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Planetary Spaces and Maps of Reason. Remarks on Kant's Cartographic Imagination

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Abstract. Focusing on the cartographic imagination of the European Enlightenment (1650-1800), this essay seeks to discuss the role of the cartographic representation of the Earth in the construction of a planetary space, as well as its function as a model for measuring human knowledge and as a metaphor for its systematization. More specifically, by analyzing Kant's geographical metaphors, I will reconstruct how the modern project of conquering the world as picture took shape in the design of the Kantian «cosmogram». I plan to show that the cartographic representation of the terrestrial sphere is not only the scopic model of Enlightenment planetary consciousness, but also the monogram of Kant's architectonic system, and as such the operative and imaginative matrix of his cartographic reason.

Keywords. Kant, geography, cartographic imagination, earth, metaphor

1. *Mapping as method*

The term globalization is now generally used to refer to that set of events, processes and experiences through which a global space has become significant, leading to a radical change in

the way the spatial dimensions of society and politics, economics and culture are represented. But it also refers to the story of how the exploration of the earth's geographical reality led to the invention of the globe, to its conquest and presentation as a picture. This was a scopic revolution that transformed both the world and the way we represent it and whose effects reverberate not only on the practical level of everyday life but also on the entire field of knowledge, changing thereby its epistemological, theoretical and paradigmatic structures. For as the Marxist geographer David Harvey (1990: 247) has written: «If spatial […] experiences are primary vehicles for the coding and reproduction of social relations […], then a change in the way the former get represented will almost certainly generate some kind of shift in the latter».

This new way of «reading time in space» (Schlögel 2003) gave rise to a fertile reflection on the cartographic roots of modernity. But why is cartography so important for those interested in spatializing history? And why is the map today emerging as a privileged media system with which to investigate and to question the transformations of our spatial consciousness and geographical imagination? According to Peter Sloterdijk, this has to do with the fact that maps and other depictive, planimetric media present «globalization as an image». In the Modern Age, the task of drawing and designing the new image of the world «no longer fell to the metaphysicists, but rather to the geographers and seafarers». It was their mission to present the terrestrial globe in pictorial form, operationalizing the whole planet as a map-image:

> Beginning with the Behaim Globe from Nuremberg, made in 1492 – the oldest surviving example of its kind – and continuing up until NASA's photograms of the earth and pictures taken from the space station Mir, the cosmological process of modernity is characterized by the changes of shape and refinements in the earth's image in its diverse technical media. (Sloterdijk [2005]: 21)

However, on closer inspection, it is not only the modern, semi-metaphysical character of map-images that makes the art of reducing the sphere to a plane so interesting. There is something more specific in the way a map shapes and constructs spaces that makes it particularly attractive.

It is commonly thought that the map is an exact copy of reality, a mirror reflecting the physical surface of the earth as it is. However, this is a naive conception of cartography: an interpretation that nullifies its performative and operational potential, reducing the discourse to the primacy of the physical over the technical, the natural over the cultural, the thing in itself over the phenomenon. But maps do not merely represent spaces, they produce and encode them; they are «what transforms space into territories» (Schlögel [2003]: XXI). Maps, as instruments of power and forms of the representation of space,

are the sign that fixes and captures the historicity of our spatial consciousness; they are the trace of the mediation onto which our worldview is projected. And since each historical period has its own vision of the map, its own cartographic rhetoric, its own cartographic narrative, as Schlögel provocatively suggests, the history of cartography can be seen as an «alternative phenomenology of Spirit» (Schlögel [2003]: xx).

Although dedicated to exploring and interrogating Kant's «geography of reason» (see Hohenegger 2012), this article also resonates with the proposal to write the media-history of space through the prism of the map (Michalsky, Morawski 2024). But it does so in the conviction that this is only possible if we proceed from a general consideration of the hybrid and potentially nomadic nature of cartographic languages. Particularly important in this regard is the examination of the encroachments that occur in both directions between the visual and the discursive spheres. Indeed, it has been demonstrated, that the performative power of a map to represent, configure, express, construct or communicate the world does not only concern the territorialization and economization of space or the geographical icon of the globe, but also other media operations, such as writing processes, for which the map assumes the role of an «operational or imaginative matrix» (Dünne [2011]: 44).

Focusing on the cartographic imagination of the European Enlightenment (1650-1800), which historians have called the «Age of Cartography» (see Edney, Sponge Pedley 2020), this work seeks to discuss the role of the cartographic representation of the Earth in the construction of a planetary space, as well as its function as a model for measuring human knowledge and a metaphor for its systematization. More specifically, by analyzing Kant's geographical metaphors, I aim to reconstruct how the modern project of conquering the world as picture took shape in the design of the Kantian «cosmogram» (see Tresh 2005). I plan to show that the cartographic representation of the terrestrial sphere is not only the scopic model of Enlightenment «planetary consciousness» (see Pratt 1992), but also the monogram of Kant's architectonic system, the operative and imaginative matrix of his «cartographic reason» (see Farinelli 2009).

2. *The portrait of a lack*

It is often said that a picture is worth a thousand words. And in the three hundred years since his birth, countless words have been written about the work of Immanuel Kant. This adage therefore seems most appropriate for opening a window on his geography of reason and discussing the important legacy of his thought. But which image to choose? And why?

This picture is an oil painting made in 1791 by the Berlin painter Gottlieb Döbler (or Doppler). It is one of the most important portraits of Kant that we know of. And although it is not the most famous, it is one of the most faithful and reliable, having been painted live during the artist's stay in Königsberg (Essers 1974). I have chosen this painting in particular, because it bears witness to a lack in the mass of books, articles, studies and dissertations written on Kant: the lack of geography. For, as Stuart Elden (2009: 8) has pointed out: «Of all Kant's work and all his wide areas of interest, the neglect of geography is perhaps the most glaring».

Döbler shows us a sixty-seven-year-old Kant at the height of his intellectual maturity – a year before he had published his third *Critique*, the *Critique of the Power of Judgment* (1790). Two objects in particular, placed near his left arm, accompany the figure of the philosopher in the foreground: some pens and a globe. While the decision to include writing utensils in the setting can be seen as more immediate and easier to read, the figure of the globe may instead surprise those accustomed to thinking of Kant only as an author of philosophical texts. However, this is neither a coincidence nor an ornamental choice dictated by the fashion of the time. It is very likely that the painting's arrangement was shared by Kant himself, who, as his biographers repeatedly recall, was an avid reader of geography's texts and travelogues. But the globe is not just there to indicate a literary passion, however important and characteristic it may be. There is a deeper

reason for this stylistic choice, linked to a biographical fact that makes the figure of Kant a truly exceptional case (and for this reason worthy of particular attention) in the philosophical panorama of his time. Indeed, unlike other great philosophers of the modern age who also made extensive use of geographical metaphors (some of whom were also his direct sources: e.g., Bacon, Locke, Hume, Leibniz), Kant is the only one to have taught physical geography at university (Louden 2015) – 49 courses from 1756 to 1796, more than any other subject except lectures on logic (54 courses) and metaphysics (52 courses). He was the first philosopher in Germany to hold such chair – a few decades before the official establishment of a chair of geography at the University of Berlin (Carl Ritter was appointed to the post)[1] – and contributed both to the definitive «emancipation of geography from theology» (Büttner 1989) and its systematization as a «modern European science» (see Church 2011). And this is why geographers today speak of a «Kantian turn» (Livingstone [1992]: 113) in the history of their discipline. Kant, a geographer? Kant, a central figure in the history of geography? We never heard of this at school. But is it really so relevant? And relevant to the extent that it should be included in his official iconography?

It was Ernst Cassirer who firstly called Kant a «geographer of reason» arguing that during the pre-critical period he went from being an «empirical geographer» to a «geographer of reason» who «undertakes to map the circuit of its entire content under the guidance of definitive principle» (Cassirer [1918]: 45). In other words, he had moved from the description of the spatial cosmos to the description of the intellectual cosmos, from «empirical topography» to «transcendental topography» (Malpas, Zöller [2012]: 146). And indeed, it was Kant who established in Western culture the idea that even philosophy is in need of a spatial model for orientation. His work thus constitutes a relevant refutation of the thesis that modernity is obsessed with time, the idea of progress and grand narratives, while postmodernity is obsessed with space and a supposed end of history (see Siani 2021). But we might be more precise on this point. On the one hand, Kant was certainly a thinker of his time (see Jordheim 2010); he was not only reflecting on his own present, but also wondering what philosophy could do to meet the demands and challenges of his of his age, which he programmatically called «the age of criticism». An epoch, which «demands that reason once again take on the most difficult of all its tasks, namely that of self-knowledge» (Kant [1981]: 100). On the other hand, there is no doubt that his critical project would be different, perhaps even unrecognizable, without all the geographical metaphors that characterize it. But are they really just metaphors? Or are there deeper epistemological connections between the geographical images we encounter in his writings and the cartographic operations, the techniques of control, measurement and territorialization of space that characterized the planetary consciousness and geographical imagination of the Enlightenment?

3. *Kant's geography of reason reconsidered*

The long neglect of these questions – and of Kant's geography in general – has already been widely lamented. Here, as far as possible, I will attempt to fill the gap by exploring the «cultural techniques» (see Siegert 2015) by which Kant maps – materially, visually and metaphorically – the spaces and territories of reason. This entails an alternative view of metaphor to that of the classical history of ideas. What interests me most is beyond the discursive domain, it is the extra-conceptual, the non-human, the visual. In a word, technology, with its mode of functioning, its components, the position it assigns to the observer, and the operations and gestures it requires or enables. The challenge, then, will be to consider «the material world of technological objects and the discursive world of concepts as interacting elements» (Eliassen, Jacobsen [2010]: 65), while redrawing the boundaries between image and text, media and metaphor. And indeed, just as metaphor allows one to see what one could not see before and otherwise, and thus to think it, to develop operations of knowledge about it, transforming and transmitting experience, so also do media[2]. This includes the map, which as a «technical prosthesis that extends and redefines the field of sensory perception», provides access to «new visual worlds, and in so doing, to new fields of knowledge» (Jacob [1992]: 29).

In line with the media-philosophical approach that reads maps as cultural techniques, I see Kant's transcendental project not (only) as a turning point in the history of modern philosophy but as an event in the technological history of space[3]. More specifically, I try to situate it within the history of the Western cartographic imagination (see Morawski 2024). While Kant is said to be the very first in the project of a «philosophical topography – a project that aims to explore the manner in which space, and also place, figure in human knowledge and experience as both the object of such knowledge and experience, and as part of its very structure» (Malpas, Thiel [2011]: 195) – the entanglement of his topographical method with the geographical systems for ordering knowledge has been largely neglected. Questions about the operationality of «visual forms of knowledge production» (see Drucker 2014) in relation to the historical concept of space and place have not received the attention they deserve. In reading Kant topographically, scholarship focuses mainly on space as an a priori form of sensible intuition, without considering the epistemological connections between Kant's geography of reason and the universe of contemporary cartographic practices.

Here I will try to reverse this trend by exploring the significance that cartographic technique and its related operations may have had for Kant's philosophical imaginary his language, his argumentative strategies, and the problem of the form and representation of his transcendental system[4]. In this context, I plan to

discuss the «carticity» of Kant's philosophical writing, examining thereby the transmedial writing practices that emerge from the negotiation between the text and the map as a medium: that is, as a «specific system of sign combination and as a specific form of knowledge processing» (Stockhammer [2011]: 68).

The focus will fall on two cartographic metaphors in particular: the map of (the island of) truth and the sphere of reason. Kant's geography of reason shows us the surface of a plane, but this plane conceals sediments and stratifications. To confine the analysis of this geographical plane to the surface of metaphorical language alone, without asking whether traces of the scopic regimes (i.e., the operational and epistemic images and optical media that are intertwined with the historical materiality of its cartographic practice) are present in its subsoil, would therefore be to limit our heuristic space and our capacity for understanding. It would not be clear, for example, why Kant compares the generative cell of his philosophical system (the Table of Categories) with the map of a country and the topics of mnemotechnics. Nor would one understand the assumptions which underpin his definition of «architectonic reason» as the faculty of «describing a sphere of its own» (see Hohenegger 2012). Accordingly, I will considered the map of truth and the sphere of reason not as mere «illustrations of the text» (Tarbet 1969), but as mediations. This will serve the aim of shedding light on the processes of «remediation» (see Bolter, Grusin 1999) – intermedial and intertextual – that inform Kant's «cartographic writing» (see Conley 1996).

4. *The table and the map*

Let's begin our investigation by examining the analogy between the map and the table, insofar as the expression *Tafel* already suggests that spatiality, as an instance of order and as a totality preceding the parts, is part of the toolbox of the Kantian system.

At the heart of the Transcendental Analytics, at the center of one of the most important systematic moments of the *Critique of Pure Reason* where Kant prepares the passage to the deduction of the pure concepts of the intellect, one encounters two mirror-image tables (there are eight in the entire *Critique*). Both are divided according to four titles (quantity, quality, relation, modality), each of which contains three moments. The first is known as the (Logical) Table of Judgements, the second as the (Transcendental) Table of Categories. The importance of the image of the table in the economy of the work is established from the very first lines of the Transcendental Analytics. In this respect, point 4 is extremely clear: «That the table of them [the elements of pure cognition] be complete, and that they entirely exhaust the entire field of pure understanding». Kant, it is clear, considers the device of the *Tafel* as an integral part of the con-

structive tools of his philosophy. And accordingly he establishes a link between the architectonic idea of a «whole of the a priori cognition of the understanding» and their representation/visualization as a «unitary and systematic concatenation» (Kant [1981]: 201) in a table.

According to Reinhard Brandt (1991: 60), it is the possibility of presenting (*darstellen*, *vor Augen stellen*, *vorstellen*) and grasping coordinated elements at a glance that defines the order of the table as essentially spatial. Kant confirms this hypothesis twice: first, when he compares the Table of Categories to a «systematic topic», which makes it «easy not to miss the place where every concept properly belongs and at the same time make it easy to notice any that is still empty». The second time occurs when he compares the Table of Categories to a «map» of the «land of pure understanding» (Kant [1981]: 214; 339). While the comparison with the *topica* is intended to emphasize on the one hand the systematic nature of the table and to justify the unity and completeness of its order and disposition in relation to the tradition of Aristotelian logic, rhetoric and the art of memory, the analogy between the table and the map allows us to grasp on the other hand the strictly visual aspects of this device for organizing and classifying knowledge. It enable us thus to specify the operational links between the cartographic techniques of representation and the project of a cartography of reason.

In order to understand what the *Tafel* and the *Karte* have in common, it is useful to take into account the geographical vocabulary of the time and the fact these two terms had the de facto status within it of synonyms. Consequently, any attempt to draw a clear-cut boundary between the two is – at least from a historical perspective – problematic. This is also confirmed by the map-tables cited by Kant in his writings on earthquakes and wind theory. I refer in particular to Pieter van Musschenbroek and William Dampier's versions of Halley's weather map, entitled *Tabula Totius Orbis Terrarum* and *A Map of the World*, respectively. With reference to these maps, Kant transcribes a very interesting consideration in the *Note* preceding the conclusion of the essay, *History and natural description of the most noteworthy occurrences of the earthquake that struck a large part of the Earth at the end of the year 1755*:

> If one were to extend the list of places on the Earth that have always experienced the most frequent and most violent tremors, one might add that the western coasts have always suffered far more incidents than the eastern coasts. In Italy, Portugal, in South America, and even recently in Ireland, experience has confirmed this correspondence. Peru, which is situated on the western coast of the New World has almost daily tremors, while Brazil, which has the Atlantic Ocean to its east, experiences nothing of this […]. The reason for this law seems to me to be connected with another one, for which there is no sufficient explanation as yet: namely that the western and southern coasts of nearly all countries are steeper than the eastern and northern coasts, which is confirmed by a glance at the map as well as the reports of Dampier who, on all his maritime journeys found this to be almost universal. (Kant [1756a]: 362)

In this essay, Kant attempts to provide as scientific and coherent an explanation of earthquakes as possible, based not only on the testimony of explorers and travelers, but also on the Earth's system as a whole. In pursuit of this goal, he also refers to a map that shows the location, layout and orientation of these places. With this tool, he explains, it is possible to treat very distant parts of the Earth's surface according to a common analogical principle (in this specific case, the observation that earthquakes occur mainly on west-facing coasts, not east-facing ones). In fact, the map makes it possible to overcome the empirical narrowness of the observer's point of view and to compare the morphological coincidences of countries as far apart as Italy and Peru, Ireland and Brazil. Stripped of all elements of fantasy and religious beliefs, with no more leones or dracones populating its surface, maps in the XVIII century had «become abstract and strictly functional systems for the factual ordering of phenomena in space» (Harvey [1990]: 249). The hypothesis that Kant looks at maps by recognizing their systematic function finds further support in his *New notes to explain the theory of the winds.* There, the young geographer explains that in order to study the movement of the winds in a country as far away as Guinea «one need only look at the map that Jurin has appended to Vareniu's *General Geography*, or the one that Musschenbroek included in his *Physics*», and «in a moment» the rule of the wind's movement «will be before one's eyes» (Kant [1756b]: 377).

As Lorraine Daston (2015) has shown, the ambition to encompass a multiplicity of knowledges in order to discover the relationships between them had dominated major projects of the early modern period. Indeed, at the turn of the XVII and XVIII centuries, the vast amount of information collected through travel, scientific explorations, archaeological excavations and exchanges with other cultures had created unprecedented problems in the management of knowledge; a problem that affected both large-scale projects and the missions of individual explorers. In this context, the collection and processing of vast amounts of data required not only a new range of logistical systems and means of transport, but above all the development of specific «media technologies» capable of translating, cataloguing, representing and transmitting these data[5]. This latter task was one that texts, with their sequential structure, could no longer fulfil. And in fact, as Wolfgang Schäffner pointed out, it was «numerisation and algebraisation» on the one hand, and topographical representation techniques such as tables, maps and diagrams on the other» that imposed themselves as the privileged technology of this new way of processing and archiving knowledge. The main characteristic of these topographical systems of inscription is that, compared to texts, which are essentially linear, they allow for a different «economy» of signs and a different semiotic «operationality». And this means that, although they use fewer signs, they make it easier to visualize, read and transmit information in a «visual space» in which «formulae, writing and image overlap» and the «usual bounda-

ries between text and image dissolve». Among the different topographical systems, maps represent a peculiar space for collecting data, whose «signs can be read as texts, seen as images and used as instructions». In this sense, maps are no longer mere mnemonic supports, but epistemic images that allow the compression, connection and transmission of data, while guaranteeing a «total vision» (Schäffner [2020]: 359-360).

This is the same kind of vision that characterizes the maps cited by Kant in his writings, which allow us to embrace the entire globe with our gaze and confirm geophysical hypotheses regarding phenomena (such as winds, earthquakes or hurricanes) that would otherwise be difficult to describe, verify and understand. In fact, through those maps we can both visualize such phenomena as if they were simultaneous (defining a north, south, east, west orientation scheme that is no longer the empirical-perceptual one of the individual explorer but the one mediated by the cartographic table), and synthesize, compare and connect the data collected by locating them on the map's flat surface. In essence, cartographic tables allow those who examine them the synoptic visualization of a totality (or part of the earth's surface). And, outside of the realm of metaphor, the Kantian tables as well aspire to totality, although in this case the totality is «the whole of a priori cognition» (Kant [1781]: 201).

5. *On the* carticity *of Kant's philosophical writing*

Kartizität is a neologism introduced by Robert Stockhammer in the field of literary studies to investigate the writing processes that show a certain similarity to the cartographic device and its practices. By «carticity of the literary description» he means «its affinity or distance from cartographic processes of representation». Central for him is «the question of the relationship of literary texts to the map as a medium: as a specific system of combining signs and as a specific form of knowledge processing». Indeed, Stockhammer analyses those texts or passages that «thematise the medium of the map and in which one can find «implicit or explicit statements about its relationship to the medium of the literary text» (Stockhammer [2011]: 68). Thus, for carticity to be given, it is not essential that maps have been incorporated within the text. It is much more important that one can find, implemented by the processes of alphabetic writing, semiotic structures, functions and technological characteristics typical of the cartographic device. The structural affinity between writing practices and cartographic representation procedures is always the result of a «negotiation»; it is the product of a «transmedia translation», by virtue of which «the (ghostly) traces of the source medium, its semiotic and structural characteristics, do not vanish or become transparent, but remain perceptible and continue to function within the target medium» (Italiano [2016]: 38).

There is an example that might help us clarify the sense of these general considerations. When the project of the *Critique* was still in its incipient stage, Kant wrote a personal reflection in which we encounter explicit references to the image of the bi-spheric globe and its peculiar graphic syntax:

> In metaphysics, like an unknown land of which we intend to take possession, we have first assiduously investigated its situation and access to it. (It lies in the (region) hemisphere of pure reason;) we have even drawn the outline of where this island of cognition is connected by bridges to the land of experience, and where it is separated by a deep sea; we have even drawn its outline and are as it were acquainted with its geography (ichnography), but we do not know what might be found in this land, which is maintained to be uninhabitable by some people and to be their real domicile by others. We will take the general history of this land of reason into account in accordance with this general geography. (Kant [1772]: 136)

Kant makes reference to the «hemisphere». Between 1650 and 1800 the representation of the globe divided into two distinct hemispheres dominated the European market, becoming a characteristic element of the cartographic imagination of the time (Armitage 2020). Developed around 1527, to visualize the Spanish and Portuguese spheres of interest after the Treaty of Tordesillias (1494), the two-hemisphere figure provides both symbolic and conceptual advantages. One can represent and compare the New World on one side and the Old World on the other. Or the terrestrial hemisphere on one side and the oceanic or celestial hemisphere on the other (as in the case of Homann's *Planiglobii*, one of the maps found in Kant's personal library). If we accept the dating of the Reflection to around 1772, i.e., two years after the publication of the *Dissertatio* (1770), we can assume that the two hemispheres of reason refer to the phenomenal world on the one hand and the noumenal world on the other. In such a case, the spatiality of the cartographic device would be functional for the image of systematicity, because it would make it possible to represent the connections (bridges, access roads) between regions that are indeed distinct, as antipodes with respect to each other, but which, when viewed at a single glance, form a unified, architectonically organized whole. For Kant, it is worth remembering, the «architectonic» is the «art of system» – where by system he understands «the unity of the manifold cognition under one idea». And this idea for him corresponds to the «rational concept of the form of a whole, insofar as through this the domain of the manifold as well as the position of the parts with respect to each other is determined a priori» (Kant [1781]: 691).

There is another aspect that should be carefully considered in this quotation, because it is an element of apparent novelty. While referring to the connections between the cartographic device and the idea of a «general geography», Kant contemplates the possibility of representing human reason in spatial as well as temporal, historical terms. His allusion to a possible «general history of rea-

son» should not, however, come as a surprise. After all, the final chapter of the *Critique of Pure Reason* is entitled *The History of Pure Reason*. Italo Calvino's argument applies here, for whom every map, even the most static, is «an Odyssey». It presupposes an «idea of narrative» and is conceived on «the basis of a journey» (1984: 18-19), as a series of chronotopes. Thus, the stages that led to the emergence of the critical method – i.e., the opposition between the skeptical and dogmatic methods but even before the contrast between the naturalistic and scientific methods – and that we find set out in the last chapter of the book, can be interpreted as confirmations, however indirect, of the cartographic character of the architectonic and, more generally, of the transcendental Doctrine of Method.

Kant's personal reflection effectively suggests this view: analyzing Kant's geography of reason through the prism of its carticity means investigating the way in which he textually (i.e., alphabetically) recodes the medial (operational and visual) characteristics of the cartographic device. This encompasses its instance of order, orientation and all-encompassing unity; its synoptic, top-down, zenithal and two-dimensional model of vision; its diagrammatic and narrative function. But it also includes its paradox. For, as Peirce (1933: 230) reminds us: «On a map of an island laid down upon the soil of that island there must, under all ordinary circumstances, be some position, some point, marked or not, that represents *qua* place on the map the very same point *qua* place on the island».

6. *Mapping (the island of) truth*

The image of the island of truth, a fundamental part of Kant's geography of reason, is found in a chapter of the *Critique of Pure Reason* that lies between the Analytic and the Transcendental Dialectic. The author offers the reader who has followed him through the difficult sections of the Transcendental Deduction and the Analytic of Principles a general overview of the path he has just taken. The title of the chapter, *On the ground of distinction of all objects in general into phanomena and noumena*, echoes the title of the 1768 essay *Concerning the ultimate ground of the differentiation of directions in space*. An echo that is probably not accidental. It suggests that here too there is a problem of orientation. A problem that does not concern directions in space (up, down, right or left), but rather the distinction – and moreover a very important one for the description of the spaces of reason – between phenomena and noumena, between the logic of truth and the logic of dialectical illusion, inherent in the ideas of reason. This is the passage in which the carticity of Kant's writing is most evident:

> We have now not only traveled through the land of pure understanding, and carefully inspected each part of it, but we have also surveyed it, and determined the place for each thing in it. But this land is an island, and enclosed in unalterable boundaries by nature

> itself. It is the land of truth (a charming name), surrounded by a broad and stormy ocean, the true seat of illusion, where many a fog bank and rapidly melting iceberg pretend to be new lands and, ceaselessly deceiving with empty hopes the voyager looking around for new discoveries, entwine him in adventures from which he can never escape and yet also never bring to an end. But before we venture out on this sea, to search through all its breadth and become certain of whether there is anything to hope for in it, it will be useful first to cast yet another glance at the map of the land that we would now leave, and to ask, first, whether we could not be satisfied with what it contains, or even must be satisfied with it out of necessity, if there is no other ground on which we could build; and, second, by what title we occupy even this land, and can hold it securely against all hostile claims. (Kant [1781]: 354)

The image of the island of truth is a multi-layered image, a perfect amalgamation of the landfalls made by the main protagonists of the Age of Discovery. Kant assembles it by drawing on various textual and iconographic resources. Now, from the point of view of carticity, the references to the medial structure of the map as a device of panoptic vision are the first to catch the eye in this passage. A map on which, according to Kant, one should take another last glance before deciding whether it is really worth venturing out to sea in search of new knowledge. The second aspect to emphasize is the opposition between the habitable and measurable land of experience (i.e. the land of the intellect) and the impulse to sail into the ocean of metaphysical illusion. This is an elementary opposition that Kant had already used in the pre-critical period and that seems to be constructed in analogy to the typically modern opposition between the territoriality of states (that striated, metric, sedentary space that can be mapped and delimited within the boundaries of national sovereignty) and the fluid non-territoriality of the marine element (a smooth, vectorial, essentially nomadic space). On the other hand, land and sea form a conceptual pair in relation to which the image of the island acquires an exceptional status, qualifying the specificity of its geographical space as a *locus* of imagination: as a hybrid space in which the smooth and the striated naturally confront each other. But exactly in what sense do they confront each other? If we follow Kant, then the confrontation occurs when, after having traversed and surveyed the island in all its parts, we turn our backs on the mainland and look out over the ocean of metaphysics – it is then that «unexpected Friedrich-like landscapes» (one thinks of *The Sea of Ice*) open up before our eyes (Cacciari [1990]: 52). To satisfy our desire for knowledge, the only thing that seems possible is to step outside the narrow limits imposed by the understanding and venture out into the open sea. Led to the objective limit of experience, reason, as Kant adds in the *Prolegomena*, «sees around itself as it were a space for the cognition of things in themselves» (1783: 142). Out of this comes that «sickness of reason that has its germ in our nature» – or, in an alternative formulation, that «longing to leave our circle and to relate to other worlds» (Kant [1776-1778]: 209-210)

It is worth noting that in the passage in which he evokes the image of the island of truth, Kant prepares the (thematic, argumentative) transition from that region of experience in which categories have an empirical meaning and in which the intellect has its domain – a domain that coincides with the solid ground of experience – to that region in which, on the other hand, categories have a simply transcendental meaning. We can therefore expect to find two different types of philosophical cartography at work in the land of pure understanding and in the ocean of dialectical illusion. Two cartographic logics which the system of pure reason forces us, however, to see as interrelated. In the first case, we are faced with a cartography of immanence (which will appeal to the spatial presuppositions of state sovereignty). In the second case, the metaphysical curiosity for new lands of exploration will compel the intervention of a cartography of transcendence. That is to say, it entails recourse to a nautical chart that allows reason itself to draw the limits of its own legitimate domain (be it in relation to the concept of nature or that of freedom). The result is a map such as that representing the voyages of Cook's second Pacific expedition, in which the limits of the navigable sea are definitively marked on the paper.

Technically, Cook's map is constructed as a polar stereographic projection: «The South Pole is both the center of the projection and the fulcrum of the circumnavigation» (Bonazzi [2022]: 84). For the English captain, adopting such a point of view meant including in the representation of the experience of exploration a land, the *Terra Australis*, which had hitherto remained excluded from traditional cartographic representations of the world because it fell halfway between science and fantasy. In this regard, it is significant that in the early essay *Universal natural history and theory of the heavens*, published in 1755 (i.e., twenty years before Cook circumnavigated the entire globe), referring to his own philosophical project Kant still uses the metaphor of the *terra incognita*: «on the basis of a slight supposition», he writes, «I have dared to undertake a dangerous journey […] and already see the foothills of new lands. Those who have the courage to pursue the exploration, will step onto those lands and have the pleasure of bestowing their own name upon them» (Kant [1755]: 194). By contrast, in the transcripts of his geography lectures dating back to the 1780s – thus after Cook's third expedition (1776-1780) to the edge of the world – Kant slightly modifies his scheme, claiming that the design of both sides of the Earth is now known.

The question, as we have mentioned, is above all methodological in nature: what is the cartographic model that allows us to represent reason as a systematic unity organized in a non-arbitrary manner? Which figures of thought should we resort to in order to think about the connection between the full space of experience and the empty space of the noumena in geographical terms? What cartographic operations make it possible to leave the island of truth in order to explore the field of intellectual concepts, without giving in to the temptation to occupy it with fantastic representations claiming to be knowledge?

7. *Drawing the Sphere of Reason*

Although Kant never described himself as a geographer of reason, the cartographic sense of his doctrine of method can be measured precisely by comparing it with «one of these geographers of human reason» (Kant [1781]: 654), namely the famous David Hume, who, according to Kant, was responsible for first interrupting his «dogmatic slumber» (Kant [1783]: 42). Aware of the novelty characterizing the project of a science that determines the horizon of reason itself, Kant states with conviction in the *Prolegomena* that no one before him had ever had this idea. Admittedly, Hume was the only exception in this regard as evident from «the hint that [his] doubts had been able to give». As Kant then goes on to elaborate:

> Hume also foresaw nothing of any such possible formal science, but deposited his ship on the beach (of skepticism)for safekeeping, where it could then lie and rot, whereas it is important to me to give it a pilot, who, provided with complete sea-charts and a compass, might safely navigate the ship wherever seems good to him, following sound principles of the helmsman's art drawn from a knowledge of the globe. (Kant [1783]: 58-59)

Kant's invocation of the nautical chart and the compass as indispensable tools for safe philosophical navigation testifies in an original way to the distance between his geography of reason and Hume's *mental geography*. The spread of instruments such as the compass, the sextant, the theodolite or Harris's clock did indeed underpin the emergence of a new dimension in nautical charting. This technical revolution – for that is what it indisputably was – radically changed the issue of the itinerary, allowing explorers to pose the problem of navigation and the cartography associated with it in a new and much more complex way. The new instruments did not just respond to new geographical problems. Additionally they introduced an entirely new coordinate: that of reference (mediated by the stars and new triangulation operations) to the unexperienced, abstract notion of the geographical totality of the globe.

Now it is significant that Kant, in the *Transcendental Doctrine of Method*, uses the very example of the figure of the earth to illustrate the difference between skepticism and the critical method. The reason why it is significant is because, in his view, if Hume had recognized the synthetic and a priori nature of mathematics, his considerations would have been very similar to those found in the *Critique*. But what is the connection between mathematics and geography?

In his *Physical Geography*, Kant distinguishes different types of geography (physical, mathematical, political, moral, theological, mercantile). As a necessary prolegomenon to physical geography, mathematical geography deals with the «shape of the Earth» – which, «as Newton has established», and subsequently «observations and measurements have confirmed» is that of a spheroid – «the

size and motion of the Earth, as well as its relation to the solar system» (Kant [1802]: 451-453). It should be noted that in the 18th century mathematical geography was also called «mathematical cosmography», an ambiguous term which constituted the broad conceptual fusion of astronomy, geography and cartography, and which possessed a terrestrial as well as a celestial component (Forbes [1980]: 417-418). By adopting mathematical precognition in the realm of geography, Enlightenment geographers could draw imaginary lines of longitude and latitude «on the surface of a sphere on which we normally do not distinguish anything» (Kant [1802]: 458). Establishing a meridian is, in fact, the first act of global representation.

The Earth, we are taught in *Physical Geography*, is a spherical body. But a sceptic like Hume, relying only on the appearance of the senses, represents it simply as «an indeterminably extended plane», of which he can only know the limits. And by sketching the «survey of the region in which it [reason] finds itself», he will know that there is always something left to know, that there is a space in which it will be possible for him to proceed. Skepticism, in fact, Kant points out, «is not a dwelling-place for permanent residence; for the latter can only be found in a complete certainty, whether it be one of the cognition of the objects themselves or of the boundaries within which all of our cognition of objects is enclosed». Therefore, only those who, like the critical philosopher, investigate the «ignorance in regard to all possible questions of a certain sort» come to know that the Earth is round and that its surface is not flat, but spherical. Even if they start from a small part of it, such as the width of a degree, they will be able to know its entire diameter, and thus its boundaries and its entire extent, in a determinate and principled manner:

> Our reason is not like an indeterminably extended plane, the limits of which one can cognize only in general, but must rather be compared with a sphere, the radius of which can be found out from curvature of an arc on its surface (from the nature of synthetic a priori propositions),from which its content and its boundary can also be ascertained with certainty. (Kant [1781]: 654-655)

In this passage, Kant seems to be transferring onto a philosophical level a cartographic problem that had opposed the intellectuals of the 18th century, in particular those of an English-Newtonian and French-Cartesian persuasion: namely, the problem of measuring the meridian arc, a measurement on which the precise determination of the shape of the Earth depended. To solve this problem (which had not only metaphysical and scientific but also political and economic consequences), two teams of scientists were selected in 1735: the first, led by Maupertius, was sent to measure the arc of the meridian in Lapland. The second, led by La Condamine, went instead to South America to carry out the same geodetic surveys near the equator, in Quito, Peru. By comparing these two measure-

ments, the exact shape of the Earth (a spheroid flattened at the poles) was finally determined and the dispute between Cartesian and Newtonian was settled once and for all in favor of the latter. In this respect, Quito and Lapland are both «the concrete location of the measurement lines (or chains) as well as the site of abstraction of the mathematical measurements that coordinate a simulation of the earth» (Parikka [2023]: 133). The local measurement of the length of a single degree of latitude is in fact the starting point for mapping the planet itself. As Ferreiro explains:

> After the expedition confirmed the length of the chain of triangles, routine astronomical observations and mathematical calculations were all it should take to determine the length of a degree of latitude. Once they had the overall length of the chain, the scientists would take simple star sightings to establish the latitude at each end. Dividing the length of the chain by the difference in latitudes would produce a single number, the length of a single degree of latitude at the equator. When this was compared to the length of a degree back in France, they would know for the first time the true figure of the Earth. (Ferreiro [2011]: 133)

This example provides evidence that Kant was attentive to the complete mapping of the globe during his career, observing almost live the empirical construction of its global image. It turned out to be an event that influenced both the way he taught geography and the meaning and function of his geographical metaphors. Cook's drawing of the boundaries of the navigable sea and the geodetic expeditions of La Condamine and Maupertius contributed to the birth of a new "planetary consciousness", anticipating the jump in scale that is summed up in the concept of globalization.

For Kant, the ability to represent the unity of reason as a sphere is architectonic knowledge in its most universal form. If reason can be likened to a sphere, it is because its operationalization as a cartographic image allows the limits of experience to be drawn from within experience itself, and thus the continuity between land and sea, between intellect and reason, to be thought without contradiction. Globalisation (today as yesterday) reveals itself therefore to be not only a historical event, the result of an «adventure for seafarers», but also an «event in the history of knowledge» – a history that encompasses words, images and imaginaries.

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Notes

1 By 1870, there were only three chairs of geography in the whole Germany (see Tanca [2012]: 15).
2 According to McLuhan (1994: 57): «All media are active metaphors in their power to translate experience into new forms».
3 As Siegert (2011:13-14) explains: «A main feature of the analysis of maps as cultural technologies is that it considers maps not as representations of space but as spaces of representation». Such an approach is concerned with «the way changes in cartographic procedures give rise to various orders of representation, and read maps as media that are themselves agents of subject constitution. The marks and signs on a map do not refer to an authorial subject but to epistemic orders and their struggles for dominance over other epistemic orders».
4 For Kant's «philosophical imaginary», see Le Doeuff (1980).
5 For the map as an «immutable mobile», see Latour (1990).