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Emergency (Im)Mobilities. Insights from the Covid-19 Pandemic in Italy

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ABSTRACT

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The article presents an exploratory analysis of the (im)mobilities emerged during the pandemic of coronavirus disease 2019 (Covid-19) in Italy. The outbreak of Covid-19 and the resulting lockdown and social distancing measures have strongly affected urban societies on the move by precluding the movement for some ones and by generating a risky mobility for others or a movement without mobility. The authors focus on the role played by mobility regimes and the governance of emergency mobilities in influencing people's motility and mobility. Through a review of previous studies, a secondary analysis of data and a chronological analysis of actions taken in Italy during the Covid-19 emergency, the aim is to point out the changes and inequalities caused or exacerbated by these emergency (im)mobilities and to gather insights that can be the basis for reflecting and planning about the urban mobility of the future. In the first section, the notions of mobilities, mobility regimes and emergency mobilities will be briefly reviewed in order to gather theoretical cues useful to orient the empirical exploration. In the second section, the main results of the empirical exploration will be presented. First, the attention is given to the changes in mobility behaviours during the pandemic. Then, the focus will be on the (im)mobilities inequalities emerged or exacerbated during the pandemic period. Finally, on the basis of the results, the issue about the right to (im)mobility in the long-term and in diverse territories and cities will be discussed.

KEYWORDS

(Im)Mobilities,
Emergency,
Covid-19,
Right To Mobility,
Policies

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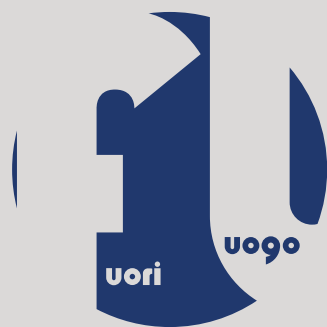REDAZIONE@FUORILUOGO.INFO   +39 081 2535883   FUORILUOGO   RIVISTA FUORI LUOGO

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Emergency (Im)Mobilities. Insights from the Covid-19 Pandemic in Italy[1]

Luca Daconto, Simone Caiello, Matteo Colleoni[2]

1. Introduction

The ongoing Covid-19 pandemic has severely impacted everyone's daily lives, making evident pre-existing problems, which have affected the mechanisms of production and social reproduction in particular. Among these, mobility is perhaps the most evident, having in fact limited, if not canceled, the possibility of moving around and therefore implementing normal practices of physical interaction with spaces and people. The outbreak of Covid-19 and the resulting lockdown and social distancing measures have strongly affected urban societies on the move (Cresswell, 2006), for instance by precluding the movement for some ones and by generating a risky mobility for others or a movement without mobility (Kaufmann, 2002). This situation has made clear the centrality of mobility in the contemporary era and recalled that mobility is an individual right that is lacking when freedom of movement comes and goes.

In this framework, the paper presents an exploratory analysis of the (im)mobilities emerged during the pandemic of coronavirus disease 2019 (Covid-19) in Italy. Focusing on the role played by mobility regimes and the governance of emergency mobilities (Adey, 2016) in influencing people's mobility and ability to be mobile, or motility (Kaufmann et al., 2004), and mobility, the aim is to point out the changes and inequalities produced and re-produced by these emergency (im)mobilities and to gather insights that can be the basis for reflecting and planning about the urban mobility of the future.

In the first section, the notions of mobilities, mobility regimes and emergency mobilities will be briefly reviewed in order to gather theoretical cues useful to orient the empirical exploration. First, the acknowledgment of the constitutive role of movement in contemporary urban societies and of mobility as a key resource for individual social inclusion must be stressed. Second, the framework of mobility regimes will allow to address the relationship between mobility and immobility and to focus on its governance, highlighting the nature of mobility as a social product. Third, emergency mobilities represent an interesting tool to «explore how emergencies are governed, freighted with meaning and significance, and lived and experienced» (Adey, 2016, p. 33) and offer a useful classification of the main dimensions to consider in the empirical exploration. In the second section, the main results of the empirical exploration will be presented. Through a secondary analysis of big data about the amount, distances, motives and modes of travelling during the pandemic, the attention is first given to the changes of the demand of mobility in Italy. Then, the Adey's framework dimensions of anticipation, coordination, mobile machines, absence, inhuman and times, will be useful to focus on the (im)mobilities inequalities emerged during the pandemic period. Finally, on the basis of the results, the issue about the right to (im)mobility in the long-term and in diverse territories and cities will be discussed.

2. Background literature

Within Mobility Studies, there are several contributions that can provide useful elements to understand the Covid-19 pandemic, its governance and its impacts on society and the daily lives of populations. In particular, the theoretical contributions provided by the new mobilities paradigm and the concept of mobility regimes will be explored in this paragraph.

2.1 Mobilities

The ascertainment of the centrality assumed by mobility in the contemporary era has led some scholars (Urry, 2000; 2007) to consider mobility as one of the distinctive features of contemporary societies, which for this reason are defined "on the move" (Cresswell, 2006). A growth in mobility that affects not only people, such as the rise of international migration, tourism and of daily and residential forms of mobility prove, but also goods, capital, information and ideas, such as the global scale of financial flows, production chains and cultural affiliations has made it more than evident. In other terms, the assumption is that contemporary societies are built around mobility, which consequently represents a key element to understand the society and its transformations. At the urban scale, for example, the new morphology typical of the polycentric city (Colleoni, 2019) has made mobility a mean of interconnection and realisation of social practices that contributes to reducing the friction of spatial distances among areas of activity, which are increasingly fragmented because of the de-synchronization that characterizes citizens' daily lives today. Mobility therefore constitutes a resource, a capital according to some authors (Kaufmann *et al.*, 2004), crucial in defining the possibilities for social participation of individuals.

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In this framework, the proposal of a new mobilities paradigm (Sheller, Urry, 2006) allows to better explore the (im)mobility of people, ideas, and things, as well as the broader social implications of those (im)mobilities. In particular, there are at least two contributions that this paradigm can provide in order to understand the coronavirus pandemic. In the first place, the fact of not considering mobility as a mere physical or virtual movement from a point A to a point B, but as a social product, the result of the interrelation between empirical reality, representations and embodied experiences (Cresswell, 2010), where both mobility and immobilities are crucial. In a context of disaster, indeed, mobilities are «issues of mobility and moorings: how to move and how to settle, what is up for grabs and what is locked in, who is able to move and who is trapped» (Hannam *et al.*, 2006, p. 8).

Secondly, the focus of this paradigm also includes the mobility of objects and it is therefore particularly useful to understand the effects of a pandemic caused by the mobility of a virus. Indeed, «if mobility can be said to be 'central to what it is to be human' (Cresswell, 2006, p. 1), the same may indeed be argued of what it is to be viral» (Lavau, 2014, p. 298). As stressed by Lavau (2014), viruses have no means of self-locomotion, but they can travel thanks to the movement of people, animals and materials, as the SARS-CoV-2 has shown. Viruses are characterised by two modes of mobility, «that of viral movement and that of mutability» (*ibidem*). In this sense, it is possible to argue that the spread of Covid-19 influenza and its transformation into a pandemic has been greatly favoured in global, mobile and interconnected societies such as contemporary ones.

2.2 Mobility regimes

Despite its growth and centrality, mobility unfolds differently between territories and populations. As studies on motility or mobility capital have highlighted (Kaufmann et al., 2004), mobility depends on the set of individual, social, and spatial and temporal characteristics that enable people to move from one place to another, such as the peculiarity of the transport systems and the people's specific properties. Furthermore, mobility fits within mobility regimes defined as sets «of principles, norms, rules, infrastructures, institutions, that regulate the movement of individuals, artifacts, capital, data, etc. in a given context of action» (Kesselring, 2012, p. 7). Mobility regimes are ambivalent in their nature since they both produce and preclude movement by governing «who and what can move (or stay/put), when, where, how and under what conditions» (Sheller, 2018, p. 19). In other words, the concept of mobility regimes proposes a framework able to address the relationships between mobility and immobility and to highlight the drivers and processes of production of (im)mobilities, as well as their motives, speeds, routes, frictions and experiences. Moreover, as underlined by Cresswell in the article Towards a Politics of Mobility (2010, p. 21) «mobilities are both productive of such [power] social relations and produced by them. Social relations are of course complicated and diverse. They include relations between classes, genders, ethnicities, nationalities, and religious groups as well as a host of other forms of group identity». In particular, mobility regimes interact with differences in class, gender, race, nationality, etc., influencing people's motility and reproducing unequal (im)mobilities. Mobility regimes define in fact what spaces are suitable for what kind of people, what are the more suitable means to move and what are the "right" times, or the opportunities accessible, etc. In this sense night-time will be less suitable for women, suburbs or inner neighbourhood with high accessibility to transport and opportunities as residential solution inaccessible for those who cannot afford, respectively, a private car (when lacking the necessary transport alternatives) or the higher housing costs, travelling abroad will be harder for those who lack the "right" documents, and so on.

Attention to mobility regimes therefore allows us to understand the processes of formation of socio-territorial inequalities that have an impact on the ability to move and the mobility practices of populations. In fact, (im)mobility is strongly intertwined with social justice (Sheller, 2018) and it can be conceived as a right (Orfeuil, 2011; Lévy, 2011; Kaufmann, 2011) to access opportunities that people consider significant and to build a space-time frame appropriate to people's needs, preferences and desires. The pandemic and the health emergency from Covid-19 questioned this right by forcing people to become immobile or because it has generated an insecure, precarious, forced mobility. To understand who and why is (im)mobile in this particular situation, is important to shift attention to emergency mobility in order to collect more food for thought and analytical material.

3. Theoretical framework: emergency mobility

Since mobility is a central dimension in the daily lives of individuals and collectives, it is inevitable that it will be deeply affected by events that disturb or even suddenly interrupt the ordinary activities of everyday life, such as disasters and emergencies (Mela et al., 2017). Like Hannam *et al.* (2006, p. 1) observe, «from SARS and avian influenza to train crashes, from airport expansion controversies to controlling global warming, from urban congestion charging to networked global terrorism, from emergency management in the onslaught of tsunamis and hurricanes to oil wars in the Middle East, issues of 'mobility' are centre-stage». Mobilities research, in fact, has always been interested in (im)mobilities issues emerged during disasters and emergencies in order to understand if and how these events improve or produce other forms of inequalities (Birtchnell, Büscher, 2011; Sheller, 2013; Cook, Butz, 2015; Adey, 2016). According to the geographer Adey, who is one of the most important scholars on mobility-emergency bond, «mobilities can help us explore how emergencies are governed, freighted with meaning and significance, and lived and experienced» (2016, p. 33).

Moreover, «the emergency governance of mobility seeks to organise a series of activities, practices, technologies and representations that work in concert to respond and plan so as to get things moving again» (*ibidem*, p. 36).

With the aim of systematising previous studies and proposing a theorisation of emergency mobility, Adey identifies seven dimensions, common to emergency situations, on which research should focus to understand how «sets of mobilities occur and are compelled under certain kinds of conditions and forms of governance wielded under emergency politics, its legislation and practices» (*ibidem*, p. 32): anticipation, coordination, mobile machines, absence, inhuman, difference, times. The (im)mobility in emergency situations depends primarily on the level of anticipation of these events and therefore on the prevention and mitigation strategies and on the availability of models, simulations, technologies and devices, as well as on the power of the experts (Caselli, 2020). Secondly, a significant variable in generating emergency (im)mobility is coordination of the distribution of resources, people and technologies – in order to bring an emergency under control. Then, in emergency situations it is necessary to consider the movement of machines and mobile technologies (e.g. civil protection fields, drones) and how these influence the behaviours, representations and experiences of people's (im)mobility. Subsequently, it should be recognised that the emergencies produce absences that are generative of (im)mobilities. Moreover, as already underlined, to understand the governance and the impact of an emergency it is fundamental to take into account what is inhumane, as a virus, and the inequalities that can be worsened or produced. Finally, governance and emergency (im)mobility depend on the rapidity of responses and therefore on the structuring of decision-making processes.

4. Data and methods

To understand the impact of the Covid-19 emergency on people's mobility and ability to be mobile, the authors took into account (1) the changes in Italian daily mobility and (2) the governance of emergency (im)mobilities with the aim to highlight the old and new inequalities produced and reproduced during the pandemic.

To analyse the changes in Italian daily mobility, the authors reviewed previous studies concerning the impact of the health emergency in the Italyian case as well as in contexts that are in morein a more advanced phases of the pandemic, such as China and South Korea, in order to provide examples of future potential scenarios. Furthermore, a secondary analysis of data provided by different sources of information based on big data exploitation (in particular from smartphones and positioning and satellite navigation systems) allows to measure these changes and highlight new trends in the field of mobility. If this kind of data has appeared to be very relevant during the emergency, providing a fundamental knowledge base for the public authorities, it is crucial to highlight the critical aspects regarding individuals' privacy connected to tracking techniques, even if anonymity and aggregation of results are always compulsory and should be guaranteed. Moreover, power relations must be considered as well in the handling of this kind of data, being property of private companies that, only in this emergency situation, decided to open their big data to public authorities and citizens.

In particular, the secondary analysis is based on the following datasets:
• Google's Covid-19 Community Mobility Reports, based on data from users who have turned on the Location History setting in the Google Maps App. The data allow to show, at the national or regional scale, how visits and length of stay at different places change for each day compared to a baseline represented by the median value, for the corresponding day of the week, during the 5-weeks period Jan 3-Feb 6, 2020 .
• Apple's Mobility Trend Reports. The reports are based on the requests for indications from users in Apple Maps and allow to analyse the changes, expressed in percentage values, in the modal choices of individuals by Region and by major urban centres with respect to a reference volume relating to the date of January 13, 20202.
• Enel X & Here - City Analytics - Mobility Map, based on data provided from connected vehicles, maps and navigation systems, which allow to analyse the percentage of increase/decrease in the total mobility flows compared to those recorded in the period 13 January-6 February 2020[3].

The inequalities emerged or exacerbated by the governance of the emergency (im)mobilities have been investigated through a chronologic analysis of actions taken in Italy during the Covid-19 emergency at different regulatory levels (e.g. international, national, regional and urban) and the application of the theoretical framework of Adey to some selected cases related to (im)mobility reported by the media useful for further developments and studies.

4. The Covid-19 pandemic in Italy

The Coronavirus epidemic has affected the various countries of the world with different rhythms and times, following specific diffusion paths that have led each of these to put in place similar containment initiatives but at different times. Italy has seen an increasingly restrictive succession of prescriptions, defined by what have become known instruments of decree, the so-called PMC[4]. The path that led the country to experience a complete lockdown began, following the declaration by the World Health Organization (WHO) which identified the Covid-19 epidemic as an international health emergency, with the suspension of flights to and from China, declaring a "state of emergency" at national level, valid for 6 months (31/01/2020)[5]. The phases summarised in Fig. 1 follow in chronological order.
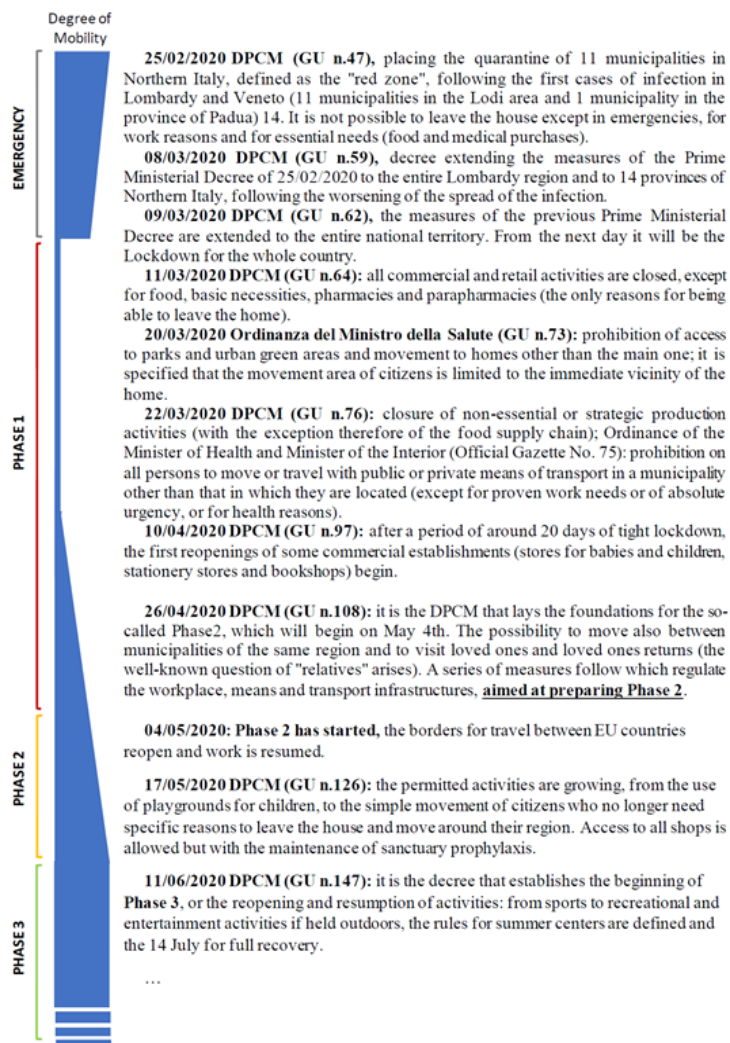
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3 For more information, see the website: https://www.google.com/Covid-19/mobility/, accessed June 10, 2020.
4 PMC Prime Ministerial Decree.
5 https://moduliweb.enac.gov.it/Applicazioni/comunicati/PDF/2020_2608.pdf, accessed June 28, 2020.

Figure 1 - List of the main Decrees published during the emergency phases in Italy and the related degree of mobility allowed. (Source: authors' elaboration from Openpolis https://www.openpolis.it/coronavirus-lelenco-completo-degli-atti/)

The series of regulations issued in these months of emergency have induced a progressive reduction in the degree of mobility, as we will see in the next section, and in the possibility of moving within the country, in the regions, inside the municipalities themselves. This gradation is closely linked to the relative phase into which the emergency period was divided: Phase 1 (progressive closure until complete Lockdown), Phase 2 (gradual reopening of activities and resumption of travel) and Phase 3 (which provides for the return to a controlled "normality"). The inequalities emerged or exacerbated by the governance of the emergency (im)mobilities have been investigated through a chronologic analysis of actions taken in Italy during the Covid-19 emergency at different regulatory levels (e.g. international, national, regional and urban) and the application of the theoretical framework of Adey to some selected cases related to (im)mobility reported by the media useful for further developments and studies.

Degree of Mobility

EMERGENCY

25/02/2020 DPCM (GU n.47), placing the quarantine of 11 municipalities in Northern Italy, defined as the "red zone", following the first cases of infection in Lombardy and Veneto (11 municipalities in the Lodi area and 1 municipality in the province of Padua) 14. It is not possible to leave the house except in emergencies, for work reasons and for essential needs (food and medical purchases).

08/03/2020 DPCM (GU n.59), decree extending the measures of the Prime Ministerial Decree of 25/02/2020 to the entire Lombardy region and to 14 provinces of Northern Italy, following the worsening of the spread of the infection.

09/03/2020 DPCM (GU n.62), the measures of the previous Prime Ministerial Decree are extended to the entire national territory. From the next day it will be the Lockdown for the whole country.

PHASE 1

11/03/2020 DPCM (GU n.64): all commercial and retail activities are closed, except for food, basic necessities, pharmacies and parapharmacies (the only reasons for being able to leave the home).

20/03/2020 Ordinanza del Ministro della Salute (GU n.73): prohibition of access to parks and urban green areas and movement to homes other than the main one; it is specified that the movement area of citizens is limited to the immediate vicinity of the home.

22/03/2020 DPCM (GU n.76): closure of non-essential or strategic production activities (with the exception therefore of the food supply chain); Ordinance of the Minister of Health and Minister of the Interior (Official Gazette No. 75): prohibition on all persons to move or travel with public or private means of transport in a municipality other than that in which they are located (except for proven work needs or of absolute urgency, or for health reasons).

10/04/2020 DPCM (GU n.97): after a period of around 20 days of tight lockdown, the first reopenings of some commercial establishments (stores for babies and children, stationery stores and bookshops) begin.

26/04/2020 DPCM (GU n.108): it is the DPCM that lays the foundations for the so-called Phase2, which will begin on May 4th. The possibility to move also between municipalities of the same region and to visit loved ones and loved ones returns (the well-known question of "relatives" arises). A series of measures follow which regulate the workplace, means and transport infrastructures, <u>aimed at preparing Phase 2</u>.

PHASE 2

04/05/2020: Phase 2 has started, the borders for travel between EU countries reopen and work is resumed.

17/05/2020 DPCM (GU n.126): the permitted activities are growing, from the use of playgrounds for children, to the simple movement of citizens who no longer need specific reasons to leave the house and move around their region. Access to all shops is allowed but with the maintenance of sanctuary prophylaxis.

PHASE 3

11/06/2020 DPCM (GU n.147): it is the decree that establishes the beginning of **Phase 3**, or the reopening and resumption of activities: from sports to recreational and entertainment activities if held outdoors, the rules for summer centers are defined and the 14 July for full recovery.

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5. Daily mobility changes during the pandemic in Italy

The pandemic and in particular its management, as will be shown later, have led to radical changes in the daily movements of Italian people. These changes have touched different dimensions of mobility styles, such as the amount of fluxes, the distances, motives and modes of travelling.

First of all, the emergency has significantly increased the share of the immobile population. For example, Finazzi and Fassò (2020) estimate that on average 65% of the population remained at home on a weekday during the lockdown period, with peaks of 90% on weekends, compared to a rate of mobility equal to 84.5% of people leaving home on the average weekday in 2018 (Isfort[6], 2019). The dashboard of Enel X & Here - City Analytics - Mobility Map allows to highlight some regional differentiations in the variation of the total mobility flows compared to those recorded in the period 13 January - 6 February 2020. These differences can be explained by the socio-economic profile of the Italian regions and by their different emergency management. For example, on weekends it is mainly the Mountain touristic regions of Northern Italy, such as the Aosta Valley and Trentino Alto Adige, that had the greatest decrease, while on weekdays it is Campania, region managed by the "sheriff"[7] Vincenzo De Luca. The data also show that the immobility or contingent mobility of some accompanied the forced mobility of others, such as logistics workers and bellboys/riders of the large home-delivery platforms, as well as for those employed in the sectors of economic activity remained open: 57% of the total workforce in Phase 1 according to Istat[8] (2020).

5.1 Geographical scale of movements

The regulations that followed during the pandemic also reduced the geographical scale of daily mobility. According to the Google Community Mobility Reports (Fig. 2), mobility within residential settings increased by 29% in the so-called Phase 1 where travel restrictions and the opening of economic activities were more stringent (March 9 - May 3). A trendthat has been confirmed also in Phase 2 (4 May - 4 June), where the growth of residential movements is equal to 15%

6 Isfort Istituto Superiore di Formazione e Ricerca per i Trasporti.
7 The epithet given to the President of the Campania Region for his policy of zero tolerance for the contrast of Covid-19 is spread both in the press and on social media. For example the Facebook page "Vincenzo De Luca lo sceriff" with more than 50,000 followers.
8 Istat Istituto Nazionale di Statistica.

compared to the pre-pandemic period. In general, it is the distances of daily travel that have narrowed. Also in this case the estimations show a territorial and temporal variability linked to the specificity of the regions: the contraction of the kilometres travelled is stronger during Sunday(s) (e.g. on April 19, 2020 the distances decreased from 90% of Campania to 75% of Friuli Venezia Giulia compared to Sundays in the pre-Covid-19 period) and for the mountain touristic regions of Northern Italy that could not count on the influx of tourists from other regions.

5.2 Motives

The governance of the pandemic also impacted on the reasons for the movements. As already said, in the first emergency phase they were limited to work needs, health and urgency reasons and then expanded with the Prime Ministerial Decree of 04/26/2020 (cfr. Fig. 1) which added the possibility to visit relatives. The variation in the reasons for the movements is very interesting considering the regional differences in the period of phase 2.

According to Google reports, for example, mobility to the parks decreased by 73% in Lombardy and Valle d'Aosta and by 77% in Campania and Trentino Alto Adige in phase 1. But the contraction of visits to parks in phase 2 is higher for the mountain touristic regions of Northern Italy (-43% in Valle d'Aosta and -42% in Trentino Alto Adige) than Lombardy (-6%) and Campania (-28%).

Figure 2 - Variation of mobile people for travel reason, Italy (%; 15 February - 23 June 2020).
(Source: authors' elaboration on Google Community Mobility Reports data – 23/06/2020)
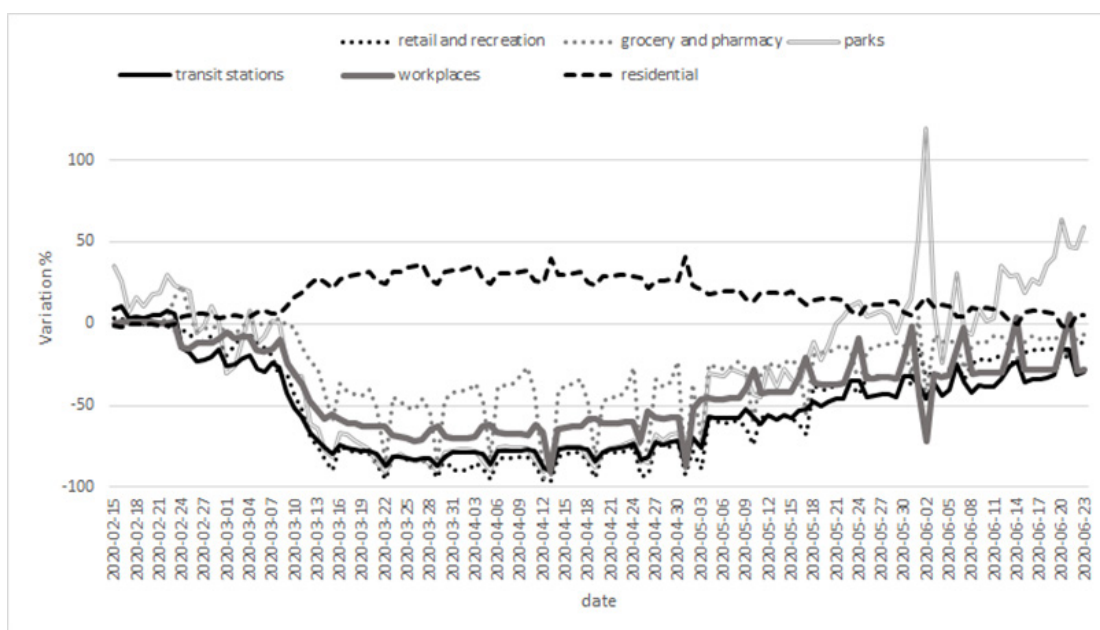
5.3 Modal choices

Finally, the pandemic had an effect on the modal choices of populations. In countries such as China and South Korea, which were first affected by the Coronavirus and which were in the advanced phase of the pandemic before Italy, there has been a considerable increase in the use of private means of transport (+ 30%) and an equally strong contraction in public transport (-32%) immediately post-lockdown (Statista, 2020). A survey conducted by Ipsos (2020) on 1, .620 respondents in China estimates that the use of private cars has increased by 66% and that of public transport has decreased by 56% and that the intention to purchase new cars is growing among consumers who currently don't have a car due to lack of public transport confidence.

The trend seems to be confirmed also in the Italian territory where, for example, an analysis by Amat[9] (2020) shows that in Milan the use of the metro has decreased every day between 90% and 95% in phase 1 and between 85% and 77% in the early days of phase 2. Always Amat estimates that in Milan, during the morning rush hours, the modal split passed from a situation in which 49% of the trips were made by TPL, 22% by car and 15% on foot in the pre-Covid period, to 17% by TPL, 39% by car and 21% on foot in phase 2. This decline is in part certainly linked to the new regulations for the use of local public transport services that the companies have issued to implement the indications of the Prime Minister's Decree (transport guidelines). In fact, these have defined the obligation of physical distancing, scheduled access and use of protection devices for passengers and therefore resulted in a 75% reduction in the capacity of public transport. However, the perception of insecurity in the use of public vehicles and spaces has played a substantial role, which is directing the choices of individuals towards private vehicular mobility and which has increased the urgency of reinforce and promote

9 Amat Agenzia Mobilità Ambiente e Territorio.

forms of sustainable mobility. This trend is also confirmed by the analysis of the Reports on Apple's mobility trends for Italy, which on June 10th showed a lesser decrease in car travel (-7%) compared to the stronger decrease of walking (-41%) and public transport (-57%). As it can be seen in Fig. 3, in phase 2 the walking movements.

Figure 3 - - The variation % of modal choices in phase 1 and 2 in some Italian cities
(Source: authors' elaboration on Apple Mobility Trends data – 2/06/2020)

	Bergamo	Bologna	Catania	Florence	Milan	Naples	Padua	Palermo	Rome	Turin
Var Driving F1	-79	-82	-79	-85	-82	-82	-76	-75	-83	-78
Var Walking F1	-72	-87	-81	-94	-88	-85	-79	-89	-91	-81
Var Driving F2	-59	-49	-41	-62	-43	-55	-35	-38	-51	-67
Var Walking F2	-28	-64	-54	-86	-62	-52	-52	-62	-74	-52
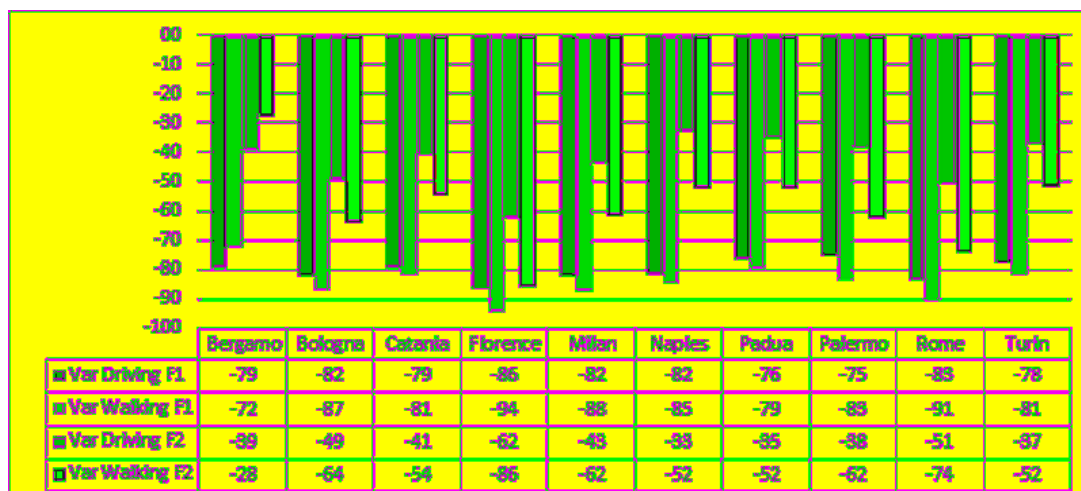
6. Unequal emergency (im)mobilities: application of Adey's framework

As seen in paragraph 2, the interest in emergency mobilities originates from the urgency of highlighting that these must not be interpreted as "natural" facts: on the contrary they are produced by specific mobility regimes that govern the way in which people and objects move in space-time. The attention of the Social Sciences towards emergency mobilities is also closely linked to the need to underline the social mechanisms underlying the reproduction or formation of old and new socio-spatial inequalities in crisis/emergency contexts. The application of the scheme proposed by Adey to the case of (im)mobilities emerged during the pandemic period in Italy allows us to highlight some of these mechanisms and differential impacts.

6.1 Anticipation

First, to understand the causes and effects of mobility during the pandemic, it is useful to consider the level of antici-pation of the emergency situation. On this point, the Italian case confirms the importance of focusing not only on the availability of models, plans, scenarios and simulations, but also on the ability to implement and manage these tools. In fact, although a National Plan for Preparedness and Response to a Pandemic Influenza[10] was drafted in 2007 following the avian influenza A/H5N1 virus and subsequently updated, this was not immediately applied in January, when China declared to WHO that it was facing a serious epidemic. This led to a shortage of tools and devices, such as PPE[11], epide-miological surveillance, etc., which have played a fundamental role in determining restrictions on the mobility of people to combat the spread of coronavirus.

6.2 Coordination

The poor coordination between institutional actors and between different territorial levels is another critical dimension for the management of (im)mobility. As a study published by the BBC[12] shows, although the pandemic has spread wor-ldwide, prevention measures have been adopted in Europe at different times by the various countries and, especially in the early stages of the pandemic, in a subsequent period (from 2 weeks to 1 month) from the first case of infection. The lack of coordination of the measures has contributed to increase the chances of mobility of the virus and, therefore, the degree of restrictiveness of the measures necessary to contrast the spread of the infection. A fragmentation and low level of coordination of the interventions confirmed by the quantity of regulations produced during the pandemic: at the national level of June 25, 2020, there are 85 documents issued by the Ministry of Health, 63 those of the Civil Protection, 25 of the Presidency of the Council of Ministers[13], to which must be added the ordinances and circulars issued by other

10 http://www.salute.gov.it/imgs/C_17_pubblicazioni_511_allegato.pdf , accessed June 18, 2020.
11 PPE Personal Protection Equipments.
12 https://www.bbc.com/news/world-52103747, accessed June 18, 2020.
13 For a review and analysis of the acts produced during the pandemic, see the website: https://tinyurl.com/yy2qym9b, accessed June 28, 2020.

administrations, such as Regions and Municipalities. A large legislative production often accompanied by contrasts and conflicts between the territorial governments at national, regional and local level, especially in the case of different political colours: for example, between the national government and the Lombardy or Veneto regional administration led by The League Party; between the Lombardy Region and the mayors of the large Lombard municipalities supported by a centre-left majority.

6.3 Times

Times, in particular the speed of the responses, are a fundamental dimension in influencing (im)mobility in emergency contexts. In Italy, an example is the case of the leak of information that anticipated the decree on the evening of March 7, published only the following day (Prime Ministerial Decree of March 8, 2020), which would have transformed Lombardy and other 14 provinces of Northern Italy into a red zone and thus preventing interregional mobility[14]. The lengthening of decision-making times and the leaking of news had the consequence of generating a substantial influx of people in the main railway stations of Milan on the nights of 7 and 8 March, which many national and local media defined as an "escape" to the South. A situation that, beyond the real effects of this "escape", has generated strong concerns and occupied much of the public debate about the legitimacy of these risky mobilities and potentially capable to further spread the infection. A reversal of the representations on the different types of mobility that also marked the practice of running, which from a recommended activity was in many cases stigmatized during the lockdown (see the so-called "war on runners"[15]).

6.4 Mobile machines and objects

In addition to the various norms adopted in the different phases of the pandemic, mobility was more generally governed through the use of technology and mobile machines, such as drones, with the aim of sorting and surveillance of (im) mobilities considered as risky.

The mobility of objects and the parallel immobility of people is a situation that characterised the experience of mourning during the pandemic, exemplified by the mobility of the coffins carried by army trucks in the city of Bergamo[16] and by the impossibility for relatives to move from their own homes to be able to give the last farewell to loved ones. The importance of objects in determining the possibilities of movement of individuals (Adey, 2002) is also evident from the case that involved the laborers without a residence permit who, having no valid document, were unable to move to go to the workplace, that is fields and farms, although work related to agriculture was allowed. This situation led the government to approve a decree law (the so-called Relaunch Decree) on 19 May including norms for the regularisation of foreign workers (laborers, carers and domestic workers).

6.5 Difference: old and new inequalities highlighted by the emergency (im)mobilities

These examples confirm the importance of considering mobility not only as a movement from a point A to a point B, but as a product of the context and representations of movement, which manifests itself in different embodied experiences. The diversity of emergency (im)mobilities then settles on old and new inequalities. Diversity emerges for example between those who own a second-home and those who do not own it: in the Italian but also French cases[17], many of those who had the possibility rapidly moved to their second homes as soon as cities became to appear as "cages" due to the reduction of mobility[18]. Diversity clearly emerges again by taking into account mobility for work purposes. First of all, the differences among territories are due to different economic structures of the territories which influenced the number and kind of activities and workers active during the pandemic. Many differences also occurred on the basis of the classification of economic activity and the type of occupation of each area. For example, logistics workers and bellboys never stopped during the pandemic. Instead, those who carry out a profession with a low level of specialisation in the tourism and restaurant sectors, where many foreigners are employed, have been forced to remain immobile and they were and still are unable to access work. Still in the last days of June, there were some outbreaks of contagions in Italy, especially in work contexts, sometimes related to mobility: the case of Bartolini in Bologna (parcel distribution company), some premises in Fiumicino, as well as that among the farm laborers in Mondragone. The possibility or impossibility of moving and accessing services and opportunities was also influenced by the chance of replacing relationships in co-presence and physical movements with remote communication and the so-called virtual mobility. Smart working, distance learning, e-commerce and home delivery services have been indicated as essential tools to face the new condition of immobility and to guarantee health security, but they have opened the field for the formation of new inequalities related

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14 The news was first published by Corriere della Sera: https://tinyurl.com/toh78mj , accessed June 18, 2020.
15 Despite being an activity permitted for health reasons, runners have been compared to "greasers" and "killers". On this topic see: https://www.linkiesta.it/2020/03/blog-post-2020-03-19-runner-untori-e-il-bisogno-di-odiare-chi-esce-da-casa-28891, accessed June 29, 2020.
16 We refer to the evening of March 18 when the army had to intervene to transport the coffins of the dead of Covid-19 which for the large number could not be managed by the companies and by the local crematorium. On this event and on the experience of mourning during the pandemic in Italy see: https://tinyurl.com/y42evlez , accessed June 29, 2020.
17 https://www.nytimes.com/2020/03/29/world/europe/rich-coronavirus-second-homes.html, accessed June 30, 2020.
18 https://tinyurl.com/sh7xron , accessed June 30, 2020

to digital gaps at a territorial (e.g. Internal Areas) and social (e.g. older people) level. In addition, there are professions that can be managed remotely, such as commercial or linked to communication/marketing/education ones, others that require the presence of workers, such as manual ones. Finally, the experience of physical immobility and smart working has brought to light several problems on the social reproduction front, simply making them more evident than before. The (im)mobility during the pandemic shows more generally how mobility regimes interact with socio-economic-cultural differences influencing people's motility. An example of this is the case of Emmanuell E[19]. a commuter food delivery rider born in Nigeria. On the night between 13 and 14 June he was arrested after protesting at the Milano Greco Pirelli station asking to get on the train with his bike to return at home. In those days in fact Trenord, the company that manages regional rail transport in Lombardy, introduced the prohibition to bring bicycles in carriages due to the high influx of food delivery riders' bicycles on board trains, which prevented ensuring safety and rules on physical distancing[20]. Following the protests of the unions and riders, including the Strike Mass - Justice 4 Emma on June 19[21], the company then decided to introduce wagons dedicated to bikes for food delivery riders, who arrive in the center of Milan from the most peripheral territories of the metropolitan area, often unable to afford the rents of the Milanese municipality.

7. Conclusions: the right to (im)mobility in the time of the pandemic and beyond

The pandemic and its governance have had a major impact on mobility. In addition to decreasing the mobile population, the travel spatial scale has decreased and the modal split has seen a reduction in the use of local public transport and a parallel increase in the use of private motorised means of transport. When detected, the rise in sustainable (mainly active) mobility is anyway overcome by the higher increase in traditional private motorised mobility. In territories "on the move", the ability to be mobile is essential to connect the various daily life's activities. In this context, mobility becomes a right (Orfeuil, 2011; Lévy, 2011; Kaufmann, 2011), the guarantee of which allows individuals and social groups to access significant opportunities for the inclusion and quality of life of citizens.

To guarantee the right to (im)mobility in the long-term and in society on the move and at risk of pandemic, many and different interventions are required. Firstly, it will be increasingly necessary to ensure proximity accessibility, i.e. the possibility of using services and opportunities within a threshold of 15 minutes on foot or by bicycle. If this is a promising road in dense and urban contexts, such as in the case of the 20 minutes neighbourhoods planned in Melbourne[22] and Portland[23] or the *ville de quart d'heure* proposed in Paris[24] or by actions to promote neighbourhood scale services proposed in the document *Milano 2020*[25]. In less dense areas, proximity accessibility can instead be guaranteed with the offer of widespread and efficient digital networks that allow "smart working", "smart learning" and access to goods, services and distance relationships (i.e. e-commerce) and the development of MaaS in rural contexts such as those that are being experienced, for example in Finland[26].

Since virtual mobility cannot be a substitute for physical mobility (Urry, 2002), it is necessary to guarantee a safe and sustainable physical mobility in any case. This implies a strong redefinition of the time-space organisation of cities and urban rhythms, because travel behaviours are mainly socially generated practices, and for this reason «one key condition is to shift the focus away from individual choice and to be explicit about the extent to which the State and other actors configure the fabric and the texture of daily life» (Shove, 2010, p. 1281) in order to be able to tackle from their roots mobility-linked social issues. At the urban level, it is necessary to offer an infrastructure that allows to reconcile the possibility of movement and relationship with physical distancing: for example, the availability of larger sidewalks[27]. In the field of transport, the management of mobility flows through the active coordination and involvement of local and corporate mobility managers with the aim of supporting mobility in conditions of physical spacing and containment of congestion is fundamental. This implies a redefinition of the times and rhythms of the main urban metronomes (workplaces, schools, services, etc.) and to intervene primarily on systematic mobility. The guarantee of the right to safe mobility is also closely linked to the possibility of predicting, monitoring and tracking people's mobility (paying maximum attention to aspects related to the guarantee of privacy and anonymisation of data), coordination between different actors and territorial levels and to the speed of responses.

All these elements, as seen, contribute to defining specific mobility regimes that strengthen and produce new forms of inequality and exclusion. In this sense, it is of fundamental importance that the principles, norms, devices, standards, infrastructures, machines, data and control systems of (im)mobility are at work following a mobility justice perspective (Sheller, 2018) in which the right to (im)mobility and equity are not to be understood only in terms of distribution (e.g. offering equal mobility and access opportunities in the territories), but also in terms of difference (e.g. who is able to exercise rights to mobility?) and procedural (e.g. how we can make a fairer process for people to be part of the deliberation and help us get towards more distributive justice, *ibidem*). To do this, for instance, an acceleration in the strengthe-

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19 The news had a large prominence in the national media. On the topic see: https://ilmanifesto.it/rider-arrestato-e-picchiato-perche-voleva-salire-sul-treno-con-la-bici/, accessed June 29, 2020.
20 Here the official communication of Trenord: https://www.trenord.it/it/media-news/stampa/sala-stampa/bici.aspx, accessed September 2, 2020.
21 https://www.facebook.com/events/1383408855181502/, accessed June 29, 2020.
22 For further information see the website: https://www.planmelbourne.vic.gov.au/current-projects/20-minute-neighbourhoods, accessed June 28, 2020.
23 For further information see the website: https://www.portlandonline.com/portlandplan/index.cfm?a=288098&c=52256, accessed June 28, 2020.
24 For further information see the website: https://annehidalgo2020.com/thematique/ville-du-1-4h/, accessed June 28, 2020.
25 For further information see the website: https://www.comune.milano.it/aree-tematiche/partecipazione/milano-2020, accessed June 28, 2020.
26 For instance the project ALL ABOARD: https://www.kaikkikyytiin.fi/en/, accessed June 28, 2020.
27 With this respect, we note the research by Systematica which measured and assessed the availability of ideal roads for safe walking in Milan: https://research.systematica.net/research/milan-sidewalks-map/, accessed June 28, 2020.

ning of the open data is also increasingly necessary: indeed, it would provide, in particular in the transport sector, useful tools for organising an adequate response to the needs of the territories, beyond sudden crisis situations. Companies and private suppliers of transport services must make available to public authorities and citizens the information, properly treated, deriving from their own activity so as to allow monitoring of the mobility system capable of providing a fundamental knowledge base for a coherent and effective intervention.

Within the limits of the exploratory investigation that we have presented here, the attention to (im)mobility proves that it can contribute to the understanding of the present and long-term social implications of the Covid-19 pandemic. This is due to the intersectoral and instrumental nature of mobility which, as seen, calls into question different dimensions and allows to consider the mutual influences between spatial, socio-economic and cultural factors in determining the inclusion and quality of life of populations. Only the constant effort towards the integration of these analytical perspectives can lead to a truly complete understanding of the territorial mobility systems, which are made up of elements of a varied nature, but which unfortunately are all too often invisible, since not observed at the scale and with the appropriate lens set.

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