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Pockets of Plenty:
An Archaeology of Mobile Media

Look for words like "mobile," "portable," "wearable," or "nomadic" from any standard media history, say, Brian Winston's *Media Technology and Society, A History: From the Telegraph to the Internet* (1998). Most likely they are missing.[1] At most, what you may find are a few references to them in the final chapter dedicated to recent and future forms of media.[2] So far media histories have been based on the idea of media as fixed coordinate systems - signals penetrate walls, and broadcasting blankets huge virtual territories, but the material nodes of the network, the equipment used as transmitters and receivers, are found in permanent locations. Whether situated in public or private spaces, to use media we need to be in a certain place, stop, sit down in front of the device, switch it on, adjust the controls, and only then begin the communication. When the session is over, we leave the media machine where we found it. Think about all the devices placed on a table or a stand of some sort. Think about the telegraph office, the phone booth, the cinema theatre, the television set in the living-room corner, and even about the "desktop" [sic] computer on the office desk or bedroom table. Even Marshall McLuhan, whose prophetic insights about the "new extensions of man" anticipated many future developments, had little to say about "mobile media".

There seems to be a remarkable contrast between media histories and the realities we live in. Particularly for those belonging to the younger generations, "media" is nowadays practically identical with "things mobile". Many people don't use "location-attached" media machines any longer. The desktop computer, a sensational novelty in the 1980s, has more and more often been replaced by the laptop computer that is constantly losing weight and shrinking in size. But often even the laptop is considered too bulky and uncomfortable. Countless tiny devices that combine the functions of the telephone, the personal computer, the electronic notebook, the music player, the camera, the information terminal and the game machine have appeared on the market; and this is only the beginning. Unlike the media machines of the past, these devices fit into the pocket or the handbag. They go where their users go, unless they

ian Winston: Media Technology and Society, A History: From the Telegraph to the Internet, London
New York: Routledge, 1998.

e, for example Asa Briggs and Peter Burke: A Social History of Media from Gutenberg to the Internet.
bridge: Polity Press, 2002. Less than two pages of the 374 page book have been dedicated to mobile phones (306-307 + references on pages 28∠
Mobile media does not play a role in Armand Mattelart's The Invention of Communication, translated by Susan Emanuel, Minneapolis & London:
ersity of Minnesota Press, 1996 [orig.1994].

are forgotten on the bar desk or the restroom of a high speed train. They are media for the "dromological" society (Paul Virilio), constantly on the move. Mobile media are linked with any imaginable forms of urban mobility from private cars to taxis, subway trains and aeroplanes, not forgetting the "proto-motion" of walking. Even if we did not count the futuristic ultra high-tech gadgets seen on the pages of Wired but rarely elsewhere, the constant presence of more mundane mobile media - mobile phones, digital pocket cameras, car radios, PDA's, pagers, Gameboys, iPods – haunts us as we move through urban "non-places" (Marc Augé). [3]

Why have media historians neglected mobile media? Of course, the answer could be so simple that it hardly needs to be pronounced: until recently they did not exist. Unfortunately the issue is far more complex than that. As cultural historians of technology and media-archaeologists have demonstrated, the history of media does not comprise only things material – those gadgets built, sold, used and finally disposed of. It also includes the discourses that accompany them and contribute to their roles and meanings in society. Although 'mobile media' had not played a significant role until recently (although this assumption could well be contested, as will be shown later), its features might have been anticipated elsewhere. Discursive formulas often shift from one – cultural, technological, medial - context to another, gaining new significance along the way. Identifying the traces left behind by the mutable relationships between the material and the discursive is a task for media archaeology. Here are some questions that need to be asked: Does mobile media really have no predecessors? Could the suddenness of its appearance be an illusion, caused by our inability to access / assess the past correctly? Is it possible to excavate enough "traces" to develop an "archaeology of mobile media", a cultural and historical mapping of phenomena that already brought media and mobility together in earlier times and places? How would such a mapping help us understand the current forms and uses of mobile media as well as the discourses surrounding them? Taking such questions as its guide, this article performs a kind of 'test-excavation' as a preliminary for further, more conclusive research.

The Desire for Mobile Media

From the perspective of use, three types of mobile media devices can be identified: portable, wearable and vehicle-mounted. While this division doesn't have any direct historical validity, it can be used as a tool for analysis. "Portable" refers to things that are carried around, such as a transistor radio or a laptop computer. To use such a device the owner often stops and places it on a support, like a table. This is not always valid: a ghetto-blaster is a portable device also used when in motion. "Wearable" means things that become attached to the user's body in a more rigorous sense than "portable" things, and used in motion. The Walkman and the

ırc Augé: Non-Places. Introduction to an Anthropology of Supermodernity, translated by John Howe,
Jon: Verso, 1995. Perhaps surptisingly, even Augé does little to integrate mobile media to his thinking,
though this would seem a logical step to take.

iPod are typical wearables, although a mobile phone kept in a pocket or attached to a belt and used with a headset (a common sight in the cyborg state of California) qualifies as a wearable as well. Perhaps the most common wearable, although in its basic form not a "medium", is the wristwatch. A pocketwatch qualifies as well, as it is part of the owner's clothing, attached to a belt or kept in a dedicated pocket. Vehicle-mounted refers to devices that are either built-in parts of the vehicle – like the car radio or the inflight entertainment system – or regularly used in the car or some other vehicle. Of course, the relationships between these categories are not always sharply defined, due to different practices of use. A mobile phone can sometimes be classified as a portable. When it comes to vehicle-mounted devices, the borderline is blurred as well, because mobile phones and iPods are increasingly replacing permanent vehicle-mounted fixtures. They are used when the vehicle is in motion, but removed when the owner steps out - the "vehicle-mounted" transforms itself into "portable" or "wearable". In spite of the indistinctiveness of these categories, they are useful when tracing the historical 'logic' of mobile media.

It could be claimed that the existence of mobile media presupposes a "desire for mobile media". This desire should be more widely felt than just the intuitions of a few visionaries; it may manifest itself as proposals for potential uses, and appear decades - perhaps centuries - before the technical prerequisites exist. Sometimes it is first fulfilled by another device that is later associated with very different functions. The telephone was used, decades before radio technology came into existence, for "broadcasting".[4] The desire for "broadcasting" was also manifested in other phenomena, including the mass-appeal of illustrated magazines and the popularity of giant panoramas depicting recent news-events as wrap-around 'virtual realities'. Geoffrey Battchen has mapped some of the coordinates of the emerging desire for photography since the late 18th century. [5] Doing something similar for mobile media is not an easy task – at least if one wants to look back further than the early 20th century. As Michael Brian Schiffer has shown, the introduction of radio broadcasting in the 1920s almost immediately inspired a variety of designs for portable radio sets, many of them more or less impractical. As frequently happens in the history of media, these market-driven efforts to exploit the "radio craze" and to spark a desire for mobile media had already been anticipated by the insights of visionary figures like Nikola Tesla and Lee De Forest.[6] De Forest had even displayed a "Wireless Auto" as a publicity stunt for mobile media in 1904. As Schiffer's invaluable mapping of the hitherto neglected history of the portable radio shows, it did not appear overnight. The first portable transistor radios, introduced in the mid 1950s, may have seemed a real breakthrough, but the phenomenon had been gathering force for decades.

e Asa Briggs: "The Pleasure Telephone: A Chapter in the Prehistory of the Media", from The Social Impact of the Telephone, ed. Ithiel de Sola , Cambridge, Mass.: The MIT Press, 1977, 40-65 ; Carolyn Marvin: When Old Technologies were New. Thinking About Electric Commmunicatio e Late Nineteenth Century, New York & Oxford: Oxford University Press, 1988, 222-231.

eoffrey Battchen: Burning with Desire. The Conception of Photography. Cambridge, Mass.: The MIT Press, 1997.

his autobiographic writings Tesla quotes from a 'technical statement' describing his "'World-System' of wireless transmission from around 1900: inexpensive receiver, not bigger than a watch, will enable [the user] to listen anywhere, on land or sea, to a speech delivered or music played in e other place, however distant." Nikola Tesla: Moji pronalasci / My Inventions, edited by Branimira Valic. Zagreb: Skolska Knjiga, 1987, 66. I have peen able to locate the original source for the quotation.

Besides the transistor, social, cultural and economic factors – the emergence of youth cultures, the new consumerist lifestyle, more liberal attitudes toward personal mobility – all contributed to the illusion of its sudden appearance.

Another manifestation of a desire for mobile media was the outburst of amateur photography in the late 19th century. Indeed, the easy-to-use box camera loaded with celluloid roll film could well be described as the first true mobile medium. Introduced in the 1880s, its use soon reached mass proportions, with thousand of amateurs roaming public spaces in search for a subject. Until then protography had only been an occupation for professionals. When amateur photography made its breakthrough (thanks to technological improvements, and the business acumen of George Eastman, the founder of Kodak), it rapidly activated the non-professionals' dormant desire to photograph. The amateurs were encouraged to "snap" every aspect of public life, including unanticipated events, like traffic accidents. Eastman Kodak and the other manufacturers presented amateur photography as an easy, democratic and modern hobby, suited even for women and children.[7] What is interesting is that the ideals promoted by the photographic industry were embraced not at all wholeheartedly by the late Victorian society. There were frequent complaints about "The Camera Epidemic". Amateur photographers, including women, were accused of transgressing existing social rules, particularly those related with privacy and decency.[8] Their activities developed into a kind of distributed panopticon - anybody could become the target at any moment. Demands were made for legislation to regulate the use of cameras in public spaces.[9]

An integral aspect of the late 19th and the early 20th century camera obsession was the candid camera. Numerous types of candid cameras, disguised as bags, walking sticks, hats and even pocketwatches, were brought to the market. Some of them, like C.P. Stirn's "Concealed Vest Camera" that shot through a button-hole, enjoyed commercial success.[10] Whether hiding the camera was primarily a protective reaction

r examples of the "Eastman version", see Douglas Collins: The Story of Kodak, New York: Abrams,).

e Bill Jay: Cyanide & Spirits. An Inside-Out View of Early Photography, Munich: Nazraeli Press, 1991, ter "The Camera Fiend" (218-240). The words "The Camera Epidemic" were used in an article in the York Times in 1884 (quot., 227). Caricaturists often interpreted the intrusions by amateur ographers as sexually motivated, but the camera seemed to have a de-humanizing effect on both s. In a telling cartoon (reproduced in Jay, 239) a group of ladies are seen pointing their cameras at a hanging from a branch of a tree, struggling for his life. Instead of terror or empathy, the faces of the s show excitement about the photogenic event; none of them makes the slightest effort to run for ue. Obviously this refers to changes in the woman's role. Photography club excursions gave women a of moving through public spaces without their shaperons, and perhaps even exercising their newly ired power on men, with photography serving as an excuse (and a weapon). However, other atures show men in exactly similar actions (Jay, 223, 231).

he rights of private property, personal liberty, and personal security – birthrights, all of them, of American citizens – are distinctly inconsistent the unlicensed use of the instantaneous process." Reprinted from an unnamed American periodical by The Amateur Photographer, 25 Septemb ;, 379 (quoted in Jay, 228).

tirn's add in the April issue of Scribners Magazine 1889 boasted: "The only camera invisible to the eye; ed concealed under the coat or vest; takes 6 sharp pictures without a change of plate; always ready in focus. Instantaneous Pictures, stationary or moving, caught unknown to the object. No Tourist,

against the negative attitudes toward amateur photographers, the ultimate weapon of the snapshot-voyerist or a token of the surveillance sneeking into 'liberal' societies, is an open question. What is clear is that contrary to the descrptions in corporate discourses and standard histories of photography, amateur photography wasn't received with unqualified enthusiasm. It was a site for discursive controversy. It is tempting to relate the debate about the snapshot craze – "another terror to the modern existence" – to the ongoing argument about the uses of mobile phones, and particularly camera phones, in public spaces. While loud ring-tones have been considered a nuisance from the beginning of mobile telephony and legislative measures have already been taken in some countries to limit their use in public spaces like trains and concert halls, the existence of camera phones may prove to be a more difficult issue. The stories about Japanese 'otaku' taking snapshots from under the schoolgirls' skirts in crowded subway trains are only one, albeit an extreme, example.[11] Camera phones can function as candid cameras, and their images uploaded on a website in an instant.[12] Although the late 19th century camera craze and the current camera phone craze may seem to have absolutely nothing to do with each other, it could be argued that both have in fact activated the same 'topos', a stereotypical reaction model, to negociate the role of new technology in a social and cultural setting. According to media archaeology, such 'topoi' always accompany and regulate the development of media culture.[13]

Imaginaries about Mobile Media

Would it be possible to trace the desire for mobile media even further back in time? There is nothing self-evident in the connection between "mobile" and "media". Although communication is a behavioral need shared by all human beings (and animals, although not mainly through code-based learning), the idea of moving around with devices that perform this function or perhaps replace the normal auditory environment with a "soundtrack" is cultural rather than universal. It emerges when certain social, cultural and economic conditions are met. As Flichy has noted, proposals about communication at a distance by means of "handy" magnetic devices can already be found from the 17th century.[14] However, observing a magnetic sliver of stone vibrate was only assumed to transmit the sentiments of one's lover separated by distance. The belief in the mystical power of magnetism was not far

st or Student, Amateur or Professional, should be without this Camera." See "Historic Camera.
ory Librarium", http://www.historiccamera.com/cgi-
ibrarium/pm.cgi?action=display&login=sterns_vestcam (last checked July 27, 2004).

See Personal, Portable, Pedestrian. Mobile Phones in Japanese Life. Edited by Mizuko Ito, Daisuke Okabe, and Misa Matsuda. Cambridge. Mass.: MIT Press, 2005, 308-309. About transgressions and social sanctioning related with keitai use in trains in Japan, see the same, 208-211.

As Ito, Okabe and Matsuda point out "[a]lthough keitai cameras are all designed with a shutter sound that cannot be turned off, users can mute sound with a finger or a piece of clothing." (Ibid., 309.

About topoi in this context, see my "From Kaleidoscomaniac to Cybernerd. Towards an Archeology of the Media", in *Electronic Culture*, edited by othy Druckrey, New York: Aperture 1996, 296-303, 425-427.

lichy, Patrice, Une histoire de la communication moderne. Espace public et vie privée, Paris: Éditions de la Découverte, 1991, 17-18.

from the idea of telepathic communication. Similar ideas were still proposed in the next century, but again only associated with intimate communication. It was only during the French Revolution that the political (and a little later, financial) meaning of telecommunication became clearly understood. However, the means to realize this politicized desire were fixed lines of observation towers crossing the landscape ("the optical telegraph"), followed some decades later by the poles and wires of the electric telegraph. Mobile media was not part of this development; nor had desperate lovers any access to the system. Even horse-mounted messengers, an ancient communication "medium" on the move, had only transported messages between fixed points; the riders had no access to communication devices *en route*.

Obviously the cultural, social and mental circumstances in pre-industrial and pre-urban societies would have prevented any widespread imaginary about mobile media, even if they had been technically viable. The advantages of mobile phones would not have occurred to the inhabitants of a village, who stayed within a limited radius from their homes all their lives and communicated face-to-face with familiar people. As Alain Corbin has observed, the familiar chimes of the village bells created "a territorial identity for individuals living in range of its sound".[15] The community defined by these sounds was what mattered, not the alien communities "beyond". According to similar reasoning, The Walkman would not have made much sense to the landed gentry of the ancien régime, who would have found no reason to seclude themselves aurally from their immediate auditory environment. Living in guarded country estates, surrounded by bird song, engaged in "polite" chatter with peers, listening and performing music only as a coded element of their social routines, free from the dangers and the escalating noise of the city – the aristocrats would not have known what to do with the Walkman, at least before the shouts of the revolutionary "mob" began getting louder. With 19th century industrialization and urbanization devices like the mobile phone and the Walkman would have begun to make sense, although they still seem to have been largely missing from the cultural imaginary. Interpreting Baudelaire's (and Benjamin's) flauneur as a kind of "human candid camera", engaged in 'stealing' impressions (and occasionally being 'caught' by a fleeting gaze) while hiding in the crowd, would be tempting, but it would also mean forcing a mould from a later era onto earlier circumstances.[16]

In our quest for traces of mobile media, it might make sense to change direction slightly. Instead of looking for anticipations of portable devices meant explicitly for communication, recording and / or playback, we could focus on the symbolic meanings of other everyday objects.[17] Objects are never merely functional – they gain private meanings as part of their owners' and users' life histories. Conventions of

lain Corbin: "The Auditory Markers of the Village", in The Auditory Culture Reader, edited by Michael Bull and Les Back. Oxford and New York , 2003, 117.

or a critique of the notion of flaneur as it has been applied to later cultural contexts within urban and media studies, see Michael Bull: Sounding the City. Personal Stereos and the Management of Everyday Life. Oxford and New York: Berg, 2000, 138-143.

bout the symbolic meanings assigned to everyday things, see Mihaly Csikszentmihalyi and Eugene nberg-Halton: The meaning of things. Domestic symbols and the self, Cambridge (UK): Cambridge ersity Press, 1981.

displaying or hiding one's personal things can be highly significant. Of course, such idiosyncratic meanings are only possible within the wider signifying practices of the culture of an era. While performing their 'primary' material functions, objects also serve as discursive objects that can be both highly complex and unstable. The daguerreotype was unprecedented in its ability to preserve and represent an almost uncanny likeness of a human. Soon after its introduction in 1839, a massive industry emerged around it. Contemporaries described the daguerreotype as an "image fixed on the mirror", which opens a whole spectre of meanings.[18] Gazing at the shiny silver nitrate surface of the daguerreotype, the looker saw his/ her own face (or part of it) superimposed on the figure depicted in the picture. This created a communication of a kind, which it would be tempting to describe as a "metaphysical picture phoning", particularly because daguerreotypes were commonly enclosed in hinged boxes that could be carried in the pocket. Once again, such an interpretation risks superimposing future ideas on the past that did not have the "picture phone" in its imaginary (it appeared only in the late 19th century, with the emerging discourse on "tele-vision"). However, one might counter this argument by claiming that the imaginary around the daguerreotype is actually part of the longer discursive tradition of seeing mirrors (including hand-held ones) as virtual gateways to other realities.[19]

Another category of objects that has been neglected by media scholarship, but which can have significance from the media archaeological point-of-view, are women's fans and hand-screens. These seemingly superfluous objects have a long and varied history.[20] Their importance goes beyond their roles as collectables or decorative arts. Fans and hand-screens had practical functions, guarding the bearers from heat or intruding gazes. However, they also became symbolic manifestations of the owner's social status, and means of erotic play. Barely perceptible movements of the fan could be used for secret communication. Throughout centuries, enormous varieties of pictorial fans have been produced, ranging from delicate miniature artworks to cheap mass-produced advertising giveaways. Some fans even bear political slogans, while others have maps or concert programs printed on them. Some are designed as novelty attractions, incorporating translucent 'dioramic' images or even movable panoramic picture rolls. It could be argued that all this makes pictorial fans and hand-screens a portable "medium" of a kind, although only in an oblique sense, through issues of usage and symbolic meaning. Still, these issues are not unfamiliar in the context of current mobile media either. Exchangeable covers, stickers and imaginative carrying cases – together with the aural attraction of idiosyncratic ringtones – convert mobile phones into symbolic attractors resembling the fans of earlier centuries.

According to Battchen, the professor of chemistry Richard W. Habersham remarked "how grand it would be if we could invent a method of fixing image on the mirror", recollecting his collaboration with his student Samuel B. Morse in the early 19th century. Morse became a pioneer in both graphy and daguerreotypy. As Battchen remarks, Habersham obviously wanted to add his name to the list of the innovators who had felt the re to photograph before Daguerre and Talbot. For us, the expression he uses is interesting. (Battchen: Burning with Desire, 40).

See my "Elements of Screenology: Toward an Archaeology of the Screen", *ICONICS: International Studies of the Modern Image*, Vol.7 (2004), pp.31-Tokyo: The Japan Society of Image Arts and Sciences.

he role of ladies' fans as a kind of medium has been noted by Giuliana Bruno: Atlas of Emotion. neys in Art, Architecture, and Film, London: Verso, 2002, 134.

Wearables: Fantasies and Realities

From the media-archaeological point-of-view, one of the interesting issues raised by wearable media is the interplay between overt and covert usage. Regardless of the function of the device, it is of interest how we carry it and and associate meanings to the habit. One extreme in overtness is practically dressing up in technology as a body-mounted spectacle or a publicity stunt. This topos appeared frequently in the 19th century to celebrate new technologies – there were camera-hats for women, and dressed covered by photographic prints or (functioning) light bulbs.[21] Such extravagant creations could be linked to the discussion about the representations of technology as the (feminine) other, although this aspect cannot be elaborated here.[22] There seems to be a link between the 19th century stunts and the many "smart garments" displayed in recent years at venues like Siggraph's Cyber Fashion Show. Using "active" fabrics, flexible displays, or media technologies like fiber optics or LCD panels sewn into the dress seems above all a celebratory gesture, with – at least for the time being – relatively limited practical uses.

In the covert end of the spectrum we find phenomena like "ero-tech" and "psy-tech". These are devices carried around, but hidden from other people's gazes. "Ero-tech" contains the large varieties of erotic objects, often with mechanical or optical featured, meant to raise sexual desire when discretely displayed for someone. Such devices include peep-viewers with miniature pornographic photographs.[23] "Spy-tech" refers to the huge tradition of secret devices to record conversations, take snap-shots, transmit and receive secret messages and even kill people. The history of spy-tech fluctuates interestingly between real spy gadgets and those imagined in detective stories, films (James Bond) and television series (Men from U.N.C.L.E.), said to have influenced each other.[24] Unlike media that try to reach the widest possible range of users, spy-tech is exclusive, carving out secret channels for "private" communication.

If conventions of use and symbolic meanings are equally important as function, a device like the wristwatch deserves attention as a predecessor to wearable media. According to a well-known story, this now ubiquitous device was invented by the French jeweler and clock-maker Louis Cartier in 1904 for the Brazilian aviation pioneer Santos Dumont, who found it difficult to use his pocketwatch to check the

The last mentioned idea was resurrected by the Japanese Gutai artist Atsuko Tanaka in her work Electric Dress (1956). Tanaka performed herse the dress that was covered by hundreds of blinking lightbulbs, emulating the traditions of the Japanese marriage ceremony. This work has been see rophetic in its way of combining the body and 'dangerous' technology. It is not clear whether she knew about the 19th century anticipations. See of Actions. Between performance and the the Object, 1949-1979. Edited by Russell Ferguson, New York: Thames & Hudson, 1998, 28-29.

ee, for example, Andreas Huyssen: After the Great Divide: Modernism, Mass Culture, Postmodernism. Bloomington: Indiana University Press, ɔ.

or a large sampling of examples, see Jean-Pierre Bourgeron: Les Masques d'Eros: Les objets érotiques ollection à systèmes, Paris: Les Editions de l'Amateur, 1985.

ee the interesting web site Spy-Fi Archives, http://www.cia.gov/spy_fi/index.html .

time while steering his aircraft.[25] The wristwatch was the perfect device to the high-speed technological environment of an aeroplane or a motorcar, where intense concentration is required, and one false move of the arm may be fatal. Although fascinating, the story about Santos Dumont's wristwatch is not complete: actually, the device had been invented decades earlier, but its popularity grew slowly, obviously because it was considered feminine - perhaps it was associated with the habit of wearing bracelets. It seems that what was needed to convince men was the masculine, technology-studded profile of Santos Dumont and the fame of Cartier. However, more convincing proof of its usefulness and newly found masculinity was gathered in factories and offices where the employees spent much of their time controlling a machine, and eventually in the trenches of the two world wars, were having a wristwatch could became a matter of life and death. Placed on the axis between overt and covert, the status of the wristwatch seems to be constantly shifting , depending on the movements and the length of the sleeve. Compared with this its predecessor, the pocketwatch, seems to belong closer to the covert end. A pocketwatch is attached to the clothes (hanging from chains and often kept in a special pocket), and taken out only sporadically; the user stares at its "screen" and puts it back. This evokes some of the ways in which mobile phones are used.

When David Sarnoff, one of the pioneers of radio broadcasting, introduced in 1922 his vision about the portable radio, he used the watch as the model. According to Sarnoff, the radio should have as its ideal "the watch carried by a lady or a gentleman, which is not only serviceable but ornamental as well."[26] Although it is not clear whether he meant a wristwatch or a pocketwatch, Sarnoff's idea of the portable radio as a both useful and neatly designed personal utility, resonated within media culture. The St. Louis –based jeweler J.A. Key introduced a radio set modeled after the pocketwatch, and even a radio "pinkie ring" was proposed by another inventor.[27] In the 1940s, the comic strip artist Chester Gould designed for his hero Dick Tracy a voice activated videophone looking exactly like a wristwatch. During the Korean war in 1953, the U.S. Army Signal Corps Engineering Laboratories in its turn created a Tracy-inspired wrist radio; its antenna was a short wire that ran up the sleeve "comic-strip style".[28] Although such novelties have often remained little more than publicity stunts, the interplay between real R&D and discursive fantasies is extremely interesting, and an essential aspect of an "archaeology of mobile media". It also shows that wrist-mounted television-sets, telephones, digital cameras, music players and other devices that are regularly promoted as the newest of the new, are based on a well established tradition that all of us are familiar with. [29] It may seem curious that merely changing or adding functionality could be enough to wipe away this awareness,

See for example http://gosouthamerica.about.com/cs/brazgeog/p/SantosDumont.htm (last checked August 28, 2005).

Schiffer: The Portable Radio in American Life, Tucson & London: The University of Arizona Press, 1991, 8. According to Schiffer, Sarnoff suggested that the apparatus could also function as a flashlight!

Schiffer, The Portable Radio in American Life, 80. The "pinkie ring" receiver was invented by Alfred G. Hart.

Schiffer, The Portable Radio in American Life, 174.

The "Play: Fetish" section of Wired, Vol.12, No 8, (August 2004) present, among other things, a watch that includes a 1.5-inch TV set from the Japanese company NHJ.

again and again. Yet, this may in fact be the very point: more often than not, novelty is guided by the invisible "hand of tradition".

Another aspect of wearable media, situated somewhere along the overt-covert continuum, still needs to be named: the use of hands-free interfaces, most often associated with a head-mounted headphone-microphone combination connected with a mobile phone in the pocket or placed in a stand next to the driver. [30] In places like California this combination has come to accompany the movements of countless citizens - many of them concerned about radiation, others just following fashion - in supermarkets, cafes, and in and out of the car. Considering the pervasiveness of this outfit, turned into a technological harness worn from morning until the evening, it is tempting to characterize its users as 'cyborgs'. Although a full treatment of this issue would take too much space here, certain manifestations of this 'cyborg topos' can be mentioned briefly. In the nineteenth century, cartoonists often presented the early photographers as "a new species", partly human, partly technological: the camera, with its one large "Cyclops' eye" (the lens) had replaced the photographer's head, hidden under the hood. The (mis)adventures of the "Elephans Photographicus" as it looked for its optical preys were fantasized about and laughted at.[31] Later in the century the cyborg appeared in offices, linked to a typewriter and the headset of a dictating machine, and at telephone exchanges, where young female cyborgs were forced to spend hours "bondaged" to the switchboard, wearing a headphones / microphone combination.[32] How the cyborg became mobile is not quite clear, although s/he was certainly vehicle-mounted (sitting on the pilot's seat, for example) long before beginning to walk and run donning a Walkman.

Conclusion

The excavations undertaken in this article have been tentative. Little has been said about vehicle-mounted mobile media, really a topic for another article.[33] "Mobile media" has been treated more of less as a lump, as if crucial differences did not exist between their various forms. Although many different functions are converging in the latest super gadgets, it would still be important to reflect on the relationships

o which extent the popularity of this interface could have been influenced by the use of wireless head
neck-mounted microphones by popstars like Madonna is an interesting question. The situation also
ehow resembles the ways of useing some early candid cameras. They were wearables hidden
erneath the clothes and secretly operated with a wire from the pocket.

leinz K. Henisch and Bridget A. Henisch: Positive Pleasures. Early Photography and Humor. University Park, Pennsylvania: The Pennsylvania State
ersity Press, 1998, 29. The cartoon "Elephans Photographicus" was published in Punch, April 26, 1862. Many variations about the topos of the
"monster" were published.

ee Fräulein vom Amt. Herausgegeben von Helmut Gold und Annette Koch, Muenchen: Prestel-Verlag, 1993, 68-70. Working women were force
ecome "cyborgs" also when the were submitted to physiological tests measuring the effectivity of work with body-mounted interface (see same,
. See also Ellen Lupton: Mechanical Brides. Women and Machines from Home to Office. Princeton: Princeton Architectural Press, 1996.

or an interesting discussion of the role of sounds in automobiles, see Michael Bull: "Soundscapes of the Car: A Critical Study of Automobile
tation", in The Auditory Culture Reader, 357-374. About connections between cars, media and visuality, see Anne Friedberg:: "Urban mobility
cinematic visuality: the screens of Los Angeles - endless cinema or private telematics", Journal of Visual Culture, Vol. 1, No 2 (2002), 183-204.

between devices meant for voice or text communication, image or sound reproduction, or just "playback". A candid camera is very different from a radiophone or a portable cassette player; such differences are necessarily reflected in the conventions of usage as well. Nothing has been said about the content that the various mobile media transmit. However, I do agree with Michael Bull when he writes that "the structural placing and role of the personal stereo in everyday experience can be analytically distinguished from that which is listened to".[34] Mobile media devices can be treated as "apparata", that are partly technological, partly psychological, partly cultural. The devices themselves incorporate certain "built-in" modes of usage that are then negociated, perhaps embraced, perhaps contested, by the users themselves. It is possible to explain the functioning as such an "apparatus" without performing an analysis of the content transmitted by the system. We glance at the "screen" of our watch to see the time or the date; we can get the same information from the mobile phone screen, but use it for many other purposes as well. As apparata, these devices can be compared because of their "interfaces" and their conventions of usage, including the looks they "encourage".

Contemporary mobile media is often felt to have been born as if through parthenogenesis. Both the gadgets and the social formations that surround them seem to have appeared very recently, as if out of the blue. This idea is eagerly embraced by many mobile media users (particularly the younger ones), who grasp the opportunity of being part of something new and unprecedented while they live their everyday lives. Although there are certainly many mobile users whose relationship to their devices is practical and mundane, there are arguably even more of those, for whom already using them contains surplus value that exceeds (or at least parallels) the value of the act of communication itself. Seeing the mobile media as the newest of the new is also in the interests of the manufacturers and retailers, who regularly parade the latest mobile phone and iPod models in front of their customers, always with new features, new designs or more disc space (as a counterpoint, there are also stripped down, easy-to-use models to persuade even the prejudized elderly to join the world of mobile communications). By performing a series of test-excavations as a prelude to an "archaeology of mobile media", this article has shown that the novelty of mobile media is more ideology than factual reality. Although it is an incontestable fact that mobile communications have reached truly massive dimensions only recently, this has been anticipated on various levels during long periods of time. Excavating the earlier manifestations will arguably give us insights to the current – and perhaps future - forms and uses of mobile media.

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ull: Sounding out the City, 14.

Symposium on Electronic Art catalogue, edited by Tapio Makela and Mare Tralla, Helsinki: m-cult, 2004, 23-26.)

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