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## **The Pleasures of the Peephole: An Archaeological Exploration of Peep Media**

During the Second World War, Frederick Kiesler, an expatriate German designer and architect living in New York City, received an interesting commission: he was to design Peggy Guggenheim's "Art of This Century" gallery (1942). As usual, Kiesler had uncommon ideas. One of them was to enclose some of the artworks in hand-operated peepshow machines. Thus André Breton's *Poème-objet 1713* (*Portrait de l'acteur A.B.*) was hidden in a box with a shutter. The artwork was seen by pulling a lever which opened the shutter. Likewise, the contents of Marcel Duchamp's *Boîte-en-valise* were revealed to the visitor-turned-into-a-peeper one by one by turning a large "ship's wheel" interface. For almost anyone else but the Surrealists these ideas would have seemed outrageous. The work of art was not only submitted to the manipulation of the visitor (and more indirectly to that of the designer), but also to the mechanized logic of a "vision machine". Where did Kiesler get his idea from? As is well known, he had already used technical apparatuses, peepholes and "shutters" in his architectural and stage designs. The Surrealists, as well as the Dadaists before them, had also shown interest in technology, conceiving absurd "bachelor machines", metaphorical contraptions reflecting suppressed mental processes.<sup>1</sup> While playing with unconscious desires and voyeuristic fantasies the Surrealists frequently referred to popular cultural forms, despised or ignored by cultural elites.<sup>2</sup> The Variété, the amusement park and the penny arcade were among their inspirations. Kiesler's peepshows could thus be interpreted as free re-enactments of Mutoscopes and other mechanized peeping devices found in these places. This aspect did not escape the attention of critics, who spoke about "a kind of artistic Coney island" or "a penny-arcade peep show without the pennies."<sup>3</sup> Exploiting both the desire to peep and the curiosity toward technology, such devices were paradoxically both highly visible and strangely invisible in culture. They were everywhere and nowhere, depending on the observers' perceptions and tastes. They were outside the canons of "respectable" culture, although "respectable" citizens certainly could not resist the temptation to peek into them from time to time. They were deemed either harmless or harmful, superfluous or ridiculous, but hardly worthy of "cultured" attention.<sup>4</sup>

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<sup>1</sup> See *Le machine celibi / The Bachelor Machines*, edited by Jean Clair and Harold Szeemann, New York: Rizzoli, 1975.

<sup>2</sup> See Kirk Varnedoe: *High & low : modern art, popular culture*, New York : Museum of Modern Art : Distributed by H.N. Abrams, 1990.

<sup>3</sup> Lewis Kachur: *Displaying the Marvellous. Marcel Duchamp, Salvador Dali, and Surrealist Exhibition Installations*, Cambridge, Mass: The MIT Press, 2001, 20.

<sup>4</sup> For a more detailed discussion, see my "Slots of Fun, Slots of Trouble. An Archaeology of Arcade Gaming", in *Handbook of Computer Game Studies*, edited by Joost Raessens and Jeffrey Goldstein, Cambridge, Mass.: The MIT Press (Forthcoming January 2005).

By introducing the idea of peeping into the gallery Kiesler managed to question some widely shared assumptions. Not only were artworks subordinated to the creative intervention of the exhibition designer - as Simone de Beauvoir observed when she visited the gallery - and thus denied autonomous existence; the playful way of interacting with them engaged both the visitor's eyes and his/her hand, transgressing the "untouchability" traditionally associated with the aesthetic object.<sup>5</sup> The social rituals of the gallery audience were momentarily disrupted when the peeper "left the crowd behind" and had a private encounter with the work. Furthermore, the consumption of art was "desacrated" by associating it with the tactile and bodily experiences familiar both from modern working life and the mechanized entertainments at amusement parks and penny arcades. Yet by comparing his box for Breton's *Poème-object* to a camera obscura Kiesler may have intuited that his creations had even wider resonance within visual culture. His boxes evoked the trajectory of the "culture of peeping".<sup>6</sup> Indeed, the motive - or 'topos', as I prefer to call it - of peeping runs through the history of visual media, appearing in different guises and contexts throughout centuries, its meanings constantly changing in the process.<sup>7</sup> It is tempting to characterize the topos of peeping as an "idée fixe" that has played an important role in the formation of visual media, touching upon seminal issues like the constitution of media apparatuses, modes of spectatorship, and the commodification of the media experience. In spite of references by critics and theorists in various contexts from the cultural history of eroticism to psychoanalytic film theories, the media cultural significance of peeping has received less attention than it deserves. This may have something to do with the largely negative connotations of the word within present Western culture. Peeping is deemed as something cheap, lowly and even perverse. However, for cultural analysis it is necessary to penetrate beyond such prejudiced notions, which often prove to be nothing more than projections of contemporary attitudes upon historical circumstances.

This essay excavates some manifestations of the culture of peeping from the past five hundred years.<sup>8</sup> The approach is decidedly culturalist. Peeping is one of those issues that psychologically inclined observers tend to consider as pre-(or infra-) cultural: belonging to the "human nature" and perhaps even our "animal nature". Whether it originated from our innate curiosity towards the "outside", from the survival instinct, or from the shock of witnessing the "primal scene" is of no interest here. This article considers the topos of peeping as a culturally determined construct, effected by and effecting cultural forms and identity formations. There are many questions to be asked. When, how and why did "peep media" develop?<sup>9</sup> How has the idea of peeping been "built into" technical apparatuses of vision? How has it been exploited and for what purposes? How has its role changed over time? Who has utilized peep media and for what purposes? How does peeping effect the identity

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<sup>5</sup> For Beauvoir's comment, see Dieter Daniels: "Points d'interférence entre Frederick Kiesler et Marcel Duchamp, in Frederick Kiesler, *Artiste-architecte*, Paris: Éditions du Centre Pompidou, 1996, 124.

<sup>6</sup> Frederick Kiesler: "Un exemple de co-réalité entre fait et vision", in Frederick Kiesler, *Artiste-architecte*, 142 (originally published in English in *VVV*, No 2, Mars 1943).

<sup>7</sup> This sense of using the word 'topos' has been adopted from Ernst Robert Curtius, although not without certain modifications. See my "From Kaleidoscomaniac to Cybernerd. Notes Towards an Archeology of the Media", in *Electronic Culture. Technology and Visual Representation*, edited by Timothy Druckrey, New York: Aperture 1996, 296-303, 425-427.

<sup>8</sup> This text includes some material, although in totally re-written form, from my study "Elements of Screenology: Toward an Archaeology of the Screen", *Iconics*, Vol.7 (2004), 31-82 (The Japan Society of Image Arts and Sciences).

<sup>9</sup> I use the concept "peep media" to refer to all media devices that interface with their user via peeping - peering into a hole, a lens, a hood. This is understood as an individual activity - only the peeping person sees the sight (of course, there may be several peepholes available). This situation differs from gazing at a screen, which is available for several people's gazes simultaneously.

formation of the peeper(s)? Does peeping mean the marginalization of the body, left “outside” while the mind roams inside the peephole? Without aiming to give definite answers to all these questions, the text discusses them in a number of historical contexts. Although peeping has occurred in countless circumstances, often with no connection with technology, the focus will be on “mediated (and mediating) peeping” - in relation to contrivances imagined or built for the purpose, used in communicative situations and discourses. Finally, although many of the examples dealt with in this article come from the past, the purpose is also to shed light on the role of peeping in contemporary culture. It may seem that peeping plays a much smaller role in today’s media culture, with its emphasis on infinite visibility, easy access and the ubiquity of media experiences. Is it really so? Peepshow boxes and Victorian stereoscopes may be things of the past, but whether the issues they raised and the experiences they offered have totally disappeared is a question worth asking. Where are the peepholes to today’s culture and what do they reveal?

## Peeping as Culture

“Anybody peeps” - it could be claimed that peeping is a “low level” human activity, happening anywhere where people, curious sights and peepholes are found. However, it soon becomes evident that peeping is a much more complex issue, intricately linked to various cultural forms. Some social and ideological situations are more likely to favor it than others. For example, it may be enhanced by social structures characterized by sharp class divisions and power relations. Thus peeping is intimately linked with surveillance. The peeper not only exercises power over the peeped; the last mentioned can be driven to internalizing one’s situation, developing a sense of living under a constant peeping gaze (even when no-one is looking). This turns the act of peeping into an imaginary relationship, thoroughly analyzed by Michel Foucault in his well-known discussion about the Panopticon.<sup>10</sup> Obviously peeping is also often related to gender. Strictly defined moral codes, like those that controlled sexual behaviour (or attempted to) in Victorian England, may strengthen the desire for peeping as a psychological outlet that some interpreters may consider a form of transgression or perversion. In patriarchal society the male is usually identified as the peeper and the female as the peeped. Yet, whether this generalization is always valid is a question worth investigating. Some recent scholarship has implied that the relationship may not have been quite as rigid as formerly thought, even within the Victorian society.<sup>11</sup> The encounter between cultures separated by distance, habits and ethnic identities seems another propitious situation for a “culture of peeping” to blossom. In his fascinating autobiographical writings about Japan around the turn of the nineteenth century, Lafcadio Hearn has given us testimonies about the fondness of the Japanese for the act of peeping. Staying in a little hotel in a remote village, Hearn himself becomes the attraction and the house a kind of peepshow box:

“And there is one high window in the rear, of which the paper-panes contain some holes; and I see shadows of little people climbing up to get to the holes. Presently there is an eye at every hole.

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<sup>10</sup> Michel Foucault: *Discipline and Punish: The Birth of the Prison*, trans. Alan Sheridan, New York: Vintage, 1977.

<sup>11</sup> Although not addressing the issue of peeping directly, the feministic scholarship by Kathy Peiss and Lauren Rabinovitz points to this direction. See Kathy Peiss: *Cheap Amusements. Working Women and Leisure in Turn-of-the Century New York*, Philadelphia: Temple University Press, 1985; Lauren Rabinovitz: *For the Love of Pleasure. Women, Movies, and Culture in Turn-of-the-century Chicago*, New Brunswick, New Jersey: Rutgers University Press, 1998.

When I approach the window, the peepers drop noiselessly to the ground, with little timid bursts of laughter, and run away. But they soon come back again.”<sup>12</sup>

Interestingly, Hearn turns peeping into a playful interactive experience by beginning to poke pears and pieces of radish through the holes, eagerly snatched by invisible hands. Although the children’s curiosity was roused by the uncommon event of sighting a *gaijin*, a foreigner, in their village, Hearn writes elsewhere about the central role of play and insatiable curiosity toward anything visual as central elements of the Japanese way of life:

“For with ever so little money one can always obtain the pleasure of looking at things. And this has been one of the chief pleasures of the people in Japan for centuries and centuries, for the nation has passed its generations of lives in making or seeking such things. To divert one’s self seems, indeed, the main purpose of Japanese existence, beginning with the opening of the baby’s wondering eyes. The faces of the people have an indescribable look of patient expectancy - the air of waiting for something interesting to make its appearance.”<sup>13</sup>

Hearn’s analysis presents the fondness of the Japanese for peeping as entirely cultural. It is intimately linked with culture, including details like the construction of the traditional house. Its central element, the movable ricepaper walls (*shoji*), gave rise to a rich imaginary about peeping. In Japanese wood-block prints (*ukiyo-e*) and literature (including the prominent genre of ghost stories) alike, these walls become veritable screens for spontaneous “shadow plays”, secretly observed from the other side. The context may be supernatural, comic, didactic or - as it often is - erotic. Japan’s relative isolation during the Edo era (1603-1868) certainly raised curiosity towards foreign things. This was manifested, among other things, in the long-lasting success of peepshow boxes (*nozoki karakuri*) as a public attraction. These often displayed views of foreign lands. However, as Timon Screech has shown in his groundbreaking study *The Lens Within the Heart: The Western Scientific Gaze and Popular Imagery in Later Edo Japan*, the peepshow, originally a foreign (probably Dutch) import, gained a complex and distinctive discursive identity.<sup>14</sup> It was woven into the fabric of the Japanese culture by multiple threads, many of which had nothing to do with curiosity towards the West. Even the Japanese peepshow boxes were given a very peculiar look - somewhat resembling diminished versions of the traditional Japanese house, with lenses mounted on their ricepaper walls for peering in.<sup>15</sup> The peepshow became a topos encountered both in literary and visual traditions. To mention just one example, Screech talks about a book titled “Pictures Cast by the Projector of the Human Heart” by Santo Kyoden (1796). One of its illustrations shows a young courtesan with a peepshow box in her heart (projected to the outside as if by an internal magic lantern!). Here the peepshow with its rapidly changing pictures becomes a metaphor for the instability of the young woman’s

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<sup>12</sup> Lafcadio Hearn: *Writings from Japan*. An Anthology Edited with an Introduction by Francis King. London: Penguin, 1984, 74.

<sup>13</sup> Item., 53.

<sup>14</sup> Timon Screech: *The Lens Within the Heart. The Western Scientific Gaze and Popular Imagery in Later Edo Japan*, Honolulu: University of Hawai’i Press, 2002 [orig. 1996].

<sup>15</sup> The Japanese peepshows shown at public fairs and other gatherings were evidently often put together of separate elements on site, thus reinforcing the house parallel. This certainly made them easier to transport. Ricepaper screens stretched in wooden frames were used; lenses were also mounted in these frames. The structures were often quite large, meant for several peepers at the same time. The tradition still existed after the middle of the twentieth century, but seems to have become extinct since then. No original fairground peepshow box seems to have survived in its entirety, but copies have been produced for exhibition purposes. I have seen some large hand-painted views in wooden frames used in these boxes during my trips to Japan, but also these are now very rare.

feelings and emotions. “People’s hearts change as fast as the autumn skies. Let all be on their guard!”, Kyoden comments.<sup>16</sup> Peeping was also evoked in the discourses that evolved around optical instruments like the microscope and the telescope, often leading to fantasies that clearly deviated from their scientific uses.<sup>17</sup>

## Natural Magic and Peeping

As the profuse examples in Screech’s book demonstrate, peeping in Japan was situated at a constantly transforming liminal zone between science and popular culture, things foreign and domestic, mundane and fantastic, material and discursive. The curious and desirous gaze of the peeper was constantly re-positioned and re-constituted in discourse by writers, illustrators and storytellers. Peeping came to occupy positions that might co-exist and overlap, but never fully merge into one homogeneous form. How about the Western world that contributed the peepshow box as a seed for the Japanese mind to cultivate? In Europe the “incubation era” of peep media extends from the fifteenth to the eighteenth centuries, a period of religious and political tensions, geographical expansion, emerging capitalism and radical transformations in science, worldviews and modes of perception. The emergence of peeping in relation to specific optical apparatuses had its origins in the newly stimulated curiosity towards the visible reality - its observation, exploration, measurement and reproduction. Following the interpretation of the great nineteenth century cultural historian Jakob Burckhardt, this “curiosity” has been associated with the Renaissance. Resorting to a visual metaphor, Burckhardt saw the Renaissance as the opening of the eyes towards the outside world, after centuries of looking inward towards metaphysical realities, seen characteristic of the Middle Ages.<sup>18</sup> The Renaissance placed the individual and his gaze into the center of the newly defined secular worldview. The idea of the Renaissance as a unified phenomenon and a sharp cultural rupture is no longer accepted without qualifications (there were continuities with the cultures of the previous centuries; the Renaissance never affected all layers of culture and society simultaneously). However, certain visual innovations, particularly the invention of the mathematical (linear) perspective in the fifteenth century Italy, had an unquestionable impact on visual culture, including the practices of peeping.

The representation of three-dimensional spaces on two-dimensional surfaces by means of mathematical perspective rules resorted to the idea of peeping to define the tip of the “visual pyramid”. As Martin Kemp amply demonstrates in his seminal *The Science of Art: Optical Themes in Western Art from Brunelleschi to Seurat*, various “perspective machines” were conceived to aid with the task.<sup>19</sup> Demonstrations of images created with perspective rules were also staged by means of peeping devices, like those devised by the fifteenth century theorist Leon Battista Alberti. The eye peering into a perspective apparatus has been described as cool and detached, more passionate about the correct application of the rules of transposition than about the topic represented. It is obsessive and limited, far from the all-embracing and sweeping, almost “panoramic”, visuality Burckhardt associated with the Renaissance. The same could be said about the *camera obscura*, an apparatus that first materialized during the sixteenth century, although it was based on a principle that was known

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<sup>16</sup> Cit. Screech, *The Lens Within the Heart*, 129.

<sup>17</sup> Although interesting, the space does not allow us to deal with this issue in the present article.

<sup>18</sup> Jakob Burckhardt: *The Civilization of the Renaissance in Italy*, New York: HarperTrade, 1975 (orig. 1860).

<sup>19</sup> Martin Kemp: *The Science of Art*. New haven and London: Yale University Press, 1990, 167-186.

already in ancient China. Camera obscura automatically forms an image of the outside world inside a dark chamber or a box. As Jonathan Crary has explained, in the centuries that followed it served both as a philosophical metaphor and as an actual tool for the artist.<sup>20</sup> Although its lens faces the world, it also frames, separates and fragments. The camera obscura may have been a tool for “disinterested” perspectival imaging or astronomical observation, but it also became associated with surveillance and sexual voyeurism, developing into a hideaway for the unseen peeper. In the seventeenth century new observation instruments, such as the telescope and the microscope, extended the peeper’s vision into unforeseen “depths”. Although originally conceived as pure “philosophical” or “mathematical” instruments, these devices began to lead discursive “lives” that extended their original identities. In the hands of satirical writers and caricaturists, they became instruments for exploring the characteristics of nations, the idiosyncrasies of scientists, the peculiarities of politics and - last but not least - the varieties of sexuality.

Peeping also played a role in the demonstrations of “natural magic”, characterized by one of its leading exponents, Giambattista della Porta, in the sixteenth century as the “practical part of Natural Philosophy”.<sup>21</sup> As the historian of science Lynn Thorndike put it, “[n]atural magic is the working of marvellous effects, which may seem preternatural, by a knowledge of occult forces in nature without resort to supernatural assistance”.<sup>22</sup> Cultivated in the seventeenth century by well-known Jesuit scholars like Athanasius Kircher and Kaspar Schott, and many others, natural magic was understood as a way of investigating and explaining the “wonders” of the God-created universe, but without questioning its metaphysical basis. An important part of natural magic was “artificial magic”, the use of human-made contraptions to demonstrate various phenomena found in nature. Although it resorted to experimentation, this approach could be seen as a counterpoint to the emerging experimental science represented by figures like Galilei, Kepler and Huygens. Not only did Jesuits like Kircher organize demonstrations to prove the discoveries of the experimental scientists wrong by using the very same instruments (the air pump, for example); they tried to harmonize the Aristotelian worldview embraced by the Catholic Church with the rapidly accumulating and potentially disruptive experimental findings about the universe.<sup>23</sup> The “marvels” of the universe were “natural”, not the work of the Devil. They were also presented as allegorical representations of God’s acts of creation. As in the Middle Ages, nature was still considered a book written by God’s hand. While della Porta posed as a “Magus”, owner of secret knowledge, Kircher rather wanted to be seen as a kind of “Renaissance man”, polymath who mastered all existing knowledge, explaining it in his numerous works and performing the (impossible) task of harmonizing catholic doctrine and politics, Jesuit ideology and the world of experimental science and learning. To achieve his goals, Kircher introduced and described a great variety of instruments. Many of them remained discursive (as unrealized diagrams and descriptions in the pages of his books), while others were actually built and demonstrated publicly at The Museum Kircherianum (an enormous cabinet of curiosities) at the Jesuits’ Collegium Romanum.

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<sup>20</sup> Jonathan Crary: *Techniques of the Observer*. Cambridge, Mass.: The MIT Press, 1990, chapter 2.

<sup>21</sup> Paula Findlen: “Scientific Spectacle in Baroque Rome: Athanasius Kircher and the Roman College Museum”, in *Jesuit Science and the Republic of Letters*, edited by Mordechai Feingold, Cambridge, Mass.: The MIT Press, 2003, 247.

<sup>22</sup> Lynn Thorndike: *A History of Magic and Experimental Science*, Volumes VII and VIII, New York and London: Columbia University Press, 1958, 272. Thorndike’s classic history gives a good idea of the wide extent and vagueness of the natural magic tradition (see *ibid.*, 272-322).

<sup>23</sup> See Ingrid D. Rowland: *The Ecstatic Journey. Athanasius Kircher in Baroque Rome*. Chicago: University of Chicago Library, 2000. See also Siegfried Zielinski: *Archäologie der Medien. Zur Tiefzeit des technischen Hörens und Sehens*, Reinbek bei Hamburg: Rowohlt, 2002, chapter 3.

Peep boxes and other optical instruments were common features of any seventeenth and eighteenth century “museum”, “physics cabinet” or “cabinet of curiosities”. Kircher, as well as savants like Zahn, Traber and Kohlhans, described whole varieties of them. Such boxes were often associated with “catoptric” magic, the art of reflected light. Mirrors were placed inside boxes to multiply objects, such as jewels and beads, *ad infinitum* (anticipating a nineteenth century re-invention, Sir David Brewster’s Kaleidoscope). Mirrored panels were opened and closed to change the reflected views. The boxes could also contain other things, including representational scenes. In 1675, Zacharius Traber, a Jesuit from Vienna, described a box with a mirror and a horizontal rotating wheel inside.<sup>24</sup> Either little puppets or painted cut-out images of saints were fixed to the wheel. By rotating a crank an endless procession began, resembling the mechanical moving automaton figures familiar from great astronomical clocks.<sup>25</sup> In this case, however, the peeper would not see the figures directly, but via the mirror (placed opposite the peephole). Furthermore, the moving figures were superimposed on reflected miniature “sets”, also placed inside the box. In this manner the scenes were “virtualized” and the secret mechanism kept hidden. Some boxes were meant for a single peeper, while others, such as the “Opticus Fortalitius” described by Johann Christoph Kohlhans in 1677, accommodated a group of viewers.<sup>26</sup> The “optical fortress” was a cylindrical miniature building, with numerous tiny windows around its outer wall serving as peepholes. One of Kircher’s devices was the “parastatic microscope”, possibly the very first handheld “media machine”.<sup>27</sup> It consisted of two round covers, one with a peep tube attached and the other with a hole for backlight. A painted glass disc, to be rotated with one’s fingers was inserted into the slot between these covers. Undoubtedly to please his sponsors Kircher demonstrated the device with an allegorical scene, the Passion of Christ shown in eight successive views, but he stated that any topic could be depicted in similar manner. The resemblance between Kircher’s device and the 20th century View-Master is thought-provoking, although one should resist making easy comparisons. Although both are handheld and mobile, they emerged in very different cultural contexts which should be taken into account. This does not mean the some kind of cultural continuity could not be posited.<sup>28</sup>

The boxes of the natural magic era were curiosities in a double sense: as curious objects and as containers for “curious things”. How many of them were displayed and even built is a difficult question to answer. Few (if any) of these early peep boxes have been preserved. Another type of viewing box was the “perspective box”. Created by Dutch painters like Samuel van Hoogstraten and Carel Fabritius, several of them still exist. The perspective box was an illusionistic interior scene painted on the inner walls of an enclosed box. Because distorted perspectives were used, the interior had to be viewed through a carefully positioned hole to achieve a perfect spatial illusion. Such boxes were showpieces for a limited privileged public, meant to demonstrate the painter’s skills and

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<sup>24</sup> Jurgis Baltrusaitis: *Le miroir*, Paris: Elmayan/Le Seuil, 1978, 32-33.

<sup>25</sup> A famous example of such clocks can be found from the Strassbourg cathedral, France. A similar idea was applied by Etienne-Gaspard Robertson in his *Fantasmagorie* show in the late eighteenth century. A rotating cylinder with figures painted on it was projected by means of the *Fantoscope*. An example of the device has been preserved at the *Conservatoire des Arts et Métiers*, Paris, see *La lanterne magique et fantasmagorie. Inventaire des collections*, Paris: *Conservatoire national des arts et métiers / Musée national des techniques*, 1990, 28.

<sup>26</sup> Werner Nekes: “Das Loch, die Kammer, der Spiegel and die Linse”, in Georg Fuesslin et al.: *Der Guckkasten: Einblick - Durchblick - Ausblick*. Stuttgart: Fuesslin Verlag, 1995, 107.

<sup>27</sup> Siefried Zielinski calls it “Smicroscopin”. See Zielinski: *Archäologie des Medien*, 166.

<sup>28</sup> Erkki Huhtamo: “Ten Chapters on Lost Media, in *Sixcon Lost Media*, edited by Rotraut Pape, Offenbach am Main: Hochschule für Gestaltung Offenbach / Friedrichs Stiftung, 2002, 13-28.

to provide the owner's quests startling sensations. What separated the perspective box from the subsequent popular peepshow boxes (to be discussed later) was the lack of distinction between software and hardware. The fact that the painting was inseparable from the box turned it into a unique and prestigious object. Another type of distorted perspective was the anamorphosis, an image as a riddle that only revealed its secret when viewed from a cylindrical or conical mirror or peeped at from an oblique angle. An anamorphosis could also be enclosed in a box to be peeped at through a slot, as Mario Bettini demonstrated in his *Apiaria* (1642).<sup>29</sup> Norman M. Klein has not hesitated to characterize such deliberately distorted views, hidden images and illusionistic environments of the seventeenth century as "special effects".<sup>30</sup> They were explorations of the perspective, but filtered through the increasingly self-conscious, playful and extravagant taste of the Manierist and Baroque eras. They were meant to impress and surprise the viewer. Although the overall effect may at times have been subdued, the means for achieving it used the repertory of accumulated skills in visual spatial manipulation.

What purposes did such devices have? According to Kircher, his experiments served various goals: the "investigation of the learned", the "admiration of the ignorant and uncultured" and the "relaxation of Princes and Magnates".<sup>31</sup> All these varieties can be frequently encountered in accounts of popular scientific demonstrations and other public attractions during the subsequent centuries, sometimes together, sometimes separately. For Kircher, the demonstrations for the learned were an important way of proving his hypotheses and establishing his credibility as a scientist, while his reputation also relied on entertaining the noble and the powerful, who frequently visited his Museum. The task of gaining the "admiration of the ignorant and uncultured" was also a major issue for the Jesuits, engaged in a fight for the causes of the Counter-Reformation and the prestige of the Catholic church. The Jesuit missionaries frequently brought scientific devices with them to distant lands. Although they disseminated knowledge, their demonstrations also helped convince the natives about the superiority of Western Christian civilization. The idea of peeping into a box would have served Kircher's goals in different ways. In scientific demonstrations the enclosed nature of the box necessitated an explanation, and probably the revelation of the mechanism. This gave the savant an opportunity to display one's knowledge through dramatic revelations. Della Porta emphasized this when he described the ways in which he used a room-sized camera obscura for spectacles staged outside the camera in real-time. His stupefied friends would not believe that the spectacle was produced by natural causes "until, opening the panels, I demonstrated them the artifice".<sup>32</sup> Part of the ideology of "artificial magic" was the revelation of the secret. However, in practice this idea was not always adhered to, particularly when demonstrating devices to "the ignorant and [the] uncultured". Natural magic certainly also inspired shows and demonstrations that exploited superstition and belief in the occult. This is well demonstrated by the early history of the magic lantern, another seventeenth century optical device. It was soon adopted by touring showmen and necromancers who fully utilized

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<sup>29</sup> Werner Nekes: "Das Loch, die Kammer, der Spiegel and die Linse", 102.

<sup>30</sup> Norman M. Klein: *The Vatican to Vegas. A History of Special Effects*. New York & London: The New Press, 2004; see also Evonne Levy: *Propaganda and the Jesuit Baroque*. Berkeley: University of California Press, 2004.

<sup>31</sup> Paula Findlen: "Scientific Spectacle in Baroque Rome: Athanasius Kircher and the Roman College Museum", 262. Kircher defined these goals in his book "Magnetic Kingdom of Nature".

<sup>32</sup> "Io molte volte hò dato questi spettacoli à gli miei amici miei, che l'hanno marati con gran meraviglia, e stupore, che dandole le cagioni di Filosofia, e di prospettiva non volevano credere, che fussero cose naturali, finche aprendo le porte, li fece confcere l'artificio." (Gio: Battista dell Porta: *Della magia naturale*, Napoli: Antonio Bulifon, 1677 (facsimile reproduction in Laurent Mannoni, Donata Pesenti Campagnoni and David Robinson: *Light and Movement. Incunabula of the Motion Picture*. Pordenone: Le Giornate del Cinema Muto et. al., 1996, 51.



both its novelty value and its 'magic' potential. Phantasmagoria, a new type of magic lantern spectacle that became popular in the late eighteenth century, was still based on the public ambivalence about the relationship between natural and occult causes. Interestingly, the peepshow followed a more worldly trajectory.

## The Culture of Attractions

The main trajectory of peep media opted for the "admiration of the ignorant and uncultured", although not necessarily with supernatural persuasions. In modified form devices like magic lanterns and peepshow boxes were displayed to the general population for profit. The underlying idea was the commercial exhibition of curiosities, many of which were familiar from the repertory of "artificial magic". Typically, the increasing popularity of such shows was deplored by intellectuals. As a case in point, to protect his scientific reputation Christiaan Huygens never admitted publicly his role in the invention of the magic lantern, anticipating its use for trivial purposes.<sup>33</sup> The art historian Arnold Houbraken is said to have stated already in 1719 about peepshows that "[o]nly rubbish is made nowadays in that genre".<sup>34</sup> In spite of such invectives, peepshows (sometimes known as "raree-shows"), carried from place to place by showmen, became a popular phenomenon in the course of the eighteenth century. The peepshow was a manifestation of an emerging phenomenon that could be labeled the "culture of attractions", the development of which can be followed all the way to the twentieth century "society of the spectacle" and beyond. An "attraction" is meant to raise curiosity by presenting something out-of-ordinary. It is meant to "attract" - literally, draw near - potential audiences, who will pay for the satisfaction of their curiosity. Wherever it happens and whatever is shown, an attraction creates a kind of magic circle, separated from the dull monotony of everyday existence. It is always a purposeful act, not a chance. This phenomenon did not appear out of nowhere. Relics and other curiosities had been publicly displayed since the Middle Ages. Rare animals and native inhabitants of far-away countries were popular displays already in the sixteenth century. Performing dancing bears with their masters can even be found pictured in eighteenth century magic lantern slides. Indeed, "raree-shows" could be almost anything, as a remark in Benjamin Franklin's *Autobiography* shows. Having returned as a young man from Philadelphia to Boston and having been asked what kind of money was in use in the first mentioned town, Franklin "produc'd a handful of silver, and spread it before them, which was a kind of raree-show they had not been us'd to, paper being the money of Boston".<sup>35</sup>

In the eighteenth century the number and variety of public shows proliferated, as Richard Altick demonstrated in his classic *The Shows of London*.<sup>36</sup> Many shows resorted to technical novelties to attract audiences. They promised sensational and truthful simulations of humans or natural phenomena. From the countless displays of automata to novelty attractions like De Louthembourg's

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<sup>33</sup> Laurent Mannoni: *The Great Art of Light and Shadow*, trans. Richard Crangle. Exeter: University of Exeter Press, 2000.(orig. French 1994), 41-45.

<sup>34</sup> Richard Balzer: *Peepshows. A Visual History*, New York: Harry N. Abrams, 1998, 21. Balzer refers to Karl G. Hulten: "A Peep Show by Carel Fabritius", *The Art Quarterly* (1952), 278-290 (quot., 288).

<sup>35</sup> *The Autobiography of Benjamin Franklin*, New York: Touchstone 2004, 23. On his trip to England Franklin manages to visit twice "curiosities", meaning privately owned cabinets of curiosities (ibid., 35, 38).

<sup>36</sup> Richard Altick: *The Shows of London*. Cambridge, Mass: The Belknap Press of Harvard University Press, 1978.

celebrated mechanical theater Eidophusikon (performed in London and later turned into a touring attraction), the human performer was often displaced from the center of the “stage”, becoming a commentator, operator and impresario. Media and technology began to take over. One also witnessed the beginning of a phenomenon that could be labeled the “social construction of attractions” - the deliberate and ruthless production of attractions with little regard for anything except their “display value” and their commercial potential.<sup>37</sup> This development, which came of age in the nineteenth century with the notorious stunts conceived by the master showman P.T. Barnum, went hand in hand with increasing competition. As a consequence, new forms of advertising and publicity campaigns developed, including the habit of putting announcements in newspapers and printing broadsides and handbills. Such new forms did not concern peepshows, at least not until they gained a new level of respectability among urban audiences in the early nineteenth century with the introduction of permanent “Cosmorama Rooms”. Until then (and even afterwards) the peepshows were considered a form of cheap street entertainments. The showmen were classified, together with salesmen, knife sharpeners and other travelling people, as “street criers” or “colporteurs”, belonging to the lower strata of society. Although some of them performed on city streets, others were vagrants, carrying their showboxes and belongings on their backs from place to place.<sup>38</sup>

Although the peepshow was relatively simple as an apparatus, various things had to be taken care of, beginning with the construction of the box itself. Because no industrial manufacture existed, each box was unique, although usually based on certain repeated structural features. The most precious part were the lenses, which were normally rather large, meant to be peeped through with both eyes. Most publicly displayed boxes seem to have had more than one of them. This was no doubt based on financial calculation: the initial investment paid off when more than one person could peep simultaneously. The box itself often contained a mechanism for changing views, usually by lowering and lifting them one by one by means of strings that were attached to the outside of the box. Another, less often used possibility was to attach the views together as a roll and use a cranking mechanism to move them. Many boxes also contained ways of manipulating the amount and direction of light falling on the views, usually by opening and closing panels on top and at the back of the box. The external appearance of the box depended on the showman’s means and the nature of his activity. Judging from existing evidence, the variety seems to have been considerable, from plain wooden boxes with shoulder straps to elaborate miniature “buildings” with numerous peepholes (evoking the design of Kohlhans’s “optical fortress”). The box could be painted in bright colours and decorated with ornaments or “architectural” details like lanterns and little turrets. Some boxes even had advertising slogans. Sometimes there were little automaton figures on top of the box. These were animated by the showman by pulling a string to attract attention.

While the external appearance of the box was important, the showman also had to use other ways of raising curiosity among the local population. He could attract attention by shouting and singing and

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<sup>37</sup> “The social construction of attractions” is a free modification of the concept “the social construction of freaks”, used by Robert Bogdan in his *Freak Show. Presenting Human Oddities for Amusement and Profit*, Chicago and London: The University of Chicago Press, 1988, 2-10. Freak show was a part of the culture of attractions.

<sup>38</sup> Travelling peepshowmen were often known in Europe as Savoyards, which seems to point out to the poverty-stricken region of Savoy in present Northern Italy as their origin. It is also possible that the word became generic, referring to a type of profession rather than nationality. “The early exhibitors appear to have been Savoyards,” says the *New English Dictionary*, and *Marin’s Dutch-French dictionary* (1768) has this: ‘a Savoyard with a rare-kiek.’” (F[rank] W[eitenkampf]: “Peep-Show Prints”, *Bulletin of the New York Public Library*, Vol.25, No 6 (June 1921), 362.) Rare-kiek is the Dutch word for a peepshow.

playing musical instruments like the hurdy-gurdy or the hunting horn. Different versions of the raree-showman's shouts have been preserved in literary sources. They probably soon became part of oral traditions, repeated by children in their games and modified as popular sayings and songs. They were often reproduced in children's books and used as captions for popular prints depicting showmen at work. Already in the eighteenth century the peepshowman also became a stock character reproduced in porcelain figurines and gobelins, which points toward its widespread codification in culture. The showmen's efforts were no doubt aided by the fact that he had become an almost instantaneously recognizable figure. Thus it is not surprising that a peepshowman appears already in 1739 as one of the characters in an "opera" called *The Raree Show, or The Fox Trap't*, written by a certain Joseph Patterson (or Peterson), a London actor. In this burlesque, Belamour's, the protagonist's, efforts to marry his sweetheart Corinna have been turned down by her guardian. Belamour's servant poses as a peepshowman, speaking pidgin French. He manages to capture the guardian inside his box, holding him there until he has agreed to sign the marriage agreement.<sup>39</sup> The fact that the guardian ends up trapped in the place usually reserved for curiosities may be more than just a clever trick: although the peepshow box doubles here as a metaphorical cage for wild animals (another kind of ocular spectacle), perhaps the piece also alludes to the often neglected fact that not only pictures, but also comic objects like puppets-on-a-string were displayed inside viewing boxes.

## The Dynamics of Competition

Alongside peepshows, there were competing forms of "low" entertainments, such as magic lantern shows and portable cabinets of curiosities. There were significant differences between the constitutions of these shows as apparatuses. Magic lanterns were used indoors to project images for groups of people; it is significant that each of the viewers saw the same image at the same time; this created opportunities for shared experiences and lively social interaction.<sup>40</sup> Peeping into a lens always has an element of isolation, even when it happens in a social situation; the peeper always leaves the crowd, even for a few seconds, to encounter the hidden view on one's own. Although in most early shows the magic lantern was clearly visible, the immateriality of the image, perhaps even its dimness and its flickering quality, made it seem something uncanny. As Laurent Mannoni has remarked, in France an early observer, Pierre Petit called the magic lantern "lanterne du peur", lantern of fear.<sup>41</sup> The name was appropriate, for the device was easily associated with necromancy and other occult rituals, at least among the "ignorant and uncultured". Even when they did not invoke demons or dances of the dead, lantern slides often displayed fantasies, or little comic episodes from everyday life, anything from hunting to dancing and even scatological scenes. As mentioned above, the

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<sup>39</sup> My knowledge about this work comes from a manuscript titled "The Raree Show" by Edward P. Goodnow, kept in the Harvard Theatre Collection. The text was probably published, but the date and the publication are unknown. Goodnow gives the author's name as "Joseph Patterson". Judging from external evidence the text was possibly written around 1930-50. *The Raree Show, or The Fox Trap't* is also listed in: *Early American Secular Music and its European Sources, 1589-1839: Bibliography*, <http://www.colonialdancing.org/Easmes/Biblio/B005708.htm> (last checked July 6, 2004). Here the author is mentioned as "Joseph Peterson".

<sup>40</sup> Sometimes contemporary illustrations show a showman with both a magic lantern and a peepshow; obviously he is offering a "total service": the former meant for nighttime, the latter for daytime entertainments. If the showman could afford it, such switching made sense. The peepshow and the magic lantern show were not just alternatives for different times of the day; they had significant differences as spectacles.

<sup>41</sup> Mannoni, *The Great Art of Light and Shadow*, 48.

peepshow seems to have been much more matter-of-fact, dispensing with otherworldly fantasies and concentrating on existing geographical locations and events of the world. What are the reasons for this difference of emphasis? Did it simply have to do with the availability of views? While geographical prints for peepshows were mass-produced and relatively easy to secure, lantern slides had to be painstakingly painted by hand; fantasies, gags and stock figures were probably much easier to produce than detailed views of towns and landscapes. Or is it possible that lantern projections were considered “inherently” immaterial, while the tangible presence of the peep box almost automatically “secularized” the curiosities it contained (without, of course, negatively affecting the pleasure of peeping)? While some curiosities may have served as tangible pointers to occult wonders, others - like those enclosed in peep boxes - provided evidence about human-made marvels.

As contemporary illustrations show, the cabinets of curiosities (reduced and simplified versions of those kept by Kircher, Ole Worm and other savants in their Museums) were portable cabinets with little compartments for items and doors that were opened in the beginning of the show. Although these cabinets often contained “curious objects”, they also presented miniature scenes with tiny human figures and props, reminiscent of the series of sequential carvings found in churches, although on a much smaller scale. During the presentation the showman would point out the scenes with a stick, using them to illustrate his narratives. The topics seem to have been didactic and religious, but could also contain satire, anecdotes and political comments. Echoing the structure of the cabinet itself, the show was most likely episodic, consisting of a number of “curious” topics.<sup>42</sup> It is likely that the situation encouraged lively social interaction with the spectators. Contemporary prints show observers pointing at the cabinet with their fingers, no doubt posing questions or making comments. Unlike the peepshow, the cabinet of curiosities presented its contents for everyone to see. Whether the showman collected his money before opening the doors or afterwards is not known. Another development that resembled the presentation of the cabinets of curiosities in its relationship to the audience were the public lecture-performances given by showmen known in the German-speaking world as *Moritatensänger*.<sup>43</sup> The showman stood normally on a scaffold pointing at a large canvas with a series of pictures, singing his commentaries about them. As an attraction this form, well known from fairs and marketplaces, does not seem very effective, because it leaves the spectators the possibility of watching without paying. On the other hand, the open structure may have drawn a larger audience than a presentation taking place in a tent. The tent, often used as a venue for popular shows like circuses and touring freak shows, has the advantage of enhancing curiosity by hiding the main attraction from sight. It also makes it easier to control that the spectators pay. As an apparatus the peepshow had affinities with these attractions.

Unlike these devices, the peepshow presents a problem for the interpreter: although numerous prints and paintings depicting peepshows and peepers have been preserved, they rarely give us a clear idea about what is inside the box. Even to conclude that *for the very least* they contained images would not be accurate; such a supposition might prove to be little more than a forced transposition of the centrality of images in the current media culture onto its historical “predecessors”. There is some evidence that rather than images, at least some boxes contained curious objects like puppets on a

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<sup>42</sup> Although this tradition seems to have dried out by the early nineteenth century, particularly in the German speaking world it was continued by the “*Moritatensänger*”, public performers and storytellers who were a common sight at fairs. They used large sheets of images hung on the stage, using them as the visualizations for their sung narratives.

<sup>43</sup> These figures can also sometimes be spotted giving their performance in a market place in eighteenth century *Vues d'optiques*.

string and three-dimensional scenes composed of little objects.<sup>44</sup> Such boxes resembled crude miniature theatres and had some affinities with phenomena like the Punch and Judy puppet show. Written testimonies by contemporaries, most of them from 19th century England, mention topics like the murder of Weare; the Queen of Sheba's visit to Solomon; the execution of Probert; conversion of St. Paul; Greenland Whale Fishery; building of Babel; Wellington at Waterloo; Daniel in the Lion's den; the lying in state of George IV; the murder of Maria Martin; coronation of William IV; Mazeppa; Paul Jones the Pirate; siege of Gibraltar.<sup>45</sup> How were these topics, and countless others, visualized? Were they hastily sketched drawings, paintings, prints, or, as suggested above, displays of miniature scenes consisting of real objects? Could they have been collages cut out and pasted together from various sources, perhaps with a few "props" as an additional attraction? We will never know for sure. It is likely that the nature of these attractions changed over time, perhaps spurred by the steadily increasing availability of mass-produced images. What is sure is that the supply of printed images most commonly associated with peepshows (known as "vue d'optique" or "perspective view") never covered most of the topics listed above.

### Vue d'optique and its Context

By the middle of the eighteenth century a sizable "vue d'optique" / "perspective view" production was in operation. Important centers included Paris, London, Berlin, Augsburg and Bassano in Northern Italy. Large numbers of these prints have been preserved.<sup>46</sup> The great majority of them depict geographic locations within Europe, above all cities, churches and palaces. In addition to these there are views of battles, fires, celebrations, earthquakes and other events, and some about historical, mythological and non-European subjects. The Eurocentrism of the supply is an interesting issue that deserves further reflection. Why were there relatively few vues d'optique with non-European subject matter? Did this reflect the audiences' tastes for scenes that were beyond one's horizon and yet not too distant; at least in theory (although rarely in practice) within one's reach? In other words, did these prints give an expression to a sense of Europe as a geographical, political and cultural unity, a self-sufficient world unshaken by recent geopolitical upheavals? As far as the vues d'optique reflected their users preferences, one might identify from them a certain lameness of imagination, an unwillingness to break out from a rather conventional and restricted geographical mindset. Not only would one expect more fantastic details; it is truly surprising that the excitement about exotic distant lands created by the voyages of discovery has left so few traces in the repertory of these prints. Of course, one might look at the issue from the producers' point of view: securing more or less reliable

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<sup>44</sup> One has to ask questions: how many touring showmen could have afforded to buy such prints, even second-hand? Wouldn't it be easier and cheaper to show something homemade? The peepers, of course, would not have been able to tell in advance. It is possible that the role of peepshow boxes containing vues d'optique has been exaggerated by contemporary discourse. The possible bias may have been caused by the dominance of images in the contemporary media culture. If a peepshow advertised a representation of the Battle of Waterloo, isn't it more likely that it was some kind of a puppet show or a scene made of mixed materials? Securing a whole series of prints about the event would probably have been more difficult than creating a show with objects.

<sup>45</sup> Summarized from Thomas Frost (*The old Showmen and the London Fairs*, 1881), Henry Morley (*Memoirs of Bartholomew Fair*, 1859) and Henry Mayhew (*London Labour and the London Poor*, 1861) by F[rank] W[eitenkampf]: "Peep-Show Prints", 364.

<sup>46</sup> For illustrated inventories of them, see *Il Mondo nuovo: Le meraviglie della visione dal '700 alla nascita del cinema*, a cura di Carlo Alberto Zotti Minici. Torino: Mazzotta, 1988; *Viaggio in Europa attraverso le vues d'optiques*, a cura di Alberto Milano, Milano: Mazzotta, 1990.

sketches (often with not a little room for artistic license) about European locations must have been much easier than obtaining material about foreign lands. The same views were reprinted from decade to decade, and sometimes copied by other printers, which contributed to the cultural codification of the subject matter. One should also note that the buying audience for these prints was heterogeneous, and so were their uses. Similar prints were often viewed both in upper-class saloons (as will be explained below) and displayed by touring showmen, who may have sometimes bought their prints from the second-hand market.<sup>47</sup>

When displaying perspective views, the peepshow was essentially a virtual voyaging medium, providing the peepers opportunities to “visit” locations and events that most people could not have witnessed *in situ* during their entire lifetimes. As the expression “perspective view” demonstrates, the views shown in the boxes were usually schematic and simplified versions of the perspective lessons of the Renaissance. They presented not just a geographical location, but also a particular conception of space that was uniform and rigid, an image that was sometimes little more than a vaguely disguised rendition of the underlying coordinate system. The almost ritualistic repetition of the central perspective in the repertory of the eighteenth century *vues d’optique* is thought-provoking. Erin C. Blake, who has researched British perspective prints published around 1750 for consumption in the drawing-rooms of the “polite society”, has interpreted their formal rigidity as a recurring “mapping” of its notion of public space.<sup>48</sup> For her, the repetition is more telling than the subject matter of any individual print. However, Blake pays relatively little attention to the varieties of contexts and uses for these and similar prints and to the theoretical issues this gives rise to. The members of the “polite society” may have enjoyed their sense of scopic power over the space the prints provided, but how did the “common people” perceive and interpret similar images? Would the common people have become “captivated” by the recurrence of the perceptual grid, by being turned into willful prisoners of the perspective machine? What opportunities would the situation have left for oppositional readings of the depicted space (for the shattering of the grid with one’s gaze, so to speak)? The poverty of textual source material requires taking the constitution and the functioning of the apparatus into consideration.

Although it could be claimed that the uniformity of the *vues d’optique* tended to homogenize the peeping experience, there were factors that provided a counterforce, emphasizing differentiation. First of all, there were some prints that occasionally deviated from the rigid central perspective. This might have provided a temporary “jolt”, momentarily “shaking” the perspectival grid. Neither should one neglect the fact that on the surface level at least, the prints purported to depict different locations and events, creating a content-based tension against their formal uniformity. One should also pay attention to the social and cultural historical context. Unlike the cinema, the peepshow was not a permanent location-based attraction. For the showmen, the nomadic nature of the show was essential for keeping its offerings fresh. Most of them could not have afforded to update their repertories regularly by buying views (even used ones). By moving from place to place they could

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<sup>47</sup> Goodnow speaks about “a wide market for worn prints, which were easily colored afresh and made to serve for something very tasty.” (Goodnow: “The Raree-Show”). I have found no contemporary sources about the existence of this market, which certainly would have made sense.

<sup>48</sup> Erin C. Blake: “Zograscopes, Perspective Prints, and the Mapping of Polite Space in Mid-Eighteenth-Century England”, Ph.D. Dissertation, Department of Art and Art History, Stanford University, May 2000 (unpublished), Ch. 5. Blake has condensed her main points in the article “Zograscopes, Virtual Reality, and the Mapping of Polite Society in Eighteenth-Century England”, in *New Media, 1740-1915*, edited by Lisa Gitelman and Geoffrey B. Pingree, Cambridge, Mass.: The MIT Press, 2003, 1-29.

hope to find audiences not yet familiar with the program. Of course, it was always possible to pretend that the views were new, depicting something else than originally intended. As Charles Dickens commented in *Our Mutual Friend*: “A peepshow which had originally started with the Battle of Waterloo, had since made it every battle of later date.”<sup>49</sup> Here the showman’s skills of persuasion became crucial. He was aided by the fact that few people consuming street entertainments would have had points of comparison, living in a visually impoverished environment. However old and obsolete the views, the sight of a peepshow must have been, at least in the eighteenth century, an event that stood out from the environment. Peeping into the lens was like looking into another world. Appropriately, the Italian word for the peep show was “Mondo Nuovo (or Nievo)”, “the new world”. It was essential that the “new world” (however “old” its representations may have been) was revealed only after a financial transaction. It is unlikely there was a “money back guarantee”.

The showman could also re-arrange the program from time to time. Peepshow boxes were conceived, particularly in Italy, as actorless “optical theatres” (Teatro Ottico).<sup>50</sup> The views followed one another like stage backdrops, but as the main attraction. It seems, however, that elaborate thematic arrangements were not the norm. The succession of the views seems often to have been quite random, dictated by availability, or perhaps by the logic of attraction that emphasized the display of curious sights over narrative continuity.<sup>51</sup> Last but not least, it was possible to “localize” the prints, making them more interesting and lively by coloring and pin-pricking as well as by adding new elements such as painted or cut-out figures. Yet, as far as I know, this rarely led to the creation of true fantasy landscapes; the improvements were additive, rather than truly transformative. Most prints could also be bought as specially treated “deluxe” versions that contained translucent sections and other effects. By positioning candles inside the box and opening and closing its panels impressive atmospheric transformations could be achieved. A question that needs to be asked concerns the role of such “special effects”: Which aspect was more important for the observers, the subject matter of the print, or the “added” visual tricks? Did content dominate over sheer visual spectacle, or vice versa? How were the two related in the peeper’s mind? What was the attraction value of the mysterious peep box itself? With so little source material preserved about the “user’s share”, we will never know for sure. Similar questions have been asked numerous times in the course of media history. The stereoscope astonished the viewer with the illusion of three-dimensionality, but also by its ability to represent the world in minute detail. The giant circular panoramas were overwhelming as visual experiences, yet they always purported to instruct their audiences about geography, history and politics. Much the same can be said about today’s giant screen attractions like IMAX, where immersiveness meets education and the amazement created by the technological apparatus itself as a modern marvel. Rather than being mutually contradictory, these elements are part of the field of potential experiences the media provide. They are activated differently by each individual viewer depending on their life experiences, liabilities, perceptual preferences, etc.

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<sup>49</sup> Cit. F[rank] W[eitenkampf]: “Peep-Show Prints”, 364.

<sup>50</sup> See a preserved eighteenth century broadsheet for such a show in *Mondo Nuovo*, 77. The broadsheet also gives a fairly precise description of the program and the effects provided. The showman also mentions that he has “carried this theatre building” (portato l’Edificio di quel Teatro”). It seems that the Italian “Mondo nuovo” was more highly developed as an entertainment than corresponding attractions in some other countries.

<sup>51</sup> Gian Piero Brunetta has analyzed a picture roll which contains the following extremely heterogeneous topics: Adam and Eve, allegories of the five senses, the influences of the planets, the seven wonders of the world, battles and naval catastrophes, views from European cities and once again Biblical scenes. Gian Piero Brunetta: *Il viaggio dell’icononauta dalla camera oscura di Leonardo alla luce dei Lumièrè*, Venezia: Marsilio Editori, 1997, 286-287. The roll has been illustrated as plate No 53.

## Looking for the Peepers

Who were the peepers? Much of our knowledge about them is based on visual sources showing people in the act of peeping. Although relatively numerous, such sources cannot be taken at face value. The showman, his box and a group of people around it provided a suitable genre scene, a stock situation that was repeated with little variation in prints, paintings, tapestries, designs for mantle clocks and even decorative porcelain figurines produced in the Meissen factories and elsewhere. Peepshow became codified as part of the well-known “Cries of London” or “Cris de Paris” - representations of typical professions from the streets of the city. Often based on existing images rather than “sketches from nature”, the figure of the peepshowman evolved into an iconographic tradition that began to live a life of its own. It does not reflect truthfully what was really happening on the streets and marketplaces. Sometimes it wasn’t even meant to: there are prints in which the peepshow plays a metaphorical role as a satirical representation of political events or other “deceptions of the senses”.<sup>52</sup> Trying to draw conclusions about spectatorship from such sources forces one to be careful. A puzzling detail repeated over and over again is the large number of women and children among the peepers, meanwhile men seem to be the minority. Particularly children are often depicted, impatient trying to make their way through the crowd to the peephole. Is it possible, then, to conclude that the peepshow was essentially a feminine, or even an “infantile” medium, harmless enough to entertain women and children, but not challenging enough for men? Or were the women and children deliberately chosen by painters and engravers as attractive subject matter? Although it seems clear that having passed its heyday the peepshow eventually became children’s attraction, this was not necessarily so during the first hundred years of its existence. There is no definite answer to the questions posed above. Some amount of speculation cannot be avoided.

One might look for clues from the structure of the apparatus itself. Many peepshows depicted in prints and paintings have two rows of lenses on top of each other, implying that the show may have been meant to be viewed simultaneously by both grown-ups and children.<sup>53</sup> It might be pointed out that in the eighteenth and even in the early nineteenth century a clear division between the cultures of the grown-ups and the children did not exist, particularly among the lower classes. Women and children could be often found on the streets and squares, sometimes performing mundane activities like washing and cooking, or just biding their time. They formed a potential audience for the peepshow - as long as they had coins to spare. The caption to a print from 1830 admonishes the children: “Run home to your mother, and cry for a Ha’penny, do, - if you wants to see the show.”<sup>54</sup> Peepshows were common at popular events like fairs, where large crowds, including women and children, gathered. The behavioral codes at such events were more relaxed than in normal life, giving practically anyone a “permission to peep”. Of course, the contents of the peep box had to be suitable

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<sup>52</sup> In a print titled “Billy’s Raree-Show - John Bull (en)lightened” (S.W. Fores, London, 1797) the peepshow box bears a banner with the text “Licenced by Authority Billy Hum’s Grand Exhibition of Moveing Mecanism of Deception of the Senses”. Reproduced in Balzer, *Peepshows*, 68.

<sup>53</sup> A peepshow box with two rows of lenses has been preserved in the Francois Binetruy Collection, Versailles, France.

<sup>54</sup> The print by W. Heath is titled “The Omnibus” and included in Seymour’s book *Evening’s Amusements* (1830). See F[rank] W[eitenkamp]: “Peep-Show Prints”, 364.



for any pair of eyes. Most vues d'optique would have been found acceptable without problems. It is possible that views with scatological and erotic subjects were also shown, but there is little direct evidence about this.<sup>55</sup> It seems that public peepshows rarely contained such material, which may seem surprising if we take into consideration the present connotations of the word "peepshow".

According to Laurent Mannoni, there were explicitly erotic vues d'optique, but they are extremely rare today, which implies that their production was limited.<sup>56</sup> Possibly they were meant primarily for private consumption, like erotic anamorphoses. Some hints about eroticism in the peepshows can be found from a book called *Les Voyeurs* (1835), an album of erotic novelty prints all related to peeping. One of the prints - "Optique à l'usage en l'instruction de la jeunesse" - displays a large peepshow on display at the carnival of Venice.<sup>57</sup> From behind a curtain the feet of three peepers, two men and a woman, can be seen. When the reader lifts the curtain (a flap), an explicit pornographic scene featuring three people is revealed. Perhaps this can be interpreted as an anticipation - an act stimulated by the "educational" views seen inside the box. In an eighteenth century image the spectacle inside the peepshow box proves to be the showman's own erect male organ.<sup>58</sup> The relationship of such fantasies to the realities of the era remains unclear.

In a famous engraving by the Italian Bartolommeo Pinelli, erroneously titled "La lanterna magica" (1809), men are seen peeping together with women and children. The engraving reminds us of a fact that certainly had an effect on the peeping experience: the peepholes were often so close to each other that a physical contact with other peepers was unavoidable.<sup>59</sup> Although the boxes may have been lacking explicitly erotic content, eroticism became part of the experience through the bodily contact with strangers, including members of the opposite sex. Was Pinelli's tight group of viewers, consisting of both sexes, typical? It might have been so in the Italian context, where bodily contact in public is still more common than in other European cultures. Whether there were social codes of behaviour controlling this potentially "contagious" situation, charged with latent eroticism as well as with the risk for contracting epidemics, we don't know. Compared with other existing sources, the configuration of people shown in the engraving seems rather exceptional. A division can often be found: while women and children dominate the genre pictures, men have an exclusive role as peepers in allegories and satires, where women and children are never seen. A man is depicted as a personification of the people (such as the British "John Bull"). He is usually a victim: while peeping at pictures of some governmental manouvers, such as its costly war plans, the peeper's purse is picked by a pickpocket identified as a government official. Transferred into the masculine world of politics, warfare and money, the peepshow has been turned into a vehicle for ideological criticism. It presents an "official spectacle", which is deliberately delusory, meant to dazzle the peeper and turn his

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<sup>55</sup> Such scenes can also be found from eighteenth century anamorphic images and magic lantern slides. Whether these were displayed publicly or privately is not clear. Scatological images were found humorous and more or less acceptable in the eighteenth century, at least among the lower classes.

<sup>56</sup> Mannoni: *The Great Art of the Light and the Shadow*, 88.

<sup>57</sup> "Optics used in the education of the youth", plate No 19. The word "Optique" also refers here to the peepshow box. In his book *Peepshows* Richard Balzer has reproduced this print (on page 97), without mentioning its source. Reflecting the ideology of "coffee table book" the pornographic scene under the flap has not been reproduced. It can be found from the facsimile edition of *Les Voyeurs* (Legnano: EdiCart, 1991) (earlier published in German in the series *Die bibliophilen Taschenbücher* Nr 547, Dortmund: Harenberg Kommunikation, 1989), no page numbers.

<sup>58</sup> In Jean-Pierre Bourgeron: *Les Masques d'Eros: Les objets érotiques de collection à systèmes*, Paris: Les Editions de l'Amateur, 1985.

<sup>59</sup> I have experimentally verified this together with some colleagues by means of some elaborate eighteenth century peepshow boxes preserved at the Film Museum in Turin, Italy.

attention away from unpleasant realities, like the need for taxpayers' money for financing the campaigns.

Such prints could also be read from a slightly different angle as manifestations of a topos frequently encountered in the culture of peeping: the real price one has to pay for the act of optical immersion is not a coin, but the loss of the ability to control one's immediate physical surroundings. When the person's eyes are glued to the peephole, anything can happen behind his - and also her - back. A well known print titled "Musée Omnibus" (circa 1840), with the telling caption "What's seen & what isn't!", displays us another peeping scene.<sup>60</sup> A mother, together with her younger son (?), are shown bent over the peepholes, while an officer is secretly caressing a beautiful young lady (obviously her elder daughter) behind her back. Numerous variations of this topos can be encountered in the context of subsequent peeping technologies, as we will later see. However, judging from some other prints, men do not always try to profit from this situation. They are content just to stand behind the women and children, acting out the patriarchal role of an escort. They don't peep into the lens themselves, which might confirm the earlier argument about the feminine / infantile nature of the early peepshow. Be it how it may, in the course of the nineteenth century the men's attitude towards the pleasures of the peephole changed dramatically, eventually reaching a point where separating them from the peepshow box, reconfigured as the "Mutoscope", required raw physical power, and perhaps a few well-targeted hits on the head with an umbrella. This development will be analyzed later, after discussing the role of peeping in the private life.

## Peeping and Privacy

From the early twenty-first century perspective peeping is considered a secretive activity. The peeper wants to see, but not to be seen. S/he does not want others to be aware of her/his activity. There is something forbidden in the act, and a taste of obscenity in the pleasures it provides. That this has not always been the case, is proven by the early public peepshows. Peepers were part of a crowd, waiting for their turn. We can easily imagine the soundscape - the comments, the jokes and the laughs that filled the air and competed with the explanations of the showman. This would have made "deep immersion" difficult, but very probably it was not even sought after.<sup>61</sup> Peeping was a joyful social ritual, a collectively experienced highlight on an otherwise uneventful day. However, peeping was never the exclusive domain of "the ignorant and [the] uncultured". Already in the eighteenth century peepshow boxes were made for domestic consumption by the privileged classes. Different types of boxes existed. As pieces of "optical furniture" (like the television much later), they were often smaller and more richly decorated than their counterparts in the streets and marketplaces, but their possibilities of manipulating the viewing experience were more limited. Still, they allowed the user to simulate some of the effects performed by showmen. The views could be changed in succession, and sometimes the day could be made to turn into night by means of the hinged panels of the box. There were also "double function" versions that could be turned into either a peepshow or a camera obscura by quickly adjusting some of the elements. With such a device one could handle different

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<sup>60</sup> Reproduced in Balzer: Peepshows, 100. This print was also used the motive in colorful pictorial fans.

<sup>61</sup> "Deep immersion" in the sense of virtual reality experiences would have been difficult also because each peep probably had a time limit. The showman would have asked the peeper to move aside, making room for others. There is a limit with what you can do with just a coin.

aspects of media culture, from producing views of the outside world to viewing ones made by others. Often the device folded into a wooden box that could easily be carried around. Sometimes the box had the look of a leather-bound book, providing a hint about future forms of media literacy. The multi-functionality anticipated later media machines, including multimedia mobile phones.

Because of social stratification and segmentation, it is possible that upper class users, particularly women and children, had never had direct experience about the actual “vulgar” public peepshows (unless a showman had been invited to perform for them as a curiosity). Perhaps they knew these shows as glimpses in the distance from the window of a coach, or indirectly through representations - the discursive peepshow boxes encountered in narratives, prints, tapestries, decorated fans and porcelain figurines. The designs of such luxury products often reflected the familiar-but-alien life of the “common people”. The use of the peepshow box in the saloon could then be interpreted as a distanced and quasi-nostalgic re-enactment of the rituals of folk culture. There is a wonderful oil painting by F.H. Drouais (1727-75) in the Frick Collection, New York which supports this argument. It depicts two boys, actually the young count and the “cavalier” de Choiseul, posing dressed as touring “Savoyards” with their peepshow box and hurdy-gurdy.<sup>62</sup> The calm and confident expressions on their faces prove that these privileged youths had experienced none of the hardships the actual Savoyards had to suffer to make their daily bread. No doubt the boxes for private consumption were often used as playtoys and novelties, but this does not rule out their potential for education and enlightenment. Optical devices, such as magic lanterns and solar microscopes, were recommended as aids for learning by educational reformers in the second half of the eighteenth century.<sup>63</sup> Why not use peepshow boxes with their wide supply of views for the same purpose?

This issue is raised in an interestingly ambiguous manner by a late eighteenth century French engraving titled “L’Optique”. It depicts two girls using a typical pyramid-shaped peep box with a lens and a mirror, positioned in a forty-five degree angle, in its upper part.<sup>64</sup> Through the lens and the mirror the peeper is supposed to view a print placed horizontally on the bottom of the device (inserted from the backside). This arrangement simultaneously physically distances the print from the observer and brings it optically closer, thus enhancing its perspective. Obviously the girls are having a geography lesson given by a young male tutor, with a pointer in his hand.<sup>65</sup> The landscape the young ladies see is, however, “something else”: the mischievous tutor has replaced the *vue d’optique* by his own bare bottom, which, “elevated” by the optical system, practically hits the girls in the face. While one of the young ladies stares at the sight in obvious perplexity, the other turns away in disgust. The illustrated geography lesson has, through an obscene trick, turned into a sexual “shock attraction”. Whether the peepshow can be characterized as feminine or not, the carnal male “landscape” has here re-entered the

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<sup>62</sup> Reproduced in *Il Mondo nuovo*, 24.

<sup>63</sup> Mannoni: *The Great Art of The Light and the Shadow*, 84-85.

<sup>64</sup> Engraving by J. Henriquez, after F. Eisen the Elder. À Paris chez Buldet, rue de Gèvres. Reproduced in Laurent Mannoni: *Trois siècles de cinéma: de la lanterne magique au Cinématographe*, Paris: Editions de la Réunion des musées nationaux, 1995, p.54. The original French text is as follows: “Nicolle observe et son oeil curieux, / À ce qu’il voit près sans malice, / Mais Aglaé fuit d’un air furieux, / Juge Lecteur, quelle est la plus novice”. On top of the box there is a little automaton figure, a woman sitting in a chair, reminiscent of those used by the showmen. It may have symbolic meaning, perhaps representing the ideal of the perfect woman, or the ideal of education for women. One cannot say for sure.

<sup>65</sup> This is not 100 percent certain, but in this context it does not seem likely that he would be a touring showman. As far as we know, pyramid-shaped peepshow boxes were normally used in domestic settings. However, one preserved example, now at the collection of the Musée de Cinéma of the French Cinematheque, still has the shoulder straps for carrying it around.

“immaterial” visual field of the *vue d’optique* in a brutal manner (although we don’t know how contemporaries would have reacted to this print - would they have found it just humorous, didactic, or potentially subversive? Who would have put it on the wall?). The illusion of virtuality produced by the perspective view has been shattered instantaneously, as the exposed male body has returned the female peepers within the regime of the Masculine. Commenting on this “lesson”, the caption re-enacts the didactic subtext, asking which of the girls is more novice, the one who turns away or the one who keeps on staring? Again, with our twenty-first century codes it is difficult to judge, how contemporaries would have interpreted this ambiguous message.

The question about individual versus social viewing in the domestic setting can be addressed by comparing the peepshow box with another, seemingly quite different device, introduced around 1750. It was known by many names: “zograscope”, “l’optique”, “diagonal optical machine”, etc..<sup>66</sup> Technically the zograscope was a combination of a magnifying lens and a mirror behind it, both fixed in wooden frames and attached to an adjustable pillar-like table stand. The *vues d’optique* (the same ones also used in peepshow boxes) were placed flat on the table behind the device for viewing. Erin C. Blake has proposed that this device could be considered a neglected predecessor of the nineteenth century stereoscope, another form of peep media (to be discussed in the next section).<sup>67</sup> For us, however, the most interesting aspect of the zograscope is its relationship to the peepshow box, neglected by Blake.<sup>68</sup> Indeed, technically it could be characterized as a peepshow without the box. The relationship between the lens, the mirror and the print is similar to that found in the pyramid-shaped peepshow boxes (like the one in the “L’Optique” print). The effect, however, is quite different, as Jean-Jacques Rousseau observed. Laurent Mannoni has located a very interesting letter by Rousseau (December 20, 1764), in which he expresses his disappointment about the zograscope (which he calls “L’optique”), still a relatively new device at the time. Rousseau was annoyed by the light falling on the print from all directions; he also complained about the fact that the openness of the structure lets the surrounding objects remain visible.<sup>69</sup> For Rousseau the proto-Romantic, the solution to the problem was the peepshow box (in French, “*bôte d’optique*”), because it contains the print in its darkened interior and allows the direction of the light to be controlled. As Rousseau’s letter demonstrates, the presence of the box made a difference. In addition to focusing the observer’s attention exclusively on the image, the box excludes the surroundings, providing an experience of visual immersion, anticipating virtual reality.

Arguably the experience Rousseau was longing for could indeed be realized in a more intense and intimate manner with a peepshow box. For the people gathered around a zograscope there was no strict separation between the acts of peeping and non-peeping.<sup>70</sup> The prints could be passed from hand to hand and observed either with the device or without it in much (but not quite) the same manner. The peepshow box emphasized the private sensation of immersion, while the zograscope could be claimed to have foregrounded study, content and social interaction. It would be tempting to associate its open structure with the Enlightenment rationalism, linking the peepshow box with the

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<sup>66</sup> For the *vues d’optique*, see Kees Kaldenbach: “Perspective Views”, available on-line at <http://www.xs4all.nl/~kalden/auth/perspectiveviews.htm> (originally published in *Print Quarterly*, June 1995).

<sup>67</sup> I am referring to the extensive debate inspired by Crary’s *Techniques of the Observer*.

<sup>68</sup> While the peepshow box existed both as versions for private and public consumption, the zograscope was clearly a device exclusively for domestic use. Its structure would not have been suitable for public viewing.

<sup>69</sup> Mannoni: *The Great Art of the Light and the Shadow*, 89.

<sup>70</sup> There were also versions with two lenses side by side, although these were much less common than the single lens models. There is an example in the author’s collection from the early nineteenth century.

Romantic mind. In reality, both devices remained in use parallel to each other, similar prints being used in both. One might ask whether or not such an argument would lead us toward technological determinism, assigning certain “effects” to the structure of the apparatus itself, rather than to its uses. Isn’t it possible that in a certain social context a peepshow box could be used in the same manner as the zograscope, in spite of the differences in construction? Couldn’t a peepshow box also serve collective sessions of social entertainment and study, just as the zograscope could be used for individual “virtual voyages”? Such questions are difficult, and underlie much of the debate on media culture. Perhaps it could be proposed that structurally these devices “suggest” certain kinds of uses, although this in no way determines their actual uses in varying circumstances. They have “potential” which is or is not activated. Much depends on the context. Of course, observed deficiencies may lead to modifications in the device, and indiscrepancies between its functions and the user’s expectations may result in entirely new inventions.<sup>71</sup> On discursive level the imagined amendments may lead still much further, beyond the technological possibilities of the era. Such “discursive inventions” may remain imaginary elements of the culture for long stretches of time, eventually appearing in material form in another context.

One should avoid simplified cultural arguments, such as stating that the presence of the peepshow box in the parlors of the eighteenth century upper class was a symptom of a growing sense of individuality. Although individual viewership, as called for by Rousseau, may have become an outlet and even a form of expressing such a sense in some cases, it hardly became the rule. However, the use of the peepshow box in the domestic setting did differ in certain respects from the collective rituals of the marketplace. While the street audience was dependent on the choices made by the showman, the home users could playfully alternate between the roles of the showman and that of the audience.<sup>72</sup> The possibility to manipulate the device manually, and its smaller size contributed to its re-definition as a personal “media machine” - it was subordinated to the intentions and the will of the user rather than vice versa. At the same time it invited social interaction among users who more or less shared the same skills, knowledge and value systems. Particularly in the nineteenth century, instructions for building optical devices and drawing images for them were published in periodicals and manuals for educational parlor entertainments. For example, *The Boy’s Own Book of Indoor Games and Recreations* contained detailed instructions for making different types of peepshow boxes, which could be “about the size of an ordinary cigar-box, or large enough to cover a dining-room table.”<sup>73</sup> The book encouraged the prospective children’s room showman: “The following peep shows, if carefully and neatly made - and they are well within the capacity of any handy boy - will form permanent and most interesting recreations, to say nothing of the pleasure to be obtained in their construction”.<sup>74</sup> The repertory of the “boy hobbyist” came later to include devices like home-made crystal radio sets and eventually self-programmed computer “demos” and game hacks.

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<sup>71</sup> As a case in point, Emile Reynaud’s invention of the Praxinoscope was born as an attempt to overcome the deficiencies in another “persistence of vision” device, The Zoetrope. Later the “deficiencies” of the Praxinoscope, particularly the short duration of the animation sequence, made Reynaud to develop his device further, looking for solutions to present longer animations. This led him toward cinematography, but his “Theatre d’Optique” was still something different.

<sup>72</sup> Like other optical toys, small peepshows were also created at home as a good and educational pastime. In the author’s collection there is a home-made “accordion peepshow”, innovatively decorated by Victorian scraps.

<sup>73</sup> *The Boy’s Own Book of Indoor Games and Recreations. An Instructive Manual of Home Amusements.* Edited by Morley Adams. London: “The Boy’s Own Paper” Office, 4. Bouverie Street and 65 St. Paul’s Churchyard E.C., no date, 121.

<sup>74</sup> Item.

## Stereoscopic Armchair Travelling

The idea of peep media was evoked again and again along the cultural trajectory leading from traditional peepshows to devices like the Polyorama panoptique, the Megaethoscope, the stereoscope and the Kinora, to name just a few.<sup>75</sup> The nineteenth century also saw the appearance of countless toys and souvenirs that encouraged peeping: kaleidoscopes, alabaster “peep eggs”, paper “concertina” peepshows, minuscule “stanhope” viewers, novelty postcards. Accompanying (and often anticipating) such devices for private or domestic use, there were all kinds of public entertainments from the old style peepshows - already struggling - to novelty attractions like the Cosmorama, the Kaiser Panorama and eventually the Kinetoscope and the Mutoscope. These were seen in permanent public premises, from “Cosmorama Rooms” to Kinetoscope Parlors” and “Penny Arcades”, reflecting the institutional consolidation of technology-based entertainments, particularly in urban areas. The idea of domestic peep media was given a strong impetus in the second half of the nineteenth century by the introduction of the stereoscope.<sup>76</sup> The scientific principle behind stereoscopy was demonstrated by Charles Wheatstone in Britain in the 1830s. For the purpose he created the first stereoscope - an open design which used two angled mirrors in the center and two images placed on both sides, wide apart from each other. The images were drawn (photography was not yet available) from slightly different angles corresponding with the parallax difference of the human eyes. When a person stared into the mirrors, the reflections of the images merged, creating an illusion of a three-dimensional shape. For scientific demonstration purposes the openness of the structure had both a practical and a symbolic justification. The production of the illusion was made concrete and easy to explain. Science needed no veils.

After being introduced to the public at the Crystal Palace Exhibition in London in 1851, the stereoscope soon became extremely popular both in simple handheld versions and elaborate cabinet designs. When it was turned into a commodity, however, it was marketed in forms remarkably different from Wheatstone’s original model. The most current early design was perfected by the Scottish scientist David Brewster.<sup>77</sup> A stereoscopic pair of photographic images was placed inside a handheld wooden box and observed through a pair of lenses mounted on its side. Based on this simple design, large cabinet stereoscopes with dozens of views and special changing mechanisms were created. In the late 1850s a cheap and practical hand-held model known as the Holmes-Bates stereoscope was brought to the market, first in the United States and soon elsewhere. In a sense it was a hybrid between the Wheatstone and Brewster viewers. The stereoview was placed on an open slider which was adjusted manually by the viewer to find the right focus. The lenses were under a

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<sup>75</sup> The popular Polyorama panoptique, invented by the optician Lefort in Paris in 1849, has often been thought of as a miniature version of the Diorama, a large scale visual spectacle launched by Daguerre and Bouton in 1822. Yet the “Dioramic effects” were essentially magnified and elaborated versions of those transformations achieved with the professional peep show boxes already in the eighteenth century. The Polyorama panoptique was probably influenced by both these traditions. See Mannoni, *The Great Art of Light And Shadow*, 180.

<sup>76</sup> For an earlier discussion about the cultural role of the stereoscope, see my “Armchair Traveller on the Ford of Jordan. The Home, the Stereoscope and the Virtual Voyager”, *Mediamatic* (Amsterdam), “Home” issue, Vol. 8, N:o 2-3 (1995), 13-23.

<sup>77</sup> See Brewster’s book *The Stereoscope: Its History, Theory and Construction*, London: John Murray, 1856. The book is often biased, particularly in its attitude toward Wheatstone and his contribution.

viewing “hood”, and a wooden divider helped keeping the left and right eye views apart. Although the stereoview was “outside” and could be seen by others, it was “inside” from the peeper’s point of view. Why Oliver Wendell Holmes, an early stereo enthusiast, who vividly described his stereoscopic armchair travels in his writings, came to conceive such a structure is an interesting question.<sup>78</sup> Although the creation of a convincing experience of immersion was an important priority for him, he was also probably aiming at a cheap and basic model that could be mass-produced. By the late nineteenth century such simple but effective viewers were practically everywhere.<sup>79</sup> They were used at classrooms, working class homes, and farmhouses far from urban centers. They were sent by immigrants to the United States as gifts for those who had stayed behind. Stereoviews were given away by businesses as collectables, their backsides bearing advertisements for products from coffee to cereals. In half a century, millions of stereoviews and an enormous variety of stereoscopes, something for anybody’s taste - and purse - had been produced.<sup>80</sup>

It is likely that many owners of a stereoscope never came to think about its relationship with the peepshows of the past.<sup>81</sup> This would also have been in the producers’ interests - they were promoting novelties, not updated versions of obsolete curiosities. The connection may not have been acknowledged and even perceived by contemporaries, but from a media archaeological perspective it is evident. Kircher’s Parastatic Microscope easily evokes the handheld Victorian stereoscopes, and cabinet stereoscopes were pieces of “optical furniture” in the tradition of the peepshow boxes. Like the peepshow box, the stereoscope presented a “tunnel vision”: it emphasized the depth axis without managing to expand the visual space laterally, to turn it into a “panorama” (an issue virtual reality head-mounted displays tried to solve, with mixed results, much later). Of course, there were crucial differences. The stereoscope was mainly used to view photographic images and, most importantly, these were three-dimensional. While the peepshow boxes achieved the depth illusion by *enhancing* the perspective of the view (with the help of lightly distorting convex lenses), a “cerebral” *transformation* took place in the stereoscope. Two images merged into a third one in the peeper’s mind. The act of peeping activated a theoretically grounded relationship between the view, the viewing apparatus and the viewer.<sup>82</sup> Although it could be claimed that the peepshows had striven for something similar, and, indeed, there was some theory to support such claims, the peepshow remained “theatrical”, existing “fully prepared” for the showing, merely waiting for the peeper’s eyes to enjoy it.<sup>83</sup> The stereoscope had a “physiological” basis, only providing ingredients for the spectacle, which was actuated, and therefore existed, in the peeper’s mind.

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<sup>78</sup> About Holmes and his stereoscope, see George E. Hamilton: *Oliver Wendell Holmes, His Pioneer Stereoscope and Later Industry*, New York: Newcomen Society, 1949.

<sup>79</sup> The stereoviewers found in remote areas like Finland are usually of this type. Most likely they were sent or brought back from the United States by emigrants. For them it was an impressive but affordable gift, that could give a clear idea of their new living surroundings to those who remained in the old mother country.

<sup>80</sup> See Paul Wing: *Stereoscopes: The First One Hundred Years*, Nashua, New Hampshire: Transition Publishing, 1996.

<sup>81</sup> Stereoviews never point to the connection with the peepshow. I know about one single exception: a French stereograph depicting a crowd of people peering into a row of peepshow machines (Tirage Verneuil, 1868). See Denis Pellerin: *Le photographie stéréoscopique sous le second Empire*, Paris: Bibliothèque nationale de France, 1995, 99. The stereograph has been erroneously titled as “La baraque des stéréoscopes”. All machines seen in the picture only have one large peeping lens - perhaps this is a photograph of a Cosmorama show.

<sup>82</sup> It is possible to develop a skill for “free-viewing” stereographs without the stereoscope. The author can do it easily. This experience is interesting, because it shows a three-dimensional view, but also the surrounding objects in the periphery of vision. This might recall Rousseau’s discussion of the zograscope, except that free-viewing requires unflinching concentration on the stereograph.

<sup>83</sup> About the theoretical background, see Blake: “Zograscope, Perspective Prints, and the Mapping of Polite Space in Mid-Eighteenth-Century England”, 9-11. Blake tries to show that the zograscope produced a real transformation,

Both peepshows and stereoscopes were media for “virtual voyaging”. Like the majority of the vues d’optique, great numbers of stereoviews depicted cities, landmarks and distant lands. However, while the repertory of the vues d’optique was largely limited to Europe, the stereoscope developed into a veritable world voyaging tool.<sup>84</sup> Although the shift had to do with the possibilities photography offered to produce a simulacrum of the world, it was also related to a wider framework of social, political, economic and cultural factors, including colonialism, global capitalism, new means of transportation, the beginnings of modern tourism and the increasing curiosity towards the world beyond one’s immediate surroundings, also manifested in panoramas, travel literature, newspapers and illustrated magazines.<sup>85</sup> Stereoscopic “package tours around the world” were sold by large companies like Underwood & Underwood and Keystone View Company. In addition to the dozens of numbered stereoviews, the sets contained guidebooks and maps. Everything was delivered in handsome boxes looking like books - once again the idea of literature was enrolled in support of the emerging visual media. The parallel with the eighteenth century book-shaped peepshow boxes went even further: there were models in which the stereoviews were actually bound into a book, and a folding cover served as a stereoscope.<sup>86</sup> Favourite topics, already familiar from the repertory of the vues d’optique, included wars, battles and catastrophes - events like the Johnstown flood or the San Francisco earthquake proved particularly popular. Stereoscopes reached a larger and demographically more varied audience than the peepshows ever did. The combination of photography and stereoscopy made the scenes seem life-like, although the stereoscopic illusion was highly artificial.<sup>87</sup> By contemporaries the stereoscope was generally considered a highly convincing tool for armchair

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producing a view that “does not have an original elsewhere; it is created then and there, and exists only in the moment that observer and viewing device come together.” (14). If this is really so, then Jonathan Crary’s theorizing about the origins of the physiology of vision and its demonstration by devices like the stereoscope (*Techniques of the Observer*, Cambridge, Mass.: The MIT Press, 1990) should be pushed further back in time. However, compared with the transformations achieved by devices like the stereoscope, the phenakistiscope or the thaumatrope, I see the “virtual” effect achieved by the zograscope (and the pyramid-shaped peepshow box) as very slight, more an enhancement and slight distortion than a real transformation. I have come to this conclusion after trying several original eighteenth century apparatus in my own, and other’s people’s collections. Her Ph.D. offers no evidence whether Blake has done any experimental research to support her claims.

<sup>84</sup> This was aptly expressed by a text printed on a stereoview do doubt used for advertising purposes: “With the Stereoscope, by the fireside, one can wander through strange cities and sunny valleys, over bleak mountains, or delve among the wonderful ruins of the past” (Stereoview from the series “Picturesque Views Of all Countries”, no publisher mentioned, in the author’s collection.) The text sounds like a quotation from Oliver Wendell Holmes’s writings, but I have not been able to verify it. The view depicts a beautiful exotic lady.

<sup>85</sup> That “normal” photographs of buildings and places could serve the purpose of virtual voyaging as well as is confirmed by a quotation from the British author W.J. Loftie: “It is pleasant to lean back in one’s chair and be transported to distant countries at a glance.” . Cit. Asa Briggs: *Victorian Things*, London: Penguin Books, 1988, 247. Briggs also writes about the importance of the stereoscope (132-133).

<sup>86</sup> Such sets were sold by large American companies like Underwood & Underwood and the Keystone View Company. These companies often used door-to-door salesmen operating on rural areas assigned for them. Precise instructions about the appropriate marketing methods were provided in the form of educational booklets. Examples of Keystone booklets exist in the the author’s collection.

<sup>87</sup> In her article “From Phantom Image to Perfect Vision: Physiological Optics, Commercial Photography, and the Popularization of the Stereoscope” (in *New Media, 1740-1915*, 113-137) Laura Burd Schiavo pays attention to the shift of emphasis the stereoscope underwent from a scientific demonstration device to a commercially marketed illusion. For a well-informed discussion of nineteenth century stereoscopy, see “The Giant Eyes of Science: The Stereoscope and Photographic Depiction in the Nineteenth Century”, Thomas L. Hankins and Robert J. Silverman: *Instruments and the Imagination*, Princeton, N.J.: Princeton University Press, 1995, 148-177.



travelling. It brought the outside world to the privacy of the Victorian parlor, preparing the ground for the phonograph, the radio and the television.<sup>88</sup>

However central stereoviews with geographical and topical subject matter may have been, it should not be forgotten that unlike the repertory of the vues d'optique, the supply of stereoviews contained many other topics as well. There were genre scenes (often with children), gags, slightly erotic episodes (also in serialized form, as the well-known French Cook -series), and portraits of celebrated beauties or other well-known people. There were also series of views with theatre scenes and the deeds of the devil ("Diableries") realized with miniature figures in doll-house like settings. These were typical French products, known as "tissue cards". They were printed on thin albumen paper that was often dotted with pinholes. They also had hand coloured paper "screens" behind the actual images, so that light and color effects appeared when the view was observed toward a light source. These were essentially the same techniques already used in vues d'optique in the eighteenth century, although on a miniature scale. This was another token of continuity under the guise of novelty.<sup>89</sup> There were also pornographic stereoviews that appeared on the market soon after the production of stereoscopic photographs began. The production of such cards, officially illegal, blossomed particularly in France, but many "dirty" cards were smuggled to other countries as well. Many questions about these cards remain unanswered. What was their principal audience? Where were they used? What role did they play within the home? The most obvious stock answer is that such cards were the exclusive privilege of males, who would have peeped at them in brothels, gentlemen's clubs, bars with coin-operated stereoscopes and probably also in their privacy for sexual stimulus. This may not be the whole truth. It is quite possible that the late-Victorian audience for visual pornography was wider than thought, including (at least sometimes) also women.

## The Stereoscope and its Peepers

By the early twentieth century the stereoscope had become a widely used media machine. However, in spite of its massive cultural presence, there are surprisingly few contemporary testimonies about its reception.<sup>90</sup> This may be partly related with its near-ubiquitous presence, partly with its somewhat vague identity; although it was an accepted part of the Victorian life, there were those who

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<sup>88</sup> Lynn Spigel confirms that "television's inclusion in the home was subject to preexisting models of gender and generational hierarchies among family members - hierarchies that had been operative since the Victorian period." Yet she does not mention the role of the stereoscope. See Lynn Spigel: *Make Room for TV. Television and the Family Ideal in Postwar America*. Chicago and London: University of Chicago Press, 1992, 11.

<sup>89</sup> Such views have also been called "dioramic". The Diorama, first introduced in Paris by Daguerre and Bouton in 1822, was the connecting link between the techniques of the peepshows and later miniature forms like stereoscopic tissue cards and the Polyorama panoptique. It displayed very large transparent paintings that underwent transformations thank to the very careful manipulation of back-lighting.

<sup>90</sup> Most studies look at late nineteenth century / early twentieth century stereoscopy from the point of view of the industry, describing its strategies. This is also true of the most recent article I have read, Judith Babbitts: "Stereographs and the Construction of a Visual Culture in the United States, in *Memory Bytes: History, Technology, and Digital Culture*, edited by Lauren Rabinovitz and Abraham Geil, Durham and London: Duke University Press, 2004, 126-149. While Babbitts relies entirely on conventional textual sources, a Ph.D. Dissertation by Marilyn Faye Morton, "The Social Stereoscope: Issues in American Cultural History" (Graduate School of Emory University, 1998) is exceptional in that it pays much attention to the stereoviews themselves and their subject matter. It also provides useful information about the early research on stereoscopy, not documented as well elsewhere.

considered it little more than a toy, a harmless pastime hardly worth serious attention. To gain an understanding about the discourses that surrounded the stereoscope and affected its meanings, it is necessary to look at visual sources, particularly those showing people with stereoscopes and views. From a media-archaeological perspective it is not surprising that we soon encounter motives that feel familiar. Things are happening behind the peeper's back again. But instead of cunning officers, we now encounter door-to-door salesmen of stereoviews - descendants of the "street criers" of the past - who cannot resist the temptation to cuddle pretty housewives when their unsuspecting husbands remain immersed in the sample views (the salesmen certainly brought enough material to keep them busy!).<sup>91</sup> The persuasiveness of this topos is proven by the fact that it was staged again and again for decades. Of course, the contemporaries themselves may have seen in such scenes little more than delightful gags, while for the publishers they offered a well tested topic, and another opportunity for "product placement".<sup>92</sup> For a media-archaeologist, however, such views offer valuable glimpses to the lives of the topoi - pointing out the migration of cultural motives, but also their re-interpretations in changing cultural circumstances.

The Holmes-Bates stereoscope - by far the most common model - was a simple and familiar construct that changed little over the years.<sup>93</sup> In spite of its well established presence, the stereoscope was sometimes unfavourably compared with other visual devices. An advertising booklet for John Fallon's magic lantern or "Stereopticon" show (circa 1863) gave this interesting judgment at the time when the stereoscope was still an emerging medium:

"[A]fter all, the picture in the stereoscope is but a miniature, and, besides, there is nothing social in the enjoyment of the view revealed to you. You look selfishly at the show with your personal eyes, and your friends must wait their turn to see it. Have you never wished that a gigantic stereoscope were possible, through which a whole company could look at once, as they would at the actual scene, with sympathetic satisfaction? This very wish, wild as it seemed to you then, has been realized in the STEREOPTICON."<sup>94</sup>

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<sup>91</sup> This method was widely used to sell stereocards in the rural areas of the United States by major companies like Underwood & Underwood and Keystone. The sellers were often young men, who had been given the rights to sell in given territories. Detailed instructions about appropriate strategies were provided by the companies. Manual of Instruction for The Use of Agents of the Keystone View Company (Meadville, Pa.: Keystone View Company, 1899) gave the prospective salesman detailed instructions from his "your appearance" and "your bearing" to "a vital part of cabinet delivering". Numerous handwritten notes in the copy of the booklet in the author's collection show that the owner took the sales effort seriously.

<sup>92</sup> In the author's collection there is another interesting stereoview ("1927. A trip around the world through the 'Saturn'", James M. Davis / B.W. Kilburn, 1897), showing a salesman presenting sample views to a secretary, sitting in front of her typewriter. She is immersed in the stereoscope, while another man looks over. There is no "gag" in the view, but it could have been part of a sequence. The caption makes the "product placement" explicit by mentioning Kilburn's "Saturn" stereoscope!

<sup>93</sup> Although a well known piece of Victorian optical culture, novelty stereoscopes were constantly brought to the market. Most of the remained marginal. At the Paris World's Fair of 1900, Holmes-Bates stereoscopes made entirely of aluminium (a novelty at the time) were sold. The structure, however, remained the same. Today it is difficult to appreciate the novelty value the use of aluminium had a century ago.

<sup>94</sup> Stated to be a quotation from Salem Gazette, in: Six Tours Through Foreign Lands. A Guide to Fallon's Great Work of Art, 4. No date and published mentioned, but contains Fallon's advertising letter dated July 1, 1863, with Music Hall, Springfield, Mass mentioned as the correspondence address for Fallon's agent, Tilly Haynes. A copy of this extremely rare pamphlet has been preserved at American Antiquarian Society, Worcester, Mass. Although Fallon's show was called "Stereopticon", it was not stereoscopic. However, the projections of photographic lantern slides with a powerful projector using an oxy-hydrogen light source, a novelty at the time, may have felt three-dimensional. At

Although he called his show “Stereopticon”, Fallon could not offer his audiences stereoscopic views. It was just an advertising gimmick; he was only able to show them photographic lantern slides projected on a screen. Of course, they were large and could be observed by the entire audience together. Do we have to conclude, then, that the “nature” of the stereoscope was antisocial and its small images inherently inferior to projected lantern slides (to say nothing about the giant wrap-around panoramas)? Although it could not compete in image size or the number of spectators with the magic lantern, it had advantages of its own. The three-dimensionality of the views is the most obvious of them, but hardly the only one. By its construction the stereoscope was a personal media machine, something tangible, a thing to manipulate with one’s fingers. One could easily choose and change the “software”. The stereoscope was ready to “teleport” the user to witness the world whenever the daily routines began to feel boring or depressing. However, the question about the social versus antisocial nature of the stereoscope is not solved so easily. What do contemporary sources tell us about it? Fortunately, there exists an extensive iconography about people using the stereoscope or posing with it.<sup>95</sup> This iconography can give us valuable clues about the cultural meanings attached to the device, although it cannot by itself answer all the questions. As semioticians have pointed out, images are polysemic; their meanings are in flux unless they are arrested by words. These words are in many cases missing. This forces us to formulate hypotheses, which cannot always be verified with absolute certainty.

Several types of images can be considered: stereoviews about people using the stereoscope, cabinet cards showing it as a prop in a photographer’s studio, interior views displaying it as part of the domestic environment. There are also graphic representations of stereoscope users, encountered in magazines and mail order catalogues. Because manufacturing and distributing stereoviews soon became an established business, the views showing people peering into the stereoscope have nothing spontaneous or accidental. They present us an idealized view, the preferred customers in their ideal environment as envisioned by the producers. These views confirm the status of the stereoscope as a parlor instrument - there are practically no views showing the stereoscope used outside.<sup>96</sup> It is displayed as a “natural” element of the Victorian parlor, as part of its stereotypical inventory of objects and codified domestic activities. Thus it is not surprising to find a stereoscope “forgotten” on the table behind a group of people observing a young lady painting a landscape (!) in a view from “The Happy Homes of England” series by the London Stereoscopic Company.<sup>97</sup> Often a family or a group of friends are seen sitting around a table, passing the stereoscope from hand to hand, with piles of views on the table. Sometimes they are sitting in armchairs and sofas, chatting, flirting, knitting, reading and, again - enjoying stereoviews. In an early British studio view entitled “A problem at chess” (circa 1860) a group of Victorian ladies are playing chess around a table. Another lady sits in a chair, holding a letter (?) on her lap, while a young man is seen immersed into a stereoscope. Decades later, the world voyaging sets by the Keystone View Company often ended with a view entitled “Still There’s No Place Like Home”, showing the harmonious family sitting together in their parlor,

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least it successfully used the popular buzz around the stereoscope. The word “Stereopticon show” was generally used about magic lantern shows in America until the 20th century.

<sup>95</sup> This paragraph is mainly based on the analysis of original stereocards, cabinet cards and carte de visites in the author’s collection.

<sup>96</sup> This may of course have to do with photography itself: most of the stereoviews discussed here were studio shots, which were much easier to secure than outdoor views with people.

<sup>97</sup> Was she possibly inspired by the view in the stereoscope? We will never know. For this view, see John Jones: *Wonders of the Stereoscope*, New York: Alfred A. Knopf, 1976, 26-27.

obviously having just completed their world tour. The potentially disruptive effects of travelling for the established values have been defeated, and the patriotic family ideology reinstated: “But at the foundation of all our glory, the best thing under our flag, is the true American home”.<sup>98</sup>

There are quite a few stereoviews showing children (and some even pets!) peering into the stereoscope. Although the topic may have been chosen because of its “cuteness” (reminding one about the numerous prints of children with peepshows), it is worth attention. There is little doubt that the use of the stereoscope was often considered suitable for children as creative and educational pastime.<sup>99</sup> In an illustration from a mail order catalogue a mother is seen happily spending “An Evening at Home With the Little Ones”; stereoscopy is shown as a good pastime that keep the mother and the children together.<sup>100</sup> There are also stereoviews that show the mother engaged in homework like sewing, while the children are playing with the stereoscope on the floor. In a view from the series “Young America in the Nursery”, three concentrated girls are shown studying, with a pile of books and a stereoscope on the table.<sup>101</sup> When we see, then, a stereoview about a mother sleeping in bed and her little son sitting on the nightpot, his face immersed into the stereoscope, we should probably interpret it as a benign little gag, rather than as a warning about the terrible lure of the media.<sup>102</sup> Indeed, words like “stereoscomania” and “stereoscopomania” had already been introduced in the early times of the stereo craze. However, they were often used as positive terms, merely pointing to the extent and novelty of the phenomenon, although occasional attacks against “stereoscopic trash” also appeared. One of the most interesting critical documents is a two-page cartoon published in *Harpers Monthly* in 1860.<sup>103</sup> It shows how the introduction of the stereoscope into the home by the father (anticipating the countless later fathers carrying boxes of home electronics from TV sets to personal computers) changes the rituals of family life. Not only are habits like reading abandoned, but the entire family is turned into a bunch of cross-eyed human wrecks! The cartoon provides us a useful reminder about the way how certain topoi appear and re-appear in media culture. The public debates about the effects of media from television to video games and the Internet are not without precedents.

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<sup>98</sup> From the text on the back of the card. There are two versions of the view, both numbered “11917” and copyrighted 1909 in the author’s collection (one has the additional copyright date 1903 for B.L. Singley). Although the families and the settings are different, the elements are essentially the same. The children playing in the foreground, the older members sitting in their armchairs, and the storage cabinets for the stereoviews visible at the back. In one of the views adolescent boys are also seen playing around a table. In one of the views a lady is looking into the stereoscope, while a young man holds a view; in the other the ornate stereoscope has been placed on top of the storage cabinet at the back.

<sup>99</sup> The stereoscope had one great disadvantage compared with peepshows and many other optical toys: it could not be constructed by the children themselves. The stereoscope and the stereoviews were early examples of consumer items that had to be bought as ready made packages. From the late nineteenth century on amateur stereoscopic photography gained some popularity, but not as a children’s hobby.

<sup>100</sup> Reproduced in *Points of View: The Stereograph in America - A Cultural History*, edited by Edward W. Earle, Rochester: The Visual Studies Workshop Press in Collaboration with The Gallery Association of New York State, 1979, 82.

<sup>101</sup> From M.M. Griswold’s series “Griswold’s Compositions”, entered according to act of Congress in the year 1871. (Original in the author’s collection.)

<sup>102</sup> “11468. The Fountain of Knowledge”, a view by James M. Davis, published by B.W. Kilburn, 1897. There are other versions of the same topic, for example a view published by C.H. Graves, Philadelphia / The Universal Photo Art Co. The topic is interesting also because it connects - although in remarkably “cleaned up” form, with the eighteenth century scatological tradition - a man emptying his stomach was a favourite topic in anamorphoses and lantern slides!

<sup>103</sup> “Stereoscopic Slides”, *Harpers Monthly*, June 1860. Reproduced in *Wing: Stereoscopes*, 16-17.

Particularly in the United States, the stereoscope was used as a prop in cabinet card and tintype portraits taken at professional studios.<sup>104</sup> Based on an examination of about three dozen examples, certain conventions can be detected. The stereoscope is either placed on a table, sometimes with other props like a photographic album or a stack of stereoviews, or held in the sitter's hand. If there are more than one person in the picture, one of them holds the stereoscope, while others hold individual stereoviews. Sometimes, particularly in the case of children, the views are placed on the floor around the subjects. People of both sexes and of any age - from little children to elderly couples - have been pictured with the stereoscope. In no American studio portrait I have seen does any of the sitters peep into the stereoscope, which probably has a practical explanation: the unobstructed visibility of the face is the most important feature of a portrait. What, if any, meaning does the stereoscope have in these photographs? Is it merely a prop like any other? Or did it have some symbolical significance? Without textual evidence it is extremely difficult to "anchor" (R. Barthes) the meanings of these photographs. A stereoscope in a wedding photo might signify future, anticipation, opening vistas.<sup>105</sup> A stereoscope in a mourning photo, also containing a photograph of a defunct child on the table, surrounded by the grim sitters, might signify hope, a counterforce to the loss and sorrow. Be it how it may, the presence of the stereoscope associates the sitters with optical technology, and indirectly with the emerging modernity. Something similar happens also in those rare interior views and non-studio snapshots in which a stereoscope can be detected, obviously accidentally left in its place. Media technology has permeated life. Here its role could be compared with that of the television set in countless family photographs; of course there are also many shots in which the presence of the TV set is anything but accidental, representing the values and achievements of the posers.<sup>106</sup>

Contrary to what one might expect, pictures of a single person immersed in the stereoscope are less common than images of families or groups of friends spending time with it. This may seem surprising, particularly if one accepts the idea, raised in Fallon's *Stereopticon* booklet (quoted above), that as an apparatus the stereoscope has "nothing social in the enjoyment of the view revealed to you".<sup>107</sup> We have already encountered this issue in discussing the uses of the peepshow and the zograscope in the domestic setting. The question is: to which extent do the formal features of a device determine its uses? Does the fact that most stereoscopes only had one pair of lenses define it as a medium for solitary enjoyment? Against those theorists for whom "the medium is the message", I would argue that the social context can have a powerful impact on the uses of a certain device, even when these

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<sup>104</sup> Because many photographers marketed stereoviews as well, it can also have been a subliminal marketing trick. At least one cabinet card in my collection, showing a beautiful young lady, posing with a stereoscope on the table, was used by the photographer, Cramer from Carbondale, Pennsylvania, for marketing purposes: the same image exists on other mounts as well. Tall cabinet stereoscopes were sometimes used as leaning stands, taking the place of a table or a flower stand.

<sup>105</sup> A cabinet card in the Erkki Huhtamo Phantasmagoria Collection, The Society of Film History, Helsinki, Finland. In the Hollywood musical *Story of Irene and Vernon Castle* (1939) the stereoscope is used in a similar a way - the young couple (played by Fred Astaire and Ginger Rogers) is communicating their ideas about marriage indirectly to each other by viewing stereocards of the Niagara Falls (a popular honeymoon destination) in a Holmes-Bates stereoscope. However, I have also seen cabinet cards of older couples, with the stereoscope placed on the table between them. Groups of children were also often photographed with the stereoscope and stereocards.

<sup>106</sup> From *Receiver to Remote Control: The TV Set*, edited by Matthew Geller, New York: The New Museum of Contemporary Art, 1990.

<sup>107</sup> In an unidentified stereoview from "Popular Series" a woman is seen sitting by a table reading a letter (?) There is a stereoscope with a view on the table as well. From behind the table a female ghost figure appears (her mother?). The apparition can be interpreted as a memory possibly triggered by the letter. The role of the stereoscope is unclear.

seem to contradict its formal features.<sup>108</sup> As Raymond Williams argued, technology itself does not define the cultural forms it comes to serve.<sup>109</sup> Quite clearly, the stereoscope fit perfectly within the activities of the Victorian parlor culture. It was a curious pastime and a topic for discussion, but at the same time it provided a safe way to peek at the world outside. It was also in the interests of the publishers to promote the stereoscope as a social medium. Thus the scarcity of the figure of the solitary "virtual voyager" may partly be an illusion caused by the nature of the source material. There is no doubt that the stereoscope provided *potential* for individual virtual voyaging in one's privacy, as Oliver Wendell Holmes early understood. However, this potential needed to be *actuated* by the user, always operating in a cultural and social space. A Marcel Proust might have appreciated the solitary pleasures of the stereoscope, but his experience could hardly be generalized. Although it is extremely difficult to say which type of use - the solitary or the social - was the dominant one, I suspect it could have been the latter, with its conventions of chatter and "light reception". It would, however, be very interesting to learn more about the deep, concentrated modes of using the stereoscope they certainly existed as well.<sup>110</sup>

### Peeping at "Dirty Things"

In the late nineteenth century the idea of the peepshow box was applied to mechanical public attractions. Coin-operated stereoscopic viewers and moving picture machines, such as the Kinetoscope and the Mutoscope, were found in places like amusement piers, saloons and even railway stations, although the principal venues were the "Kinetoscope Parlors" and "Penny Arcades". In spite of the claims by their owners, such places were not an absolute novelty. The idea of an amusement arcade stems from the popular shopping arcades (or "passages"), considered by Walter Benjamin as one of the early signs of urban modernity.<sup>111</sup> Since the first half of the nineteenth century such arcades had contained, beside shops and boutiques, novelty amusements, like dioramas and cosmoramas. For shoppers, such attractions provided an opportunity for temporary relaxation and diversion. In some cases the owners of these entertainments conceived their attractions as independent mini-arcades. Cosmoramas, for example, were indoor "arcades", consisting of rows of magnifying lenses inserted into the walls.<sup>112</sup> Illuminated views, often with subjects of topical interest, were peeped at by the

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<sup>108</sup> My argument here goes against the ideas by theorists like Marshall McLuhan and Friedrich Kittler, who emphasize the impact of the medium itself over its social contextualization. Their theories often verge on technological determinism. For an attempt to mediate between context-oriented and medium-oriented approaches, see Asa Briggs and Peter Burke: *A Social History of the Media: From Gutenberg to the Internet*, Cambridge, UK: Polity Press, 2002.

<sup>109</sup> About the distinction technology - cultural form, see Raymond Williams: *Television - Technology and Cultural Form*, Collins/Fontana, 1974.

<sup>110</sup> Jonathan Crary provides a useful theoretical background for investigating this issue, although it does not deal with cultural and social historical source material. See Crary: *Suspensions of Perception. Attention, Spectacle, and Modern Culture*, Cambridge, Mass.: The MIT Press, 1999.

<sup>111</sup> Walter Benjamin: *Charles Baudelaire. A Lyric Poet In The Era Of High Capitalism*, Translated by Harry Cohn, London: Verso, 1983.

<sup>112</sup> The Cosmorama was defined in the following manner by John Timbs in his *The Curiosities of London Exhibiting the Most rare and Remarkable objects of interest in the metropolis; with Nearly fifty Years' Personal Recollections*. London: David Bogue, 1855, 235: "The Cosmorama, though named from the Greek, (kosmos, world; and orama, view, because of the great variety of views), is but an enlargement of the street peep-show; the difference not being in the construction of the apparatus, but in the quality of the pictures exhibited. In the common shows, coarsely-coloured prints are sufficiently good; in the Cosmorama a moderately good oil-painting is employed." In London, there were occasional complaints about the high ticket prices. A newspaper clipping ("Sketches of Society. Sights of

visitors, strolling from one peephole to another, sometimes stopping for a chat. The popularity of the cosmorama -- also P.T. Barnum's American Museum on Broadway in New York had one -- provided inspiration for other "improved" spectacles. One of them was the Kaiser Panorama, a European network of stereoscopic peepshow arcades. Founded by the businessman August Fuhrmann (1844-1925) in Berlin, the network, which had a well-organized international distribution system for rotating the slide programs, operated for decades from the 1880s on.<sup>113</sup> Rather than a "panorama", it was a round or oval wooden structure (much like Kohlhaas' "Opticus Fortalitius" from 1677!), with numerous stereoscopic eyepieces mounted along its walls; series of stereoviews - arranged as virtual voyages - were displayed in quick succession for seated peepers by a mechanism hidden inside the structure.

Although Edison's idea of gathering his Automatic Phonographs and Kinetoscopes into public parlors has been treated as an innovative business gesture, it was really a re-enactment of an existing tradition, just like the Cosmorama had been a "domesticated" and "gentrified" urban version of the touring peepshow.<sup>114</sup> The trick was to create an attraction that utilized well-established ways of looking and modes of behaviour, while "coating" them with features that made them seem novel and "abreast of the times". One of the catchwords was "automatic", which in this context referred to direct communication with a machine.<sup>115</sup> This idea, an outgrowth of mechanization in factories and offices, severed the personal relationship between the showman and his audience. While touring showmen had personally collected coins from the peepers (or let their monkeys do it) and accompanied the peeping act with their comments, observations and quips, the new "automatic" machines in the Kinetoscope Parlors and Penny Arcades were entirely without this human-to-human dimension. The "street cries" of the old times had been replaced by advertising billboards tempting the passers-by to step in; once inside, one only needed to look around, inspect the "marquees" on top of the machines, make a choice, and put a coin in a slot. The attraction had been identified with a machine, containing pictures of human beings. There was no need for human intervention, unless the coin got jammed in the slot, as often happened. For short periods at a time, again and again, all peepers were involved in separate microworlds. Whether they exchanged experiences we don't know; most of them would have been strangers to each other anyway. From a communal ritual, peeping was on its way to becoming a way of being "together alone" - a characteristic feature of twentieth century media culture.

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London, etc. No. II") at the Harvard Theatre Collection (source and date unknown, but from a London publication circa 1820s-1830s), scorns the Regent-street Cosmorama for charging one shilling for each side of the gallery! "A house divided cannot stand; and for persons bringing families to such sights, a shilling a head is poll-tax sufficient." Quite clearly visiting the Cosmorama was beyond the means of the lower classes of the society. The first Cosmorama is said to have been opened by Abbott Cazzara in Paris in 1808. See Donata Pesenti Campagnoni: *Verso il cinema. Macchine spettacoli e mirabili visioni*, Torino: UTET Libreria, 1995, 87.

<sup>113</sup> Amazingly, an original Kaiser Panorama, known as the "Photoplastikon", still operates in Warsaw, Poland!

<sup>114</sup> The first phonograph parlor was opened by The Ohio Phonograph Company in Cleveland on September 15, 1890. The listening machines were often lined along the walls of the premise, re-enacting the arrangement of the Cosmorama (also known as "Cosmorama Rooms"). Peeping at images was replaced by the listening of sounds. The intimacy of the peephole was replaced by the aural intimacy provided by the earphones. See Charles Musser with Carol Nelson: *High-Class Moving Pictures. Lyman H. Howe and the Forgotten Era of Traveling Exhibition, 1880-1920*, Princeton: Princeton University Press, 1991, 38-39.

<sup>115</sup> I have dealt with the changing meanings of the words "automatic" and "automation" in my other articles "From Cybernation to Interaction: A Contribution to an Archaeology of Interactivity", *The Digital Dialectic. New Essays on New Media*, edited by Peter Lunenfeld, Cambridge, Mass.: The MIT Press, 1999, pp. 96-110, 250-256, and "Slots of Fun, Slots of Trouble: An Archaeology of Arcade Gaming" (forthcoming).

A particularly successful example of the new generation of attractions was the Mutoscope, publicly introduced in 1897. It was a peepshow for viewing “animated photographs”.<sup>116</sup> Differing from its motor-driven predecessor, Edison's Kinetoscope, which had a very short-lived success, it was hand-cranked.<sup>117</sup> The frames of a film had been copied on paper slips attached to a rotating cylinder. The cranking speed could be freely adjusted, and the session interrupted at any point to observe a particularly interesting frame. The only limitation was that the movement could not be reversed. This was an economic rather than a technical imperative. For just one coin, the user could not be allowed to spend too much time with the device. The “proto-interactive” nature of the Mutoscope was clearly expressed in an advertising booklet in 1897: “In the operation of the Mutoscope, the spectator has the performance entirely under his [sic] own control by the turning of the crank. He [sic] may make the operation as quick or as slow as fancy dictates...and if he [sic] so elects, the entertainment can be stopped by him [sic] at any point in the series and each separate picture inspected at leisure; thus every step, motion, act or expression can be analyzed, presenting effects at once instructive, interesting, attractive, amusing and startling.”<sup>118</sup> The expression “entirely under control” seems to anticipate the advertising slogans for interactive media. There was, however, an important difference: experiencing the voyeuristic offerings of the Mutoscope required no acquired mastery. “Control” refers to the scopic and tactile power over the “performance”, the subject matter on display, generally conceived as “risky” (although it was in reality often far from that).<sup>119</sup>

Whether justified or not, sexual connotations dominated the Mutoscope's public image, which is well summarized by its British nickname, What the Butler Saw Machine. There is an entire tradition of contemporary illustrations inspired by this. In a typical cartoon we see an elderly lady trying to drag her husband away from the peephole. In a reverse scenario, a elderly gentleman, having a walk with his young wife, resists the idea at first but finally decides to peek; this obviously gives the couple some good reasons to go back home... Of course, the Mutoscope did not only appeal to the elderly: cartoons and postcards show us young boys - sometimes using each other as stepping-stones - having a peek into its eyepiece, with wide grins on their faces.<sup>120</sup> There are also illustrations that refer to possible cracks in the assumed heterosexual cultural constitution of the apparatus. A French cartoon from 1910, showing a pickpocket emptying a male peeper's pockets, is clearly invested with latent

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<sup>116</sup> About the invention of the Mutoscope, see Gordon Hendricks: *Beginnings of the Biograph*, New York: The Beginnings of the American Film, 1964, pp.59-65. For its early history, see Bueschel & Gronowski: *Arcade I*, op.cit., 91-100.

<sup>117</sup> This decision may be partly explained as an effort to avoid patent infringement accusations. The Kinetoscope and the Mutoscope were both largely the work of one man, William Kennedy Laurie Dickson, who left Edison's company after the development of the Kinetoscope. Edison tried find new applications for his electric technology, which may explain why the Kinetoscope used an electric motor to run the film. Mutoscope relied on a different principle, that of the flip book, which had been known since the 1860s. But Mutoscope was also more reliable and could be shown in places where electricity was not available. Kinetoscope soon disappeared from the market, while the Mutoscope became a great success that lasted until 1950s, and even later.

<sup>118</sup> Cit. David Nasaw: *Going Out. The Rise and Fall of Public Amusements*, Cambridge, Mass.: Harvard University Press, 1999 [1993], 133.

<sup>119</sup> This issue would be worth investigating; although some films were sexually suggestive and mildly erotic, overt pornography was probably non-existent, or at least very rare. Whether the idea of the Mutoscope as a “risky” medium was deliberately created by the industry, or developed spontaneously is not yet clear. The American Biograph and Mutoscope company also produced many other types of films for the Mutoscope, including short dramas and comic subjects. No history of the long and varied career of the Mutoscope has so far been written.

<sup>120</sup> There is an example of this in Stephen Bottomore's *I Want to See This Annie Mattygraph. A Cartoon History of the Movies*, Pordenone: Le giornate del cinema muto, 1995, 171. There are also several cartoons showing middle-aged men peering into the Mutoscope (40-43).



homosexual undertones.<sup>121</sup> The peeper (while evidently watching heterosexual content inside the Mutoscope) experiences the pickpocket's touches as erotic, and the positions of the male bodies suggest an anal intercourse. A German cartoon goes even further in its masochistic-onanistic tone. It shows a male peeper cranking the Mutoscope furiously, undisturbed by the various forms of violent torture inflicted on him from behind his back. Nothing disturbs his concentration; indeed, it seems that the bodily stimulation really "fires him up". Finally, in what could be characterized as his "post-orgasmic state", the peeper states, lying in blissful exhaustion next to the machine: "These were the best fifteen minutes my life". Of course, these cases are manifestations of a topos we have already encountered. The pickpocket no longer represents the state stealing the tax-payer's money; he has become an ambiguous agent that disturbs the prevailing heterosexual world order. The events taking place behind the peeper's back are no longer simply a threat or an invasion; they contribute something to the experience itself, even if unacknowledged by the subject himself. Perhaps these are symptoms of a crisis, traces of a collapsing binary value system and its beginning replacement by a more complex logic.

Linda Williams has suggested that the sexual stimulus provided by the Mutoscope - so often hinted at by cartoons - might have been inscribed in the construction of the apparatus itself. She has paid attention to the position of the handle on the front side of machine, and pointed out that the act of cranking could have functioned as an Ersatz to the act of male masturbation.<sup>122</sup> The point is interesting, not the least because it verges on technological determinism. Could the Mutoscope's handle have been deliberately placed where it is, anticipating its use as a sex toy? Or was it an "accident of design" that gained its significance through practice and the vagaries of popular imagination? Or could this be an argument in terms of which the critic's own faculty of interpretation simply superimposes a model on historical material? As contemporary visual evidence shows, Williams's idea had at least some discursive validity at the time - it was part of the cultural imaginary about peeping. Whether any man ever received sexual satisfaction from the cranking action is another thing, but may be deemed as irrelevant. However, positing men as the sole users of the Mutoscope would mean oversimplifying the matters. In spite of the relative scarcity of evidence, there are growing indications that Kinetoscopes and Mutoscopes did not belong exclusively to the men's domain. Research by feminist scholars like Kathy Peiss and Lauren Rabinovitz has implied that women may have played a much more active role as users of these devices than has been thought.<sup>123</sup> Women got new opportunities to explore urban spaces on their own in the late nineteenth century.<sup>124</sup> Particularly young working women eagerly visited department stores and places of amusement with their women friends, often without male escort. They frequented Nickelodeons - why wouldn't they have dropped a coin in a Mutoscope?

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<sup>121</sup> Reproduced in Bottomore: *I Want to See this Annie Mattygraph*, 42. The peeper says: "When I see a naked woman, I can almost feel her caresses." On the same page there is a much tamer British variation of the same motive from the same year (two months later). The caption says: "Jones (looking into animated—picture machine): Oh, I say, that's funny—ha, ha! A chap having his pocket picket—ha, ha!" Bottomore's valuable book also contains several other examples of cartoons about problems staring into a peep show machine causes for men.

<sup>122</sup> Linda Williams: "Corporealized Observers: Visual Pornographies and the 'Carnal Density of Vision'", in *Fugitive Images. From Photography to Video*, edited by Patrice Petro, Bloomington and Indianapolis: Indiana University Press, 1995, 19.

<sup>123</sup> Peiss: *Cheap Amusements*; Rabinovitz: *For the Love of Pleasure*. Neither deals explicitly with women's relationship with the Kinetoscope or the Mutoscope.

<sup>124</sup> See Anne Friedberg: *Window Shopping. The Cinema and the Postmodern*. Berkeley and Los Angeles: University of California Press, 1993.

Kinetoscope Parlors, Penny Arcades and amusement piers gave women opportunities to familiarize themselves with the new devices - many of them had already got acquainted with new technology, from power looms to dictating machines and typewriters, at their workplaces. Like men, women must have felt curious about the new peepshows; a photograph showing two women peeping into a series of Mutoscopes (one of which displays “The Ramping Girls on the Swing”, another “The Great Cricket Match”) on a pier in England (1912) makes this perfectly clear.<sup>125</sup> Although it was probably normally considered just a moment of fun, for some women the peek into one of these machines may have signified a conscious effort to transgress the border between “female” and “male” domains. And they did not have to look at scantily dressed female bodies only. In his interesting discussion about the early films for Edison’s Kinetoscope, Charles Musser has paid attention to the prominent role of trained semi-naked male bodies (boxers, the strong man Sandow, etc.) in them. According to Musser, this may have provided an outlet for the male viewers’ hidden homosexual desires.<sup>126</sup> Kinetoscopes were often placed in bars and other places where male bonding was common. However, women could also have used this opportunity to gaze secretly at naked male bodies, another “forbidden” pleasure in the late-Victorian society. Of course, the female bodies in the Mutoscope could have appealed to lesbian desires as well. These “innocent” entertainment machines may thus have played a role in the questioning and re-distribution of sexual roles and identities during an era of transition. According to Musser, “[m]otion pictures thus contributed to the breakdown of two discrete and complimentary realms—that of rugged masculinity and feminine domesticity—by pulling the veil from the former and exposing it to the latter.”<sup>127</sup> When it comes to children, they were initially excluded from the newly defined culture of peeping. As an indication of this, the eyepieces of both the Kinetoscope and the Mutoscope were placed too high for them to reach. Some decades later a “kiddie stand” for the Mutoscope was introduced, indicating that the culture of peeping was beginning to consider the younger peepers again.

Although more in imagination than in practice, the Kinetoscope and the Mutoscope, together with the even more ubiquitous coin-operated stereoscopes displaying “dirty” images, contributed to the eroticizing of the image of the public peepshows.<sup>128</sup> Views of erupting volcanoes, earthquakes and conflagrations were replaced by burning desires at both ends of the peephole, or at least so the public thought. This happened against the background of the sexually intolerant Victorian society, which, however, had given rise to a blossoming (although invisible) market for clandestine pornographic literature and imagery of all kinds.<sup>129</sup> Devices like the Kinetoscope and the Mutoscope appeared at the moment when the seemingly de-sexualized surface was beginning to crackle. Peep media was well suited to this moment, because it was situated at the liminal zone between “closedness” and “openness”. Its nature as an attraction was based on a peculiar combination of public exposure and private secretiveness, features that successfully merged in the Mutoscope - its

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<sup>125</sup> Reproduced in Brian Coe and Paul Gates: *The Snapshot Photograph. The rise of popular photography 1888-1939*, London: Ash & Grant, 1977, 90.

<sup>126</sup> Charles Musser: *Edison Motion Pictures, 1890-1900. An Annotated Filmography*, Gemona: Le giornate del cinema muto / Smithsonian Institution Press, 1997, 33-36.

<sup>127</sup> *Ibid.*, 36.

<sup>128</sup> This is reflected in countless souvenirs and other little objects. A box with the title “Case of Funny Things from Niagara Falls” (circa 1905) contains ten small metallic erotic cards. One of them shows a man staring through large lenses at a lady’s exposed bottom. The title reads: “The Stereoscope. A Fine Aspect” (in the author’s collection).

<sup>129</sup> The classic study about this topic, mostly focused on literature, is Steven Marcus: *The Other Victorians. A Study of Sexuality and Pornography in Mid-Nineteenth-Century England*, New York: Basic Books, 1964.

colorful marquee, the ever-hungry coin-slot, the inviting crank and, last but not least, the treats beyond the tempting peephole. Largely because of its doubtful reputation, the Mutoscope has been left outside “serious” histories of the twentieth century, in spite of its phenomenal success and long-lasting cultural presence. A similar “blackout” concerns the erotic live peepshow, which flourishes in many parts of the world. Its “visible invisible” history remains largely unwritten, although it is theoretically highly interesting both as an institution and as an “apparatus”. Its relationship to the traditions of peep media would deserve attention. The replacement of real human beings for images, observed by an invisible observer, may be a reaction to the ubiquity of visual pornographic imagery. In a world saturated with the “obscenity” of media (Baudrillard), increased secrecy (the rite of passage from the street through curtains and doors to a tiny cabin) and the presence of a real human body turned into an erotic spectacle becomes a “thrill” again. In some sense this seems like a return to the nineteenth century culture of living attractions, when human curiosities were commonly displayed for money at dime museums and fairground tents.

### Coda: Peeping, Media Art and Beyond

This article has focused on the notion of peeping applied to specific viewing machines over a number of centuries. Such machines have been used as curiosities to amaze people, but also to make them pay for the experiences looming on the other side of the peephole. They have been an essential part of the formative developments of the culture of attractions. Since the eighteenth century the public peepshows have also developed side by side with devices meant for private consumption. The relationship between these two modes of peeping has been closely linked with the continuous negotiation of the boundary between the public and the private, the changing role of media technology as a transmitter and transformer of information about the world (with its changing cultural, economical and geo-political definitions) and the politics of sexuality and gender. Concrete developments have been accompanied by discursive formations that have fantasized about peeping, “jammed” with its meanings and extended them to other fields. As should be clear from what has been said above, as historical evidence these discursive formations should be considered equally important as any built artefacts or shows that actually travelled along the roads of some country at some point in time. From a media-archaeological point of view, the peepshow as a material fact does not have a life of its own independent of the intricate, constantly metamorphosing discursive networks that envelop and affect it at every step within culture.

Only a limited number of traces of such discourses have been discussed here. Little has been said about the fantasies inspired by devices like the kaleidoscope, the telescope and the microscope. Another issue worth attention are the discourses triggered by the invention of X-Rays since the late nineteenth century.<sup>130</sup> In a sense, the X-Ray provided the ultimate peeping experience. Peering into the “fluoroscope” (another peepshow device, albeit a very specialized one) one could see “beneath the skin”. This sensational discovery became an endless source of inspiration for cartoonists, writers and film producers for decades to come. Sometimes existing devices provided models for fantasies about peeping technologies of the future. When inventors and popular illustrators began to envision

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<sup>130</sup> This issue has been researched by Lisa Cartwright in her *Screening the Body: Tracing Medicine's Visual Culture*. Minneapolis and London: University of Minnesota Press 1995.

electric “tele-vision”, the stereoscope was one of the models they turned to.<sup>131</sup> Although it was technically just an “off-line” medium, it was nevertheless used to peek “beyond the horizon”. In his imagination, one cartoonist had the stereoscope “wired” and electrified, introducing a desktop “tele-peepshow” for real-time communication at a distance.<sup>132</sup> In the late 1910s a postcard published by the Keystone View Company declared: “She Sees Her Son in France. You can talk across the miles with your TELEPHONE - The WHOLE FAMILY Can See the WAR ZONE”. The picture shows an old lady sitting in an armchair, immersed in her stereoscope, which as if emits (or receives?) a lightbeam that pierces the distance, displaying a view from the front of the Great War. By associating it with the telephone, the card positions the stereoscope in a role that anticipates television.<sup>133</sup> In the 1930s, when experimental television broadcasts had already begun in Europe and the United States using TV receivers with proper “screens”, proposals for handheld peep televisions and wearable 3-D television spectacles were still presented.<sup>134</sup> They may seem prophetic anticipations of the head-mounted displays and “TV-goggles” of the future, but they were really extrapolations of preceding traditions, demonstrating the persistence of the topoi related with the peepshow imagination.

Other demonstrations about the evocativeness of peeping can be found from the works of twentieth century artists. Frederick Kiesler, whose exhibition designs for Peggy Guggenheim’s “Art of This Century” gallery were introduced in the beginning of this essay, was not the only major figure interested in peepholes.<sup>135</sup> Another example is Jean Cocteau, whose poetic film *Le sang d’un poète* (The Blood of a Poet, 1930) used peeping with great effect. In one of the films key [sic] scenes, the protagonist, having passed through the mirror eters a mysterious corridor with a series of closed doors. Peeping through their keyholes, he witnesses a series of surreal erotic sights. Although Cocteau does not explicitly refer to peepshow boxes, his work is related to the early silent film genre known as “keyhole films”, built, as the title indicates, around the act of peeping through a keyhole.<sup>136</sup> Films, like *Par le trou de serrure* (Pathé, 1901) show a peeper enjoying some forbidden sights and then receiving a punishment.<sup>137</sup> Cocteau took this already worn formula and gave it an entirely fresh poetic meaning. The master of abstract animation, Oscar Fischinger, made some works for the Mutoscope. Another artist in whose oeuvre the idea of peeping recurs is Marcel Duchamp.

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<sup>131</sup> I use the spelling “tele-vision” to refer to various early devices, many of them imaginary, that claimed to communicate at a distance by means of “electricity” (electronics did not yet exist). “Television” is a later established product and a successor to this tradition.

<sup>132</sup> An illustration (from the French *La Nature?*), visualizing this idea, said to be from 1890, has been reproduced, with no source mentioned, in Albert Kloss, *Von der Electricität zur Elektrizität*, Basel: Birkhäuser Verlag, 1987, p. 245. The tele-vision device is envisioned within the framework of colonialism to maintain a link (and power over the “dominions”) with the homeland.

<sup>133</sup> Card in the author’s collection. The card has been used to inform the addressee that the representative of the Keystone View Company is going to deliver her order (of stereoviews) “about” July 6, 1921. The card, as well as the extensive series of war views published by Keystone, have remained in use well after the war has ended. Although visually the situation resembles that of broadcasting, the card may imply the idea of two-way communication, often present in early vision about tele-vision.

<sup>134</sup> See Hugo Gernsback: “Radio in the Future”, *Radio-Craft*, March 1938, p.591. A magazine article from 1938 about a “television monocle” has been reprinted in facsimile in *Classic TVs. Pre-War thru 1950s*, Edited by Scott Wood, Gas City, In.: L-W. Book Sales, 1997 (II printing), 3.

<sup>135</sup> Herbert Bayer is another exhibition designer who used peepholes in his designs, see Mary Anne Staniszewski: *The Power of Display. A History of Exhibition Installations at the Museum of Modern Art*, Cambridge, Mass.: The MIT Press, 1998.

<sup>136</sup> See Elena Dagrada: “Through the Keyhole”, *Iris*, no 11 (1990). Thanks for Mr. Doron Galili for pointing out this source to me.

<sup>137</sup> The same idea was also used in early hardcore pornographic film. I have seen an example from the 1920s. A janitor in a corridor peeks through a keyhole at the sexual acts taking place in the rooms.

Beginning with his early exploration of three-dimensional imaging in *Hand-made Stereopticon Slide* (*Hand Stereoscopy*, 1918-19), the peephole re-appears in *Rayon vert* (The Green Ray, 1947) and, above all, in his last major work, *Étant données...* (1946-1966), which occupied him during the last twenty years of his life. *Rayon vert* was a round hole in a partition, showing a photograph of sea placed behind it, bathing in green light. Whether deliberately or not, this work evokes the nineteenth century Cosmorama, among numerous other references.<sup>138</sup> The enormously complex *Étant données...* could - if only on one level - be described as an elaborate peepshow machine, displaying a deliberately ambiguous pornographic scene. The viewer peeps through a hole in an old wooden door, and discovers a three-dimensional “perspective view”, calculated with utmost precision.

The idea of the peepshow box has been evoked in an even more overt sense by artists working with new media technologies. Lynn Hershman, Mike Naimark, Perry Hoberman, Catherine Richards and others have created boxes that deliberately refer to the peepshows of the past.<sup>139</sup> Hershman's *A Room of One's Own* (1993) displays a miniature house; the viewer's gaze (actually, the turning peephole that serves as a sensor) triggers feminist videos displayed inside the box, addressing the peeper directly. Mike Naimark's *See Banfff!* (1994) is a retro-looking hand-cranked peepshow machine that displays Naimark's stereoscopic time-motion studies shot at the Banff National Park in Canada. At the same time it raises issues about virtual tourism, referring to nineteenth century stereoscopy. Perry Hoberman's *Excess Baggage* (1992) is a series of stereoscopic viewing devices built into old suitcases. Catherine Richards's *The Virtual Body* (1993) is another artist-constructed peepshow box, allowing the user to enter one's hand inside the box through another hole, thus questioning the immateriality of the virtual world inside the box.<sup>140</sup> The work also plays with the idea of the camera obscura, some models of which had a structure reminiscent of Richards's creation. The work unleashes a complex discourse about peeping in relation to the body and its assumed disappearance in virtual realities. Although less concerned with media-archaeological references, works dealing with virtual reality could also be connected with the peepshow tradition. The head-mounted display is, after all, a new kind of interactive stereoscope. The connection between peepshows and virtual reality was made clear by Lawrence Paul Yuxweluptun's VR work *Inherent Rights, Vision Rights* (1992), displayed in a custom-designed interactive peepshow viewer.<sup>141</sup> Other examples could easily be listed.<sup>142</sup>

Of course, commenting on peepshows and peeping does not have to resort to explicit references to the past. It could be claimed that the culture of peeping has never been as widespread as it is today. Contemporary society has been permeated by surveillance, often resorting to the most sophisticated technology available. Wherever we go in public spaces, there is always somebody peeping at us - or so we are made to believe, reflecting Michel Foucault's interpretation of Jeremy Bentham's idea of the

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<sup>138</sup> As Dieter Daniels explains, the work seems to have been inspired by story by Jules Verne, *Le Rayon vert* (1882). (Daniels, “Points d'interférence entre Frederick Kiesler et Marcel Duchamp”, 125, 127. As far as I see, the Cosmorama as a point of reference has not been evoked by Duchamp scholars.

<sup>139</sup> For a discussion of these (and other) works from a media-archaeological point of view, see my “Time Travelling in the Gallery: An Archeological Approach in Media Art”, in *Immersed in Technology. Art and Virtual Environments*, edited by Mary Anne Moser with Douglas MacLeod, Cambridge, Mass.: The MIT Press, 1996, 231-268.

<sup>140</sup> A highly original approach to peeping was developed by Valie Export in her well known *Tapp und Tastfilm* (1968). Wearing a miniature theatre, the artist encouraged the audience members to touch her breasts, hidden behind a veil. The scopic dimension was denied; the breast were only “visible” via touch!

<sup>141</sup> See color plates 17 and 18 in *Immersed in Technology*.

<sup>142</sup> The artist Roy Fridge has created wooden viewing boxes obviously directly inspired by the Mutoscopes. See Axel Mogelson and Norman Laliberté: *Art in Boxes*. New York: Van Nostrand Reinhold, 1974, 43.

Panopticon.<sup>143</sup> Peeping has found another platform on the Internet. The countless webcams - available for free, or, as it more and more often happens, against a financial contribution - have led to the creation of a veritable global super peepshow. Millions of peepholes, as little software windows, are waiting for desirous customers twenty-four hours a day. The principles of the culture of attractions have been translated into the design of digital banners, pop-ups and other graphical tricks that try their best to persuade us to peep. The coins collected by the showman have been replaced by the credit card numbers typed into little boxes. Adult webpages have swelled into massive syntheses of various types of peepshows, displaying both images and live performances (sometimes verging on the freak show). However, not only do we peep on the Internet - we are continuously being peeped at by authorities, businesses, junkmailers and hackers alike, eager to find out about us and our habits to “create profiles” serving financial, but even political purposes. Like Lafcadio Hearn inside the Japanese house, we have been turned into attractions for others. Do we have to conclude, then, that peeping has turned into something utterly negative - restraining, subjecting, de-humanizing? Could it also serve some positive goals - be socializing, stimulating, liberating?

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<sup>143</sup> About the relevance of Bentham's idea for contemporary culture, see CTRL SPACE: Rhetorics of Surveillance from Bentham to Big Brother, edited by Thomas Y. Levin, Ursula Frohne and Peter Weibel, Karlsruhe, ZKM and Cambridge, Mass: The MIT Press, 2002.