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Sky in the Room: Maps from Quarantine

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Abstract

This article aims to present and discuss the main results of an exercise carried out as part of a university course in Human Geography, which took place online in the March-May 2020 period. Following the need to represent the space perceived in the quarantine due to the lockdown period caused by the Covid-19 pandemic, about fifty students made themselves available to relate, through mental mapping, the transformations of their pre- and post-epidemic experience. After a brief introduction on the theoretical bases and motivations of this specific assignment, we will analyze the elements highlighted by the students in an attempt to offer a critical and contextual reading of how the subjective and contingent conditions interact with the relationships with the living space. Therefore, the mental maps produced will become the narrative tool to offer an interpretation of the time and space of modification in this particular unprecedented situation. This condition has transformed external stimuli into mental contents by placing an emphasis on the relationships between individual and territory, relationships and perceptions of space.

Keywords: Covid-19, Geography of Perception, Mental Mapping, Quarantine, University Course

1. Introduction

This paper presents a qualitative empirical piece of research carried out during the quarantine period dictated by the Covid-19 pandemic (March-May 2020) aiming to decipher the challenges and expectations of a specific group of second-year bachelor-degree students in "European and American Language, Literatures and Cultures" of the University "L'Orientale" (Naples, Italy) who participated in a Human Geography university class, as well as to analyze their perceived space during that timeframe. Asking the students to provide their own personal observations and perception of the imposed seclusion due to health restrictions – both through the production of maps and through comments and discussions – allowed them to "co-construct" a collective reflection from individual experience (Bignante, 2010). The issues posed by the distance education during the lockdown, whose consequences have already been discussed by Morri (2020) and Sarno (2020), completely changed the learning process and the teaching instruments, revealing the digital and cultural divide among students and within their families: even though it is evident how the information system cannot reproduce the educational process and the relational dynamics, the period of quarantine/ lockdown forced everyone to act in the wake of an unpredictable event, with improvised means.

Therefore, the idea of this experiment is based on the conviction that in a geography course it is important "to mentally represent space, gaining knowledge of the notions of point and system of reference, relative position, path and displacement" (MIUR, 1985, p. 43). Moreover, the Road map for 21st century education, published by the geography American Association of Geographers (2013), encourages geography education researchers to study how students learn geographic concepts. Those recommendations underline how the student can be considered as a "geographic actor" and the "place" can be represented by their living space where all relationships mix with overlapping feelings, individual and collective memories, and symbols. However, this Geography, taught "from below", has not been frequently integrated into the teaching traditions in any cycle of education.

Nevertheless, the study and production of mental maps, not only can help to analyze the degree of "spatialization" (the value given to space) of the student in a learning perspective, but also makes it possible to have an insight into the cultural view of the society in a given historical moment, from a research-based point of view. Indeed, Gumuchian (1988) affirms that from an early age man becomes a consumer of the space on which and in which he uses his own representations, systems and explanatory systems and therefore they adapt according to circumstances: this perception of space and its ensuing representations, leads to the making of territories.

This pedagogical approach, already proposed by Clary, Ferras, Dufaud and Durant (1987) shows how a systemic representation of the space-time-society articulation can highlight the way in which the subject (in this case the students) is able to organize space and makes it intelligible through the combination of spatial elements through which to build their world. Several example(s) of the application of this approach, which is based on the contributions of the studies made by Lynch (1964) Frémont (1976) and Bailly (1985) and which has inspired this work, can be recognized in the recent contribution of Didelon, de Ruffray and Grasland (2011) concerning the mental map of students in the frame of the "EuroBroadMap" project; the reflection of Lariagon (2015) concerning university students' perception of their educational space; the analysis of Larsen and Herrington (2016) of Kansas third graders and their community-based sense of place; and the article of Bernardo and De Pascale (2018) about the mental representation of memory places between Sicilian primary school pupils.

While scholars often use the terms "cognitive mapping" and "mental mapping", for the purpose of this article the term "mental maps" will be used to describe those representing maps of spaces (Wood, 1973, 1992). This term refers to one of the principal items of behavioral geography (Johnston et al., 2000), and represents a useful technique for analyzing and identifying perceptions in a determined place and time (Eden, 2004; Xiang and Formica, 2007). As mental maps reflect individuals' spatial proclivities (and priorities), they represent a useful tool for representing people's life worlds because they can help to reveal people's experiences and perceptions (Johnston et al., 2000; Choi, 2008).

However, despite its usefulness, this approach is not without its critics: some scholars argue that the mental map cannot be assumed to relate to an individual's behavior, or that the landscape is often overlooked (Jackson and Smith, 1984); some others consider that the information in a mental map represents a simplified version of reality that is distorted because it has been filtered several times (Knox and Marston, 2004), also depending on the individual's mental state (Jenkins and Walmsey, 1993).

In the wake of this investigative field, the optional assignment concerning the realization of mental maps to describe the living space during the quarantine was given to the 120 students participating in the online course (as the average number of the participants in the online class on the Microsoft Teams platform) and about 1/3 of them decided to get involved in the experiment. The voluntary exercise (to be

handed in after fourteen days) was given at the end of the course, after some hours spent explaining the basic concepts and theories of Perception Geography, and specifically the work of Lynch, the proposer of one of the most influential theories concerning spatial cognition (Portugali, 2011).

The mental maps produced in this particular and unprecedented situation (from a geographic perspective, among others: Sparke and Anguelov, 2020; Cataldo, 2020 and the special issue of the Italian review Documenti Geografici, edited by Bozzato, 2020), that has transformed external stimuli into mental and intimate contents, have served as a narrative tool to describe the changed relationships between individual and territory: analyzing these maps allowed us to have an insight into intimate and very personal geographies and even into the relationship between the body and the space lived in (Longhurst, 2001), intended both as a physical place and as a (possibly) hierarchical system of relationships (Claval, 1981). In fact, these mappings refer to the set of cognitive activities that allow each one to select and encode spatial information and have been created with different symbolic systems and linked to the sensitivity of each.

After having collected the maps and discussed their personal experience with the students, we proceeded methodologically on the basis of what was proposed by Downs and Stea (1973) according to whom the processing of data that can be obtained from mental maps requires the construction of a simplification in which the common points of the collected maps are highlighted: this "model" makes it possible to visualize the spatial elements on which the actors place the stress and those instead that are underestimated.

The application of this approach, in a time of "isolation" has allowed us to have an effective representation of the discomfort, expectations and practices that changed in the three months of lockdown: the feelings towards a place (Tuan's "Topophilia", 1974), in fact, seem to be reticulated and redesigned according to the needs of the new daily life. The sense of place and its perception have already been the main issue of research in science education (Stevenson, 2011), and in geography education (Avriel-Avni et al., 2010; Gillespie, 2010) as associated with place attachment, where a particular area contains a certain amount of significance for an individual (Manzo and Devine-Wright, 2014).

Not being able to proceed, due to methodological limits, to a critical analysis either of the vision of distance learning or of the problems related to the digital divide or, even less, to the psychological repercussions of the lockdown encountered by students and apart from the various problems related to the health and economic crisis, in this paper we set out to highlight the breaking/continuity elements of the lived and perceived space that can be found starting from the students' cartographic representations.

After having broadly presented mental maps produced by the students, we will discuss in detail the categories of the represented space, underlining the personal trajectories, reflections and observations. Since the work is restricted to a single institution and a limited group of students, this analysis will provide a specific point of view of the lockdown measures in relation to the Covid-19 period, and even though there is no claim of generalization, some elements will help to underline teaching and learning features related to mental mapping.

2. Students' mapping

The 41 different maps produced by secondyear students participating in the Human Geography class, which were not meant to be part of scientific research, were later grouped, categorized and analyzed, according to the representations that the students decided to emphasize.

Methodologically, because of the public nature of the classroom's access and the privacy laws in force, in our position it has been impossible to have more information concerning the personal data of the students (age, sexual/political orientation, origin, place of residence, religion/belief, working activity, disability, number of family members, socioprofessional class, university enrollment year, 42

device used to connect, quality of the connection etc.): in the absence of such data, we only intend to comment on the corpus available. Otherwise, we know that only 4 maps have been produced by male students, but this is not surprising since the course is mostly attended by female students and the average age of the students who normally attend this course is about 20-22, and that many of them come from the Campania Region (according to the data of the Interuniversity Consortium Almalaurea, 2020). For this reason, we do not have sufficient data to make a quantitative analysis of the results, even in consideration of the fact that due to the voluntary nature of the exercise there could be a bias of self-selection (only one third did the experiment, probably the most motivated? the ones with the best connection? the ones who were most tired of quarantine? the most sensitive ones?), limiting a possible comparison, but leaving ample room for improvement for future research methodologies.

Generally speaking, the maps were drawn on paper and then digitalized; only in 3 cases were the maps directly produced using dedicated software (i.e. PowerPoint or InDesign). The hand sketched or computer-assisted maps generally seem to have infantile lines / traits: in fact, according to all the students, the act of drawing is an activity linked to childhood since almost nobody is used to drawing after compulsory school (Pasquinelli d'Allegra, 2009; De Vecchis and Morri, 2010; Giorda, 2014).

As well as those aspects, in order to analyze the maps, we first offer a snapshot of the elements recursively represented in the 41 maps (Table 1), in an attempt to provide a synthesis. The syntax of the presented legends and their symbology, through which it has been possible to extrapolate the different elements useful for the categorization, reflects the peculiar moment, the public narrative surrounding the virus, the modified time schedule and the political communication used to describe the quarantine/lockdown. Those drawing elements entail a basic spatial analysis of how a map is drawn, paying particular attention to the ways mapping looks and conveys knowledge (Monmonier, 1996).

The chosen parameters, reinterpreting the scheme proposed by Moles and Rohmer (1972) and as taken from Frémont (1976) whereby it is possible to delineate the "shells" of the lived and perceived space (Figure 1), refer to:

- A. The body:
 - 1. The presence of the subject in the representation (self-representation);
 - 2. The representation of feelings (as a mental space).
- B. The personal space:
 - 1. The representation of the students' bedroom as main focus;
 - 2. The representation of the activities/ places impossible to do/attend during the lockdown.
- C. The house:
 - 1. The house planimetry;
 - 2. The domestic spaces used during the quarantine;
 - 3. The representation of the new activities/practices performed during the lockdown within the domestic space;
 - 4. The representation of the temporalities (how many hours spent in different rooms or doing specific activities etc.);
 - 5. The presence of the actors concerned (members of the family, cohabitants or flat mates).
- D. The outside:
 - 1. The representation of outside places;
 - 2. The distinction between safe or unsafe zones;
 - 3. The comparison between the lived spaces between the two periods: pre and during the quarantine.



Figure 1. The "shells" emerged of the lived and perceived spaces.

Source: elaboration from Moles and Rohmer (1972).

The four main sets refer to the amplitude of the representation produced; the subcategories to the represented elements which underline the value and the perceptual meaning; the numbers, to the impact of the representation (x/41) (Table 1).

Body	Self-representation	12
	Feelings	11
Personal	Room	6
	Missed Activities/Places	13
House	Planimetry	25
	Used places	24
	New activities/practices	30
	Temporalities	6
	Actors	13
Outside	Places	14
	Safe/Unsafe	2
	Comparison	17

Table 1. Element recursion in the 41 students' maps. Source: elaboration from students' mapping. Primarily, the role of mental space as the first place to be explored is the *leitmotif* on which many have focused, proving a deep reflexivity in a period of absence of the "outside" physical space: the example of music or reading as instruments of escape to cope with a stressful time, but also of self-reflection, are emblematic (Figure 2).

Equally interesting is the representation of the brain as a geographical map of an imaginary path between the confusion dictated by the particular moment and the awareness linked to the need to cope with it (Figure 3).



Figure 2. An escape melody. Source: Elisabetta Stora, 2020.

Secondly, the "personal space" (as analyzed by Lyman and Scott, 1967) becomes "public space" in some representations and *vice versa*: the use of IT tools partially manages to meet relational needs, also highlighting all the critical issues that they themselves present (privacy issues and alienation, for example). The networks, paths and flows that are normally generated change in a "km0-t0" ratio (Figure 4).

Considering the third group (house shell), times change and the "zones", the "territories" within the house modify: corridors become kitchens. experimental gyms: ateliers: bathrooms, beauty salons; balconies, outdoor areas for aperitifs, singing at 18 for the collective solidarity flash mob (Morrow, 2020) and chatting with neighbors, and where people hang colored banners or flags with the drawing of a rainbow and the hashtag "#andràtuttobene" (everything is going to be all right); living rooms, cinemas or the TV with the daily appointment with the Civil Protection bulletin; even the University, throughout the online class, often becomes a collective activity (shared with family/cohabitants) when the students follow the online classes in the living room or in the kitchen (Figure 5).

People within the family (or the cohabitants) assume new roles, organize unplanned activities, discover new relations or attend new places (as shown in Figure 6): this period becomes an opportunity to reframe practices and timing in the domestic space.

Finally, the last "shell" is centered on the relation with the outside which is considered an unsafe space. If the houses are spaces perceived as "safe", as opposed to "outside", the sanitary provisions also reverberate in the material practices (including the diktat of "wash your hands", presented in the paper in which, emblematically, the centrality lies with the representation of the Coronavirus); in some families there are "exit kits" in an entrance used "only in case of need" (as shown in Figure 7).



Figure 3. Mental map: a lockdown brain trip. "Legend (from top to bottom): Starting point, arrival, stages. Left hemisphere: Logic; Right hemisphere: imagination". Source: Maria Rosaria Scala, 2020.



Figure 4. Path comparison. "Internet: mail, university, friends, shopping, clothes, gym, tutorials, cinema". Source: Annamaria Plamieri, 2020.



Figure 5. Changing in domestic activities/spaces.

"My lived space during the quarantine: 1. My room which has become my "university", the place where I constantly studied and where I followed the online classes!; 2. The room where my father works from home that has become our new "gym"...; 3. The living room which has become the place where, in moments of discouragement and fear, I enjoyed watching movies with my family; 4. The bathroom: the place where I took care of myself, the new "beauty center" :); 5. The balcony: the place where I read books, the place where I made long phone calls with grandparents <3; 6. The kitchen which has become the place in the house where I learned new recipes with my family". Source: Alessia Meo, 2020.



Figure 6. The transposition of the activities in the domestic space. "Perceived space: before quarantine; during the quarantine. Many activities that previously took place in a large and diversified space, during the quarantine begin to be carried out only within the walls of the house which instead represents a narrow and circumscribed space. Thanks to technological developments, almost all activities can also be carried out from home, albeit in a very different way. TV, smartphones and computers allow us to study, work, entertain, stay informed, maintain social relationships". Source: Manuela Zifarelli, 2020.



Figure 7. Safe/unsafe zones. "Legend (from top to bottom): safe zone; in case of need; routine/often used". Near the entrance one can read "shoe rack + exit kit". Source: Giovanni Baruffo, 2020.

3. Evidence from maps

From the analysis of the 41 maps a number of features emerge: due to the restriction of space, we focus on those that appear to be the most emblematic for our analysis, according to the categories of mobility, space and time.

First of all, new practices and new times seem to emerge, associated with a diversification of the destinations of use of the various domestic environments. These new links, albeit in a suspended and dilated moment (as evidenced by the surrealist clock, in Figure 8), often manage to discover and rediscover habits and occupations, which are also affected by the sense of oppression and helplessness, sometimes generating conflict between the actors involved.

The "space-time compression" is tangibly experienced: houses, personal rooms or, even, in some cases, beds, are the only spaces physically occupied, in spite of the many virtual spaces which – synchronously – are accessed.

If the new geography of connection redesigns the global space (Khanna, 2016) even the individual proxemics is re-mapped by the IT tool, considered as the only window on the world (Figure 9).

The inaccessibility of territorial space corresponds to the attending of virtual space: people use telephones, email, Skype, WhatsApp and Zoom to work, study, shop, chat with friends, surfing the internet, training etc. Everything (from university to spare time or, even, friendship) seems to be compensated by digital communication in the virtual space in a sort of "scale jump" (as evidenced by the map in Figure 10), but the problems arising from this transfer are evident: the hyper-connection makes it possible to remain in our world and maybe limit the real confrontation between peers (some students claim that this is the reason why they participate more actively in online classes).

Social media have given the possibility to shorten the distance between individuals and offer an alternative to the spatial urban grid when movement of people is restricted under quarantine, but people – virtually connected but lonelier because socially disconnected, even when participating in new digital social rites – become more vulnerable and need to be protected, informed, treated medically and policed, evidencing problems in the access to basic rights and even casting doubts about democracy (Löw and Knoblauch, 2020).

Moreover, the inflation of digital space has highlighted the problems of digital divide and alphabetization, cultural gap etc., even if for university students the problems are less cogent than for other students. This is specifically discussed by Morri (2020) who comments on the Italian Digital Economy and Society Index (DESI) which, according to the European Commission (2019), is very low because of a lack in connectivity, digitalization etc. As a result, it is evident that all virtual dimensions can help, support everyday reality, but do not replace it (Sarno, 2020). According to this new articulation of relational space, also the sense of community and its spatial dimension(s) is different for each student (and changes over time): it tends to oscillate along the spatial scale continuum between family, neighborhood (into a sort of "manageable subareas" as according to Tuan, 1974) city or, even nation (Lewicka, 2010).

In fact, for some students the "community" is associated with the family (reinforcing bonds and all-together activities); for others it is related to the neighborhood (chatting or singing between the balconies); or with a broader sense of (national) community, also often used during the pandemic as a dangerous and xenophobic rhetoric. Figure 11 clearly identifies the different magnitude of the modified community and gives a new connotation to the idea(s) of community: the chatting and confidences with the sister in the bedroom, the family in the kitchen, the neighborhood (and the window-by-window chatting), the interactive workout with more than 12,000 connected people.

Finally, the distances, somewhat cleared by globalization, on the other hand seem to take on new nuances. At a time when "social distancing" has become a necessity, the concept is rediscovered as the fulcrum of what relationships and emotions are (in terms of affectivity and detachment), beyond purely metric connotations (De Vecchis, 2020).



Figure 8. Time distortion. Source: Martina Sannino, 2020.



Figure 9. Internet as the window on the world. "Before quarantine; During quarantine: my brother's room, my room/my world; corridor; toilet/spa; parents' room/gym; living room/chats; kitchen/ Masterchef; balcony/beach". Source: Rosario Caiazzo, 2020.

However, a separate discussion belongs to the critical issues that have emerged during this period: while there were no major conflicts between the students and the other members of their families, the problems instead arose when some of them continued to work during the quarantine period: the illustration depicted in Figure 11 shows precisely the paradox of social (both physical and metaphoric) distancing maintained inside a home by a mother who is a doctor (significantly represented with a mask) towards a daughter who could not share this time if not "from a distance", generating an expansion and, even, a breaking of the relational space (Figure 12).

4. Conclusion

With no claim to absolutism and acknowledging the methodological limitations, the results of this exercise can be considered as a starting point for a broader reflection on distance teaching geography tools. The evidence presented also corresponds to a particular perspective of the quarantine, beyond the literary examples and even fictionalized witnesses (it suffices to think of Boccaccio in the XIV century or De Maistre in 1794). Even if the replicability of this exercise in those peculiar conditions of lockdown will be - hopefully - no longer possible in the future, some elements could be used in further experiments in didactics and/or in future research concerning, for example, the long-term effects of remote education on students' perception of time/space.

From this exercise emerged the ability of students to understand the importance of the cartographic tool used to express perceptions and feelings in the description of modified practices and places as shown by the graphical semiology used to represent emotions on the maps in a period when the physical restrictions dictated by the pandemic undermine social relationships and redefine personal and collective freedom.



Figure 10. A scale jump. "My life before quarantine vs. during [clockwise]: university=Microsoft teams; spare time: car rides=cakes, oven, pizza; friendship: walk=video chat; clubbing: café=snack on the balcony; studying: library=desk in the bedroom; leisure: cinema=living room". Source: Clara Ventrone, 2020.



Figure 11. A modified sense of community. "During quarantine. Study: Teams, 6/hours, friends, videochats; living room: 17.00 #covidfitness interactive workout (more than 12,000 people connected); kitchen: lunches, dinners with family; bedroom: chats with my sister; home". Source: Michela Siano, 2020.

This aspect confirms the multifaceted character of cartography as a formidable and multifaced language (Candura, 2012) - even in a peculiar situation such as remote learning - and the importance that mental mapping can assume in each cycle of education, whether the process of mental mapping is both processual or representational (Kitchin and Dodge, 2007). Thus. in consideration of this positive experience, carried out in a particular period, the idea of performing this kind of activity (which is compatible both with distance and face-to-face learning) could be implemented first of all to enhance the possibility of a "geography from below", but also to make students aware of the biases (social, cultural, economic, racial, sexual, contingent...) linked to the perception of space and its hierarchies.

While the knowledge of space is a socialization factor, the lived space also in this specific historical moment has represented a fundamental place for the knowledge of one's own body and the surrounding world: in the space discovered or rediscovered therefore each individual created a sort of anchor point with respect to their own - modified - field of action. It is precisely this new compressed and contacted territory, limited by the domestic walls, which has a new centrality in opposition to the "outside". This "inside-out" contrast readable in all representations is a dialectic that structures the space lived in these months of quarantine by redesigning relationships (even in a conflictual way): "the others" become increasingly distant, the places in which they live (probably experiencing the same feelings) appear as unexplored territories. "Our" territory, "our" home becomes the place of distinction from the space we do not know, while reaffirming the intrinsic value of the known territory. And, finally, the "margins" defined by Lynch (1960) thus become the home walls, often represented as insurmountable and in which the domestic space assumes new features and unexpected functionalities.

Since there are no real conclusions to this report, apart from an expression of gratitude to the students of the course who made it possible for me to reflect on the situation and stimulated me with their many questions, I believe that we can borrow the words of the Italian writer Paolo Rumiz from his "Diary from the quarantine" (2020), published daily in the newspaper "La Repubblica", in which he observes how the geography of his home (in terms of practices, times and places) changed: "The border takes on a positive meaning. It is the one that delimits the kitchen from the living room. But also the coffee time from that of writing. Time marked as in monasteries".



Figure 12. A domestic "distancing". "Bedroom, room, toilet, kitchen, living room, mum, balcony". Source: Claudia Riccio, 2020.

References

- 1. Almalaurea, "Che profilo ha il laureato del tuo corso di laurea?", 2020, https://www2. almalaurea.it/cgi-php/lau/sondaggi/intro.php ?config=profilo.
- Avriel-Avni N., Spektor-Levy O., Zion M. and Levi N.R., "Children's sense of place in desert towns: a phenomenographic enquiry", *International Research in Geographical and Environmental Education*, 19, 3, 2010, pp. 241-259.
- 3. Bailly A., "Distances et espaces: vingt ans de géographie des representations", *L'Espace géographique*, 14, 3, 1985, pp. 197-205.
- Bednarz S., Heffron S. and Huynh N. (Eds.), *A Road Map for 21st Century Geography Education: Geography Education Research*, Washington DC, American Association of Geographers, 2013.
- 5. Bernardo M. and De Pascale F., "Children's Geographies. La rappresentazione mentale

dei luoghi della memoria del Risorgimento in bambini di scuola primaria: il caso studio di Crotone", *Geotema*, 57, 2018, pp. 102-114.

- 6. Bignante E., "Guardare attraverso gli occhi degli altri", *Geotema*, 41, 2010, pp. 39-49.
- 7. Boccaccio G., *Decameron*, in Branca V. (Ed.), Florence, Le Monnier, 1951.
- 8. Bozzato S. (Ed.), "Geografie del COVID-19", *Documenti Geografici*, 1, 2020.
- Cataldo C., "COVID-19 in Italia: una Percezione Amplificata del Rischio?", *Josha*, 7, 3, 2020, pp. 1-14.
- Clary M., Dufau G., Durand R. and Ferras R., *Cartes et modèles à l'école*, Paris, Reclus Maison de la Géographie, 1987.
- 11. Claval P., "Methodology and geography", *Progress in Human Geography*, 5, 1, 1981, pp. 97-103.
- 12. De Maistre J., Voyage autour de ma chambre, Turin, 1794.
- 13. De Vecchis G., "Covid-19: esiti della pandemia sulla rimodulazione spazio-temporale", *Documenti Geografici*, 1, 2020, pp. 97-107.
- 14. De Vecchis G. and Morri R., *Disegnare il mondo*, Rome, Carocci, 2010.
- Didelon C., de Ruffray S. and Grasland C., "Mental maps of students - Volume 3: Variations in the scale of the feeling of belonging", *Eurobroadmap – European Union* & *The World Seen From Abroad*, 2011.
- 16. Downs R.M. and Stea D. (Eds.), *Image & environment: Cognitive mapping and spatial behavior*, Aldine, Transaction, 1973.
- 17. Eden C., "Analyzing cognitive maps to help structure issues or problems", *European Journal of Operational*, 159, 3, 2004, pp. 673-686.
- Frémont A., Vi piace la Geografia? (1976), trad. it. Gavinelli D., Rome, Carocci, 2015.
- 19. Gillespie C.A., "How culture constructs our sense of neighborhood: mental maps and children's perceptions of place", *Journal of Geography*, 109, 2010, pp. 18-29.
- 20. Giorda C., *Il mio spazio nel mondo. Geografia per la scuola dell'infanzia e primaria*, Rome, Carocci, 2014.
- 21. Gumuchian H., *De l'espace au territoire, représentations spatiales et aménagement,* Grenoble, Université Joseph Fourier, 1988.
- 22. Jackson P. and Smith S.J., *Exploring social geography*, London, Allen & Unwin, 1984.

- 23. Jenkins J.M. and Walmsley D.J., "Mental maps of tourists: A study of Coffs Harbour, New South Wales", *GeoJournal*, 29, 1993, pp. 233-241.
- 24. Johnston R.J., Gregory D., Pratt G. and Watts M., *The dictionary of human geography*, Oxford, Blackwell, 2000.
- 25. Khanna P., Connectography. Le mappe del futuro ordine mondiale, Rome, Fazi, 2016.
- Kitchin R. and Dodge M., "Rethinking maps", *Progress in Human Geography*, 31, 3, 2007, pp. 331-344.
- 27. Knox P.L. and Marston S.A., *Places and Regions in Global Context*, Upper Saddle River, Prentice Hall, 2004.
- 28. Lariagon R., "La carte mentale: un outil pour explorer la dimension territoriale de l'expérience étudiante? L'exemple des étudiants de licence de l'université technologique de Petatlán (Mexique)", ESO Travaux et Documents, 2015.
- 29. Larsen T. and Harrington J., "Mental Maps and a Community-Based Sense of Place: A Case Study Among Kansas Third Graders", *Research in Geographic Education*, 18, 2016, pp. 86-111.
- Lewicka M., "What makes neighborhood different from home and city? Effects of place scale on place attachment", *Journal of Environmental Psychology*, 30, 1, 2010, pp. 35-51.
- Longhurst R., "Geography and gender: looking back, looking forward", *Progress in Human Geography*, 25, 4, 2001, pp. 641-648.
- 32. Löw M. and Knoblauch H., "Dancing in Quarantine: The Spatial Refiguration of Society and the Interaction Orders", *Space and Culture*, 23, 3, 2020, pp. 221-225.
- Lyman S.M. and Scott M.B., "Territoriality: A Neglected Sociological Dimension", Social Problems, 15, 2, 1967, pp. 236-248.
- 34. Lynch K, *The Image of the City*, Cambridge, The MIT Press, 1960.
- 35. Manzo L.C. and Devine-Wright P. (Eds.), *Place Attachment: Advances in Theory, Methods and Applications*, Oxford and New York, Routledge, 2014.
- 36. MIUR, "Approvazione dei nuovi programmi didattici per la scuola primaria, dpR 104 del 12 febbraio 2018", *Gazzetta Ufficiale della Repubblica Italiana*, 76, 29 marzo 1985, Rome.

- 37. Moles A. and Rohmer E., *Psychologie de l'espace*, Paris, Casterman, 1972.
- Monmonier M., How to Lie with Maps, Chicago, University of Chicago Press, 1996.
- 39. Morri R., "Lo spazio dell'assenza: geografia e didattica a distanza di massa", *Documenti Geografici*, 1, 2020, pp. 199-218.
- 40. Morrow J., "Alone Together: Finding Solidarity in a Time of Social Distance", *Space and Culture*, 23, 3, 2020, pp. 315-319.
- 41. Pasquinelli d'Allegra D., La geografia dell'Italia, Rome, Carocci, 2009.
- 42. Portugali J., Complexity, Cognition and the City, Berlin, Springer, 2011.
- 43. Rumiz P., "Diario dalla quarantena", 2020, https://rep.repubblica.it/ricerca/argomento/ diario%20dalla%20quarantena/.
- 44. Sarno E., "Emergenza sanitaria e chiusura di scuole e università. Il divario culturale come ulteriore effetto del covid-19", *Documenti Geografici*, 1, 2020, pp. 219-229.

- 45. Sparke M. and Anguelov D., "Contextualising coronavirus geographically", *Transaction of the Institute British Geographers*, 45, 2020, pp. 498-508.
- Stevenson R.B., "Sense of place in Australian environmental education research: distinctive, missing, or displaced?", *Australian Journal of Environmental Education*, 27, 1, 2011, pp. 46-55.
- 47. Tuan Y., *Topophilia: a study of environmental perception, attitudes, and values*, New Jersey, Prentice-Hall, 1974.
- Wood D., The Genesis of Geographic Knowledge: A Real-Time Developmental Study of Adolescent Images of Novel Environments (London, Rome, and Paris), Worcester, Massachusetts, Clark University, 1973.
- 49. Wood D., *The Power of Maps*, New York, The Guilford Press, 1992.
- 50. Xiang Z. and Formica S., "Mapping Environmental Change in Tourism: A Study of the Incentive Industry", *Tourism Management*, 28, 2007, pp. 1193-1202.