Sensorium Communis Geographiae

Some Introductory Steps to a Geoaesthetics

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How could a mapmaker meet another one without laughing?
M. Detienne

Preview

There is no doubt that space and signs are matches for a geographer, not only, as it could be expected, in the form of cartographic production and analysis, but also in the case of the interpretation of landscapes or the study of urban forms and development. Therefore, an invitation by a semiotic on line journal for an issue devoted to space could not be more welcome to me.

The following text tries to sketch the preliminary steps of a research programme to be developed in the long run, favourably in a inter-disciplinary interplay. Each step, as it will result evident, is a branch of the mainstream, connecting with other branches available to diverse disciplinary contributions, namely by semiotics. Besides endnotes, some hints in this view are to be found clicking the hyperlinks placed here and there in the text. Being a compromise between the systematicness needed by a research programme and the relatively limited space here granted, the text may result a bit assertive and unfinished, but I hope such a trait won't be an obstacle to the understanding of its fundamental questioning character.

In brief, the main topic of my essay is the elaboration of a *geographically based* concept of aesthetics, which, in line with recent developments in phenomenology and art criticism, should retrieve the original meaning of the Greek term *aisthesis* (primarily concerning the sensuous knowledge of the world). In this sense, it would be possible to see cartography as a common ground for art and science throughout its history, trying to outline a possible overcoming of this traditional approach to the world already brought to a crisis by humanistic geography[1].

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[1] See as a main instance in this view FRANCO FARINELLI, *Geografia. Un'introduzione ai modelli del mondo*, Torino, Einaudi, 2003.

1.

Since the very beginning of geography, there has been a way of approaching the world geographically which seems close to the ways through which we perceive the world, a *bodily* logic, as it were, as we can find, for instance, in the chorological modes of representation.

1.1.

An insightful example is represented by the question of the "encounters" renaissance explorers had with the New World. As Anthony Pagden notes in reporting the reflections of the Jesuit natural historian José de Acosta "No 'new world' he reasoned, is, of course, wholly new for the simple Wittgensteinian reason that if it were we would have no means of understanding it at all. We are all able to make some immediate sense of the unfamiliar if only because we all, Spaniards and Amerindians alike, inhabit the same universe all of whose creatures must, if they are, as Acosta believed them to be, the creation of a single god, be bound by the same set of natural laws. But what was familiar in this new world turned out on closer inspection to be never quite what it seemed […] What Acosta recognised was that images and the objects of perception cannot be adequately translated into the terms of a conceptual scheme or a system of classification to which they are alien […] Only experience and a subsequent alteration in the system will make them entirely familiar. Constantijn Huygens found himself confronted with the same experience as Acosta when he first looked down a microscope, and he likened that experience to the discovery of a 'new world' […] Like the world beneath the microscope, America had been discovered lying inexorably 'out there' bound by rules which could only be known by observation and experiment."[2] This issue, pointed out in the 50's by Lévi-Strauss[3], represents a stimulating field to test geoaesthetic hypotheses. Such a

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[2] ANTHONY PAGDEN, "'The Impact of the New World on the Old': The History of an Idea", *Renaissance and Modern Studies*, vol. XXX, pp. 2-3. See also, on the same subject, IDEM, *European Encounters With the New World from Renaissance to Romanticism*, New Haven, Yale University Press, 1994. A first version of this essay was presented as a lecture at the Faculty of Arts of the University of British Columbia in spring 2002. I am mostly indebted with Richard Cavell for the invitation and with Denis Cosgrove for the following suggestions on the manuscript. I successively developed this theme, according to another viewpoint, in a lecture just published as: "Glazy Reflections. Notes on the role of Glass as a *sensorium communis* in the Formation of some Geographical Paradigms", in MARCO BERETTA (ed.), *When Glass Matters. Studies in the History of Science and Art from Graeco-Roman Antiquity to Early Modern Era*, Firenze: Olschki, 2004, pp. 283-320. I would like to thank Marco Beretta for allowing me to use the published material.
[3] CLAUDE LEVI-STRAUSS, *Tristes Tropiques*, Paris, Plon, 1955.

feeling of a scale that was 'out-of-reach' it is not fully modern: "On imagine l'étonnement que durent éprouver, quand ils approchèrent de l'Indus, les Grecs de l'armée d'Alexandre. Rien n'était plus à leur mesure. Disons plutôt, puisqu'ils avaient su par un tour inoubliable faire de leur mesure la mesure humaine, que rien n'était plus à la mesure humaine, comme pour un Européen arrivant aujourd'hui à New York"[4]. Notwithstanding, it is the really modern experience of the New World that severely put to the test the European cognitive schemes.

2.

If a form can be detected in social actions this happens because of the same nature of social action, based on our beliefs that are _adequate_ if they _fit_ the world (they don't _match with_ the world) and are woven by rhythmic iterations of actions and provisional spatial orderings. Conversely, we have no spatial grammar for social action because there is no isomorphism (no _matchness_, as it were) between forms and beliefs, unless we suppose a basic rationality of social action we can compute, more akin to extensional logic than to the bodily logic. If quantitative heritage in geography produced a bias toward extensional logic, geography itself cannot do away with bodily logic, for the ordinary knowledge of the world (on which beliefs are grounded) is phenomenologically built on _bodily_ logic, namely on the _tacit_[5] aspects of understanding on which technology acts and that performing arts enhance.

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[4] JEAN GRENIER, _Les îles_, Paris, Gallimard, 1933, nouv. éd. 1959, p. 128.
[5] On the concept of _tacit knowledge_ see MICHAEL POLANYI, _Personal Knowledge. Towards a Post-Critical Philosophy_, London, Routledge & Kegan Paul, 1958; GIUSEPPE O. LONGO, _Una mappa per una_ terra incognita, prefazione a G. Boccia Artieri _Lo sguardo virtuale. Itinerari socio-comunicativi nella deriva tecnologica_, Milano, Angeli, 1998, pp. 11-19; ID., _Il nuovo Golem. Come il computer cambia la nostra cultura_, Roma-Bari, Laterza, 1998; ID., _L'uomo potrà mai imitare il computer?_, in S. Gozzano (a cura di), _I volti della mente_, Napoli, CUEN, 2000, pp. 119-153; ID., _Homo technologicus_, Roma, Meltemi, 2001. In the geographical studies see, forthcoming: NIGEL THRIFT, _Remembering the technological unconscious by foregrounding knowledges of position_, "Environment and Planning D: Society and Space", available at: <http://www.ggy.bris.ac.uk/staff/information/thrift_papers/remembering_the_technological_unconscious.doc> and ID., _Software Writing Cities_, Proceedings of the Workshop "Information and the Urban Future", _Taub Urban Research Center_, New York University, February 26, 2001, available at: <http://www.informationcity.org/events/feb26/thrift-presentation/Thrift.htm>.

3.

In a sense, we can consider a map as a _sensorium communis_, according to the Aristotelian concept of _koine aisthesis_. In the Age of Discoveries maps mediated between the data of explorers' _bodily logic_ – which, in Pagden's terms, had to give an idea of what was never seen before – and the old frame of available knowledge – i.e., what was conceivable. Maps made a new _imagination_ possible, which allowed embracing old and new world in a single view. In such a way, the _encounter_, in Pagden's words, with the New World could be translated into old frames. Subsequently, once mapped, the data were given a _form_ that became the ground on which following elaborations were _traded_[6] in order to obtain a relatively stable cognitive frame[7].

3.1.

But, in what sense was the New World really _encountered_? Given the phenomenological relation between logic and experience, which substantiates the role of perceptions' human scale, we have to distinguish between two worlds: the first that is "inside our conceptual schemes" and the other that is "outside our conceptual schemes". The _outer_ world, so to speak, is the world of experiences which are "absolutely independent from our perceptions or beliefs, neither, _a fortiori_, from our languages or theories". "What we can encounter exists in a world which is not an object, but the total of all objects, a ground shared by all beings […] even though we will be able to change our theories as to what we encounter at our own pleasure, the encountered _once encountered_, we cannot amend it: it is that way and that's all"[8]. Put differently, the world encountered is the substantive world which the subject experiences. Here lies a crucial and controversial point that can be just summed up in this essay. The world encountered is as such because its stuff is made of "something-kicking-us"[9]. This pre-semiotic condition of the real – as Eco draws it from Peircian semiotics – compels us to be attentive to such some-thing, to orient us toward it. An objection has been made to a logical conclusion of this reasoning: the presence of "something-kicking-us" does not

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[6] For such a notion of a "traded" knowledge see UMBERTO ECO, _Kant e l'ornitorinco_, Milano, Bompiani, 1997, pocket ed. 1999, 4.6, 4.7 and 5.

[7] Cf. RAFAEL CAPURRO, _Stable knowledge?_, paper presented at the Workshop _Knowledge for the Future - Wissen für die Zukunft_, Brandeburgische Technische Universität Cottbus, Zentrum f¨r Technik und Gesellschaft, March 19-21, 1997, available in http://www.capurro.de/cottbus.htm.

[8] MAURIZIO FERRARIS, _Il mondo esterno_, Milano, Bompiani, 2001, pp. 159-160 and 161.

[9] ECO, _Kant e l'ornitorinco_, cit., p. 5.

necessarily mean that it must be signified or translated into a language. At the core of the controversy lies the question whether all experience *can* and/or *must* be translated into science[10]. Anyway, in the cited case of the explorers the question, albeit epistemologically relevant, does not affect the frame outlined, because explorers were definitely attentive to the world encountered, and interested in finding a conceivable order that could solve the conflict between the old, bookish[11], schemes they brought from Europe and the radical newness of the Americas.

3.2.

If we assume that the world encountered by the explorers was the experiential world they were unable to rectify, unamendable, then it would follow that what remains is the world *represented*, that is to say the world images staged by mapmakers (and, of course, by all other image-makers). But this implication should not be taken for granted. There is a set of geographic entities lying on the edge that divides the entities belonging to the world encountered from the entities belonging to the represented one. Of course, a shore seen for the first time from the deck of a ship, and *translated*, as it were, into a *coastline* on a sketch map, would have shown itself in the same fashion to any observer who had chosen the same point of view under the same weather conditions.

3.3.

But at the mesoscopic scale – i.e., the scale defined by the limits and ratios of human perception, to which, henceforth, we will refer provisionally as the *chorological world* – the explorer's glance could encounter entities which seemingly it was possible to encompass in their entirety. An island, unlike a long shore fading in the distance, appears as a distinct object with a defined shape, even though to state with certainty that it is an island (and not, for instance, a prominent cape of a great bay) it needs to be explored from all sides. On the other hand, we know from the studies of visual perception that there is no experience of incomplete objects. We experience objects whose hidden sides are also present, even

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[10] MAURIZIO FERRARIS, "Inemendabilità, ontologia, realtà sociale", *Rivista di Estetica*, n. s., 19, (1/2002), XLII, pp. 160-199.

[11] JOHN E. MURDOCH, *Album of Science. Antiquity and the Middle Ages*, New York, Scribner's, 1984, p. 3. See also on the 'old frames' JOHN GILLIES, *Shakespeare and the geography of difference*, Cambridge, Cambridge University Press, 1994.

though in an *amodal* way[12]. In a sense, then, entities like islands or lakes, so to speak, 'hesitate'. A traveller arrived at the shore of a lake, such as lake Ontario or on the bank of a river like the Mississippi in the neighbourhood of its delta, was not so sure in stating immediately by inference (and in spite of the supposed good working of his amodal completion) whether he was facing the open sea (in the first case) or the shore of a lake (in the second one). Geographical entities like these are, using the electronic jargon, like "bistable" circuits. As Van Gennep would have put it: *ils flottent entre deux mondes*, just like certain pictures by Escher.

4.

Maps were *sensoria communia* because they were devices allowing for a new *imaginatio communis*, *objecta mentis* which could make the new *sensus communis*, the available empirical knowledge, possible. This role of maps became evident as to any encounter with worlds characterised by their 'newness'.

4.1.

In this regard, an interesting example is the lunar map made by William Gilbert, the physician of Elizabeth I, at the beginning of the XVII century, which is the only known lunar map produced before the advent of the telescope. Philip Stooke remarks: "[...] his assignment of the name 'Brittania' to Mare Crisium ... the position is such that the features correspond if the Earth is portrayed in the form of the medieval T-O map and reversed as if in a mirror"[13]. It seems interesting that when Johannes Hevelius (1611-1687) published his *Tabula Selenographica* in the *Selenographia* (1647), drawn on the basis of lunar observations made from his observatory in Danzig with a telescope 150 feet long, the names of the moon's features, following Galileo's use in respecting the hypothesis that there were seas and earth there, were named after terrestrial sites (*Mare Adriaticus*, *Mare Mediterraneum*, *Pontus Euxinus*, *Africae Pars*, *Arabia*, *Sicilia*, *Sardinia*), but with their relative positions approximately preserved. In essence, the situation had become reversed: it was the

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[12] JEAN PETITOT, Morphological Eidetics for a Phenomenology of Perception, in JEAN PETITOT, FRANCISCO J. VARELA, BERNARD PACHOUD, JEAN-MICHEL ROY (eds.), Naturalizing Phenomenology. Issues in Contemporary Phenomenology and Cognitive Science, Stanford, Stanford University Press, pp. 330-371, part. pp. 364-367.

[13] PHILIP J. STOOKE, "Mappaemundi and the Mirror in the Moon", *Cartographica*, XXIX/ 2, 1992, pp. 20-30. Cit. p. 28.

Earth that was the model for describing the Moon that can be examined like a *body*, just like terrestrial spaces. However, Gilbert's lunar map allows us to make two observations regarding the presence of optical instruments in the development of pre-modern cartography. If Gilbert produced a lunar map that seems to register more than he *knew* (that the lunar surface reflects earthly features), than what he could *see*, probably this is not due only to the inherent difficulty of observation. Galileo will make the discoveries documented in his *Sidereus Nuncius* and will produce the astonishing images of the moon portrayed in a watercolour of 1609, thanks to his eye trained in drawing (particularly in the use of shadows)[14], and to the artistic studies made in Florence during his youth[15]. When one observes, by means of an optical device, an object whose nature and features are unknown to us, the familiarity breeding fault with respect to the object, however, must subsist with respect to the device that *presents* the object to us. The training required in recognizing the object must above all be turned towards the *medium*. In Galileo's case, it became also necessary for the spyglass to become besides a device of *presentation*, a device for *representation*. Without the images, produced by Galileo himself one would not have obtained a relatively *objective* record of that what had been *seen* and what could then become an accepted belief. It is in this sense that the theme of *sensus communis* represents itself in the sphere of the scientific revolution, in the first instance with a revision of sensibility's role in the process of knowledge: "The perfect animal, which has senses and intellect, is to be considered a cosmographer who has a city endowed with five gates, the five senses, through which enter ambassadors from all over the world that announce the disposition of the world itself […] At the end, after having gathered into his city all the signs of the sensible world, so as not to lose them he fixes them on a map well ordered and rendered in scale, and turning to it, he dismisses the ambassadors and closes the gates. And transfers his inner intuitions to the founder of the world who is none of the things that he has learned and noted from the ambassadors, but is the artificer and cause of every thing; and believes that he is earlier than the whole world, who just like him, is the cosmographer of the map"[16]. Successively, with the multiplication and

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[14] On the role of shadows in the recognition of forms in art and science see MICHAEL BAXANDALL, *Shadows and Enlightenment*, New Haven/London, Yale University Press, 1995.
[15] MARTIN KEMP, *Immagine e verità*, Milan, il Saggiatore, 1999; Idem, *The Science of Art: Optical themes in Western Art from Brunelleschi to Seurat*, New Haven/London, Yale University Press, 1992, pp. 93 f.; HANS BLUMENBERG, *Galileo Galilei, Sidereus Nuncius. Nachricht von neuen Sternen*, Frankfurt am Main, Insel, 1965, pp. 7-21; WERNER KUTSCHMANN, *Der Naturwissenschaftler und sein Körper: die Rolle der "inneren Natur" in der experimentellen Naturwissenschaft der frühen Neuzeit*, Frankfurt am Main, Suhrkamp, 1986, pp. 176 ff.
[16] NICOLAUS CUSANUS, *Nicolai Cusae Cardinalis Opera*, I, Paris, Officina Ascensiana, 1514; facsimile reprint: Frankfurt am Main, Minerva, 1962, *Compendium*, VIII, CLXXI-CLXXII.

perfecting of the means of registration and check of the data obtained which become the *testimonies* of observation, making it possible a veritable *sense in common*: "[…] something is there (in the eminent and fundamental sense) only if it is registered by me, if I see it, but anyone else can see it, if it is still there even if no one observes it, in a manner to be there before me (and before whoever else) and after me (or whoever else) […] only in this frame can one speak of a "sense in common", which on the other hand is a prolongation of that *koinè aisthesis* that, already in us, determines the passage from the single impression to its retention, and to its connection with the other perceptions (those of other senses as well as those present and, not at all surprisingly, those of the future and expected)"[17].

4.2.

As Arthur Robinson claimed, it was the mapmakers who really discovered America, rather than Columbus: "… it was not until well into the 16th century that the Americas were recognized as continents and thus 'discovered'. The new lands were even named by a cartographer". In a positivistic-oriented vision of the whole history of geographical discoveries it would be easy to consider any episode of exploration and mapping joined with each other along the causal chain of progress. Indeed, as Robinson put it: "They [explorers and mapmakers] did so rather like the blind person who tries to make out the form and size of a large object by feeling around its edges. They had to wrestle with the problems of shapes, sizes, and locations of the reported lands and particularly their relation to Asia".

4.3.

But how could explorers find something they didn't know exactly what it was and where it lay? Answer: by the maps themselves. Indeed, " 'To discover' means to come to know something not previously known (Webster), and surely the discovery of something geographical requires that the discoverer have some idea, even if only approximate, of what and where in the world that something is". So, the explorers were not completely blind, as it were, since they could reduce the complexity of

For the Italian translations of this passage, see NICOLA CUSANO, *Scritti filosofici*; edited by GIOVANNI SANTINELLO, vol. I, Bologna, Zanichelli, 1965 and IDEM, *Opere filosofiche* edited by GRAZIELLA FEDERICI-VESCOVINI, Turin, Utet, 1972.
[17] MAURIZIO FERRARIS, *Estetica sperimentale*, in MAURIZIO FERRARIS and PIETRO KOBAU, *L'altra estetica*, Turin, Einaudi, pp. 94-96.

potentially infinite directions to take, in order to hit their target. They had a previous image of the world to rely upon. Such an image was provided "by cartographers who painstakingly fitted the bits of geographical information brought back by the explorers into the world map"[18]. Every bit of geographical information reported by the explorers became a *trace* on the world maps plotted by cartographers, who, in turn, played the role of explorers' *memory*.

5.

It is easy to recognize here the Platonic *aporia* (a no-way path) formulated above although in a geographical context: how can we know something, if searching for the known is useless, and searching for the unknown is impossible, since we don't know what we're searching for? Plato's answer is, however, well known: every act of knowledge is but a *remembering*. But, in what sense did geographical discoverers *remember*? By the world images staged for them by mapmakers. Without such traces no expedition would have ever been conceivable. In this sense, maps (and, at a lower level, literary sources like travellers' books or classical sources) represented the knowledge available at that moment, the *present time*, so to speak, of the world history as lived by the explorers, their *contemporaneity*; as, at one and the same time, images to be trusted and to be tested.

5.1.

Such a typical feature of maps was of course supported by the wide diffusion of printing. Bruno Latour, in his noted essay on the technical expedients in visual representation, cites an episode from the journal of Louis XIV's admiral La Pérouse: *Voyage de La Pérouse autour du monde*[19]. The episode concerns the ability of the natives of Sakhalin Island to trace from memory maps of their own island in the sand. Latour drew from this episode an important consequence. What was the difference between the

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[18] ARTHUR H. ROBINSON, "It was the mapmakers who really discovered America", *Cartographica*, XXIX/2, 1992, pp. 31, 34. On the peculiar question of the interpretation of scientific discoveries see ENRICO BELLONE, *I nomi del tempo. La seconda Rivoluzione scientifica e il mito della freccia temporale*, Torino, Bollati Boringhieri, 1989, pp. 34-42.

[19] BRUNO LATOUR, *Drawing things together*, in MICHAEL LYNCH and STEVE WOOLGAR (eds.), *Representation in Scientific Practice*, Cambridge (Mass.)/London, the M.I.T. Press, 1990, pp.19-68, cit. p. 24. LOUIS-ANTOINE MUREAU, baron de Destouff, *Voyage de La Pérouse autour du monde / publié conformément au décret du 22 avril 1791 et réd. par M. L.-A. Milet-Mureau,... A Paris : Imprimerie de la République, an V*… [de la République, i.e. 1797], réed. Par P. Deslandres, Paris, Ed. Pierre Roger,1933.

native Chinese of Sakhalin and La Pérouse? Essentially this: La Pérouse carries the information obtained to Versailles *without distortions* with respect to the communication that took place on the island. This was made possible by two kinds of factors: a political desire to make technical and financial resources available to obtain this information, a *project*, and the innovations in the production of technical expedients capable of recording and putting the spatial information at disposal with the least alterations possible. In the words of William Ivins, modern cartography produces "exactly repeatable pictorial statements"[20]. We have seen how mapping was since its archaic origins a powerful instrument for elaborating the real and for the communication of information. But it is the meeting of mapping with printing that will bring to perfection that aspect which will turn out to be decisive for the modern spatial revolution: *spatial* statements that can be exactly reproduced. In manuscript culture the production of images that illustrate the objects described in the text were subject to considerable imperfection: the manuscripts often repeated inexact if not erroneous images and therefore the relation between written text and image was very different from that one commonly used today in books, where verbalization and observation are kept in step through the exactness with which the image can be reproduced. While the copying of images to be reproduced, in absence of the object, leaded to progressive alterations, the copy obtained by the impression of a *cliché* was invariably identical with the original. Obviously, this inevitably affected the same meaning of "knowledge" as well as the organizing procedures that have led to modern science and technique. For this reason, Latour emphasized how the exigencies that had produced modern scientific culture cannot be examined in terms of a single great Revolution, since they were necessary both the techniques of recording and transmission of *exact* information and their use in the context of exploration *projects* financed and supported by the great powers of that time.

5.2.

Maps were *sensoria communia* also in another sense. Giving old and new lands a *common* order joining terrestrial features, peoples, political partitions, maps reinforced the "territorial fallacy"[21] that constituted the spatial basis of the *nothing-in-common* ruling the various communities of

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[20] WILLIAM M. IVINS, JR., *Prints and Visual Communication*, Cambridge (Mass.), Harvard University Press, 1953, 2nd ed., Cambridge (Mass.)/London, The MIT Press, 1969, pp. 16 ff.

[21] PETER SLOTERDIJK, L'ultima sfera. Breve storia filosofica della globalizzazione, Roma, Carocci, 2002, p. 171.

European nation states[22]: the idea that a communitarian bind (and identity) was determined by the *common* possession of what could not actually be possessed of, the land as a *territory*[23]. Moreover, the change of scale in European awareness is pointed out by a phenomenon paralleling that one represented by the diffusion of the idea of *progress*. The out-of-reach nature of New World's spatial scale – actually, in seeming "out of joint", to cite *Hamlet* – was given a new ratio allowing its conceivability within a *temporal* frame that tried to harmonize new evidences and old schemes of Earth's history, as in the Thomas Burnet's *Telluris theoria sacra* (1680)[24].

5.3.

As a corollary, it should be remembered that, from the historical point of view, the paradox of the concept of progress (a self-fulfilling prophecy) made it possible the shifting from the mere *geographical ascertainment* of the existence of peoples and countries living within different horizons of contemporaneity – "namely, the fact that many people, albeit living in the same time, belong, from the cultural or political point of view, to different epochs" – into an *historical explanation* – "to transform the synchrony in diachrony: by assuming geographical data, which are neutral in themselves (social forms of different kinds), and arranging them according to an ascendant teleology": the shift, using the meaningful image of Ernst Bloch, from the "*contemporaneity* of non-contemporary" to the "*non-contemporaneity* of contemporary"[25]. But, just as in the case of the adjustment of European consciousness to the America's scale – also the hierarchical order given by the explanation of the new-jointed Old-New World history in terms of progress was made it possible by a kind of

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[22] See ROBERTO ESPOSITO, *Communitas. Origine e destino della comunità*, Torino, Einaudi, 1998, part. pp. X-XXIII; and ID, *Immunitas. Protezione e negazione della vita*, Torino, Einaudi, 2002.

[23] In fact – as Esposito clearly showed – it concerns the antinomy lying at the core of the same concept of "*communitas*" (community), meant as an "'ownership' of the subjects it shares in common […] a good, a value, an essence that […] can be lost and found like something we have already owned and then we may own again […] Whether it deals with the appropriation of our being in common […] or with the communication of our ownness […] the outcome does not differ […] the most paradoxical side of the question is that the 'common' is exactly identified with its most evident opposite: it is common what unifies in a unique identity the – ethnic, territorial, spiritual – ownership of each member of its own. They [members] have in common their ownness; they are the owners of their common" (ESPOSITO, *Communitas*, cit., pp. X, XI, XI-XII).

[24] PAOLO ROSSI, *I segni del tempo. Storia della Terra e storia delle nazioni da Hooke a Vico*, Milano, Feltrinelli, 1979, part. pp. 54-62.

[25] FRANCO MORETTI, *Opere mondo. Saggio sulla forma epica dal Faust a Cent'anni di solitudine*, Torino, Einaudi, 1994, pp. 39 and 49.

spatialization. The image of the "ascendant teleology" of progress was not conceivable without its spatial projection allowing the *basic stability* that any object of knowledge requires. Whether it concerned the history of Earth or of peoples, time's flux could be thought according to such structures because it had been <u>spatialized</u> in advance.

Aesthetics

It is always worth consulting ENZO MELANDRI (*Logica e esperienza in Husserl*, Bologna, Il Mulino, 1960) for the element of *experience* in Husserl's phenomenology, in relation to the issues of <u>eidetics</u>, <u>intentionality</u>, *transcendental*.

On the relation between *place* and *imagination* see GIOVANNI PIANA, *La notte dei lampi. Quattro saggi sulla filosofia dell'immaginazione*, Milano, Guerini e Associati, 1988 and MARIO VEGETTI, *Quindici lezioni su Platone*, Torino, Einaudi, 2003.

About the issue of <u>sensus communis</u> as meant by Ferraris in relation with Derrida's reading of last Husserl and Stiegler's <u>techne</u> see also RODOLFO MONDOLFO, *La comprensione del soggetto umano nell'Antichità classica*, Firenze, La Nuova Italia, 1958, 2nd part, chrs. I and IV; ALFRED N. WHITEHEAD, *Process and Reality*, London: Macmillan, 1929, It. tr. *Il processo e la realtà*, Milano, Bompiani, 1965; ID., *Symbolism. Its Meaning and Effect*, London: Cambridge University Press, 1928, It. tr. *Simbolismo*, Milano, Raffaello Cortina, 1998.

<u>Images</u>

A useful introduction to the world of images is JEAN-JACQUES WUNENBURGER, *Philosophie des images*, Paris, PUF, 1997, It. tr. *Filosofia delle immagini*, Torino, Einaudi, 1999, part. as to the physiology of images pp. 26-51; for the conceptions of Kant, Vico, Husserl pp. 73-102 and 115-130; the concept of *mimesis* pp. 137-195; the role of images between art and cognition pp. 269-333.

About the role and interplays of images' *likeness* and *similitude* as cognitive objects there are the stimulating pages of MICHEL FOUCAULT, *Ceci n'est pas une pipe*, Montpellier, Fata Morgana, 1973, It. tr. *Questa non è una pipa*, Milano, Serra e Riva, 1980.

Of course, it is well known to what extent the images plotted by the mapmakers were to be trusted. Not only the shapes and sizes of landmasses, but even the very existence of some relevant features, or even entities as such, like islands or continents, often owed its presence on maps and in atlases to some misreading of a Pliny's passage. Geographical myths (in the Vichian sense of *fabulae*, stories) had been circulating well before the Age of Discoveries, but the number and magnitude of expeditions undertaken on the basis of such myths from the 15th until the 19th century are impressive. For such a reason, claims like this, by Numa Broc, are not an exaggeration: "A la limite, on pourrait presque dire qu'avant le XIXe siècle, la réalité géographique n'existe pas, ou plutôt qu'elle n'existe que dans le regard des voyageurs et que chaque époque se révèle toute entière dans la vision qu'elle donne du monde extérieur" (NUMA BROC, *La géographie des Philosophes. Géographes et voyageurs français au XVIIIe siècle*, Paris, Ophrys, 1975, p. 10). On the other hand, I beg you not to believe that mapmakers easily merged reality with fantasy. You shouldn't form an opinion of cartographers of that age as unfaithful artisans at ease in mistaking gossips for facts. Since the 16th century on, following the invention and widespread diffusion of printing, the geographic editorial world was divided into two distinct information channels: the first, top secret, for the seafarers, the political and military powers, and the explorers; and the other one for the popular audience (even though 'popular' hints at the extent of this diffusion and not at the census of the audience). Of course, the former was naturally subject to the utmost painstaking care.

Orientation

The basic source on the question of orientation is always IMMANUEL KANT (*Von dem ersten Grunde des Unterschiedes der Gegenden im Raume*, in "Königsberger Trag- und Anzeigungsnachrichten", fasc. 6-8, 1768, It. tr. *Del primo fondamento della distinzione delle regioni nello spazio*, in *Scritti precritici*, Roma-Bari, Laterza, 1982, pp. 411-418; ID., *Was heißt sich im Denken orientieren?* (1786), in *Gesammelte Schriften*, Berlin-Leipzig, de Gruyter, VIII, 1902 ff., pp. 131-47, It. tr. *Che cosa significa orientarsi nel pensiero?*, ed. by F. Volpi, Milano, Adelphi, 1996, pp. 45-66; ID., *Kritik der reinen Vernunft*, Riga, Johann Friedrich Hartknoch, 1787 (1st ed. 1781), It. tr. *Critica della ragion pura*, Roma-Bari, Laterza, 1985, 1st ed. 1909-1910). A concept closely related to that of orientation is, of course, the Husserlian *intentionality* (EDMUND HUSSERL, *Systematische Raumkonstitution* (1917), in *Ding und Raum*, Den Haag, Nijoff, 1973, pp. 322-336, It. tr. in

Libro dello spazio, Milano, Guerini e Associati, 1996, pp. 119-141; ID., *Die Welt der lebendigen Gegenwart und die Konstitution der ausserleiblichen Umwelt* (1931), ed. by A. Schütz, in "Philosophy and Phenomenological Research", n. 6 (I945-1946), pp. 323-343, Fr. tr. in *La Terre ne se meut pas*, Paris, Minuit, 1989, pp. 69-94; ID., *Notizen zur Raumkonsitution* (1934), ed. by A. Schütz, in "Philosophy and Phenomenological Research", n. I (1940-1941), voll. 21-37, pp. 217-226, Fr. tr. in *La Terre ne se meut pas*, Paris, Minuit, 1989, pp. 35-64.; ID., *Ideen zu einer reinen Phänomenologie und phänomenologischen Philosophie. I. Allgemeine Einführung in die reine Phänomenologie*, Den Haag, M. Nijhoff, 1950, It. tr. *Idee per una fenomenologia pura e per una filosofia fenomenologica. I. Introduzione generale alla fenomenologia pura*, Torino, Einaudi, 1965; ID., *Ideen zu einer reinen Phänomenologie und phänomenologischen Philosophie. II. Phänomenologische Untersuchungen zur Konstitution*, Den Haag, M. Nijhoff, 1952, It. tr. *Idee per una fenomenologia pura e per una filosofia fenomenologica. II. Ricerche fenomenologiche sopra la costituzione*, Torino, Einaudi, 1965).

The question has been retrieved by IVAN ALMEIDA (*Géographies de la pensée: Kant et l'idée d'orientation*, lecture presented at the International Congress "Limiti del Mondo/senso dello spazio", Urbino, Centro Internazionale di Semiotica e Linguistica, July 7-9 2003) and radically deepened by Bernard Stiegler, starting from his definition of the relationship human-technics. According to this definition, human beings spring up as *technical* beings, and their *inner world is set at the same time and because of their outer one produced by the medium*. It is essential to understand that, in such a process, there's no *previous* or *following* moment, in spite of the implicit hint at time's flowing that the word 'process' implies. On the contrary, it is exactly human temporality that gives itself a shape by the determination of the tool as a _prosthesis_. Stiegler also posed the question of *calendarity* and *cardinality*, of images as *orienting devices* and of the necessary critics of Heideggerian concept of *Weltgeschichtlickheit*.

On Huygens attitude toward _wonder_ and discovery see FABIEN CHAREIX, "*Experientia ac ratio*: L'oeuvre de Christiaan Huygens", in *Revue d'histoire des sciences*, 56(1), janvier-juin, 2003, pp. 5-13; PATRICIA RADELET-DE GRAVE, "L'Univers selon Huygens, le connu et l'imaginé", in *Revue d'histoire des sciences*, 56(1), janvier-juin, 2003, pp. 79-112.

On the question of *adequacy*, not meant in the sense of *adaequatio*, see ALFRED N. WHITEHEAD, *Process and Reality*, London: Macmillan, 1929, It. tr. *Il processo e la realtà*, Milano, Bompiani, 1965; ID., *Symbolism. Its Meaning and Effect*, London: Cambridge University Press, 1928, It. tr. *Simbolismo*, Milano, Raffaello Cortina, 1998; PAUL WATZLAWICK, *Introduzione*, in P. Watzlawick (a cura di), *La realtà inventata. Contributi al costruttivismo*, Milano, Feltrinelli, 1988, pp. 13-15; ERNST VON

GLASERSFELD, FRANCISCO VARELA, "Problems of knowledge and cognizing organisms", in *Methodologia*, 1, 1987, pp. 29-46; ERNST VON GLASERSFELD, *Introduzione al costruttivismo radicale*, in P. Watzlawick (a cura di), *La realtà inventata. Contributi al costruttivismo*, Milano, Feltrinelli, 1988, pp. 17-36.

Inventio

In Pagden's work (ANTHONY PAGDEN, *European Encounters With the New World from Renaissance to Romanticism*, New Haven, Yale University Press, 1994, part. pp. 6-7) it is emphasized the role of long lasting heritage of Greek thought in relation with the ideas of *truth* as 'unveiling' and *discovering* as 'bring into existence' – in this sense, it is useful to follow the semantic path of the *geographical totalities*, like continents or *oikoumene* (e.g., Strabo's use of a lexicon *oikoumene*-oriented as shown by Germaine Aujac). This Pagden's emphasis is interesting not only because it stresses the subtle, slight but meaningful, differences between *disco-operio* (to discover) and *inventio* (from *invenio*, to find, to meet by chance, but also to invent) as far as definitions of America's discovery are concerned, but also because of the Western *technical* bias it points out, which underlines the *ontological* value of geography in that time. If, in the perspective of European discoveries, 'to uncover' some-thing presupposes the previous, albeit unknown, existence of this thing, it is also true that it is just this act of discovery that actually brings such same thing into existence. This ambiguous semantic state of the couple discovery-existence perhaps can shed further light on the meaning of the Robinson's claim that "it was mapmakers that discovered America". Such ambiguity may be attributed to the *aesthetic* bias of Platonic *chora*, with its "formless-forming" nature, pointing out the peculiar role of *chorology*. In this view, it also worth taking into account the concept of "*constructio*" as analyzed by DAVID R. LACHTERMAN (*The Ethics of Geometry. A Genealogy of Modernity*, New York-London, Routledge, 1989).

Another perspective on the subject is VICO's way of dealing with *place*, imagination and *inventio* in *De antiquissima Italorum sapientia* and *De nostri studi temporibus ratione*. An insightful and forerunning geographical work concerning this topic is that of DONALD KUNZE ("Giambattista Vico as a philosopher of place: comments on the recent article by Mills", *Trans. Inst. Br. Geogr.*, N.S., 8, 1983, pp. 237-248; ID., *Thought and Place: The Architecture of Eternal Place in the Philosophy of Giambattista Vico*, New York-Bern-Frankfurt am Main: Peter Lang, 1987, part. chrs 1-4).

Cartographic aesthetics

"Geography is an imitation through drawing of the entire known part of the world together with the things that are, broadly speaking, connected with it. It differs from chorography in that chorography, as an independent discipline, sets out the individual localities, each one independently and by itself, registering practically everything down to the least thing therein (for example, harbors, towns, districts, branches of principal rivers, and so on), while the essence of geography is to show the known world as a single and continuous entity, its nature and how it is situated, [taking account] only of the things that are associated with it in its broader, general outlines (such as gulfs, great cities, the more notable peoples and rivers, and the more noteworthy things of each kind). The goal of chorography is an impression of a part, as when one makes an image of just an ear or an eye; but [the goal] of geography is a general view, analogous to making a portrait of the whole head"; Ptolemy, *Geôgraphikê huphêgêsis*, I, 1, 1-2. We have used the translation of J. LENNART BERGGREN and A. JONES, *Ptolemy's Geography*, Princeton/Oxford, Princeton University Press, 2000, p. 57. But we have chosen to keep the words '*geography*' and '*chorography*' instead of "world cartography" and "regional cartography" chosen by the authors. This because of the ambiguity of the Greek expression '*mimesis dia graphes*' whose authors' rendering, "imitation through drawing", restricts the meaning of the verb '*grapho*' only to the graphic matrix, so excluding the other meaning of this Greek verb concerning written language. For questions related to this ambiguity and the development of the word chorography, see LUCIA NUTI, *Ritratti di città. Visione e memoria tra Medioevo e Settecento*, Venice, Marsilio, 1996; ID., *Mapping Places: Chorography and Vision in the Renaissance*, in DENIS COSGROVE (ed.), *Mappings*, London, Reaktion Books, 1999, pp. 90-108. This definition had a long life and success up to BERNHARDUS VARENIUS, *Geographia generalis, in qua affectiones generales telluris explicantur*, Amsterdam, Elzevier, 1650.

Recent suggestions supporting an aesthetic interpretation of cartography are to be found in DAVID WOODWARD, CATHERINE DELANO SMITH, CHARLES YEE, *Plantejaments i objectius d'una història universal de la cartografia (Approaches and Challenges in a Worldwide History of Cartography*), Barcelona, Institut Cartogràfic de Catalunya, 2001, part. pp. 31-67, 71-90, 133-152, 223-262; CHRISTIAN JACOB, *L'empire des cartes*, Paris, Albin Michel, 1992; MARTIN KEMP (*The Science of Art: Optical themes in Western Art from Brunelleschi to Seurat*, New Haven/London, Yale University Press, 1992; ID., *Immagine e verità*, Milan, il Saggiatore, 1999; ID., *Relativity not Relativism: Some Thoughts on the Histories of Science and Art, Having Reread Panofsky*, in I. Lavin (ed.), *Meaning in the Visual Arts: Views from the Outside*, Princeton (NJ), Institute for Advanced

Study, 1995, pp. 225-236); NORMA E. EMERTON, *The Scientific Reinterpretation of Form*, Ithaca/London, Cornell University Press, 1984; JESS EDWARDS, "How to Read an Early Modern Map: Between the Particular and the General, the Material and the Abstract, Words and Mathematics", in *Early Modern Literary Studies*, 9.1, May 2003, 6, pp. 1-58.

It is worth noting that if the early modern maps are considered in the light of the Kantian *schematism* – as Umberto Eco and Bernard Stiegler discuss it – the claim for their newness supported by the primacy of *verisimilitude* as compared with 'symbolic' medieval maps reveals its weakness. In fact, notwithstanding that even informed scholars are inclined to consider spatial representation (which will affirm itself with XV century perspective) as the product of a natural tendency towards correspondence between what is actually seen and that which is represented, the method typical of the diagrams crowding medieval scientific texts was primarily concerned with channelling information with the greatest possible clarity and not to bother about a clumsy likeness [For an example drawn from the 'likeness-minded' party, cf. SAMUEL Y. EDGERTON JR., *The Heritage of Giotto's Geometry. Art and Science on the Eve of the Scientific Revolution*, Ithaca/London, Cornell University Press, 1991, pp. 1-10; excepting the statement that medieval two dimensional drawings produce "information unavailable in the modern perspective" (Ibid., p. 33). On diagrams see JAMES FRANKLIN, *Diagrammatic Reasoning and Modelling in the Imagination: the Secret Weapons of the Scientific Revolution*, in GUY FREELAND and ANTHONY CORONES (eds.), *1543 and All That: Image and Word, Change and Continuity in the Proto-Scientific Revolution*, Dordrecht, Kluwer Academic Pub., 1999, pp. 53-115; S. K. HENINGER, JR., *The Cosmographical Glass: Renaissance Diagrams of the Universe*, San Marino (Calif.), The Huntington Library, 1977]. In this view, considering both medieval and modern maps as *sensoria*, it would be possible to hypothesize, in a sense, the presence of diagrammatic frame of medieval maps at the core of modern ones: if modern maps allowed a new kind of *conceivability* – based on likeness, similitude, and measure – it is not unlikely that the "diagrammatic reasoning" was the starting point in getting people into the habit of using cartographic representations as tools for *reasoning*.

Wonder

It is not to be neglected the role of *wonder* (and of the various inflections of *attention*, and relatives) as a basic feeling of *intentionality* and *orientation*. See on the subject PHILIP FISHER, *The Poetics of Wonder*, in

I. Lavin (ed.), *Meaning in the Visual Arts: Views from the Outside*, Princeton (NJ), Institute for Advanced Study, 1995, pp. 175-193); REMO BODEI, *Geometria delle passioni*, Milano, Feltrinelli, 1992, part. pp. 57-71 e 261-311 (to be taken particularly into account Spinoza, *Tractatus theologico-politicus*; Descartes, *Regulae* and *Les passions de l'âme*; Pascal, *Discourses sur la Nature et la Graçe* and *Traité du vide*). On the relation between old and new frames of knowledge as to the Discoveries see JOHN GILLIES, *Shakespeare and the geography of difference*, Cambridge University Press, Cambridge, 1994; MASSIMO DONATTINI, *Spazio e modernità. Libri, carte, isolari nell'età delle scoperte*, Clueb, Bologna, 2000; ALPHONSE DUPRONT, *Espace et Humanisme*, in "Bibliothèque d'Humanisme et Renaissance", Tome VIII, pp. 7-104, It. tr. *Spazio e Umanesimo*, Venezia, Marsilio, 1993.

A classical *locus* on wonder as *thaumazein* is PLATO (*Thaeaetetus*, 155D, ed. by Harold North Fowler, The Loeb Classical Library, London/Cambridge (Mass.), Heinemann/Harvard University Press, 1921, repr. 1961, p. 55): SOCRATES: Theodorus seems to be a pretty good guesser about your nature. For this feeling of wonder shows that you are a philosopher, since wonder is the only beginning of philosophy [*to thaumazein ou gar alle arche philosophias e aute*], and he who said that Iris was the child of Thaumas made a good genealogy.". Cf. also on the topic ("how can we know something, if searching for the known is useless, and searching for the unknown is impossible, since we don't know what we're searching for?"), ID., *Meno* (ed. by W. R. M. Lamb, The Loeb Classical Library, London/Cambridge (Mass.), Heinemann/Harvard University Press, 1924, repr. 1962, pp. 264-371); ARISTOTLE, *Metaphysics*, 1, 2. 982b, 12-27 (ed. by W. D. Ross, vol. I, Oxford: Clarendon Press, 1924, repr. with corr., London, Oxford University Press, 1953, commentary p. 123; ed. by J. Barnes in *The Complete Works of Aristotle*, vol. 2, Bollingen Series LXXI-2, Princeton, Princeton University Press, 1984, p. 1554); see also ID., *Mechanics*, 847a10; *Rhetoric*, 1371a31-b10; *Poetics*, 1452a4 and 1460a12.

Sensoria

On the Aristotelian notion of *sensus communis* see: ARISTOTLE, *Peri aistheseos kai aistheton*, in *Parva naturalia*, ed. by D. Ross, commentary pp. 183-234, Oxford, Clarendon Press, 1955, 2nd ed. Oxford University Press, 1970; ID., *De Anima* (*On the Soul*), in *On the Soul, Parva naturalia, On Breath*, ed. by W. S. Hett, The Loeb Classical Library, London/Cambridge (Mass.), Heinemann/Harvard University Press, 1957,

pp. 8-203; ID., *De Sensu et Sensibilibus* (*On Sense and Sensible Objects*), in *On the Soul…*, cit., pp. 207-283; ID., *On the Soul*, ed. by J. Barnes in *The Complete Works of Aristotle*, vol. 1, Bollingen Series LXXI-2, Princeton, Princeton University Press, 1984, pp. 641-692; ID., *Sense and Sensibilia*, ed. by J. Barnes in *The Complete Works of Aristotle*, cit., pp. 693-713; JONATHAN BARNES, MALCOLM SCHOFIELD, RICHARD SORABJI (eds.), *Articles on Aristotle*, London, Duckworth, 1979, vol. 4; LLOYD P. GERSON (ed.), *Aristotle. Critical Assessments*, London-New York, Routledge, 1999, voll. I, III, IV.

As to the question of *sensoria*, it is interesting to examine Eco's Peircian reading of Kantian *schematism* (UMBERTO ECO, *Kant e l'ornitorinco*, Milano, Bompiani, 1997, pocket ed. 1999, part. parr. 2.4-2.9, 3.1-3.6, 4.6-4.7). In fact, the chance to identify something unknown (which shows the *abductive* nature of the scheme) is given by the *iconic adequacy* between *stimulus* and *sensation*, and by the elaboration of a *cognitive type*. In such a process, it is true that perception acts before any categorization (so grounding on a commonly testable *continuum* of experience), but it is also difficult to deny that any *encounter* with the *continuum* takes place by means of senses that are *prosthetically in-formed*. Applying Stiegler's definition of <u>*techne*</u>, the habit of elaborating cognitive types could be traced back to the practices giving birth to artifacts (see ANDRÉ LEROI-GOURHAN, *Milieu et techniques*, Paris, Michel, 1945; ID., *Le geste et la parole. Technique et langage*, Paris, Michel, 1964; ID., *Le geste et la parole. La mémoire et les rhytmes*, Paris, Michel, 1965). Indeed, if archaeologists can speak of *types* as to the classification of findings, this is why any artifact, notwithstanding its contingent appearance, must match with some *stereotype* (Cf. TIZIANO MANNONI, ENRICO GIANNICHEDDA, *Archeologia della produzione*, Torino, Einaudi, 2003, part. pp. 128-135). Cognitive types could originate from the interplay among various practices producing artifacts, various practices of usage, intersubjective communication of producers and users, the resistance of the *continuum* (Eco) as the sensible manifestation of the world's limits – meant as the "failure of our constructions" (ERNST VON GLASERSFELD, *Introduzione al costruttivismo radicale*, in P. Watzlawick (a cura di), *La realtà inventata. Contributi al costruttivismo*, Milano, Feltrinelli, 1988, pp. 17-36). Cognitive types, which can be more 'extensive' or 'intensive' in their application.

1	sight	3D stabilized on medium range
0	haptic sense	outer (touch)
		inner (kinaesthesis)

Mesoscopic scale

-1	Tacit world	softwares, nanotechnologies
1	World encountered	stretches of shores, rocks, reefs, hills, mountains, woods
Border line	?	islands, mainland, rivers, lakes, seas, human settlements, landscapes, frontiers
+1	World represented	coastlines, boundaries, continents, regions, states

Relevant geographic thresholds of mesoscopic scale (Source: Ferraris, 2001, modified)