

[essay to the Kinoautomat book / DVD combination, to be published 2007]

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Push the Button, Kinoautomat will do the Rest!
Media-archaeological Reflections on Audience Interactivity

In the context of digital culture, interactive media is seen as an affair involving a single user sitting in front of a computer display, tapping commands on a keyboard and moving a cursor with a mouse. Even when the “interactor” is actually communicating with other people (and perhaps a few ‘automata’ posing as humans) over the Internet, this situation prevails – the others can only be reached via the computer interface: they are never actually physically present. As long as we identify interactivity with computer-mediated communication, such an interpretation has some historical validity. Digital interactive media evolved from “interactive computing” through various improvements in the “human-machine user interface”, linked with the simultaneous broadening of the role of computing in society. Body-mounted applications like head-mounted displays and systems where interaction is mediated without a physical contact by means of a video camera or some other kind of sensor tracking the user’s actions (from David Rokeby’s Very Nervous System to Sony’s EyeToy for PS2) are only variations of this basic situation, however different they may seem. While such systems can sometimes simultaneously serve more than one user, the number is usually limited.

Although the expression “interactive media” emerged in this context, it is becoming increasingly clear that such an understanding of interactivity is too restrictive. Ideas about interaction with technological devices and systems have existed independently of digital technology decades and even centuries before the computer came into existence. Although they were not characterized as “interactive”, the fantasy gardens of the Baroque used pressure sensitive spots hidden along foot paths; inadvertently stepping on one of them could cause water to sprout from the mouth of a sculpted figure or to reveal some other extravagant surprise. Throughout centuries, mechanical toys and games required an interactive relationship with the player to function. In the second half of the nineteenth century, all kinds of coin-operated devices came into existence. As ‘counter-machines’ to the production machines permeating factories and offices at the time, they invited the user into a playful physical interaction - to peep at pictures by turning a crank, to shoot at mechanical ducks or to have an arm-wrestling match with a cast-iron Uncle Sam. Such machines were enormously popular, yet they have been mostly neglected by cultural historians.¹

¹ 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, 2005, 1-21.

Although the interactive potential of such 'proto-interactive' devices was limited, they nevertheless anticipated more complex applications, both through the design of their 'interfaces' and their social, economic and psychological roles. Not just the mind, but also the body was involved in an exchange with an artificial entity. From penny arcades to game centers, voluntary interaction with machines became an element of modern, capitalistic lifestyle, gradually penetrating the bourgeois privacy as well. In the late nineteenth century the home began to turn into a 'gadget space' where the handling of various types of control interfaces became a routine task that even children could master. Simultaneously, the daily involvement with 'serious' machines at workplaces reached unprecedented dimensions. Such machines came to be used for countless purposes from accounting, book-keeping, calculating, data storage and communication to surveillance. Making such tasks more effective and economical contributed to the development of interactive media, although characterizing early production machines as "interactive" without qualifications does not seem justified. Although such machines - from machine tools to typewriters - often required a continuous physical relationship with the user, its forms were dictated by the 'architecture' and function of the machine. The input of the user was subordinated to the logic of the machine, which is the reverse of what interactive technology is supposed to do.

While the 'March of Interactivity' was still gathering speed, the Western culture already felt an urge to develop 'interaction-free' zones, evidently as a counter-measure against the psychological strain of having to be constantly alert, busy, and responsive. One such zone was the classical cinema from the 1920s to the 50s. The cinema theater was a surrogate womb where people could retreat from the stresses of everyday life. Comfortably seated in the darkened auditorium, they enjoyed the privilege of doing nothing; they merely stared at the screen, while being transported into worlds of fantasies and great passions. The immersion was psychological, based on the spectator's mental identification with fictional characters. The classical cinema was a kind of spatial "automaton". From beginning to end, it functioned like a clockwork mechanism; the curtains opened and closed precisely, the projection speed was standardized, each screening ended in schedule. After the show began, the human intervention was eliminated (or rather, hidden behind the scenes). No matter how many times it was projected, the film always remained the same, save for scratches and occasional 'jump cuts' caused by accidents. The effect of being 'swallowed' in the belly of this automaton was supposed to be relaxing and (positively) distracting, a momentary release from the tough requirements of modernity.

The classical cinema had parallels with spectator sports, another institution concocted to ease the pressures of modern life. Both emphasized emotional participation, but also carefully defined the limits of what was permitted. At first look, spectator sports may seem 'interactive' - shouting and bodily action, even in unison with the actions of other spectators, were allowed. However, transgressing the barrier separating the spectator stand and the sporting field was strictly forbidden. There was some openness in the spectacle itself, but again within pre-defined parameters; someone was to win, others to lose; records might be broken; the name of the winner was only known at the end. Whatever the outcome, the sportmen were to be spurred and cheered at, but not to be interfered with. The transition to televisual spectator-sports did not change this

radically, although the physical mass of the audience was eliminated and replaced by forms of virtual presence. In cinema, not only the untouchability of the screen (parodied in comedies, when an ignoramus tries to jump into the screen and accidentally tears it down), but also the silence and immobility of the audience was required. The spectators were “together alone”, which was an essential aspect of the ‘cinematic apparatus’. Interpersonal interactions and transgressions happened in the dark (as the film critic Pauline Kael implied with the title of her book, *I Lost It at the Movies*), but they had no effect on the outcome of the spectacle: “The End” was always the end.

In the 1950s, the television became a formidable challenge to the cinema. Many people now preferred their living room – another kind of womb - to the cinema theatre. As a new center of attention, the TV set occupied a peculiar space within the domestic space. Although it was marketed as a stimulus for discussions and exchanges within the nuclear family, it was also often seen as a source of idle relaxation for the “couch potato”.² This idea was aptly expressed in the name of the well-known American brand of TV-chairs, La-Z-Boy. Interactivity was limited to the act of changing the channel, which could be done with the remote controller without even getting up from the sofa or armchair. The channel buttons were pressed only from time to time. Idleness and passivity were not necessarily seen as negative, although they were often castigated by the advocates of television’s cultural and educational potential. The “do-nothing” attitude could be justified by interpreting the ritual of watching television as another counterforce to the ‘forced’ relation with machines at work. This rhymed well with the ideology of “full automation” which was prominent in the 1950s and 60s. From the viewer’s point of view the TV set was essentially an(other) automaton that required only momentary interventions. Automation was claimed to liberate humans from the burden of physical work. The time saved by the housewife using an automatic washing machine could be used for watching television, at least in theory.³ Whether this led to human empowerment or alienation was a topic for heated discussion.

Arguments about television’s passivating impact could be countered by claiming that television was at least implicitly interactive because of its dominant mode of address. Television addressed the (implied) spectator directly via the face and chatter of a familiar television personality. TV personalities were even felt to become virtual members of the new ‘TV-family’. Direct address regularly punctuated the program flow, maintaining a face-to-face relationship with the viewer. This was enhanced by the ideology of television’s liveness, its “here-and-now” nature. However, unlike in live broadcast radio where the telephone was often used as a link, the direct relationship between the viewer and the world on the screen was, simulated: there was no feedback channel to ‘talk back to the television’. However, already in the 1950s some ‘experimental’ TV programs tackled this issue. The most well known example, the children’s program *Winky Dink and You* (CBS, 1953-57), solicited the spectator to draw

² About the discourses around classical television culture, see Lynn Spigel: *Make Room for TV. Television and the Family Ideal in Postwar America*, Chicago: University of Chicago Press, 1992, and Cecelia Tichi: *Electronic Hearth. Creating an American Television Culture*. Oxford: Oxford University Press, 1992.

³ Ellen Lupton has argued that the housewife’s burdens were just transferred to other tasks, not reduced. See Lupton’s *Mechanical Brides. Women and Machines from Home to Office*. Princeton: Princeton Architectural Press, 1996.

directly on the TV screen (actually on a transparent 'magic screen' sold together with a set of 'magic pens' as a Winky Dink Kit) according to the instructions given by the host, Jack Barry.⁴ Sometimes the tip of the magic pen was even supposed to "touch" his finger moving on the other side of the screen. Throughout the program, Barry addressed the child in a colloquial manner, also chatting with animated cartoon characters. Replacing the missing spoken feedback channel by tactile communication was a clever idea. The act of drawing created a (simulated) mixed reality, where the child seemed to have an impact on the drawings shown on the screen (making things appear, animating them, etc.). Of course this was really an illusion, and happened within the parameters introduced by the host.

Interestingly, similar ideas about tactile contact across the screen were explored by the media artist Douglas Davis in his television performances in the 1970s.⁵ Whether or not the spectator wanted to 'tele-touch' Davis's body, the fact that the artist resorted to this idea proves that 'proto-interactive' strategies for TV had remained an anomaly. They were still fresh enough to be re-enacted by experimental art. In spite of its mode of address and the occasional use of additional feedback channels like the telephone, broadcast television remained essentially non-interactive. Against this background the introduction of "television games" in the beginning of the 1970s is most interesting. The simple gaming peripherals marketed by companies like Magnavox and Atari redefined the TV set – by then an ubiquitous object - by turning it into an arena for interaction. Advertising shots for early TV game consoles show excited and even agitated families, game controllers in hand, staring at the glowing screen.⁶ The couch potato had as if woken up, and was now staring in agitation – with others - at the little bright dots moving across the screen. What made all the difference was that the game controller - unlike Winky's magic pen – really had an effect on the dots, however 'minimalistic' they may have been. This transformation happened at the expense of television's contact with the outside world (or at least with the realm of the television studio). The TV game was not just a step in the development of interactive media, but also in the virtualization of culture.

Both Winky's spectator and the owner of a Magnavox Odyssey interacted in relative isolation, with, at most, a small group of friends or family members (and, in Winky's case, the implied nationwide audience of children). This is the user model most later interactive applications have adhered to. Although interactive relationships through distributed peer-to-peer networks have become more and more common, thanks to Internet chat rooms, massively multiplayer role-playing games and SMS messaging, the "interactor" still faces a screen, whether on the desk or in one's hand. Another option, interactivity involving large groups of participants sharing the same physical location, has often been considered a curiosity alien to the notion of interactivity. Interactivity is seen as a personal, individual and even intimate process, while group interaction emphasizes

⁴ See <http://www.toontracker.com/winky/winky.htm> (last checked August 21, 2005).

⁵ For the background of these experiments, see Douglas Davis: "Time! Time! Time! Context of Immediacy", in *The New Television: A Public / Private Art*, edited by Douglas Davis and Allison Simmons. Cambridge, Mass.: The MIT Press, 1974, 72-79.

⁶ See for several examples, Van Burnham: *Supercade: A visual history of the Videogame Age 1971-84*. Cambridge, Mass.: The MIT Press, 2003.

more anonymous group dynamics and crowd behavior. These are now often considered obsolete remnants from the “age of the masses”, out of place in an era when media experiences are increasingly negotiated, customized and personalized by the individual. It has also been pointed out that designing meaningful interactive applications using group dynamics while giving each interactor a feeling of truly affecting the outcome is quite simply an arduous task. Wouldn't it be better to keep large collective media spectacles as they are, technically (although not mentally and emotionally) non-interactive, and reserve interactivity for other goals?

The success of Raduz Cincera's *Kinoautomat* (1967) at the Montreal Expo '67 is an argument against such claims, a proof that group interaction can be both meaningful and pleasurable.⁷ Therefore it is worth spending some time reflecting on the underpinnings of this mode of interactivity. According to Stewart Kranz, “This do-it-yourself theatre, where every visitor became an inventor, was the first of its kind in the world”.⁸ Although this is probably true in a literal sense, innovations don't appear out of nowhere. It is important to understand the wider cultural context within which Cincera's creation became possible and made sense. Certainly *Kinoautomat* was an effort to reinvent cinema by releasing it from its classical form, turned into a strait jacket. Such efforts had been frequently made since the 1950s, the era when Hollywood's classical studio had system had plunged in a serious crisis, partly due to the emergence of television, partly due to economic and political reasons (monopoly lawsuits against the industry, McCarthyism, etc.). Cinerama, 3-D movies, speciality spectacles at World's Fairs and theme parks, as well as numerous more or less esoteric (and often short-lived) innovations had already prepared the ground for novelties like *Kinoautomat*.⁹ *Kinoautomat* also had similarities with the contemporary “expanded cinema” in avantgarde film circles, although it was not directly connected with such experiments.

There were earlier “screen practices” that had aimed at activating the audience. In nineteenth century magic lantern shows, for example, the audience often participated actively. The lecturer may have solicited reactions to his stories and jokes; the spectators may even have been asked to blow together to set a ‘windmill’ in motion (of course, the blowing was as useless as Winky's magic pen to actually move the rackwork mechanism of the mechanical lantern slide). Even voting could be part of the show – prizes were given to the “most handsome baby” or the “ugliest man” in the audience, according to the spectators' decision. In the early 20th century, illustrated song slides were a particularly popular form of the magic lantern show. Anticipating karaoke

⁷ The author had a chance to experience *Kinoautomat* first hand when it was shown for the last time at the Futuroscope theme park near Poitiers, France, in 1992.

⁸ Stewart Kranz: *Science & Technology in the Arts*. New York: Van Nostrand Reinhold, 1974, 234.

⁹ One early pioneer whose innovations were mostly forgotten was Morton L. Heilig. His single user multi-sensory *Sensorama* simulator was originally meant as a collective attraction for a large cinema audience. Although it was not interactive in the technical sense of the word, it included 3-D, wide vision, motion, color, stereo-sound, aromas, wind and vibrations, and was meant as a “Revolutionary Motion Picture System that takes you into another world” (*Sensorama* booklet). See Morton L. Heilig: “Enter the Experiential Revolution. A VR Pioneer Looks Back to the Future”, in *Cyberarts. Exploring Art & Technology*, edited by Linda Jacobson, San Francisco: Miller Freeman, 1992, 292-305.

and music video, the spectators were invited to join in the chorus of a popular hit song or a religious hymn, the words of which, together with images inspired by the song, were projected on the screen.¹⁰ The early silent cinema also had room for improvisation before its forms became standardized. The projector was hand-cranked, so its motion could be reversed, or a particularly popular short subject repeated at the audience's request. Films were often combined with lantern slides and live acts, which gave an opportunity for additional interchange with the spectators. Such popular screen practices influenced experimental theatre, which began combining film projections with performances by live actors in the early 20th century. As Jan Grossman has shown, this tradition was the inspiration for the Czech *Laterna magica* theater in the 1950s, which in its turn became a direct influence for *Kinoautomat*.¹¹

Like *Laterna magica*, *Kinoautomat* mixed moving images with live performance, although the actors were now mainly used as presenters and hosts. Technically the core of *Kinoautomat* was its electronic voting system. At intervals the film stopped and two alternative paths were offered. By pushing a button the spectator could influence – via majority decision - the way the story would continue. The results of the voting were displayed automatically on panels flanking the screen. This recalls the electronic voting systems used in official venues like parliaments. The association must have been deliberate, because *Kinoautomat* raised the idea of “audience democracy”. In classical cinema the spectators had few rights, but many restrictions were imposed upon them; it was important to keep the audience unaware of these so that they could enjoy the show. The audience had no influence on the story, except in special situations like Hollywood's public test screenings, where the spectators had to make choices between alternate endings. In *Kinoautomat* the authority was at least seemingly handed over to the spectators. However, as in most interactive applications, the freedom of choice was conditioned by numerous factors. The branching structure of the *Kinoautomat* films was more limited than it seemed to be, and at some points the voting had no effect at all. The audience was as if invited to play a new and exciting game, the outcome of which was partially genuine, partially illusory.¹²

The choice of the push-button interface is culturally interesting. Although the cultural history of the push-button remains to be written, a few pointers can be suggested here. It seems that the reign of the push-button really started with the introduction of electricity – the light could be switched on or off, a device started or stopped, or

¹⁰ See Nancy Bergh assisted by Margaret L. Bergh: “The Live Model Illustrated Song American Style”, *The New Magic Lantern Journal*, Vol.2, No 3 (January 1983), 2-8.

¹¹ Jan Grossman: “The Combination of Theatre and Film”, in *Nearly All About the Magic Lantern. Collection of Articles*, edited by Jiri Hrbas. Prague: The Central Management of the Czechoslovak Film – The Film Institute, publicity dept., 1968, 36-109.

¹² The situation is not totally unlike that of famous the pseudo-artificial intelligence ELIZA, programmed by computer scientist Joseph Weizenbaum at MIT in 1966. As a contribution to the discussion on natural language processing, the program invited the user to engage in a dialogue with an “intelligent” computer program, designed to simulate the reasoning of a Rogerian psychoanalyst. The program was not “intelligent” at all, but it managed to create an illusion of an actual therapy session. Some users (including the author's sister when ELIZA was shown at the Alien Intelligence exhibition at Kiasma, Helsinki, in 2000), thought that they were discussing with another human via the computer. Some people have read ELIZA as an oblique critique of the vain hopes in the possibilities of AI.

messages sent to a distance. New applications, such as electric fire and burglar alarms that were directly connected to the fire brigade or the police station, associated push buttons with a modern feeling of safety. Simultaneously with the proliferation of electric devices, push buttons appeared in coin-operated machines, allowing one to buy a candy bar, to measure one's weight or to see a picture of a scantily clad lady. Although simple, pushing was something exciting, connected with new mechanized pleasures (and perhaps unconsciously associated with other forms of more corporeal 'pushing') and 'automated' consumerism. Kodak's famous late 19th century slogan "You push the button, we do the rest" expressed a feeling of "user-friendliness". Simultaneously it signified liberation from the cumbersome process of professionally mastering a technology before one could use it. Anybody but the pet dog could use Kodak's new snapshot camera. Of course, the urge to push the button was a calculated industrial strategy – it made the amateur photographer dependent on Kodak for everything else, from developing the prints to replacing the exposed film with another!

Parallel to these developments, push buttons were increasingly used for purposes that questioned both pleasure and personal freedom. They became a standard feature in the 'scientific' testing of workers. Reaction speed became a key issue in studies aiming at identifying the most productive relationship between machines and humans. The results could be used to develop more effective and 'ergonomic' human-machine interfaces. The proponents of movements like Taylorism and the Science of Work argued for the humanism of their motives, although their studies were often considered by critics to de-humanize the worker, subordinating his body (and mind) to the simplified, repetitive kinetics of the machine.¹³ With the dawning of the era of 'full automation' in the 1950s, the push button became even more prominent as an interface than before. It became almost a symbolic manifestation of a culture, where "the human pushes the button, the machine does the rest". Pushing a button could start and stop an otherwise automated industrial operation in a 'fully automated' factory. Push-buttons were used as interfaces when computer-controlled industrial robots replaced humans along the assembly line. If something went wrong, the 'panic button' could stop the operation in an instant. Again, the idea of work centered on the push button (and other similar control interfaces) was criticized as monotonous and alienating.¹⁴ At homes, however, the users of automatic washing machines and remote-controlled TV sets were pushing buttons as eagerly and joyfully as ever, enjoying the blessings of full automation.

Against this background the use of push buttons in Kinoautomat could be seen as a celebration of automation (or 'cybernation' as it was also known in the 60s). The title 'Kinoautomat' evokes the endless parade of things 'automatic' since the 1950s, but the presence of the human presenters does not really fit into the picture – this solution may have been chosen out of necessity, because the projection itself was not fully automated and the voting process still needed to be "moderated". At the time when Kinoautomat

¹³ See Anson Rabinbach: *The Human Motor. Energy, Fatigue, and the Origins of Modernity*, Berkeley and Los Angeles: University of California Press, 1992.

¹⁴ See my "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.

had its premiere, the discourse on automation was being supplemented by another, that of interactivity. Within the field of computing, interactivity had its origins in full automation: any interactive application had to be based on numerous automated operations happening inside the “box”. However, there was a difference of emphasis. In automatic applications the human input was sporadic, happening only from time to time, while in interactive applications it is constant. Instead of waiting for the system to perform its tasks, the human enters into a constant dialogue with it. This was reflected in the development of new user interfaces. While the early mainframe computers on the 1940s and 50s relied largely on push buttons, levers, dials and the like (together with punch card readers and tape drives), “interactive computing” required more flexible input/output devices. These included keyboards, displays, joysticks, graphic tablets, video cameras and voice-activated systems. One of the most famous innovations, Doug Engelbart’s original mouse (and any mouse since then) had push buttons, but it had other features as well that made it into a flexible and versatile instrument.¹⁵ Of course, the mouse was designed for an individual user sitting in front of a computer terminal.

Kinoautomat appeared at a moment when the discourses on interactivity and “personal computers” were just beginning to gain ground in the field of computing. Although Cincera’s creation did not explicitly evoke computers, it was still somehow a token of the cultural transition in the making. Recalling the use of ‘automatic’ devices, the audience interfered with the spectacle only at certain predestined moments; for the rest of the time it watched the events unfold like in a normal movie theater. This was not totally unlike watching television, which may explain why a push-button interface closely resembling Kinoautomat’s voting system was used in the experimental QUBE interactive cable television system in Columbus, Ohio in the late 1970s.¹⁶ In QUBE, the spectators used their boxes only at certain moments to send feedback about the programs. The main difference with Kinoautomat was that they participated from their homes, joining on-line polls and deciding collectively how certain programs would progress. Another solution that aimed at using the specific nature of television broadcasting was Oliver Hirschbiegel’s *Mörderische Entscheidung – Umschalten erwünscht* (1991), a murder mystery broadcast simultaneously on two television channels. The channels looked at the same events from different points of views (linked to the movements of the two protagonists), so the spectator was expected to zap constantly between the channels. His/her understanding of the story depended on this alternation (having access to two TV sets would have spoiled the idea).

An issue that clearly connected Kinoautomat with the emerging interactive media was the use of a story with a branching structure (although not in a fully developed form). This idea was also “in the air” in the 1960s, as is demonstrated by such diverse cultural

¹⁵ About the invention of the mouse and its context, see John Markoff: *What The Dormouse Said. How the 60s Counterculture Shaped the Personal Computer Industry*. New York: Viking, 2005, 77, 148-150. The mouse was only one aspect of the Augment system, created by Engelbart’s group at Stanford Research Institute.

¹⁶ See Peter d’Agostino: *Teleguide. Including Proposal for QUBE*. Dayton, Ohio: Wright State University, distributed by NFS Press, San Francisco [1980?]. See also John Carey and Pat Quarles: “Interactive Television”, in *Transmission. Theory and Practice for a New Television Aesthetics*, edited by Peter d’Agostino, New York: Tanam Press, 1985, 107.

pointers as films by Alain Resnais and Alain Robbe-Grillet (non-linear narratives presented within a linear filmic structure), the “scrambled books” designed by the behaviorist psychologist N.A. Crowder (as an alternative to “branching” teaching machines) or the early prophesies about hypertext by Ted Nelson. It is unlikely that Kinoautomat was directly influenced by any of these. As we have seen, it resulted from the convergence of several lines of development. In subsequent interactive films the use of branching structures was taken much further, but this rarely happened in the cinema theater. Pioneering interactive artworks like Grahame Weinbren’s and Roberta Friedman’s *Erl King* (1983-86) and Weinbren’s *Sonata* (1991-93) were presented from a computer-controlled laser disc and could only be accessed by one user at the time. Sacrificing the complexities of audience interaction increased the possibilities for more subtle and complex manipulation of images and sounds.¹⁷ In *Sonata*, for example, the user can interfere with the story at any moment, moving seamlessly between parallel narratives, as if digging through layers of discourse with one’s fingers (thanks to a touch-screen interface).

Beside Cincera, audience interactivity has been explored by a few others as well in the decades since the premiere of *Kinoautomat*, as Chris Hales explains in his essay in this publication. However, such projects have been much less common than interactive works meant, at most, for a handful of people. In 1991, the French artist Alain Fleischer presented his “unfinished film” *La femme au miroir* (The Woman in the Mirror) in an exhibition called *Les Arts Etonnants*.¹⁸ A 16mm film was projected directly at the audience, who used little pocket mirrors to bounce it piece by piece to the screen. This extremely low-tech solution, obviously a late echo of the “expanded cinema” of the late 1960s, produced one of the most effective experiments in audience interactivity the author has experienced. It created an ‘organic’ mosaic-like image that was constantly fluctuating between order and chaos, shifting from representational to nearly abstract and back again. The continuing effort to align the mirrors correctly led to intensive interaction between anonymous audience members. Instead of trying to change the course of the narrative, the purpose was to reconstruct the ‘lost’ unity of the film, a goal that was possible to achieve only momentarily. The mode of interaction chosen by Fleischer was perfectly suited for a work that dealt with the fragility and instability of identity – obviously, not just of the protagonist, but of the spectator as well. The identity itself is a ‘projection’, always in flux and at risk of losing its integrity.

Possibly the most successful of the recent interactive systems for very large audiences is *Cinematrix* (1991-), invented by the computer graphics pioneer Loren Carpenter.¹⁹ In spite of its name, the model for *Cinematrix* is the computer game, rather than the cinema. In a sense it could be claimed that it was *Cinematrix* that brought audience interaction to the era of digital interactive media. The system uses a videocamera as a sensor that reads information from little wands held by the participants. The wands have

¹⁷ See my "Seeking Deeper Contact. Interactive Art as Metacommentary", *Convergence*, Vol.1, N:o 2 (Autumn 1995), 81-104 (University of Luton & John Libbey, U.K.).

¹⁸ See Alain Fleischer: “The Woman in the Mirror. A Capturing Device for an Unfinished Film”, *Les Arts Etonnants* (catalogue), Tourcoing: Le Fresnoy, 1991, 52-53.

¹⁹ See www.cinematrix.com. The author has experienced *Cinematrix* three times: at *Ars Electronica* 1994, *Siggraph* 1991 (Las Vegas) and *Siggraph* 1994 (Orlando).

reflective surfaces, red on one side and green on the other. The system calculates the number of red or green dots visible at any moment and reacts accordingly. Although various applications have been tried, the most successful may have been a variation of the classic videogame Pong called “Dog and Cat”. The author witnessed it played by thousands of participants gathered on the main square of Linz, Austria, during Ars Electronica 1994. For the game, the audience was divided into two halves, constituting, in fact, two collective players. It was interesting to observe how soon the participants (most of them without any specific technological skills or advance knowledge about the show) mastered the system. The game led to an intense sense of participation, enhanced by the fact that the positions of the teams (left-right) corresponded neatly with the division of the gaming field. Another application, “The Flying Game”, was more demanding. The audience was again divided into two groups and asked to operate a digital flight simulator. As the virtual plane transporting thousands of people flew on into the giant screen, one group was in vertical and the other in horizontal controls. This time it took longer, but mastery was eventually achieved.

One of the great myths of the digital era is the disappearance of crowds. According to this myth, the center is vanishing, physical locations are losing their significance, and privacy as the connecting point to virtual networks is supplanting corporeal participation in public spaces. The future will belong to individuals negotiating their media experiences in front of the screen, or to cyber-nomads who are constantly on the move through today’s ‘non-places’ (Marc Augé) linked with endlessly metamorphosing virtual crowds.²⁰ This evidently signifies “the eclipse of the spectacle”, as Jonathan Crary put it.²¹ Yet it should be asked, whether the society of the spectacle is really disappearing as a consequence of the triumphant digital lifestyles. Isn’t it rather so that the spectacle is persisting as a counterpoint to the increased individualism and isolation of the subject? If “interaction-free zones” were established early in the twentieth century as shelters against the growing tensions of machine culture, isn’t something similar, and yet different, happening in our times? There seems to be a need for public, corporeal “interaction zones” now. The massive, global impact of technoculture since the 1980s may be an index of the emergence of a new era of crowds. The huge masses of dancers at Berlin’s Love Parade, mass raves and other giant technoparties provide evidence of this. Recently the attraction of and toward crowds was experienced at the Live 8 concerts organized at major cities around the world. People felt the need to be physically present, although they could more easily have followed the events live from television, radio or webcasts.

There may well be a continuous need for public spectacles with audience interaction even in the future. The need might even get stronger than before, because of the role interactive technology has come to play in almost everybody’s life, at least in the Western world. Today everyone is an “interactor”, almost automatically desiring ‘things interactive’. Of course, the other alternative may also be possible: with the minds

²⁰ Marc Augé: *Non-places. Introduction to an anthropology of supermodernity.* Translated by John Howe. London & New York: Verso, 1995.

²¹ Jonathan Crary: “Eclipse of the Spectacle”, in *Art After Modernism*, edited by Brian Wallis. New York: New Museum of Contemporary Art/Godine, 1984.

saturated and hands occupied with interactive content, the people might, indeed, start requesting new “interaction free zones”. However, these options are not necessarily mutually exclusive; there is room and a need for both in contemporary media culture. Perhaps a more important issue is the quality of audience interactive spectacles. Cinematrix defines itself as an “Interactive Entertainment System”. While there is a demand for interactive entertainment for large crowds, one should ask what else there could be. Could such systems deliver anything else beside entertainment? Is there any way to make them more challenging, more rewarding and - more ‘cerebral’? How much complexity can be added to the system before the bond to the audience breaks down? Does one need to respect the “common denominator” of the audience and limbo under it rather than jump over it? How can individual interactive experiences be connected with collective ones? The future of interactive media as an audience attraction may well depend on correct answers to such questions.

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