Itineraria Picta
Itineraria Scripta

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In his text on orientation from 1786 Immanuel Kant (1963, 8) reflects about how we orient ourselves when reasoning, and starts to build up his argument from observations about geographical orientation:

> In the proper meaning of the word, to *orient* oneself means to use a given direction (when we divide the horizon into four of them) in order to find the others – literally, to find the *sunrise*. Now if I see the sun in the sky and know it is now midday, then I know how to find south, west, north, and east. For this, however, I also need the feeling of a difference in my own subject, namely, the difference between my right and left hands.

Way-Finding

The Kantian text reads as if the philosopher would have shared a cartographic convention from the 14th century that used to display the Saviour's left and right hand to connect to the hands of the map-reader. Maps like the *Ebstorf Worldmap*, which originates around 1300 (probably produced in the homonymous Benedictine monastery in Lunenburg Heath), render double meaning to the hands, feet and the head of the person embracing the globe (fig. 1): Firstly, the human members refer to the bodily incarnation of a divine being. Secondly, they serve as virtual pointing devices for the reader who is equipped with human hands and feet. The gestural answer to the question of where this or that is, is pointing at it with the hand.

Fig. 1: Ebstorf Worldmap

Kant observes that the difference in directions is not reflected in differently looking signs (as the printed words 'left' and 'right' would) but that a subjective understanding of direction is the basis for an understanding of the difference between left and right. Kant continues:

> I call this a feeling because these two sides outwardly display no designatable difference in intuition. If I did not have this faculty of distinguishing, without the need of any difference in the objects, between moving from left to right and right to left and moving in the opposite direction and thereby determining a priori a difference in the position of the objects, then in describing a circle I would not know whether west was right or left of the southernmost point of the horizon, or whether I should complete the circle by moving north and east and thus back to south (ibid., 8-9).

Kant is obviously not interested in providing a toolset for lost hikers, but he is interested in the role of subjectivity for the process of reasoning. This is of relevance for the ideas on mapping and cartography that this essay wants to develop. Historic maps and navigation techniques in computer and videogames are to a substantial degree influenced by a priori concepts of space. Cartography and computer game design are attempts of coming to terms with our position in space

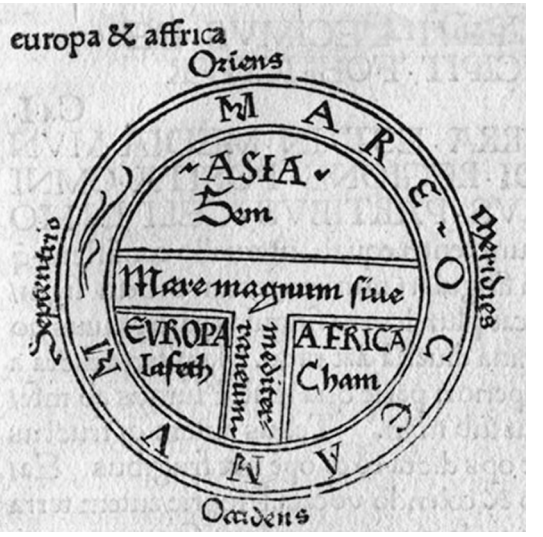
and the possibility of navigating within space. Irrespective of the aesthetic and educational qualities of maps and games, we want to describe them in rather dry terms as 'tools for orientation in unknown territory.' The territory, that they might help us find a way in, can be real (as with geographical maps) or symbolic (as with maps in computer games). Susan Sontag (1980, 112) reminds us that not everybody will use maps as orientation tools and refers to Walter Benjamin for whom maps would be a tool for getting lost. However, for most travellers, explorers or computer game players, maps are instrumental in finding a way. They are *itineraria* – as the Romans called them – 'way-finders' and 'route-planners'. We rely on the information maps contain to find places we are looking for and use them to navigate towards these places.

Maps exist in a multitude of forms and can be built upon or include different perspective, topography and environment. They can be linear, two-dimensional, three-dimensional in a perspective mode, three-dimensional and isometric, or of a mixed mode in between the above. For those familiar with the typology of space as proposed by Aarseth, Smedstad, and Sunnanå (2003), the criteria of perspective, topography and environment will sound familiar. These criteria are supposed to be of key relevance in regard to distinguishing between different types of computer games. A glance at historic maps will disclose the very same triplet of criteria to be of crucial importance for a qualitative analysis of *mappae mundi*, 'maps of the world.' A small number of historic maps that exemplify aspects of perspective, topography and environment are examined below.

World-Finding

The T-O maps is a type of maps used since the sixth century – prominently by Isidor of Sevilla (fig. 2) – and still into the 13th century, displayed what was then considered to be *omnis orbis terrarum*: the world. The perspective was one of omnipresence. A circular line orbited what was in the world: Asia, Europe and Africa. The shape of the continents does not refer to real geography and outlines the T-O shape, which could be read as '*T*errarum *O*rbis.' Topological information outweighs geographical information. In these early examples of maps, no non-navigable environment is present.

Fig. 2: T-O Map from Isidor's Etymologiae, print by Günther Zainer, 1472



The world map from Albi (fig. 3), originating in the 8th century, is slightly more detailed than the T-O-maps. It contains little geometrical information, and provides almost no analogue information regarding distance, scale and direction. The topological space is discrete, as if countries are states in a binary system one can inhabit by being inside or outside only. Lybia, Carthago and Numibia are equally sized blocks of land without any differentiation in regard to the shape of the countries. Geometrical features like rivers and mountains are neglected. Even though this representation of the world is of pictorial nature with only a few words filled in, little information can be retrieved from the lines and shapes of the drawing.

Fig. 3: World map from Albi, 8th A.D.

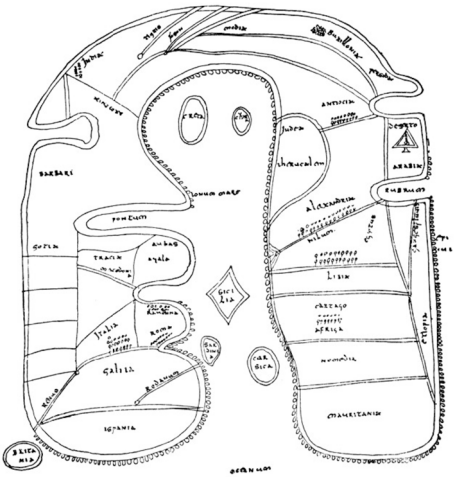
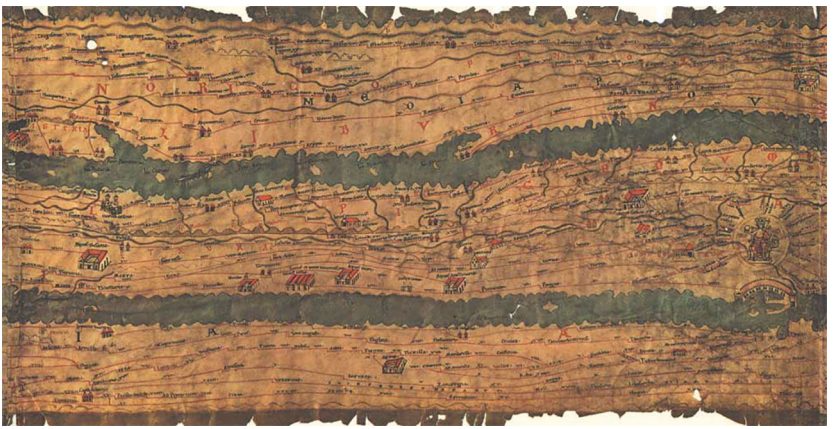


Fig. 4: 13th A.D.-reproduction of Tabula Peutingeriana's segment IV, including the city of Rome on the right-hand side of the middle ground strip



Even though maps like the topographically transformed *Tabula Peutingeriana* (fig. 4) or the world map from Albi did not grant completeness of a world perspective with contemporary eyes, they allowed for omnipresence inside the cartographic system. This need not necessarily be so. There are, and have been, maps which favoured a vagrant view as opposed to an omnipresent view. The successful *Falk Plan* (fig. 5) can be taken as an example of this.

Fig. 5: Falk Plan of Berlin in the hands of the author

The earliest forms of antique itineraria did not contain pictorial information to guide the travellers, but textual information only. Itineraria scripta were descriptions of travel routes in written format. The texts were copied and sold to travellers on their voyages. There were central information points in the city of Rome set up as official points of reference. Even in the late Middle Ages itineraria scripta were popular amongst pilgrims. A document written by an anonymous pilgrim from Bordeaux in the late 13th century and published in printed form in 1589 gives us an impression of how these early maps operated: "Itinerarivm a Bvrdigala Hiervsalem vsqve, et ab Heraclea per Aulonam, et per vrbem Romam" describes the way from Bordeaux to Jerusalem via Heracleum and Rome:

> mutatio ad sextum leugae vi / mutatio hungunuerro leugae vii / mutatio bucconis leugae vii / ciuitas tholosa leugae vii / mutatio ad nonum milia viiii / mutatio ad vicesimum milia xi / mutatio cedros milia vi / castellum carcassone milia viii / mutatio tricensimum milia viii / mutatio hosuerbas milia xv / ciuitas narbone milia xv [*Change direction after the sixth leuga of the road (i.e. after 9000 double steps or 18000 steps) /change after nine thousand steps / you reach the castle of Carcassone / you reach the city of Narbonne.*]

This is how this itinerarium tells us where to go to. It is obvious that such a description was not reliable at all, and phrases like "dextra est arbor palmae [*to the left is a palm tree*]" in the 595th line of the itinerarium makes you wonder how you would ever arrive in Jerusalem with the help of such a navigational device? Giving directions via text might create problems, but they have a high level of persuasiveness due to the fact that words make us feel being addressed by a person. This might be the reason for textual directives to remain powerful tools in times when visual information seems to be the ideal solution for navigation and wayfinding. The *itin-*

eraria scripta of the computer game ZORK (Infocom 1980) share a lingual ductus with the "Itinerarivm a Bvrdigala Hiervsalem vsqve" when they state: "From the Torch room, go South, / then East and get the coffin. / Return West, / then continue South to the Altar."

Text adventures like ZORK link the computer mediated experience with the tradition of mysteries and storytellers. Itineraria picta, graphical representations of routes increasingly replaced the older itineraria scripta and took over as the main device for spatial orientation. It seems however that the description of a 'tour' has never completely been replaced by description as a 'map.' Even in *Google Maps* the textual directions coexist with geographically realistic forms of representation.

Touring

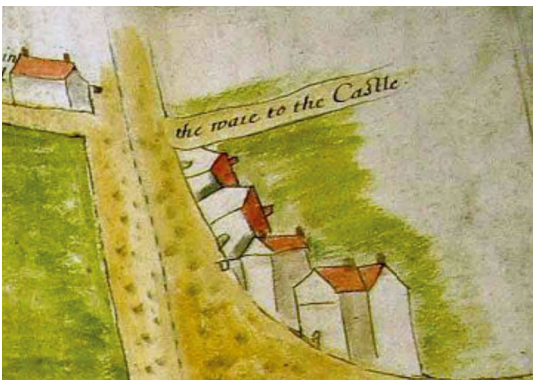
Michel de Certeau (1988, 119) reports that an investigation by philosopher Charlotte Linde and linguist William Labov into how New Yorkers describe their apartments, found out that 97% of the descriptions are of the type of a *tour*: "You turn right and come into the living room." According to his source only three percent are of the 'map' type: "The girl's room is next to the kitchen." (ibid.). De Certeau interprets this observation as a piece of evidence for the predominance of acting versus seeing. The tour would reflect an action – and the map a view of the world.

A map about the surroundings of Norwich's Great Hospital, built in 1290, shows how geographical information was depicted in the 17th century (fig. 6). The topographic information given renders a fair impression of distances, location and orientation. The map shows places as a continuum of buildings, meadows, fields and roads. Even though there is no central perspective rendering the 3D-illustration, a sense of realism has been accomplished.

Fig. 6: St. Giles Hospital Norwich in a map from 1630

It is however noteworthy, that the map is not a radical *itinerarium pictum*, but a mix of text and image. Street names and names of buildings are placed at the appropriate locations on the map. It also seems that the map loses pictorial representation towards the borders of the depicted area and becomes textual the farther we move away from the centre (fig. 7).

Fig. 7: Norwich and the "waie to the Castle"

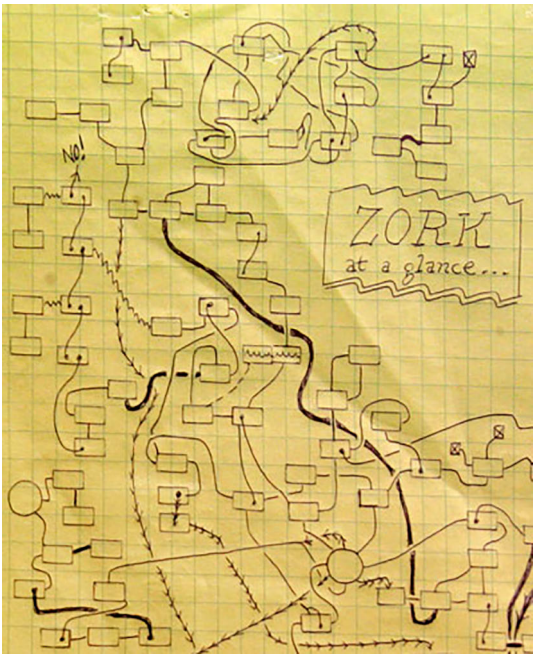


The mixed form of pictorial and textual information seems to be of high practical value if we compare it to forms of pure text (e.g. "Itinerarivm a Bvrdigala Hiervsalem") or to exclusively pictorial mapping attempts. An abstract non-realistic map

with no words on it is useful only to the cartographer himself. It has little value for anyone except for the initiated.

Secret maps, cryptic descriptions of routes and the private notes of game geeks fall into the category of maps with a low level of general transparency. It is, however, another communality of maps and games that signs need not necessarily be readable by anybody, and that hints, ambiguity and delusion are part of the game (fig. 8).

Fig. 8: Detail of a map of ZORK sketched by an experienced player of the game as displayed in the Space Invaders-show at F.A.C.T., Liverpool 2010

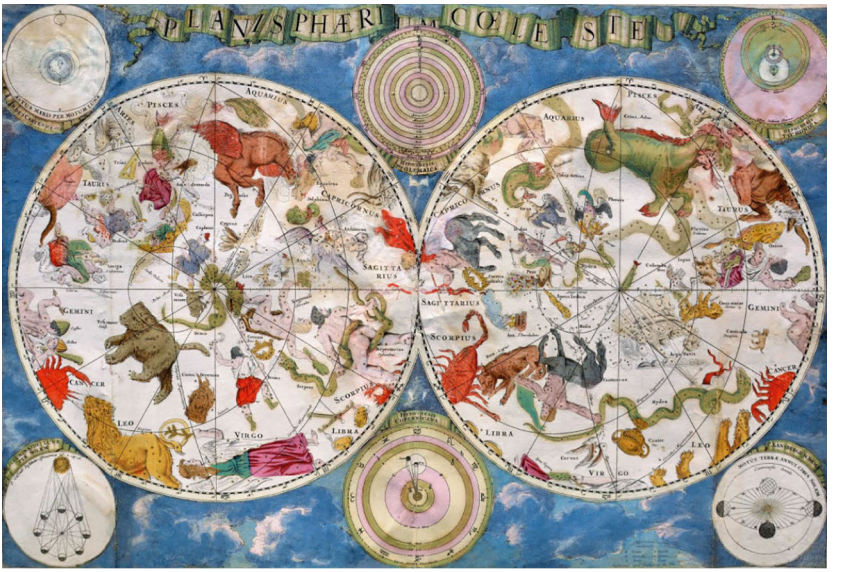


Space-Walks

The celestial map *Planisphaerium Coeleste* by Frederik de Wit (fig. 9) was targeted at a specialist audience. The map has a perspective of omnipresence, is precise in regard to astronomical distances and shapes of objects depicted and is rich in environment. The clouds surrounding the hemispheres are of a non-navigable character, they provide background atmosphere and aesthetic added value to the map. The same could be said for the elaborate artwork on the astronomical constellations. The etching of the Bear, Scorpio or Lion does not contribute to the cartographic information, it adds however to the look and feel of the map. A nice

detail of the map is the methodological discourse displayed as a set of small spherical elements labelled 'Hypothesis Copernicana,' 'Hypothesis Ptolemaica' and so on, a brave statement in the 17th century that accounts for the mapmaker's political position.

Fig. 9: Celestial map by Frederik de Wit, c. 1680



A comparison of contemporary computer games maps with historic maps shall demonstrate that perspective, topography and environment play a crucial role in each of these fields of spatial representation and space-related ideational construction. The map distributed as a survey for the *Grand Theft Auto: Liberty City Stories* (Rockstar Leeds 2005) computer games is loaded with environment, i.e. non-navigational information about Liberty City (fig. 10).

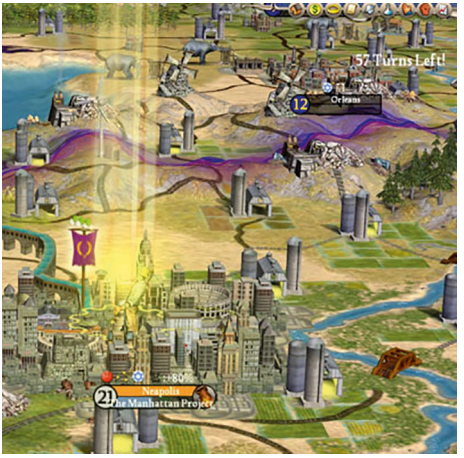
Fig. 10: GTA-*orientation map for* Liberty City

The map contains hints about celebrities, gangster bosses and power structures (fig. 11), and resembles baroque European maps displaying portraits of the countries' kings and clerical leaders. The map's background is another source for environmental information that is not related to the pseudo-geographical form of representation adopted here.

Fig. 11: Detail of map for Liberty City

The perspective of the Liberty City map is persuasive of an omnipresent approach, whereas the game itself is obviously an example for vagrant navigation in a fully immersive 3D-environment. Quite different regarding the perspective of the game is *Civilization IV* (Firaxis Games 2005), where the player finds himself vagrant and looking down upon a 3D-space, displaying spatial information suggestive of a quasi-central perspective with stereotypical drop-shadows. Environmental, numeric and text information are displayed at the same time.

Fig. 12: Detail from Civilization IV



The spatial concept is interesting as it reminds us of *itineraria picta* and *itineraria scripta* in different sections of the screen. Landmark buildings, mountains and rivers clearly belong to the pictorial realm whereas a line like '57 turns left' (fig. 12) could well be taken from the *Itinerarivm a Bvrdigala Hiervsalem*.

The map that guides the players in *Civilization* could be taken as a fine example for a discursive system, where Derrida would be expected to detect play. There is obviously gaming in *Civilization IV*. There are also players, when the computer game is played. In terms of Derridean philosophy there is however another type of play taking place (and time) on a semiotic and cartographic level. Anette Baldauf (1997, 141) refers to Derrida's writing, when she employs him as an advocate against 'clean cartography;' since according to Derrida, there is difference, an active movement involving spacing and temporalizing. The presence of one element cannot compensate for the absence of the other. A gap or interval remains that escapes complete identity: "Constituting itself, dynamically dividing itself, this interval is what could be called *spacing*; time's becoming-spatial or spaces's becoming temporal (*temporalizing*)" (Derrida 1973, 143).

In addition to pictorial and written text information being contained within the maps, it became apparent with recent technologies that wayfinding subjects are embodied actors – moreso than with previous technologies. Gestural interfaces, touch screens and ludic interfaces reinstall bodily input into systems of navigation that seem to have become completely disembodied. Mobile- and smart-phones with touch-screens, NAVSAT-technology, geotracking, and the user sensitive interfaces of Kinect-machines and Wii-remotes cling on the users' bodies and reintroduce the Kantian 'left and right hand' where there was the left half of the brain left only.

Fig. 13: Hands-on navigation in Mirror's Edge

The reason why videogames in first person perspective, like *Mirror's Edge* (DICE 2008), display the player's hands (fig. 13) can hardly be found in an increase in playability. Professional players report that the 'weapon hands' should better be switched off as they only distract from hitting precisely. There is however a psychological effect of increased immersiveness with the hands of the player being visible in the scene. There is probably also a benefit for orientation and for a subjectivisation of orientation, when left and right hand of the player subject can be mapped to the territory, as in *BioShock Infinite* (Irrational Games 2013). This is what Kant refers to in the statement quoted in the beginning of this article as 'feeling of a difference' (fig. 14).

Fig. 14: Neo-Kantian orientation in BioShock Infinite

Conclusion

We observe a rediscovery of the player subjects' hands in videogames, mobile apps and locative media apparatuses. This has crucial effects on the range of perspectives that technical und ludic systems can offer. Locative Games can per definition not provide an omnipresent perspective as they are built upon the subject and the thrills of disorientation as much as on the challenge for orientation. In the pieces Blast Theory set up, the modes of verbal versus visual geographic representation do not simply coexist in one cartographic artefact, but they are different systems of map-making to be selected by the players. The player subject is drawn into the navigational apparatus. Systems of spatial representation turn into tools to compete with each other. Games like *Uncle Roy All Around You* (Blast Theory 2003) assign the modes of spatial representation to player groups and turn the system of orientation into a constituting factor of agonistic gameplay (fig. 15a-b).

Fig. 15a-b: Locative media, gestural interaction and human actors on the move in URAY

The interface for accessing the realm of different perspectives and experiences is however not a digital interface like the ASCII keyboard or the screen. It is a manual interface in the narrow sense of the word *manus*, which creates a link in between the embodied orientation of the user and the disembodied directiveness of the system.

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