

Media and Metaphors: The Case of Virtual Wandering and Stationary Movement

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Abstract

The metaphor of travel is a widespread and well known linguistic structure. Verbs like *to wander* or *to hike* have recently been used in German to characterise metaphorically the case of digital wandering or surfing the *world wide web*. The article focuses on the fact that there is of course through history a constant metaphorical use of wandering which has been deeply influenced by the use of different media: The panorama during the 19th century or the digital wandering at the beginning of the 21st century possess different implications concerning the interrelation of mind, medium, and body which is in reverse often bridged and deeply influenced by the medium metaphor. Consequently, one is today able to take a trip via computer through a molecule, to visit museums online or to walk through digitally reconstructed cathedrals like Cluny in France. The consequences these new technologies have on our physical bodies and on the perception of our bodies are a product of the mutual interrelation between mind, body, medium, and metaphor.

1. Body, Medium, Cognition

In his remarks on the panorama by C.D. Friedrich, Alexander von Humboldt revealed the way in which bodies, mediums and cognition interact. Even better than the illustrations in travel diaries, the large formatted paintings - especially in panorama, diorama and neorama - could communicate a lasting impression of landscapes, represent that which was seen on site, and inspire the viewer to undertake his own travels. Due to their graphicness, A. von Humboldt proposed panorama paintings as a supplement to the museums of larger cities (Recht 1989)¹. The commercial operators of panoramas extolled this new medium as a substitute for travel, as the large panorama exhibit in Bonn (1993) showed. One area of the exhibit was dedicated to the "Journey in the Livingroom" which allowed the viewer to form a picture of the world for himself at home. The use of this medium reduced the movement of the body to a minimum and concurrently promised a high informational and educational effect. The same argument was used to plead for the employment of photography in the areas of ethnology and ethnography:

¹ "Alexander von Humboldt considère que, malgré la <<situation imparfaite dans la représentation du paysage qui accompagne nos récits de voyage sous forme de gravure [...], elle n'a pas peu contribué à la connaissance de la physionomie des régions lointaines, au désir de voyage dans les tropiques et à l'étude active de la nature. L'aboutissement de la peinture de paysage aux grandes dimensions (comme la décoration, le panorama, le diorama, le néorama) a récemment augmenté en même temps le caractère général et la force de l'impression [...].>> Ces <<peintures circulaires... laissent des souvenirs qui, des années plus tard... s'ajoutent avec une illusion merveilleuse aux scènes réellement vues [...]. La connaissance et le sentiment de la grandeur sublime de la Création seraient fortement augmentés si, dans les grandes villes, à côté des musées et grands monuments ouverts comme eux au peuple, on présentait quelques peintures circulaires>>" (Recht 1989: 130f.).

"Man dachte sich solcherart die übergroßen Mühen und gefährvollen Reisen zu ersparen, welche damit verbunden waren, wenn man die verschiedenen Volksstämme in ihren über den ganzen Subkontinent verteilten, abgelegenen Waldverstecken aufsucht und sie jeweils dort untersucht." [The thought was to thus spare oneself the great trouble and dangerous trips which were connected with going off in search of the various tribes in their isolated hideaways spread across the whole subcontinent.] (Theye 1989: 64)

However, the corresponding forms of presentation, such as the panorama or the planned but never built photographic museum of the human races, presupposed that someone did indeed go to the site to gather the necessary data and take the photographs. Thus, at least a few people still had to travel for the sake of research.

Pictures of architecture from far-off countries were chiefly responsible for the popularity of the daguerreotype (Baier 1977, Newhall 1989). This medium was, however, not only useful for the exploration and inventory of foreign peoples. When the eyes of the photographers and the lenses of their cameras were aimed at the inner world of their own urban society, the relatively inexpensive portraits contributed to the growing self-confidence of the middle class and the "little people" who could not afford painted portraits. When aimed at the outer world of exotic lands and people or the foreign elements in their own society, the eyes of the photographers and cameras captured their peculiarities and made the differences between Europe or America and the rest of the world just as obvious as the differences between the center and periphery, between the urban and rural in each country itself. Because this new medium displayed what, until then, had not yet been thus shown or had not been seen and documented adequately, photography could define its own production logic: the idea was to record everything possible and thereby create an objective picture of nature, society and culture.

When photographic documents served scientific purposes, a systematic approach was necessary. This applied, for example, in the area of ethnography, where the purpose was to construct a picture of people and their living conditions via direct observation. In the second half of the nineteenth century (Settekorn 1993), Riehl had suggested that the field of folkloristics ("Volkskunde") embrace wandering as a method ("Wandern als Methode"). His theory was that only those who traveled lead by method could record and sketch a truly authentic and for the national economy useful picture of the actual living conditions in Germany's various regions. Riehl's picture concept was metaphoric, whereas that of many linguists with cultural, ethnographic and dialectological orientations was meant literally.² With a preservative and usually also conservative goal in mind, their main objective was to collect and save documents and data from rural culture which was being driven towards extinction by technological advances. They not only collected linguistic data - usually names for objects common to the rural culture, but also the things themselves were captured in

² You find it mainly in the keywords and linguistic school "Words and Things" ("Wörter und Sachen").

photographs and drawings. Indeed, the data collected on France, for example, is considered especially valuable because it allows us a glimpse of a vanished world (Bromberger 1991).

2. On-Site Viewing

How transfiguring, nostalgic and folkish the traditional folkloristic and ethnographic view of rural culture with all its implications (Beitl/Chiva 1992) may have been, it still managed to seize and, to a great extent, document a part of society which was not central to public interest. Here, and only here, does this historical undertaking have anything in common with the interviews that Bourdieu and his research team held with such people as were generally ascribed to the periphery of society. The social sense of "periphery" results from the inseparable connection between a literal (place of residence) and a figurative (place in society) meaning and is measured in relation to a constantly understood social and spacial center. Since the members of the periphery normally do not speak for themselves in public - the possibility to do so either lacking or having been taken from them - and are thus spoken for by a third party, it was the aim of the investigation (Bourdieu 1993) to give those a chance to speak, who would otherwise not have been able to add their voice to public opinion.

Such a venture also presupposes that the people who grant the others their voice will send interested parties to those people and groups for whom the chance to be heard is supposed to be made possible. This undertaking thus normally requires movement from the center to the periphery.

The fact that, on such a journey, much of that to be seen is predominantly unknown if one approaches the trip unconventionally, was ascertained by Maspéro in 1989 as he wandered and explored on foot and using public transportation the Parisian periphery which lay beyond the Boulevard Périphérique on the B-line of the RER (Maspéro 1990). Walking in the quarters and suburbs so close by offers you unexpected insight into a world which the center administers, but hardly comprehends. The experiences which Götze had were along the same lines. In that same part of the city, he found a living, working, social and cultural hierarchy all its own, which he then contrasted with the places of residence and lifestyles of the Parisian High Society.

While for Bourdieu and Götze only the "word" delivered the messages about the "normally" not thus seen social and geographic areas, Maspéro also included the empathetic photographs done by Anaik Frantz. They illustrate some of the characteristic impressions the text imparts about countless cityscapes, people, groups and situations. Their selection follows the eye of the flaneur, lets you see what he sees. What is glimpsed and perceived depends on the flaneur's movement through the cityscape. A vaguely outlined destination allows the path taken to be determined by chance; the route allows for detours and divergence. However, the paths which authors choose to take are those that remain for us readers to share.

3. The Reclined Reader or: On Wandering While Sitting

In contrast to the authors, the readers and viewers only wander and travel in their minds. Since the physicality of reading (Schöne 1987) is rarely as clearly expressed as it is in the first chapter of Calvino's "Se una notte d'inverno un viaggiatore", it deserves to be quoted:

"Prendi la posizione piú comoda: seduto, sdraiato, ragomitolato, coricato. Coricato sulla schiena, su un fianco, sulla pancia. In poltrona, sul divano, sulla sedia a dondolo, sulla sedia a sdraio, sul pouf. Sull'amaca, se hai un'amaca. Sul letto, naturalmente, o dentro il letto. Puoi anche metterti a testa in giú, in posizione yoga. Col libro capovolto, si capisce. Certo, la posizione ideale per leggere non si riesce a trovarla. Una volta si leggeva in piedi, di fronte a un leggio. Si era abituati a stare fermi in piedi. Ci si riposava cosí quando si era stanchi d'andare a cavallo. [...] Bene, cosa aspetti? Distendi le gambe, allunga pure i piedi su un cuscino, su due cuscini, sui braccioli del divano, sugli orecchioni della poltrona, sul tavolino da tè, sulla scrivania, sul pianoforte, sul mappamondo. Togliti le scarpe, prima. Se vuoi tenere i piedi sollevati; se no, rimettitele. Adesso non restare lí con le scarpe in una mano e il libro nell'altra." [Find the most comfortable position: sitting, stretched out, crouched together or lying down. On your back, on your side, on your stomach. In a chair, on the couch, on a swing, on a lawn chair, on a foot stool. In a hammock, if you have one. You can do a headstand, in a yoga position. Then of course with upside-down book. Of course, one never finds the ideal reading position. In the old days one read while standing in front of a lectern. One was used to standing. By doing so, one was able to relax [one's muscles] from riding. [...] So what are you waiting for? Stretch out your legs, go ahead and put your feet on a pillow, on two pillows, on the back of the couch, on the wings of your armchair, on the coffee table, on your desk, on the piano, on the globe. Take off your shoes first if you wish to put your feet up. If you do not wish to, put them on again. Whatever you do, do not remain sitting with your shoes in one hand and your book in the other.] (Calvino 1979, 3 - 4).

Readers and viewers of the sort described here adhere to a restful pose in which they then follow in their thoughts the travels, portrayals, and pictures in books. Their pose is what sets them apart from visitors to a museum, who first must go there and then move through the rooms to the objects which captivate their curiosity and attention. One steps close to the unmoving objects, moves away again, approaches them from various sides, goes around them where possible, attempts to get a new perspective from a new angle in order to better understand the objects. Whoever sits down seldom wants to take his time to have a better look at things, but rather needs peace, rest and to gather strength to continue. One passes through some rooms quickly, moving with purpose towards others in order to reassure old impressions. Perhaps one strolls and meanders to get an overview or to get to know previously unseen objects. In the face of such experiences, the main headline that Eisenbart (1994) used for an article in the *Frankfurter Rundschau* grabs your interest at first glance.

"Der Museumsbesucher als Wandervogel [The museum visitor as hiking enthusiast]" is the headline. The caption underneath it, however, steers you in another direction and makes it clear that the use of *Wandervogel* is meant metaphorically: "Databases allow for plentiful expeditions into the collections of other museums." The reference is not to a long walk through a spacious museum, but to digital wandering, i.e., using a computer to attain information from various sources in an extensive network of information systems.

“Vom 'Brückenschlag zwischen Kultur und Technik', von einer 'multimedialen Wanderung durch europäische Museen' war die Rede, als sich vor einem Jahr ein von der Europäischen Union gefördertes Pilotprojekt seinem Abschluß näherte. Mit dem europäischen Museumsnetz (EMN) [...] zog eine neue Kommunikationstechnik in insgesamt acht beteiligte Museen in sechs europäischen Ländern ein. Gleichsam auf assoziative Weise sollte den Museumsbesuchern ein völlig neuer Zugang zur Museumswelt eröffnet werden - 'multimedial' in Bild, Text, Klang und Sprache und fachübergreifend von der Kunst über die Ethnologie bis hin zur Archäologie oder der Technikgeschichte.“
[The talk was of "bridging the gap between culture and technology", of a "multimedia trip through European museums", shortly before the close of a pilot project supported by the European Union one year ago. With the European Museum Network (EMN), [...] new communication technology moved into a total of eight museums in six European countries. In an associated way, so to speak, completely new access to the museum world was to be opened to visitors - "multimedia" in picture, text, sound, and language, and interdisciplinary, from art to ethnology and from archeology to the history of technology.] (Eisenbart 1994)

The wandering metaphor calls to mind associations with the above mentioned experience of a museum visit; it promises us something and was probably chosen for its attention getting effect. Because this metaphor belongs to an easily extended type of metaphor ("bridging", "access"), it is also a common and easy-to-use instrument for forming a text, the application of which not only keeps the suspense between literal meaning and figurative sense, but also maintains the suspense between the reporter's text and the interpretation of the people about whom he is reporting.

"Möglich macht die europaweite Wanderung quer durch die an das EMN [Europäisches Museumsnetz] angeschlossenen Museen ein Wörterbuch mit insgesamt 1100 Schlüsselwörtern von A wie 'abnormal' bis zur Z wie 'zodiac'. [...] Dennoch wird der Besucher ein Jahr nach Abschluß des Pilotprojekts in den drei ursprünglich beteiligten deutschen Museen vergeblich nach einem Terminal für das EMN-Besuchersystem suchen. Weder in der Hamburger Kunsthalle noch im Bremer Übersee- oder dem Bremerhavener Schifffahrtsmuseum ist die aus Assoziationen gesponnene Brücke zwischen Kultur und Technik für die Besucher derzeit begehbar." [A dictionary with a total of 1100 keywords from "A" as in "abnormal" to "Z" as in "zodiac" makes the Europe-wide trip through all the museums in the EMN [European Museum Network] possible. [...] Nevertheless, one year after the end of the pilot project, visitors to the three originally involved German museums will search in vain for a terminal from which to access the EMN visitor system. At this time, neither in the Hamburger Art Museum, nor in the Bremen Overseas Museum or the Bremerhaven Shipping Museum can visitors use the bridge between culture and technology spun out of associations.] (Eisenbart 1994)

Although the museums taking part in the pilot project share the same goal, their evaluations differ as to the current and future uses of the newly designed information system. Those who believe in the prospect of an international, multimedially connected and marketable information service run by the participating museums are confronted by a much more modest and rather skeptical assessment which pulls the borders of the communication areas involved closer:

"Ganz so weit geht Siegfried Lange vom Fraunhofer-Institut noch nicht. Er wäre froh, wenn die für das europäische Museumsnetz entwickelte Technik beispielsweise Schüler zum Museumsbesuch motivieren würde. Denkbar sei auch, den Museumstrip quer durch Europa geographisch etwas einzuengen. Aus der

'multimedialen Wanderung durch europäische Museen' würde dann eine bescheidenere Reise durch ein auf die Region beschränktes Museumsnetz." [Siegfried Lange from the Fraunhofer Institute [...] would be happy if the technology developed for the European Museum Network would motivate school children to visit a museum. It is also conceivable that the museum trip across Europe would be geographically restricted. The "multimedia trip through European museums" would then become a more modest tour through a museum network confined to one region.] (Eisenbart 1994)

4. Body and Computer

As one can see, the differences in content from the areas of movement and wandering are expressed by way of metaphors. Even when the "multimedia trip through European museums" does not have to be a "museum trip across Europe" but rather just "a more modest tour through a museum network confined to one region", it is still a "museum trip" and a "tour through a museum network confined to one region". This multimedia trip attaches the user's body to the space in front of the monitor. The body is still necessary in order to use the computer, even if only to a limited extent, as the case of the wheelchair-bound Stephen W. Hawking shows. Nowadays, the computer can only function if at least some parts of the sensory system of the body perceive the data produced and convey it to the brain. Attempts at "reading" mental activity directly via brain waves and transferring it to a computer to be processed is supposed to reduce to a minimum the amount of physical activity necessary for connecting the mind and the machine. A visitor to a museum would then only need to think of an object or imagine a word and, in a flash, the multimedia machine would present it to him in the appropriate form, or - and that would be a final step in reduction - represent the object for him mentally online. But, even in this case, the wandering and traveling metaphors would be applicable.

This metaphor can be used to describe journeys in the smallest of worlds. Thus, the appropriate "data clothing", for example "data gloves" and "data glasses", makes "a stroll through a molecule" possible which could "help develop better medications". "[O]n the basis of clever video technology, [scientists can] now seemingly enter the world of the molecule themselves in order to move freely there - at least in their imagination (Kubitschek 1994).

5. Wandering in the Memory

The wide use of the movement metaphor in the cognitive area is everything but new. Modelling the memory as a structured space which one, perhaps when looking for arguments for a speech, strides through in order to make discoveries in certain places ("topi" or "loci") has a long tradition:

Seit der antiken Mnemotechnik, jener Lehre, die dem notorisch unzuverlässigen natürlichen Gedächtnis ein zuverlässiges artifizielles Gedächtnis implementierte, besteht eine unverbrüchliche Verbindung zwischen Gedächtnis und Raum. Der Kern der *ars memorativa* besteht aus >>images<<, der Kodifizierung von Gedächtnisinhalten in prägnanten Bildformeln, und >>loci<<, der Zuordnung dieser Bilder zu spezifischen Orten eines strukturierten Raums." [Since ancient mnemonics, a system through which the notoriously unreliable natural memory is supplied with a

reliable artificial memory, there has existed an unbreakable connection between memory and space. The core of the *ars memorativa* is made up of >>imagines<<, the codification of memories into concise image formulas, and of >>loci<<, the assignment of images to specific places in a room.] (Assmann 1991: 14)

Memories appear here as images, and the memory itself as space in which these images are to be found in certain places. If one changes this idea of memory and memories so that the memories are "hung" like pictures in a room, then the analogy of a museum is obvious. It must be exactly this relationship that makes the idea of the "museum as the location of the cultural memory" so understandable. Underlying that, however, is a process of mutual metaphorical confirmation which seems so obvious to us that we hardly notice it. Here, the process follows the formula "memory = museum = memory etc.", which can be more generally stated as "x = y = x etc." Elements of this formula are quite clear when describing the connection between "memory" and "museum". The quoted passage, however, presumes, if less explicitly, a connection between "memory" and "computer", where the quote - en passant, so to speak - offers a short definition of "mnemonics". This follows the same formula and with the same obviousness. Along with the deficient "notoriously unreliable natural memory" is "a reliable artificial memory" with which mnemonics supplied the former one. The occurrence of purposeful memory improvement appears here like the installation of software in preexisting hardware or like supplementing an installed program with an additional sub-routine. On the one hand, the conceptualization of a computer's working conditions and ways of functioning has occurred in many areas via metaphors of memory imagery (x = y). This includes, for example, the wide variety of words used to describe "storage" in computer jargon, which follow the tradition of such metaphors as those which conceptualize the memory as storage space. On the other hand, the computer imagery here enables the conceptualization of memory (y = x). In this case, it seems to me that this points to three rhetorical effects: the clarity and graphicness of speech should be increased by computer terminology, the facts dealt with should be put into a well-ordered larger context³ and, at the same time, the success of the evidence should be increased via the reference to it, so that the author is well-acquainted with the latest information.

6. Digital Wandering

In the thus far investigated conceptions, memory, space, and computer are three elements which mutually confirm each other in their metaphorical meaning. They can also then be called upon when a further reduction of physical activity arises due to technological progress. The movement in the museum implied in "Museumsbesucher als Wandervogel [museum visitor as hiking enthusiast]" is no longer applicable when the user's computer is connected to a data network. Just as the originally largely formatted, heavy, awkward book stored in one place became portable, so did the computer. It follows its user step by step and fits in his pocket.

³ Giesecke's work (1991) shows that the new formulation of a complex, historical change in medium from the perspective and in the terminology of recent change brings to light other and new aspects and can lead to new views on historical processes.

The miniaturization evolution went from mainframe computers to personal computers, home computers, portable mini-computers, laptops, and Newtons. And, at the same time, the multimedia capacity increased. Thus it is easily imagined that, soon, the digital wanderer along with his apparatus can assume the positions Calvino designated for book-readers. The mini-computer user will then, however, not only have an *apparatus* in his hand, but access to all the networked libraries, archives and museums. The mind in the unmoving body can then wander through the global network in which he is trapped. The data the user calls up from a far off land and from which he can put together new combinations and connections, come to him in whichever position he finds himself, whether:

sitting, stretched out, crouched together or lying down. On your back, on your side, on your stomach. In a chair, on the couch, on a swing, on a lawn chair, on a footstool. In a hammock, if you have one. You can do a headstand, in a yoga position. Then of course with upside-down *computer*.

7. Movement in Architectural Space

The electronic-telematic possibilities mentioned here are new, but not the basic idea of information being packaged together (as, for example, is the case in semantic domains), which "in nature" usually only exists physically and systematically far apart. The museum itself is a place where things originally far apart are brought and put together to be more efficient for the visitor. Likewise, a Gothic cathedral is not only architectural space, but was meant to be a model of the world, an expression of its own cosmology. Libraries are spaces in which all manner of texts are brought together and more or less openly accessible.

These intimations support the general assumption that every medium has a specific type of composition, compilation, and presentation which always has a specific influence on the user's physical activity. A *library* requires one to go through the rows of bookcases to reach the shelves, often requiring the use of a stepladder. A library necessitates that one pull out, pick up and carry the books and turn their pages as well as assume a position for reading, which, thanks to the smaller format of the books, has changed greatly over the years (Schön 1987). A *cathedral* requires one to walk through it, lower and raise oneself and turn one's head and body, the complete involvement of which is demanded of those who come to see and explore. Yet, although one climbs up and down the stairs, still only a fraction of the overwhelming whole can be taken in.

All in all, the appreciation of architecture requires "the foot that walks, the head that turns, the eye that sees", "as Le Corbusier once described the experience of architecture" (Kostof 1993: 11). Books are no substitute for this sort of direct perception on-site. They have, however, as Kostof stresses, one advantage which is similar in some of its basic elements to that of electronic information systems:

"Einmal ist das Buch eine komprimierte Welt. Es läßt den Leser in Minuten von Mesopotamien nach Peru wechseln. Außerdem ist es ein Panorama." [... a book is a condensed world. It lets the reader switch in minutes from Mesopotamia to Peru. Furthermore, it is also a panorama.] (Kostof 1993: 11)

To make his reflections more evident, Kostof utilizes a reproduction of Thomas Cole's painting "The Architect's Dream". If you read Kostof's detailed description with the latest developments in computer technology and their impact in mind, then it seems as though he is describing a virtual reality in which the dreaming architect finds himself. A reader of the history of architecture can be compared to the architect, as Kostof, the author of this book, says:

"Der Leser, der es durchblättert, ähnelt der einsamen Gestalt auf dem Gemälde von Thomas Cole aus dem 19. Jh. *Der Traum des Architekten*. [...] Der junge Mann ruht bequem oben auf einer antik inspirierten Säule; vor ihm sind Bautraditionen vergangener Zeiten großartig angeordnet wie eine bunt gemischte Filmkulisse. Die Zeit ist der Fluß, der auf ihn zuströmt, und an seinen Ufern reihen sich die wohlvertrauten Formen seiner vom Beruf bedingten Visionen aneinander: die Pyramiden, die geborstenen Mauern und Pflanzensäulen Ägyptens; griechische Tempel und römische Aquädukte, und noch näher zeichnen sich vor dem Abendhimmel die Fialen der lanzengleichen Kirchtürme der mittelalterlichen Christenheit ab. Er ist Architekt, und was er betrachtet, ist das idealisierte Erbe seines Handwerks. Er könnte aus diesem unermeßlichen und vielfältigen Schatz eine Auswahl treffen - so verfahren die Architekten des 19. Jhs., um eigenen Bauten ihre Form zu geben." [The reader who flips through it is like the lonely figure in the nineteenth century painting by Thomas Cole *The Dream of the Architect*. [...] The young man is resting comfortably on top of a classically inspired pillar; there are architectural traditions majestically spread out before him like a colorful movie setting. Time is the river which flows toward him, and lined on its banks are the well-known forms from his profession-influenced vision: the pyramids, the cracked walls and plant pillars of Egypt; Greek temples and Roman aqueducts, and even closer in the evening sky, the pinnacles and lance-like church steeples of medieval christianity. He is an architect, and what he sees is the idealized inheritance of his trade. He could make a selection from this immeasurable and manifold treasure - that is how architects of the nineteenth century designed their buildings] (Kostof 1993: 11).

In addition to the speed of the information search, the conciseness of the data, and the panoramic overview, there is the deliberate and expert selection of the objects presented, their systematic order, the compilation of that which belongs together and thus of elements which often occur far apart from one another in reality. Last but not least, the book explains the objects, describes their history and shows their connections. At the same time, it puts the reader in a specific state of awareness; he is alone (Schön 1987: 223-232) and resembles once more the architect in Cole's painting. Perhaps he shouts, as did Calvino's reader, "I'm reading! I do not want to be disturbed!" and purposely withdraws from the others:

"Wie er [der Architekt auf dem Bild von Th. Cole], ist auch der Leser einer Architekturgeschichte allein mit dem Reichtum an Bauten der Vergangenheit, die in eine Ordnung gebracht, abgebildet und erklärt werden. Er erfährt die Namen der Bauten und ihrer Schöpfer, auch wann und wie sie errichtet wurden; dazu kommen weitere Informationen, die wohl vorhanden sind, die wir aber auf Reisen nicht immer zur Verfügung haben. Ein Besuch Roms oder Istanbuls muß zwangsläufig verwirrend sein. Da gibt es eine Unmenge zu sehen, aber es scheint ein ungeordnetes Durcheinander zu sein. [...] Der Historiker bestimmt die Entstehungszeit, er sondert zufällige Bruchstücke aus und ordnet sie in einer präzisen Abfolge an, er stellt mit Hilfe bislang erworbener Einsichten und des Kollektivwissens seiner Disziplin Beziehungen zwischen weit auseinander liegenden Bauwerken fest." [Like him [the architect in Thomas Cole's painting], the reader

of a history of architecture is alone with the wealth of structures from the past which are depicted and explained in a particular order. He learns the names of the structures and their builders, and when they were built; in addition, there is information available which we do not always have access to when traveling. A visit to Rome or Istanbul must therefore be confusing. There is a lot to see, but everything appears just tossed together in disorder. [...] A historian determines the period of construction; he picks out random pieces and orders them in a precise sequence; with the help of knowledge gathered over the years and the collective knowledge of his discipline, he finds relationships between buildings which lay far apart.] (Kostof 1993: 11)

8. Visions, Computer Image Worlds

In this conception, the author offers the reader easily accessible expert knowledge. In addition to the many and vivid ways of graphically presenting architectural data used by Kostof, whether it be through photographs, paintings, drawings, construction plans and reconstructed drawings, there is, via simulations done in computer graphics, utilizing the representation of temporal processes, an additional dimension: not only the construction process of buildings, but also a camera trip through architectural space (as with the reconstruction of Cluny Abbey) can be simulated in order to make the viewer feel like he is walking through the simulated space. It is as though Cole's architect is lying on a flying carpet which is carrying him through image worlds: he does not turn or move, the carpet does it for him. He himself can remain relaxed and motionless.

In view of the type of knowledge (expert knowledge), the mode of presentation (image) and perception (visual), Thomas Cole's architect's dreamworld is similar to the image world in cyberspace. Depending on the goals to be reached using the pictures, the underlying expert knowledge allows you to model prospective actions or their results and can, as is common in architectural planning, be transferred to other forms of presentation, for example, 3-Dimensional models. These models are then often utilized to help weigh decisions or make changes.

Regarded in this way, these forms of representation diverge from the aforementioned ones which served as graphic depictions of already existing, often historic, objects, in that, per computer, plans of unrealized or not yet materialized objects are possible. The depictions in books were primarily meant as illustrations. Now, with computers, the point is to literally show possible or conceivable realities in advance, or reproduce past realities. The latter of which is exemplified by the visual, computer reconstructions of Pompeii and Cluny Abbey.

The image worlds of cyberspace differ from Cole's architect's dreamworld in their numerical and digital character. They are only the visual transposition of numerical processes in the computer. This process is given a great deal of importance in many scientific disciplines, for it can be said: "In many scientific disciplines, simulation is just as important as theory and experimentation" (Drösser 1994) and one can also attribute the popularity of simulation in part to the possibilities of visualization:

"Die Popularität der Computersimulationen wäre undenkbar ohne die Möglichkeiten der Visualisierung, also der Umsetzung der nackten Zahlenkolonnen in starre oder bewegte Graphiken. [...] Ohne Visualisierung

würden Forscher heute unter Datenbergen begraben: Beobachtungssatelliten, Meßgeräte, Teilchenbeschleuniger spucken rund um die Uhr Billionen an Informationen aus. Zu dieser Datenflut aus der Wirklichkeit kommen noch die Ergebnisse der Computereperimente. Wenn ein Mensch diese Daten sichten und interpretieren will, muß er in einem Berg unwichtiger Ereignisse das Bedeutsame suchen. Ohne die Hilfe graphischer Darstellung wäre der Forscher aufgeschmissen - gerade auch bei der Auswertung von Vorgängen, die in hochabstrakten theoretischen Räumen spielen. In einer gut aufbereiteten Graphik kann der Mensch ohne weiteres sieben oder acht verschiedene Größen gleichzeitig verfolgen, die ihn in der Form nüchterner Zahlen einfach überfordern würden"

[The popularity of computer simulation would be impossible without the possibilities of visualization, i.e. the transposition of simple sequences of numbers into fixed or mobile graphics. [...] Without visualization, scientists today would be buried under mountains of data: observation satellites, measuring instruments and particle accelerators spit out billions of bits of information around the clock. In addition to this flood of data from reality, there are the results from computer experiments. If one person wants to see and interpret this data, he has to search for the important things in a pile of unimportant things. Without the help of graphic representation, scientists would not have a chance - especially regarding the analysis of events which take place in the realm of the highly abstract and theoretical. From a well-prepared graphic representation, one person can effortlessly follow seven or eight variables simultaneously, which would have overwhelmed him in the form of plain numbers.] (Drösser 1994)

This type of presentation has found its way into our everyday lives in the form of infography, i.e. via print and electronic media. Not a week passes in which we are not presented with diagrams based on numerical or statistical data informing us of developments in every sector of private and public life; we are daily confronted with more or less densely illustrated pie charts.

9. Mens sana? Corpus sanum? What about the Makers?

The construction of this wonderful world of image and perception has special consequences for its creators, says Polatschek (1993). He discusses psychologist Christel Schachtner's book *Geistmaschine. Faszination und Provokation am Computer* [*Mind Machine. Computer Fascination and Provocation*] (1993) in which she investigates in a series of interviews the way software engineers work. She remarks that the type of work they do affects their "physical and emotional well-being". Polatschek criticizes that the author worries much too much about the interviewees, because "[w]ho is supposed to be surprised by the fact that working at a computer employs the body less and the brain more?"

Being constantly stuck in front of a screen does, of course, have far reaching consequences, namely: "neglect and waste of the body, destruction of social behavior, the 'losing of oneself'." It creates its own narrowed world view with its own dreams and hopes from which the body certainly demands its rights. "Professional programmers do not believe in the existence of the soul and the world of feelings, yet cling to the hope that they will curtail the damage done via vacation dreams and strenuous, compensatory sports." (Polatschek 1993) As shown in countless television advertisements, highly styled bodies wearing the current fashion race through the countryside; by land, by sea, and by air, always using the latest products of a flourishing outfitter industry which constantly promises them new sensations and, in

conjunction with the tourist industry, gives them the opportunity to travel to the far corners of the earth to let off steam. And, if mother nature gets worn out by it all and can not keep up, she will be given artificial assistance. The 1992 Olympic Winter Games in Albertville and their legacy in the French Alps serves as one especially painful example amongst many.

It appears that the software engineer's attitude transfers; as if the programs and the conditions of their creation often have an effect on the user. Thus, when children play intense computer and video games, their ability to pay attention is often hard pressed. *Mens sana in corpore sano* is no longer applicable here as a holistic concept; the harmonious relationship between the two parts is missing. They are moving apart: their brains threaten to explode and their bodies tend toward violence. Many "victims" torture themselves on machines in fitness centers and/or visit tanning studios to get brown. Both activities are controlled by special, possibly individualized, computer programs. In many cases, it seems as though being glued to a computer monitor can only be withstood by taking up such hobbies.

What a beautiful, new world appears to the civilized bodies as consumer and fitness space in which ecological reality is purposefully blocked out and social reality is seen as a reserve at best, in which, concurrently, sight is lost of the closest neighbors who do not live under the same conditions. The direct observation of this space could lead to more information about a real reality which does not exist at all in the oh so exciting world of virtual realities.

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