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From where do I see the world? A learning activity with mental world maps

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Abstract

This contribution shares a teaching experience centred on drawing mental maps of the world to stimulate students to reflect on the relationship between map, geography and imagery, revealing the taken-for-granted spatial ordering on which these elements are constructed. The relationship between maps and imagery has long been debated from both cartographical and geographical perspectives, opening interesting didactic directions when it comes to making students responsible for their own geographic imagination in a conscious manner. In particular, this research draws from a world mapping exercise carried out by university students during a human geography course for a master's degree in local development at the University of Padua (Italy). Focusing on the students' sketched world maps and on some results of the individual and collective debriefing, carried out in class, a deductive process is employed to illustrate mapping practices as a learning tool that is capable of visually developing critical and situated geographical knowledge. The approach could be adopted with groups of different ages and in various courses.

1. Introduction: Geography in the mind

"Much of our 'geography' is in the mind – in the mental images we carry of the world", writes Doreen Massey (1995, p. 5). The present article aims to share a teaching experience centred on drawing mind maps[1] of the world to stimulate students to reflect on the relationship between cartographic and geographic imagination and reveal the taken-for-granted spatial ordering on which this relationship is constructed.

The relationship between maps and world imagery has long been debated from both cartographical (Crampton and Kryger, 2006) and geographical perspectives (Kitchin et al., 2009; Curtis, 2016), opening interesting didactic

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[1] A useful definition of a mental map is the following: "[It is] a map of the environment within the mind of an individual which reflects the knowledge and prejudices of that individual. Such a map reflects the individual's perceptions of, and preferences for, different places and is the result of the way in which an individual acquires, classifies, stores, retrieves, and decodes information about locations" (Mayhew, 2004, p. 324).

directions for making students responsible for their own geographic imagination in a conscious manner (Somdahl-Sands, 2015; Seemann, 2022). In particular, the current research draws from a world mapping exercise attended by first-year students during a human geography course for a master's degree in local development[2] at the University of Padua (Italy). The main theme of the course, entitled "Geographical Space: Concepts, Tools, Practices", was geographical space as an interpretative category[3] as built from Lefebvre' idea that space is produced all at once in how it is perceived, conceived and lived (2000).

I developed the didactic activity by starting from the consideration that maps embody space as a social and relational product. As Massey states, "[Maps] express particular interpretations of the world, and they affect how we understand that world and how we see ourselves in relation to others" (1995, p. 20). Thus, sketch mapping becomes the tool for projecting the image that is in our mind onto a sheet of paper, making it somehow tangible and observable as an external object, a sort of mirror in which we can see reflected a snapshot of our mind and recognise our own view of the world, revealing its implicit assumptions and implications. It is a question about considering what those maps can tell us not only about our knowledge (Saarinen, 2001) but especially about our way of seeing and what influences our gaze. In this way, the learning activity consists of interrogating maps as "representational practices" (Del Casino and Hanna, 2006) at two interconnected levels. We

consider how maps work as part of a sociocultural context because maps are and reflect a form of socially constructed and manipulated knowledge (Harley, 1989; Crampton, 2001). To recognise the implicit imagery hidden in maps as powerful discourses, we followed the path opened up by Harley (1989), that is, a deconstructionist critique of cartography as a form of power. Indeed, the Harleyan approach helps in revealing the purposes of maps and their consequences, the narrative potential of maps, their hidden meanings and their ideological nature as tools for legitimising a political project that can be unmasked by investigating their rhetorical and persuasive devices (Crampton, 2001; Boria, 2011; Gieseking, 2013). At the same time, given the social and processual nature of the maps it is essential to see maps not only as a product, as the result of a project, but also as a "process" and a "practice" (Kitchin et al., 2009; Perkins, 2009) whose meanings do not reside exclusively within stable cartographic representations but are generated by contingent processes and negotiations, questioning us as consumers but also as creators of maps (Rossetto, 2015). To do this, the post-representational cartography approach has guided us in observing "maps as event" because "maps are of-the-moment, brought into being through practices (embodied, social and technical), always re-made every time they are engaged with […] maps are transitory and fleeting, being contingent, relational and context-dependent" (Kitchin and Dodge, 2007, p. 335).

Focusing on the world maps drawn by the students and on some results of the individual and collective debriefing, carried out in class, a deductive process was used to illustrate mapping practices as learning tools capable of visually developing critical and situated geographical knowledge (Rose, 1997; Massey, 2005).

2. From the mind to the map: Back and forth

"To ask for a map may be to ask for a story, but …, the story may be complex, reinforce dominant worldviews and involve hidden forms of power and control, or may be open to highly contested readings" (Vujakovic, 2017, p. 498).

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[2] The local development master's degree prepares students to become professionals in local development and development cooperation within different social and territorial contexts, within governmental and nongovernmental organisations at the local, national and international level, trade and citizenship associations.

[3] The course was structured in three learning units: the first dedicated to questioning one's own geographical imagery through the map of the world; the second aimed at exploring how the concepts of space and territory have been interpreted over time by Anglophone and continental geography; and the third aimed at investigating the link between space narratives and development to recognise how a certain way of describing space implies a certain idea of development.

In the current paper, I present an introductory activity on the concept of space built around the question "From where do I see the world?" and centred on drawing a map of the world. The class consisted of around 50 students from different parts of the world[4] and who had very different educational backgrounds. The task assigned to the students was easy: "Close your eyes and imagine the world map: What can you see? Try to transfer the image of the world map you have in your mind by drawing it on a piece of paper".

Because the course was conducted both face to face and online, students were asked to draw the map on a sheet of paper (those in the classroom were given a blank A4 sheet), photograph it and upload it to the Moodle learning platform. The collected drawings (43 in total) thus constituted a dense and complex universe of visual narratives of the world that made it possible to think both about the map not only as a cartographic and textual representation but also as lived objects, open events, contingent encounters and embodied experiences (Kitchin and Dodge, 2007).

During the debriefing phase, students were invited to carefully observe their own map, starting with a few simple stimulus questions: "What can you see? (e.g., which countries, continents and regions were drawn or named on the map, with what spatial extent and shape, the possible presence of borders, natural features ...) What is in the centre of the map? What is on the margins? What is at the top and what is at the bottom?" The questions were intended to focus on what the map shows us in terms of our knowledge of the world and our way of looking at it, to understand which worldview is guiding us and what our starting point is. The individual debriefing moment was followed by a collective phase of comparison and discussion[5] starting with some data and information that could be derived from the different maps to reveal the

implicit aspects and hidden conditioning to enhance their cartographic awareness and consciousness of their environment (Seemann, 2022).

2.1 Mapping is about making sense of the world, yet…

An initial element common to all the maps[6] (including the three in which the Earth was drawn as a sphere – e.g., Figure 11) concerned the location of north at the top of the map, which together with other aspects of location identification (e.g., the line of the Equator in Figure 4, the use of terms such as "the Middle East" in Figure 3, "Near East" in Figure 2, "North/Central/South America"...) or certain cultural characteristics (e.g. Latin America), and the indication of continents were the basis for opening a reflection on the role played by location as a critical position of objects. The spatial structure orders relations between individual spatial forms and the whole of which they are a part. In this regard, Boria highlights the "weight of conventions" that are "seemingly neutral but in reality powerfully condition the reading of the map" (2011, p. 292). The positioning of north/south, respectively, at the top and bottom of the map as well as east/west, for instance, in defining a spatial position materialises a relationship between areas situated as opposites. The fact that, in the maps, the Americas are positioned on the left side of the map implies that Russia and China will automatically be placed on the opposite side of the map when, in reality, they are very close places, mirroring the same sea.

It is by convention that Europe is placed in the centre of planispheres (and as many as 29 students placed Europe in the centre of their map), and because of this central position, it acquires importance in the eyes of the beholder because we tend to place the most significant elements in the centre "for a physical reason related to human sight: the region of the retina called the fovea ensures maximum visual definition to the central area of the image we are

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[4] 21 students from Italy, 2 Germany, 1 Poland, 1 Egypt, 1 Nigeria, 1 Zimbabwe, 2 Ghana, 1 South Sudan, 1 Turkey, 1 Afghanistan, 1 US, 1 Mexico, 1 Brazil, 3 Ecuador, 2 Russia, 1 Kazakhstan, 2 Belarus, 2 Pakistan, 3 Indonesia, 2 Philippines.
[5] To collect students' impressions and reflections also outside class time, a forum was opened on the Moodle learning platform.

[6] When no specific references are underlined under the caption of the Figures, it means that the students-authors of the maps are anonymous.

looking at" (Boria, 2011, p. 292). Not only that, it is the upper part of the image and paper that acquires the greatest visual weight. This direction-dependent vision is because of both physical reasons (the experience of the Earth's gravity) and cultural reasons because of the fact that our perceptual scheme developed through reading is accustomed to proceeding from top to bottom. Therefore, the level of image perception of an object positioned at the top is not equivalent to one at the bottom (Boria, 2011, p. 292). Thus, there is a tacit valorisation of spatial objects based on our perception of their location as well as where we, as observers, are located (Massey, 1995).

At the same time, we are used to seeing the world divided into continents, subcontinents and nations, civilisations and cultural areas (e.g., "Latin America"), climatic zones (e.g., "cold area" in Figure 10), geopolitical blocks (e.g., "Russian Federation" in Figure 2), economic regions, developed countries/developing countries and so forth. These divisions are linked to systems of representations and discourses that seek to put the world in order to make it understandable (Dorling, 2017), but it is essential to recognise that, even if all those categories are omnipresent and seem obvious, they do not reflect the world as it is so much that of a certain geographical imagination hence taking on a political dimension (Cosgrove, 1999; Harvey, 2006; Casti, 2013; Staszak et al., 2019). Uncovering the political and ideological nature of maps allows us to identify the biases and risks associated with these divisions and any analysis based on them. Commenting on this point, a student said, "I never noticed the centrality of Europe in the map before, perhaps because I grew up with that image since primary school. Now, I find myself reflecting on how many things we take for granted and don't notice, all of which are the result of the ethnocentrism that perhaps unconsciously somewhat characterises us". In this regard, Raffestin (1981) reiterates the importance of the contextualisation of the gaze and the interpretation derived from it.

As is well known, through the debate opened by Arno Peters in the 1970s, the inevitable cartographic distortion caused by projections was finally addressed. Significantly, Mercator's projection was clearly recognisable in 14 student maps (see Figures 2, 7 and 8). Starting with the projection of a slide showing Mercator's map on the left and Peters' map on the right, the students were asked to indicate which of the two was more familiar to them and then which they thought was more correct. Almost all students indicated the Mercator map as the most familiar, and a large majority chose the same map as the most correct in their cartographic representation of the world. The pervasiveness of Mercator's map reflects the influence resulting not only from the school education received but also from the media in conveying a certain representation that becomes the dominant one (Saarinen, 1987; Fotiadis, 2009). However, because this map reflects the unequal balance of power of the relationships in which we are embedded, it also opens up the possibility of working for change. As one student said, "I find it very interesting that from an ideology, that is, from a structure of thoughts rooted for centuries, now five hundred years old, a whole mode of reasoning and approach to the world derives from it that still persists today. This only underscores the power of visual representations, and this is precisely why it is time to adjust them to redirect our perception of the world. Changing the maps, as trivial an action as it may seem, allows one to change thought, and thought is the motor of action".

The collective phase of discussion allowed the students to compare the world drawn from different perspectives to "get out of their own frame" by adopting the frame of others to see how the representation changes from another point of view (e.g., Eurocentric or Sinocentric position, e.g., in Figures 9 and 10), how spatial objects acquire a different order that disarticulates the usual centre and margins, drawing our attention to areas that are not considered, little or not at all known.

2.2 Maps as event: Seeing the world anew

The world maps drawn by students, as we have seen so far, undoubtedly bear the weight of cartographic conventions and media but also express personal choices and preferences made by the students themselves. This aspect, which

has been little investigated by the studies carried out so far on the subject (Curtis, 2016), highlights the essentially processual and relational nature of mapmaking and of space (Massey, 1995; Cosgrove, 1999; Kitchin et al., 2009; Perkins, 2009). For example, in Figs. 2 and 3, it is possible to notice how the same area is named differently, respectively "Near East" and "the Middle East", depending on the distance/nearness perceived by the beholder and the context in which it is placed. Some students have accompanied their map with a legend (see Figure 2), drawings or phrases (see Figures 1 and 12); another one has enclosed the map in a frame, colouring the continents like in the world map of the Olympics (Figure 5). In Figure 11, the only country named is Belarus, which is also marked with a red-coloured heart, a fact that reveals not only the country of origin of the map's author but also the bond of belonging and affection towards one's own country at a time when one is far from home and nostalgia is felt. A student used the map to address an apology message to Indonesian and Filipino classmates: "For Indonesian and Filipino classmates: Sorry for my horrible representation of your countries!". Here, too, the perception of the drawn space is charged with a specific valence based on the "here and now" and the "with whom" the experience is being shared (probably if there were no Indonesian and Filipino students in the class, the student would not have been motivated to notice how she had drawn those countries and to feel the need to apologise for the poor quality of her representation). Another interesting example is the map in Figure 2, where the student marked Alaska as part of Russia instead of the US. The map does not represent the present day, offering a rather curious historiographical tribute that could reflect a sort of "in-actio" geopolitical imagination where two different historical periods are depicted simultaneously. Figure 12 shows a peculiar and unusual representation of the world map: Here, the author included some symbolic landmarks, such as the pyramids, Mount Uluru and Lake Titicaca. This represents a mix of meanings that are typically separated or rarely shown together in such maps. Finally, maps showing the Earth as a sphere (e.g., Figure 11) were a useful example of recovering the perspective of a mobile world as opposed to the fixed and unchanging space of the map.

All these different examples highlight the unpredictable outcome of spontaneous cartography, which not only reproduces the collective imagination but also surprises us with the overlapping of realities that are usually kept distinct. This suggests that our imagination cannot be confined within the predetermined frameworks that our culture presents as normative. According to Kitchin, "Maps do not then emerge in the same way for all individuals. Rather, they emerge in context and through a mix of creative, reflexive, playful, tactile and habitual practices" (2010, p. 9). Thus, drawing a world map incorporated and conveyed personal situations, views, choices and messages showing how situated (Rose, 1997) and concrete (Boria, 2018) our cartographic imagery is and its being an active component of our relational actions and practices (Lefebvre, 2000; Harvey, 2006). In Lefebvre's words, the representation of space is always mediated by the space (time) of representation that is, by the moment in which one finds oneself and the experience that accompanies it. At the same time, it reminds us that the moment we draw or write something, we become "authors" in the sense that we exercise the power to authorise something to exist by making a choice about what to include and exclude and how.

Therefore, each map is a starting point for new beginnings, new worlds and new stories.

3. Conclusion: Situating maps and positioning yourself in the world

The educational potential offered by drawing mind maps of the world is manifold, opening up different perspectives for investigation and reflection on the map as a way of representing the world and the categories we use to think, represent, and experience space.

As Saarinen has demonstrated in his several studies on sketching world maps (1973, 1987, 2001), geographical knowledge plays a crucial role in sketch map characteristics. In fact, the parts of the map best drawn by students are generally their home continent, their homeland and neighbouring countries or the countries they

have visited. So, having one's own map in front of one's face with the areas of the planet we know best and those we know little or not at all, the countries we have difficulty placing on the map, their real extent, their borders and so forth opens up possible paths to improving one's knowledge of the world and its complexity and diversity. In an increasingly interconnected and multicultural world, knowing how to locate facts where facts happen is a fundamental reading skill for understanding phenomena that affect us from the local to the global scale.

A second factor of pedagogical importance concerns mapping as the practice of an attentive, critical and reflective posture. Precisely because of the fact that all knowledge is situated and, therefore, has its own position, it is fundamental to give oneself the possibility to consciously define one's own (What world map is guiding us? What's our starting point?), and from this starting point asking oneself what position we want to take, what we want our place in the world to be and from where we want to be engaged for change. The ability to historicise and situate (Vujakovic, 2017) one's own mental map of the world and what worldview one holds must be cultivated along with the ability to position oneself in relation to others and one's surroundings. Having such an awareness is crucial, especially when we seek to understand and propose solutions to the issues that involve humanitarian, social and political elements (Massey, 2004; Bilgen et al., 2021) both as citizens and as local development practitioners. This attentive posture should not be limited to deconstructing prominent geopolitical maps; critical approaches to mapping can also be applied to everyday cartographies, offering new research and discussion insights.
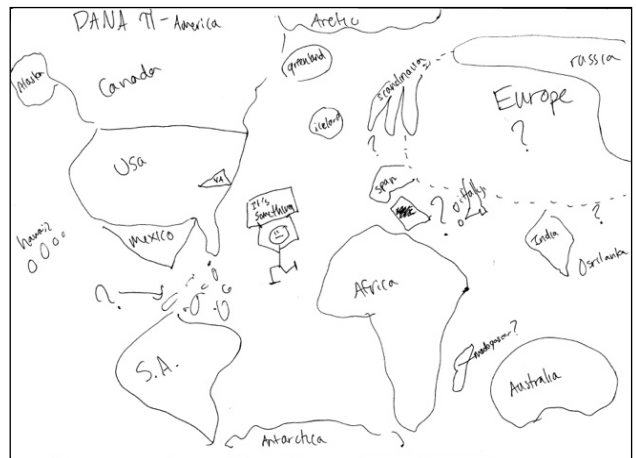

Figure 1. A Eurocentric world map drawn by a US student showing question marks in less-known areas.

Figure 2. A Eurocentric Mercator world map containing a legend to indicate "other countries" not included. It is interesting to note here that Alaska belongs to Russia and the use of the designation "Near East" and "Russian Federation".

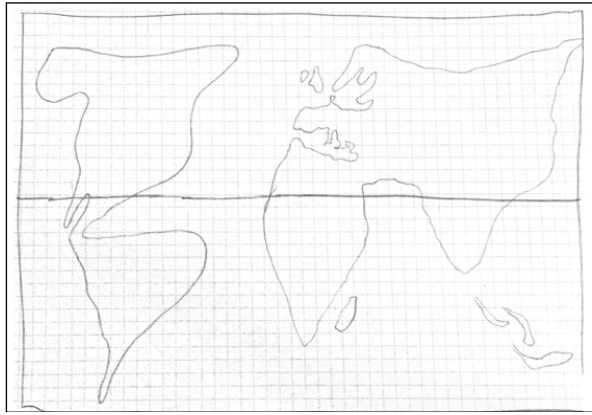Figure 3. The use of the designation "The Middle East" can be noticed here.

Figure 4. A Eurocentric world map with the equator line drawn much further north than its position.
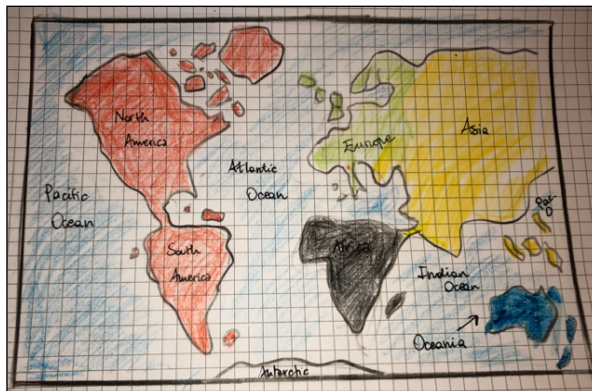

Figure 5. A Eurocentric coloured map of the world. It is interesting to note here the choice of the same five colours used in the Olympics world map.

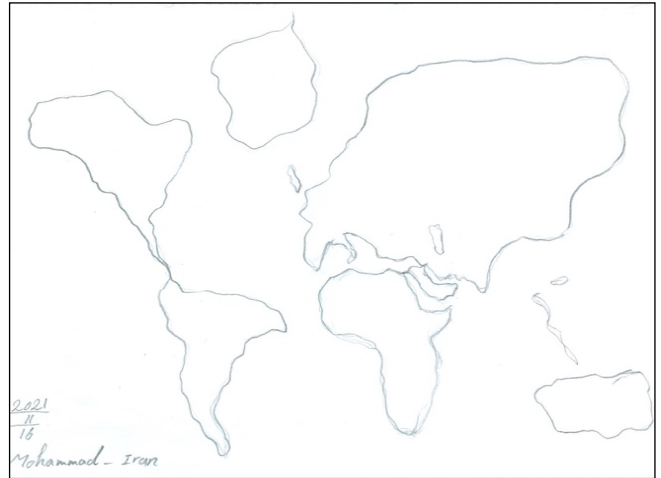Figure 6. A Eurocentric world map drawn by a Mexican student.

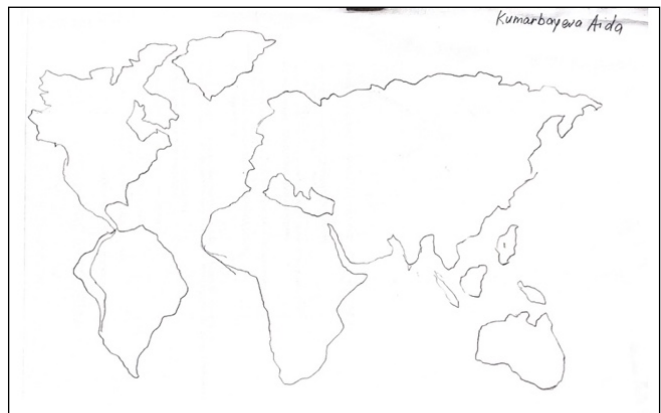Figure 7. A Eurocentric Mercator world map sketched by an Iranian student.

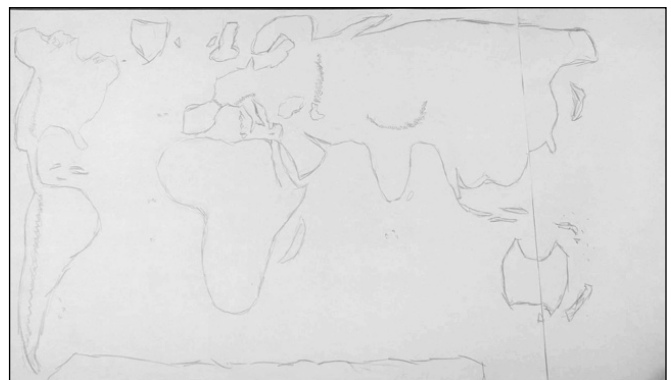Figure 8. A Mercator world map sketched by a Kazakhs student.

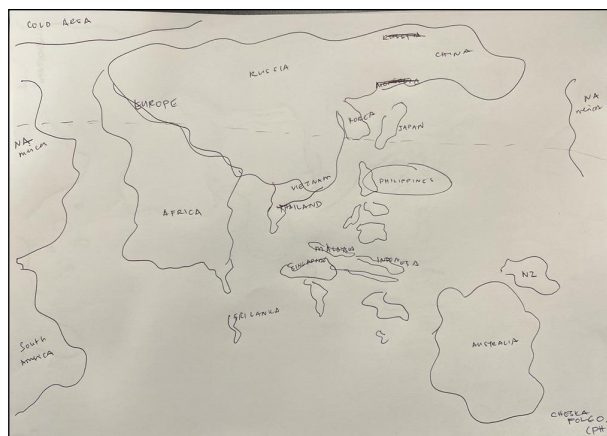Figure 9. A Sinocentric world map with some mountain ranges traced within.

Figure 10. A Sinocentric world map. The use of the term "cold area" can be noticed here.

Figure 11. An example of a spherical representation of the Earth.

Figure 12. A coloured Eurocentric sketch map of the world: It is interesting to note here the importance given to natural and symbolic elements (e.g., deserts, mountain ranges, islands, lakes, mount Uluru, Pyramids, Titicaca Lake, etc.), and to the presence of the Pacific Ring of Fire, which traces a spatial continuity between the areas represented at the edges of the map.

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