information that saturates social and virtual spaces: they have become "lightning rods," if you will, onto which the electricity in the air is discharged. In this context, cinema has also found itself questioning its own identity, discovering perhaps a new destiny, but also exploring how it may still be useful and productive.

The cinematic screen

What exactly was the screen? The term has an intriguing history. In the fourteenth century the Italian word *schermo* denoted something that protects against outside agents, and that therefore presents an obstacle to direct sight.[1] Along this line, the term also indicated someone who serves to mask the interests of another person, as in the Dantean formulation *donna schermo* or "screen woman."[2] The English term "screen" also referred to a protective surface in the sixteenth and seventeenth centuries, especially against fire or air.[3] However, "screen" (or "skren") also indicated smaller devices, used to hide oneself from others' glances, such as fans, or partitions of a mostly decorative nature.[4] At the beginning of the nineteenth century, the term began to enter into the sphere

of entertainment: in the phantasmagoria, "screen", *schermo* and *écran* designated the semi-transparent surface onto the back of which a series of images were projected so that the screen now served to open our gaze to something hidden. This association with the instruments of spectacle was strengthened with the introduction of the shadow play (which the West had already imported from the East in the seventeenth century), and moreover with the magic lantern, from which the projection is cast from in front of the screen rather than from behind it (see Huhtamo, 2004). Contemporaneously, "screen", at least in English, acquired yet another aspect: during the Victorian age it referred to those surfaces on which figures and cut-outs were pasted, forming both a private collection of images and a small public exposition.[5] It is from this rich background that the term arrives, in various languages, at the turn of the twentieth century to indicate the white curtain onto which filmic images are projected, finding its most widespread meaning in this connection to the cinema.

The route traveled by the word is instructive. It demonstrates a slippage of meaning: from a surface that covers and protects, to one that allows us to glimpse images projected from behind, to one that gathers representations of new worlds, to one that can contain figures that reflect our personality. The major metaphors employed by classical film theories for the cinematic screen encapsulate this entire history. The first metaphor is that of the window: the screen is a breech in the barrier that keeps us separated from reality, thanks to which we re-establish contact with the world. The obstacle between us and the outside is represented primarily by the walls of the movie theater; however, the most powerful impediments are the cultural filters that do not allow us to look directly at reality. Among these filters there are our habits and prejudices, as Jean Epstein underlined back in 1921 (Epstein, 1984, pp. 235–241), or the massive presence of writing and the press, which make the human being readable but not visible, as stated by Béla Balázs in 1924 (Balázs, 2010). Therefore, the screen should be understood as a laceration that allows us to see reality directly, again and anew. One of the first occurrences of the metaphor of the window is found in an Italian reflection by Tullio Panteo, which highlights the immediacy of the gaze: "[At the cinema] what matters is feeling calmly as if one is an indifferent spectator, as if at the window, of whom neither intelligence of judgment, nor the exertion of observation, nor the nuisance of investigation is required" (Panteo, 1908). But the metaphor of the window found particularly fertile ground in the realist theories of cinema, including André Bazin's (Bazin, 1967). In fact, these theories are all characterized by a desire to reactivate a direct gaze on things, and by the knowledge that, in order to do so, one must overcome resistance, obstacles and impediments. In this light, cinema literally offers to the world the possibility of a redemption.[6]

The second major metaphor is that of the frame: the screen is a surface within which appear figures capable of depicting *the*, or at least *a*, world.[7] Here we are no longer dealing with a direct gaze on things but rather with a representation of them. This leads to the emergence of new aspects: in particular, the content of the image, from a simple datum, becomes a construct at the root of which is a work of mise-en-scène. Nevertheless, a representation does not cease to speak to us about reality; every time an understanding of the laws of nature is applied to a representation (something that true artists always do eventually), it also ends up revealing to us the dynamics and composition of reality. This explains why the metaphor was utilized most of all by formalist theorists of cinema, who were well aware that an image within a frame is just an image. Nevertheless, if well designed, it is capable of fully restoring to us the sense of the world in which we live. For just such a consideration of the screen, an exemplary approach is Sergei Eisenstein's (see his contributions from "The Dynamic Square", to "The Principles of Film Form", to *Nonindifferent Nature* (Eisenstein, 1931a, b, 1987)).

The third major metaphor is that of the mirror: the screen is a device that restores to us a reflection of the world, including a reflection of ourselves. This metaphor had already emerged in earlier cinematic theories. Giovanni Papini suggested in 1907 that "sitting before the white screen in a motion picture theater we have the impression that we are watching true events, as if we were watching through a mirror following the action hurtling through space" (Papini, 1907, pp. 1–2). Yet the metaphor of the mirror finds its most fully developed elaboration in the psychoanalytic approach, which asserts that spectators may identify with the film's protagonists and with the gaze (of the director, of the camera, of a transcendental subject, of the gaze as such?) that captures them on the stage. Film's spectators see a world to which they yield themselves, but they also see a point of view regarding this world with which they associate themselves. In this sense, they see themselves seeing. I should add that the mirror reunites that which the two preceding metaphors held apart: the former underlined the possibility of perceiving things directly, while the latter highlighted the necessity of passing through their representation. This third metaphor posits a reflection that allows us to see things as they are, and ultimately offers up only an image of them.

These three major metaphors, which, among others, Elsaesser and Hagener retrace usefully (Elsaesser and Hagener, 2010), share one

important trait: they all identify the screen as the place in which reality offers itself to spectators – in all its immediacy, consistency and availability (see also Altman, 1976, pp. 260–264; Sobchack, 1992, pp. 14–15). At the cinema we have access to the world; through its cinematic representation, we may sense its structure and its possibilities, and thanks to the process of identification, we can make the world ours. It should not be surprising then that the first theories of cinema often speak of an "epiphany": on the screen, reality reveals itself in all its density to eyes ready to witness it. Antonello Gerbi writes: "Submerged by the sounds, we are ready to receive the new Epiphany. Are we buried in the deep or hovering among the stars? I don't know: certainly we are very close to the heart of the cinema" (Gerbi, 1926, p. 842). These references to epiphany often lead early theories of cinema to assume a religious tone: cinema is a miracle, and to experience it means participating in a rite. To quote Gerbi again,

> This piece of crude canvas . . . is reborn as an altarpiece for the liturgies of the new times. From the uniform rows of spectators (or of the faithful? Or of wandering lovers?) not even the light murmur of a prayer rises up: this perfect adoration is carried out, following the teachings of all of those learned in mysticism, in perfect silence.
>
> (Gerbi, pp. 840–841)

On a more secular note, the three metaphors mentioned above allow us to glimpse an idea of the cinema as media. Marshall McLuhan suggests that media form the nervous system of a society: "we have already extended our senses and our nerves by the various media" (McLuhan, 2001, pp. 3–4). If his claim is correct, the movie screen is essentially a terminus from which we gather data from outside (window), as well as an organ with which we re-elaborate data (frame), and a device for self-regulation and self-recognition (mirror).

Beyond cinema

The television screen differs from the movie screen: it is small rather than large; it is made from glass as opposed to canvas; it is fluorescent rather than reflective; and the world it hosts is broadcasted live rather than recorded. However, in its early years, this screen recalled the same major metaphors mentioned above: it was a window, even if the walls it faced were those of the home instead of a public space; it was a frame, even if its components were arranged differently; and it was a mirror,

even though it was more reflective of a society than of an individual. Already in 1937, Rudolf Arnheim underlined the conceptual continuity between cinema and television:

> Television will not only reproduce the world like cinema – its images will be colored and perhaps even plastic – but it will render this reproduction even more fascinating by making us take part, not in events which have simply been recorded and conserved, but in far-away events at the very moment in which they occur.
>
> (Arnheim, 1937, p. 271)[8]

More recently, in her historical reconstruction of the early television, Lynn Spigel highlights how the television set functioned as a home theater (Spigel, 2010, pp. 55–92). In its initial stages, television apparently did not alter a well-consolidated system of concepts.

Nevertheless, there arose a new metaphor which came to join the others, and which in some ways signaled a new direction. Television, it was often said, was like a fireplace in front of which the family gathers. This metaphor not only emphasizes the continuity of consolidated habits (today we would say the processes of domestication of a medium) but also indicates that this screen brings the outside world into the domestic space – radiating it like firelight, and endowing it with the continuity of a warmth that permeates the home. Indeed, the epiphany becomes the everyday: it persists within reach, so to speak. This radical availability of the world, and its transformation into a flow of images onto which viewers can continually graft themselves, would eventually come to be a decisive characteristic of new screens.

A greater sense of novelty came on the scene in the 1960s with the appearance of multi-screens. One such form of installation consists of the simultaneous projection of a film onto multiple surfaces. The New York World's Fair of 1964–1965 provided more than one example of this. For instance, there was Charles Eames' spectacle, which involved 14 projectors and 9 different screens.[9] This structure was then immediately reinterpreted in an experimental key by Andy Warhol, in particular in his *Chelsea Girls*, in which the arrangement and synchronization of at least two screens was much freer (Warhol, 1966). Another form of installation – the video-wall – was created by stacking up a series of video devices. This too took its first steps in the 1960s, offering spectators greater immersion in the images. Nam June Paik provided an almost immediate artistic reinterpretation of it with his *TV Cello* (1964) – a series of television sets stacked on one another in the form of a cello.

With the introduction of the multi-screen installation, the traditional screen seemed to signal openly that it felt constrained within its traditional confines. The time had come for it to grow, to multiply, to spread out, and this moment arrived in the 1980s and 1990s. It was precisely during these two decades that a series of extensions became common (the connection of the television set to the VCR and to the videogame console, for instance).[10] Moreover, it was primarily during this 20-year span that the screen began to constitute an essential part of new media, following a trajectory which will surely continue into the next decades. Examples of this process are the increasing presence of the computer in daily life[11] and the great success of the French Minitel – an amalgamation of the telephone and the video-screen.[12] The introduction of the portable DVD player allowed for the personal consumption of videos outside the walls of the domestic space.[13] Cellphones began to become a fixture of everyday experience with the first of the four (and counting) generations of mobile telephone technology.[14] Electronic organizers started replacing paper diaries.[15] Tablets began developing along a path that would lead to incredibly successful products, such as the Kindle and the iPad.[16] And, finally, media-facades started taking their place as a characteristic feature of many urban spaces, before acquiring the capability, as they now have, of interacting with passers-by. Indeed, media have become media-screens.

This screen explosion, which is still affecting us today, has led us to a true turning point. We find ourselves surrounded by unprecedented technological innovations: surfaces made of liquid crystals, of plasma, of LEDs, and as flexible as a piece of paper. And since they are increasingly interconnected, they are able to communicate with one another. This watershed represents a conceptual transformation as much as it does a technological fact: it is the very idea of a screen that is changing, as Lev Manovich has already suggested (Manovich, 2000, pp. 94–115). There are three aspects that I consider crucial. First, the great diffusion of screens allows media content to multiply the occasions on which it may present itself (in order to watch a film, we are no longer confined to the movie theater). Second, the fact that these screens are often connected allows for the retrieval of content independent of the situation or location in which the users find themselves (in order to watch a film, we can download it where and when we like). Finally, and more radically, the ubiquity of these screens makes possible the living or reliving of media experience in new environments and on new devices (we can feel like spectators, even by watching a film in a train on a portable DVD player). In short, this screen explosion has resulted in a diffusion of content on many platforms (spreadability), an interconnection of reception points (networking) and a reactivation of experiences in many situations (relocation).

This new situation, which seems to have now arrived at a maturation point, has literally led the screen to assume a new nature. It no longer represents the site of an epiphany of the real; rather, it is a surface across which travel the images that circulate through social space. The information that surrounds us condenses on the screen, lingers for a moment, interacts with the surrounding environment and then takes off for other points in a kind of continuous movement.

New metaphors for the screen

To better understand this new situation, let us attempt once again an exercise in terminological recognition by asking: What are the key words that communicate what a screen is nowadays? There is no doubt that the old metaphors no longer work, so we must discover which other terms have supplanted them.

The first term is undoubtedly "monitor": the screen increasingly serves to inspect the world around us, to analyze and verify it – in essence, to keep it under control. The window which once restored our contact with the world has become a peep-hole through which to scrutinize reality, in the likely event that it may be hiding something dangerous.

The screen as monitor is first of all what we find in the large surveillance centers and in the security offices of apartment buildings and commercial complexes. A series of viewers form a kind of wall, which allows for the constant surveillance of every room and corridor, and, above all, every entrance/exit and every point of the external perimeter. Who is it that performs the surveillance? In many cases, members of the security staff view the monitors. However, in many 24-hour, closed-circuit systems, the images gathered by the cameras are simply recorded; there is no one watching, unless the footage is reviewed later, but only "after" something has happened. The security monitor does not necessarily imply a gaze.[17]

Such a situation takes us inevitably back to Bentham's Panopticon, which Foucault chose as the emblem of the disciplinary society (Foucault, 1979). While the Panopticon was designed so that only one individual was required to keep an eye on the entire building, in the case of security cameras, everything is observed but there are no longer any observers. Put another way, no one is looking since the end goal is not

to observe (or to make known that one is being observed) but simply to gather data to be mined in case the need arises.

This same contradiction is found in an even more paradoxical form in the other example of the screen as monitor: the global positioning system (GPS). This is also an instrument used to keep territory under observation, in order to avoid possible inconveniences and to take advantage of possible opportunities. We use it to stay on track and to arrive quickly at our destination; to avoid running out of gas and to locate the nearest service station; to avoid dying of hunger and to find a decent restaurant in the vicinity. The GPS may seem to represent the return of the observer – after all, its small screen is always in front of the driver's eyes – but the gaze it elicits differs significantly from that traditionally linked to a screen. It is an intermittent gaze, activated only – and most often – in moments of need; and it is a gaze with multiple focal points, aimed both at the maps supplied by the kit and at the surrounding reality, which continues to be visible through the windshield and windows of the vehicle. These windows do still exist. In short, it is a gaze that is largely independent of the device. In this light, the GPS confirms the fact that although monitors are in constant need of new information, they do not always require an eye to scrutinize and observe them.

The second term that defines contemporary screens – replacing the metaphor of the frame, which nowadays exhibits clear limitations – is "bulletin board", or even "blackboard." In fact, in the screens that surround us, we encounter less and less frequently representations capable of restoring the texture of the world, and more and more frequently figures that function as memoranda, as signposts and, above all, as instructions for behavior.

Let us consider screens found in waiting rooms, in stations and in modes of public transport. Various messages pass across these surfaces: film and video clips, advertisements, tourism documentaries and so on. Their objective is not to offer an external reality or to alleviate the sense of oppression brought on by the closed environment in which we find ourselves confined. Rather, they are intended to help us pass the time and prepare for future actions: they inform us of the approach of a train (to the station), of whose turn it is (in the waiting room), of the weather at a destination (in an airport), of the beauty of tourist destinations (in a ticket office) and of exercises to do in order to avoid discomfort (on an airplane). More than fragments of the world, they are instructions for behavior.

The same may be said for the videos in shops and malls, which display the goods for sale on the counters and shelves. Again, what is important

is not what these videos depict: the merchandise is right next to them, in plain sight. What really counts is the information that accompanies the depiction of the merchandise: we see how it is used, how much it costs, where it comes from, why it is convenient and which lifestyle it matches. It is according to this information – often evocative and emotional – that we adjust our behavior – that is, to either purchase or not to purchase the merchandise. The presence of these videos acts as a sort of veil on reality: we have ceased to look at things via their representation; we look instead at a set of directives aimed at us.

In seeming contrast to this, many homepages of institutional websites function in a similar manner. I am thinking, for example, of those of schools or universities. These relate academic life to a profusion of attractive images: they reveal a whole world to the eyes of the reader. However, these illustrations act as bridges to boxes or links that offer detailed information aimed at the various users of the site: students, professors, families and administrators. A possible life experience is transformed into a series of announcements.

Videogames offer perhaps the clearest example of the screen as bulletin board or blackboard. The image that they present consists essentially of a group of figures of variable value upon which the player must act. Their value is defined by a score that appears in an accompanying box or that flashes near a character in the game. The players choose their moves based on these values, deciding whether to confront the character, to move to another portion of the landscape, to acquire new abilities and so on. The player's moves will determine changes in value: either the value of a specific character or of the total gains or losses. This score will in turn determine new moves. Therefore the essence of the game does not lie in recognizing characters that appear on the screen: attention is concentrated above all on a set of values and on a menu of possible lines of action. The players do not find pleasure in contemplating a representation; rather they move within a forest of instructions. I would add that in many of these games – those called "shoot 'em all" – the essence of the action consists in destroying that which appears before the player. This means that the world that is represented here is not only completely abstract, reduced as it is to numeric values, but also essentially destined for decomposition. What a perfect example of the tendency of the bulletin board to disassociate itself from reality, in order to create space for a flow of information. (This does not mean that what they present is not reality: it is simply not mere physical reality. Rather, it is an entity that causes facts, possible actions, comments, values and so on to overlap. In this respect, "augmented reality" is exemplary: when

I point my cellphone in front of me, I see on the screen a piece of urban landscape made up of actual buildings, supplemented by indications that help me to move within the city, as well as information about edifices belonging to the past that have since disappeared, and projects for future construction.)

The third way to better describe a contemporary screen – as an alternative to the traditional metaphor of the mirror, now obsolete – is to think of it as a "mailbox" or "scrapbook." Spectators now struggle to identify with a character or story; they prefer instead to construct images of themselves in the first person, by assembling photos, texts and comments often lifted from elsewhere and trusting these heterogeneous materials to a blog or putting them in circulation on a social network. Therefore more than identifying with someone or something else, they cut, paste, compose and send.

I mentioned blogs: the personal homepage is the first example of the screen as scrapbook. Blogs are literally mosaics of texts and figures, which accumulate day after day, narrating the life of the blogger. This is a particular kind of self-presentation: the materials that form it are only partly self-produced; often they are recuperated from elsewhere, and once they are posted on the internet they are further recyclable in order to narrate other lives. The resulting portrait is true to life, but in its dismantling and reassembling, it could also apply to anyone. This means, paradoxically, that the flow of data, news and quotations is almost more important than the representation of subjectivity: the "I" is born of the personal use of what the user finds.

In the social networks typical of web 2.0, such as Tumblr, this condition returns in an even more radical way. Thanks to the presence of a feed reader, the page is loaded with content lifted from elsewhere until it forms a kind of newspaper that contains what the user reads or in which the user is interested. The posts of other bloggers appear on the user's dashboard, and they may sometimes – though not always – add comments or corrections. This results in an enormous accumulation of citations, references and sources with a relative paucity of the user's own interventions. The user's personality continues to manifest itself within this accumulation, but this manifestation comes about as the result of a type of link to which they connect themselves, much more so than as the result of what they say directly. Precisely because of this, their voice is ultimately nothing more than a montage of others' voices – almost as if to radicalize the fundamentally dialogic and heteroglossic nature of our discourse, highlighted by Mikhail Bakhtin 80 years ago (Bakhtin, 1981).

Even when this voice is made direct, the situation is not much altered. *Twitter* and *Facebook* (the initial page – or wall – of which is also reminiscent of the bulletin board) represent interesting examples. There is more space here for an exchange of opinions; however, any personal intervention is restricted to a few possibilities (in *Facebook*: "like", "comment" and "share"). Furthermore, this intervention is limited in space and therefore often devoid of much meaning (it is difficult to imagine that a click on the "Like button" can really reveal a personality). The user's intervention depends on the material that is currently available (they speak through what they find). Finally, it reflects thoughts and opinions that are strictly dependent on the subject touched upon in a discussion: once the subject changes, nothing hinders the emergence of other orientations, except a kind of loyalty to the objects that are "collected" and that lead each "friend" to offer obsessively what is expected of them.

In conclusion, these social networks are typified by a kind of self-presentation that is based on an arrangement of material, often borrowed from others, and linked closely to contingency – or simply guided by obsession. The same arrangement may also be reassembled in order to represent other personalities (perhaps of the same individual: there is no shortage of people who live a plurality of virtual lives under different nicknames). If it evolves, it may follow a course of personal transformation ("today I am not who I was yesterday"); but often, at least it seems to me, it simply follows the progression of circumstances ("I am who I am depending on the day"). These characteristics highlight the limits of these self-presentations: their value lies in how they are displayed, not in what they say; and while they have value for an individual, this is neither exclusive nor permanent. In light of this, we could say that in the very moment in which the social network participant presents a self-portrait, they open the door to their own dissolution. More decisively, what is lost is the traditional process of identification: the social network participant no longer finds completed stories in which to project themselves; they live in the midst of a continuous flow of data, available to them for every eventuality; they adapt their life to the material that they can gather; and they make of their life a bricolage.

From the screen to the display

Monitor, bulletin board (or blackboard) and scrapbook (or mailbox): these new keywords indicate just how distant the new screens are from the old. If it is true that we continue to deal with a rectangular surface

on which figures in movement appear, it is also true that this surface no longer implies a reality, an envision, a recognition. This new screen is linked to a continuous flow of data but it is not necessarily coupled to an attentive gaze, to a world that asks to be witnessed or to a subject that is reflected in what it sees. There is a connection and a disconnection: a set of figures becomes perpetually available here where we are, but it does not necessarily lead us to a stable reference, an assured addressee and a full identification.

The concept of a "display" may help to better render an idea of this new entity.[18] The display shows, but only in the sense that it places at our disposition or makes accessible. It exhibits, but does not uncover. It offers, but does not commit. In other words, a display does not involve its images in the dialectic between visible and invisible (like a window used to do), between surfaces and structure (like a frame) or between appropriation and dispossession (like a mirror). The display simply "makes present" images. It places them in front of us, in case we may want to make use of them. It hands them to us, if you will.

The display is fully realized in the form of the touch screen. Here the eye is connected to the fingers, and it is they that signal if the observer is paying attention and what kind of attention they are paying. Touch solicits the arrival of images but, even more so, it guides their flow: it associates them, it downloads them and it often deletes them; it enlarges them, moves them around and stacks them. While it is the eye that supervises the operations, it is also the hand that guides them. It is the hand that calls to the images and seizes them (Flusser, 2010, pp. 23–32).

We are beyond the old situation in which spectators were immersed in a world that surprised them and held their attention from the screen. Now, spectators surprise and grab hold of the images that scurry before them, images that are not necessarily capable of restituting an empirical reality; rather, they are oriented toward supplying data and information. They are not even addressed directly to anyone in particular: it is their flow more than their capture that defines them. Finally, they are tied more closely to the hand than to the eye: it is only when they are "touched" that they find their place and define their value. The display screen makes these images present. It is here that they exit the flow and come to a halt. It is here that they become simultaneously available and practicable. We literally extract them from the screen, according to a logic that mixes push and pull.[19]

In short, we cannot look out of a display screen, nor can we fill our eyes with it, nor can we lean out of it. Instead we ask of it, as at an information window. We work on it, as at a table. We wait by it, as at a bus stop. And we find ourselves in front of something that stays with us for just as long as is necessary.

Naturally, not all the screens that surround us enter fully under the rubric of the display screen. There are still moments in which the reality around us is represented to an interested and engaged observer. This may happen on the very same devices that normally seem to negate the possibility of an epiphany. Google Earth, though it offers me maps and not territories, can lead me to rediscover the pleasure of taking a walk; Photoshop, though it offers me an image of how I would like to be, may obligate me to face myself again; a videogame, though it gives me the opportunity to abandon the world, may also give me the scripts and the characters to construct another one. Computers, cellphones and tablets are still widely used for diffusing documentations and investigations, for fostering public discussions and for constructing effective communities (as documents, for example, Paola Voci's *China on Video: Smaller-Screen Realities*, 2010). Indeed, there is still room for direct testimony that reconnects us to an exploration and to a dialog.

Although the contemporary media landscape is multi-faceted, current tendencies are moving toward the display: a surface on which we find – when we find it – a reality that goes beyond empirical data, from the moment in which samples, information and elements of possibility are mixed together; and a surface on which a gaze is trained – when there is one – that goes beyond the traditional poles of contemplation and analysis, from the moment in which it is accompanied by the manipulation of what is being observed. The epoch of the window, the frame and the mirror is largely coming to an end.

A new scenario?

This transformation of the screen is symptomatic of a larger transformation, which involves media in their totality. Media have long been conceived of as means of mediation between us and the world and between us and others: they serve to supply information and share it among subjects. In this sense they appeared as instruments of transmission and dialog. This kind of idea prevails in models such as that proposed by Harold Lasswell in the 1940s (Lasswell, 1948, pp. 37–52), but it persists in the subtext of Marshall McLuhan's reformulations of the 1960s (McLuhan, 2001) and Raymond Williams' of the 1970s (Williams, 1974), in which the emphasis is placed, respectively, on medias' abilities to extend our senses and to elaborate cultural models. We have now entered into a new dimension. Let us take, for example, GPS or Wii, or even tablets and smartphones: these are primarily devices

that serve to access information and services. Thanks to them, we "recuperate" a series of data – perhaps without meaning to, but anytime and anywhere. Put another way, we "intercept" elements that are present in social (and virtual) space, and we utilize them in the situation in which we find ourselves, whatever it may be, only to store them away. In essence, we capture, modify and release.

This characteristic is recognizable in all contemporary media, which invite us to "secure" something that is "available," and which is made available again after we have used it, perhaps transformed by our intervention. We are no longer in the sphere of a proper communicative exchange; there are no hand-offs or confrontations, transitions or transactions. There is a circulation of information in which we must immerse ourselves, and media are the essential components of this circulation. They function as nexuses of interconnected circuits. They store data so that we may avail ourselves of them. They permit us to modify the situation in which we find ourselves, and they help us to construct new situations with data. They allow us to adapt what we find. And, finally, they relaunch these same data, after they have been used and adapted, within these various circuits. In short, media are places in which information in unremitting movement is downloaded and then uploaded to continue on its trajectory.

Such an orientation may be confirmed in the growing success of applications such as feed readers: programs aimed both at supplying users with a continuous stream of fresh data and at aggregating these data among themselves. Another confirmation may be found in practices such as web harvesting: research in the forest of data that arrive or that may arrive, in order to comb through them, keep them in view and eventually stow them away. In both cases, the objective is to acquire, assemble and archive the information that is circulating, in order to then make it available to whomever might be connected.

I do not know if we can call this "communication" precisely. I repeat: we are no longer primarily dealing with messages addressed to specific individuals or encounters between people. Of course, there still exists the space for announcements and dialogs but, above all, there is an enormous mass of data that circulates through the air, so to speak, and that occasionally halts and then takes off again.[20] Media are the instruments of a slackening of speed – as well as of an acceleration – of this perpetual motion. Thanks to them, we can "block" something here in front of us, to then "relaunch" it – which is to say, we download it and then upload it. In so doing, we place ourselves at a transit point, rendering our experience that of an ephemeral place.

The same goes – and above all – for visual media. Contrary to a long tradition of "realism," the image is no longer engendered by facts; rather, it is born of an amalgamation of elements that are concretized according to the circumstances. And even when the image is the product of a live recording, it remains part of an information flow that makes it available for new combinations and new circumstances. The image is an aggregate of provisory data and an entity in continuous movement, responsive to momentary needs, ongoing discourses and up-to-the-minute rhetoric. It is not important whence the image comes, but rather that it circulates and that it can pause somewhere to then take off again.

Vilém Flusser has offered an effective portrait of this situation: written ahead of its time, and in a somewhat prophetic tone, it is proving to be consistent with what is effectively happening. He begins with the observation that the reality that surrounds us has crumbled into fragments: "The world in which [people] find themselves can no longer be counted and explained: it has disintegrated into particles – photons, quanta, electromagnetic particles ... Even their own consciousness, their thoughts, desires, values, have disintegrated into particles, into bits of information, a mass that can be calculated" (2010, p. 31). This state does not prevent us from forming an image of the world; however, this image can no longer be based on a depiction capable of tracing the contours of things (an *Imagination* in German). Rather, it must emerge from a calculated montage of fragments, from an "envision" (an *Einbildungskraft* in German). "The whirling particles around us and in us must be gathered onto surfaces; they must be envisioned" (ibid., p. 31). This is what constitutes media: they block the whirlwind of data and they recompose them into new figures. They accomplish this mechanically, following pre-programmed automatisms, from which it is difficult to depart. And they do so blindly, offering up various combinations, some of which are completely unpredictable. This is another reason why the images they supply (which Flusser calls "technical images," to distinguish them from traditional ones)[21] no longer constitute evidence, strictly speaking. Nevertheless, what media present to us continues to concern reality: only it is not an already formed world, rather it is a world in formation, and it does not contain exclusively factual elements, rather it also – and above all – contains elements of possibility: "The production of technical images occurs in a field of possibilities: in and of themselves, the particles are nothing but possibilities from which something accidentally emerges" (ibid., p. 16). In light of this, technical images, although they cannot be considered either true or false, bring us closer

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to things. They allow us to emerge from the abstraction into which the world is flung; they return to us some meaning; they lend themselves to some project.[22] They continue to speak to us, but from inside a continual and unstable wandering.

I would add that the effectiveness of these images depends on how and where they appear. Above all, the situation is decisive – a situation that the images find and simultaneously shape. It is one thing if images materialize on my computer, only for me, in an interstice of my daily life; it is quite another if they are displayed on a public screen in front of a crowd gathered for an event. Similarly, it is one thing if images reference distant events, which I follow, perhaps even with great concentration, but disinterestedly; while it is quite another if they refer to my surroundings, in which I can, or perhaps must, intervene. And finally, it is one thing if images remain trapped in a schema or formula on a screen; while it is quite another if theirs is simply a temporary stopover, open to ulterior developments. I am thinking, for instance, of the images of the Arab Spring: it makes quite a bit of difference whether they reappeared on the screens of Times Square for the benefit of curious passers-by, or on the smartphones of the crowd gathered in Tahrir Square. In essence, if it is true that the destiny of these images is to be permanently in transit, it is also of essential importance when and where they land. Their force, meaning and even their political value are determined in great part by their location.

We no longer find ourselves faced with an exchange but a circulation; no longer in front of a merely factual reality but a reality born of a recombination of information packets. We are dealing with a whirlwind of data, which occasionally pauses only to reconstitute itself and set off again; but also with presences that manifest themselves here before us, and therefore can still communicate to us about the world. This is precisely the media landscape that we must now confront – and the display screen is its perfect emblem.

The cinema, again: from temple to portal

Is there still space for cinema in this new landscape? Can it find real hospitality on the display screen? And can it, in turn, teach us something?

Cinema undoubtedly represents a point of resistance with respect to the process that I have attempted to describe in the preceding pages, for at least three good reasons. First, cinema is still largely the prisoner of a tradition that sees it as the closest art to reality. Cinema continues to be – both in the collective imaginary and in the intentions of its authors – a trace of the world: its images, even when they serve to narrate fiction, continue to possess a strong documentary value. Second, cinema still carries with it the dream of an organic unity. The stories that it offers are aimed at constructing structured worlds which are dense and coherent: for as much as a film makes space for randomness, what it shows us always reveals a strong consistency. Third, cinema is still based on a system of broadcasting. Films are distributed along pre-established routes and arrive at predetermined points. It is true that it is becoming increasingly easy to find films everywhere – and recuperate them through legal and illegal practices – but it has not yet become a "whirlwind" of images, as has happened online for other types of products.

The weight of a tradition of realism, the strength of narration and the directionality of distribution – cinema seems to channel images and conduct them toward a reference, toward a text, toward a well established addressee—in an era inclined to leave the circulation of data open. However, this characteristic does not confine cinema to the margins of the great media transformation currently underway. On the contrary, it proves useful by demonstrating some contradictions in the contemporary panorama.

First, even if we do not trust images as we did in the past, there still exists a need for truth. It emerges from many small, personal artifacts posted on *YouTube*, whether they are the documentation of a childish prank or the cellphone camera footage of some historical event. The same need has inspired such strange sites as *Photoshop Disasters*, motivated by the desire to point out the distortions perpetrated by Photoshop users, mostly in advertisements. Second, even if the "grand narratives" have vanished (in coincidence with the post-modern condition, according to Lyotard, 1984), the need for stories is still vital. We see evidence of this in the flourishing genre of neo-epics in the mold of Tolkien and superhero films, in which the vicissitudes of the characters wind along seemingly infinite paths. And we also see it in the pleasure that the creators of personal homepages and blogs take in narrating their lives. It emerges too from videogames, both those fantastical in nature (the parameters of which are basically "realistic") and those inspired by history (in which a past verdict may be reversed, as long as the new narration remains consistent). Third, even if circuits are always open, there still exists the need for an actual, concrete, effective reception. This need is evidenced in the desire to feel involved in what one watches that emerges from some particularly politically engaged areas of social networks, or from the systematic count of viewers and their comments that

accompany the videos posted on *YouTube*, or from the conversion of virtual contacts into actual encounters, often stubbornly hoped for and celebrated on *Facebook*. Even in the era of technical images, a need for authenticity, for stories and for encounters continues to assert itself. Cinema, in its battle to maintain a relationship with reality, with narration and with its spectator, can become the witness to these necessities.

On the other hand, cinema participates fully in the era in which it lives. It too is now permeated by the logic of the display. It is no coincidence that the worlds represented on the screen are increasingly fluid, or that the stories are increasingly inconsequential or that the settings are often unstable and the scenes are increasingly composed of collages and mosaics. Nor is it a coincidence that cinema now regularly lifts narratives and figures from other media, while simultaneously offering to other media its own stories and figures, in a kind of continuous exchange. Finally, it is no coincidence that cinema is in constant search of new environments and devices on which to transfer itself, from city squares to my smartphone. Cinema increasingly lives through forms and situations that are unsteady, provisional and contingent,[23] and that reconfigure themselves for a moment and then take off again along new trajectories.

Here, cinema drops its claim to "channeling" images; instead, it limits itself to "localizing" them, supplying them with some modalities of stylistic or narrative reorganization, and especially with a place in which to offer them to someone's gaze. In other words, it gives the images a definite – but not definitive – "how" and "where": a "how" and "where" that delineate the situation within which the images can operate, while also allowing them to conserve all their mobility and potential. Localization does exactly this: it arrests circulating images for a moment; it makes them converse with a context that they, in pausing, create around themselves; and it gives them meaning through this conversation, without, however, eradicating other possibilities for meaning.

Cinema's capacity to supply images with a stop-over – as opposed to a final destination – gives it a new and enhanced role with respect to other sites of vision. On the one hand, cinema reminds us that images can still materialize in concrete environments, in front of an audience, in precise circumstances – even now, when viewing is mostly individual, often casual, and tends to take place in a neutral space and time. On the other hand, cinema teaches us that images are not easily imprisoned: their appearance is necessary if we want them to speak to us, but it is also always temporary. Therefore, places of vision are now conceived of as unstably structured environments, characterized by temporary gatherings and fleeting images. This is true of spaces where films are screened, and also, by extension, of all the spaces in which the presence of a screen leads to the formation of a spectator community – and perhaps even for all the public spaces in which images are in play. We increasingly find more sites that allow for circulating data to acquire a weight and a value, thanks to the link to a territory; however, these sites are formed and dismantled according to the circulation of data. Though they are real spaces, they tend to function like a kind of portal in which images in flux are made to converge, and thanks to which one may make contact with the data whirling through the air.

If cinema today does want to function as an example, this is the only lesson that it can give us. We still need public spaces in which to welcome and experience images. However, these spaces can no longer exist as temples dedicated to a pre-established rite, as Ricciotto Canudo described movie theaters at the beginning of the last century (Canudo, 1908, p. 3; 1988, pp. 58–66). Nor can they continue to host a docile audience, ready to abandon itself to what it sees, as successive theories often described.[24] They can only be meeting points between images and spectators, both of whom are in transit. It would be useful here to recall Sigfried Kracauer's farsighted definition of the cinema as a "shelter for the homeless" (Kracauer, 1930, 1998, pp. 88–95). Today's shelter is simply open to inclemency of every kind, and the homeless are mobile subjects: display-places, if you will.

Naturally, examples of spaces dedicated to both gathering and transit can also be found outside of cinema. Eight years before the release of the film with which we began this study, *Timecode*, the stage of U2's *Zoo TV Tour* was decked out with four mega-screens along with 36 monitors continually crisscrossed by images, some of which were gathered from local television channels. The music came forth in parallel, open to possible intersections with the images. The audience of fans, gathered to see their favorite band, found itself in front of a largely unpredictable event. However, if cinema does not have exclusive rights to the model, it continues to function as an emblem of it. It is therefore fitting to conclude these pages with three very successful titles that have left their mark on the first decade of the twenty-first century: *The Matrix* trilogy (Wachowsky and Wachowsky, 1999; 2003a, b); *Minority Report* (Spielberg, 2002); and *Inception* (Nolan, 2010). It is not surprising that all these films represent attempts at intercepting images, understanding them in relation to a situation, and defining to whom they are addressed. I am thinking specifically of the scenes in *The Matrix* in which

the resisters control the environment through a monitor that turns out to be merely the product of an illusion; of the moment in *Minority Report* in which John Anderton summons up images of the future on an interactive screen in order to understand what is taking place around him, but also in order to stage a sort of spectacle for his companions; and of Cobb's continuous attempts in *Inception* at aggregating projections and memories in order to sketch out possibilities. These films do a fine job of demonstrating what it now means for transitory spectators to localize transitory images. Indeed, the films themselves are in transit, ready to transfer onto television or computer screens, to become video games and to create a social imaginary. They are emblems of what it now means to see in our contemporary era of display. In this sense, they are portraits of the current media condition, and portraits of what cinema, in this context, can still say and teach.

Translation by Daniel Leisawitz

Notes

1. "That which is used to cover, to shield something or someone from external agents, inclement weather, harmful elements, or to hide from view" (Battaglia, 1994).
2. "At once I thought of making this lovely lady a screen to hide the truth" (Alighieri, 1973, para. 5).
3. "A contrivance for warding off the heat of a fire or a draught of air" *Oxford English Dictionary* (OED).
4. "A frame covered with paper or cloth, or a disk or plate of thin wood, cardboard, etc. (often decorated with painting or embroidery) with a handle by which a person may hold it between his face and the fire; a hand-screen. Also applied to a merely ornamental article of similar form and material" (OED).
5. "A contrivance...for affording an upright surface for the display of objects for exhibition" (OED). In the same period the term "screen-cell" also arose to describe "a part of a gaol where a prisoner may be kept under constant observation" (OED).
6. This reference is to the title of Siegfried Kracauer's volume *Theory of Film: The Redemption of Physical Reality* (Kracauer, 1960).
7. In early theories the metaphor of the frame returns in the writings of Victor Oscar Freeburg, linked to his constant attention to pictorial composition. For example, he observes that one of the conditions of cinema is that "it must practically always fill a rectangular frame of unvarying shape" (Freeburg, 1918, p. 39). Elsewhere (Freeburg 1923) he explores various types of composition and their effects on the spectator.
8. Nevertheless, the two media possess quite different characteristics: cinema is a medium of expression, while television is a medium of transmission. The chapter 'La Televisione' in *La Radio* takes up and expands 'Vedere Lontano' (Arnheim, 1935); 'A Forecast of Television' (Arnheim, 1957) is also a rewriting, more than a translation, of 'Vedere Lontano.' The sentence quoted above appears only in *La Radio*. On Italian writings by Arnheim, see D'Aloia (2009). For more on Arnheim and television, see Galili (2011).
9. See Beatriz Colomina's essay (Chapter 2) in this collection. During the same World's Fair, Francis Thompson made a great impression by projecting the film *To Be Alive* on three screens.
10. Anne Friedberg reminds us that in 1985 some 20% of American households had a VCR; by 1997 this had reached 88% (Friedberg, 2000). The Sony Betamax was introduced in 1975 (Cabral, 2000, p. 318) and the VHS was marketed by JVC in 1976 (ibid., p. 317). Atari's Pong console, the first to enjoy significant success, was designed in 1966 and introduced in 1972 (Computer History Museum, 2006), while the consecration of the videogame console occurred in 1977 with the Atari 2600 (ibid., 2006).
11. The desktop computer began to grow in popularity at the end of the 1970s and beginning of the 1980s: the Apple II debuted in 1977 (Computer History Museum, 2006), the IBM PC in 1981 (ibid., 2006), the Commodore 64 in 1982 (ibid., 2006) and the Macintosh Portable in 1989 (Edwards, 2009), while the ThinkPad 700 came out in 1992 (Mueller, 2004, p. 33).
12. The Minitel was introduced in France in 1982 (Mancini, 2002, p. 101).
13. The DVD dates back to 1995 (Toshiba, 1995).
14. The first commercially automated cellular network (1G: first generation) was launched in Japan by NTT in 1979 (Klemens, 2010, pp. 65–66), the GSM, which represents the second generation (2G) of cellphones, came online in 1991 (Pagtzis, 2011), and 3G began operation in 2001 (BBC News, 2001).
15. Noteworthy among the early palm devices are the Tandy Zoomer (1992) and the Apple Newton Message Pad (1993) (Evans, 2011).
16. Among the early tablets was the GRiDPad, released by GRiDPad System Corporation in 1989 (Evans, 2011). The Amazon Kindle was first introduced to the market by Amazon.com's subsidiary Lab126 in November 2007 (ibid.) Apple released the first iPad in April 2010 (ibid.)
17. Sometimes they imply a mechanical gaze. Drones in war zones gather images that a machine examines to highlight any discrepancies with prior surveillance of a given area – and it is only after this first "gaze" that an analyst is summoned to intervene, in order to give (or not give) the order for an attack on a possible enemy.
18. Dudley Andrew reaches the same conclusion regarding the computer screen: "Monitor and display seem more apt terms than screen to designate the visual experience that computers deliver" (Andrew, 2009, p. 915).
19. On the opposition of the dimensions of push and pull, both in new media and in the wider culture, see Lull (2006).
20. The idea that the screen constitutes a moment in which circulation slackens speed is well illustrated by David Joselit's concept of the "slow down trajective" (Joselit, 2007).
21. Flusser opens his book with a genealogical reconstruction of the various phases of the history of images. The process he describes is one of increasing abstraction with respect to the concreteness of immediate experience: during the first moment (first rung), "natural man" (*Naturmensch*) lives a concrete

and purely sensorial experience, like that of other animals. Then man dedicates himself to the creation of functional, tridimensional artifacts. In a third phase, "traditional" images appear – paintings, drawings, sculptures – which structure the relation between man and the world in magical-imaginative terms. The fourth moment is one in which writing appears and, therefore, conceptual thought. The fifth phase is the one we now find ourselves in, in which abstraction has led to a loss of the "representability" of concrete phenomena (Flusser, 2010, pp. 5–10). For another "history of the image," which is set up according to a schema not distant from Flusser's, see Debray (1992).
22. "Envision should refer to the capacity to step from the particles universe back into the concrete" (Flusser, 2010, p. 34). And moreover, via technical images, "are we able to turn back to concrete experience, recognition, value and action and away from the world of abstraction from which these things have vanished" (ibid., p. 38).
23. On different aspects of contingency in the present cinema, see Harbord (2007, pp. 123–127).
24. See, for example, Feldmann (1956). Boris Groys suggests that the immobility of the spectators risks functioning as a parody of the "active life," which films seem to celebrate (Groys, 2008, pp. 71–72).

Bibliography

Alighieri, Dante (1973) *Vita Nuova*, Mark Musa (trans.) (Bloomington: Indiana University Press).
Altman, Charles (1976) "Psychoanalysis and Cinema: The Imaginary Discourse", *Quarterly Review of Film Studies*, 2, 257–272.
Andrew, Dudley (2009) "The Core and the Flow of Film Studies", *Critical Inquiry*, 35 (Summer), 879–915.
Arnheim, Rudolf (1935) "Vedere Lontano", *Intercine*, 2 (February), 71–82.
Arnheim, Rudolf (1937) *La Radio Cerca la Sua Forma* (Milan: Hoepli).
Arnheim, Rudolf (1957) *Film as Art* (Berkeley, LA and London: University of California Press).
Bakhtin, Mikhail (1981) "Discourse in the Novel", in Holquist, Michael (ed.) *The Dialogic Imagination: Four Essays* (Austin: University of Texas Press).
Balázs, Béla (2010) *Béla Balázs: Early Film Theory: Visible Man and The Spirit of Film*, Carter, Erica (ed.), Rodney Livingstone (trans.) (New York: Berghahn Books).
Battaglia, Salvatore (1994) *Grande Dizionario della Lingua Italiana*, Vol. 17 (Turin: Utet).
Bazin, André (1967) *What is Cinema?* (Berkeley: University of California Press).
BBC News (2001) "First 3G Launched in Japan" (1 October) http://news.bbc.co.uk/1/hi/business/1572372.stm, date accessed 13 April 2012.
Cabral, Luís M. B. (2000) *Introduction to Industrial Organization* (Cambridge: MIT Press).
Canudo, Ricciotto (1908) "Trionfo del Cinematografo", *Il Nuovo Giornale*, (25 December), 3.
Canudo, Ricciotto (1988) "The Birth of a Sixth Art", in Abel, Richard (ed.) *French Film Theory and Criticism* (Princeton: Princeton University Press).
Chelsea Girls (1966) directed and produced by Andy Warhol.

Computer History Museum (2006) Timeline of Computer History: Graphics & Games, http://www.computerhistory.org/timeline/?category=gg, date accessed 25 April 2012.
D'Aloia, Adriano (2009) *I Baffi di Charlot* (Torino: Kaplan).
Debray, Régis (1992) *Vie et Mort de l'Image: Une Histoire du Regard en Occident* (Paris: Gallimard).
Edwards, Benj (2009) The (Misunderstood) Mac Portable Turns 20, http://www.pcworld.com/article/172420/the_misunderstood_mac_portable_turns_20.html, date accessed 25 April 2012.
Eisenstein, Sergei (1931a) "The Dynamic Square", *Close Up*, March–June, 3–16.
Eisenstein, Sergei (1931b) "The Principles of Film Form", *Close Up*, September, 167–181.
Eisenstein, Sergei (1987) *Nonindifferent Nature* (Cambridge: Cambridge University Press).
Elsaesser, Thomas and Hagener, Malte (2010) *Film Theory: An Introduction through the Senses* (New York: Routledge).
Epstein, Jean (1984) "Magnification", in Abel, Richard (ed.) *French Film Theory and Criticism*, Vol. 1, 1907–1939 (Princeton: Princeton University Press).
Evans, Dean (2011) 10 Memorable Milestones in Tablet History, *TechRadar* (31 January), http://www.techradar.com/news/mobile-computing/10-memorable-milestones-in-tablet-history-924916, date accessed 13 April 2012.
Feldmann, Erich (1956) "Considérations sur la Situation du Spectateur au Cinéma", *Revue Internationale de Filmologie*, 26, 83–98.
Flusser, Vilém (2010) *Into the Universe of Technical Images*, Nancy Ann Roth (trans.) (Minneapolis: University of Minnesota Press).
Foucault, Michel (1979) *Discipline and Punish: The Birth of the Prison* (New York: Vintage).
Freeburg, Victor Oscar (1918) *The Art of Photoplay Making* (New York: Macmillan).
Freeburg, Victor Oscar (1923) *Pictorial Beauty on the Screen* (New York: Macmillan).
Friedberg, Anne (2000) "The End of Cinema: Multimedia and Technological Change", in Gledhill, Christine and Williams, Linda (eds.) *Reinventing Film Studies* (London: Arnold).
Galili, Doron (2011) "Television from Afar: Arnheim's Understanding of Media", in Higgins, Scott (ed.) *Arnheim for Film and Media Studies* (London: Routledge).
Gerbi, Antonello (1926) "Iniziazione alle Delizie del Cinema", *Il Convegno*, 7(11–12), 836–848.
Groys, Boris (2008) *Art Power* (Cambridge: MIT Press).
Hagener, Malte (2009) "The Aesthetics of Displays: From the Window on the World to the Logic of the Screen", in Quaresima, Leonardo, Sangalli, Laura Ester and Zocca, Fedrico (eds.) *Cinema e Fumetto/Cinema and Comics* (Udine: Forma).
Harbord, Janet (2007) *The Evolution of Film* (Cambridge: Polity Press).
Huhtamo, Erkki (2004) "Elements of Screenology: Toward an Archaeology of the Screen", *ICONICS: International Studies of the Modern Image*, 7, 31–82.
Inception (2010) Directed by Christopher Nolan, produced by Christopher Nolan and Emma Thomas.
Joselit, David (2007) *Feedback: Television Against Democracy* (Cambridge: MIT Press).

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Klemens, Guy (2010) *The Cellphone: The History and Technology of the Gadget that Changed the World* (Jefferson: McFarland).
Kracauer, Sigfried (1930) *Die Angestellten: Aus dem Neuesten Deutschland* (Frankfurt: Societäts-Verlag).
Kracauer, Sigfried (1960) *Theory of Film: The Redemption of Physical Reality* (New York: Oxford University Press).
Kracauer, Sigfried (1998) *The Salaried Masses: Duty and Distraction in Weimar Germany*, Quintin Hoare (trans.) (London: Verso).
Lasswell, Harold (1948) "The Structure and Function of Communication in Society", in Bryson, Lyman (ed.) *The Communication of Ideas* (New York: Institute for Religious and Social Studies).
Lull, James (2006) "The Push and Pull of Global Culture", in Curran, James and Morley, David (eds.) *Media and Cultural Theory* (London: Routledge).
Lyotard, Jean-François Lyotard (1984) *The Postmodern Condition* (Minneapolis: University of Minnesota Press).
Mancini, Anna (2002) *Ancient Egyptian Wisdom for the Internet: Ancient Egyptian Justice and Ancient Roman Law Applied to the Internet* (Lanham: University Press of America).
Manovich, Lev (2000) *The Language of New Media* (Cambridge: MIT Press).
McLuhan, Marshall (2001) *Understanding Media: The Extension of Man* (London: Routledge, 2001).
Minority Report (2002) Directed by Steven Spielberg, produced by Molen, Gerald R., Curtis, Bonnie, Parkes, Walter F., de Bont, Jan and Doven, Michael.
Mueller, Scott (2004) *Upgrading and Repairing Laptops* (Indianapolis: Que).
Pagtzis, Theodoros (2011) GSM: A Bit of History, http://www.cs.ucl.ac.uk/staff/t.pagtzis/, date accessed 13 April 2012.
Panteo, Tullio (1908) "Il Cinematografo", *La Scena Illustrata*, 19(1) (October), 5.
Papini, Giovanni (1907) "La Filosofia del Cinematografo", *La Stampa* (18 May), 1–2.
Sobchack, Vivian (1992) *Address of the Eye* (Princeton: Princeton University Press).
Spigel, Lynn (2010) "Designing the Smart House: Posthuman Domesticity and Conspicuous Production", in Berry, Chris, Kim, Soyoung and Spigel, Lynn (eds.) *Electronic Elsewheres* (Minneapolis: Minnesota University Press).
The Matrix (1999) Directed by Andy Wachowski and Larry Wachowski, produced by Joel Silver.
The Matrix Reloaded (2003a) Directed by Andy Wachowski and Larry Wachowski, produced by Joel Silver.
The Matrix Revolutions (2003b) Directed by Andy Wachowski and Larry Wachowski, produced by Joel Silver.
Timecode (2000) Directed by Mike Figgis, produced by Mike Figgis and Annie Stewart.
To Be Alive! (1965) Directed by Alexander Hammid and Francis Thompson, produced by Francis Thompson.
Toshiba (1995) DVD Format Unification, http://www.toshiba.co.jp/about/press/1995_12/ pr0802.htm, date accessed 13 April 2012.
Voci, Paola (2010) *China on Video: Smaller-Screen Realities* (London: Routledge).
Williams, Raymond (1974) *Television: Technology and Cultural Form* (New York: Schocken Books).

2
Multi-screen Architecture

Beatriz Colomina

We are surrounded today, everywhere, all the time, by arrays of multiple, simultaneous images – in the streets, airports, shopping centers and gyms, and also on our computers and TV sets. The idea of a single image commanding our attention has faded away. It seems as if we need to be distracted in order to concentrate, as if we – all of us living in this new kind of space, the space of information – could be diagnosed *en masse* with attention deficit disorder. The state of distraction in the metropolis, described so eloquently by Walter Benjamin early in the twentieth century, seems to have been replaced by a new form of distraction, which is to say, a new form of attention. Rather than wander cinematically through the city, we now look in one direction and see many juxtaposed moving images, more than we can possibly synthesize or reduce to a single impression. We sit in front of our computers on our ergonomically perfected chairs, staring with a fixed gaze at many simultaneously "open" windows through which different kinds of information stream toward us. We hardly even notice it. It seems natural, as if we were simply breathing in the information.

How would one go about writing a history of this form of perception? Should one go back to the organization of the TV studio, with its wall of monitors from which the director chooses the camera angle that will be presented to the viewer; or should one go to Cape Canaveral and look at its mission-control room; or should one even go back to World War II, when so-called situation rooms were envisioned with multiple projections bringing information from all over the world and presenting it side by side for instant analysis by political leaders and military commanders?

But it is not simply the military or war technology that has defined this new form of perception. Designers, architects and artists were

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