

RESEARCH ARTICLE

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The space of rules and rules of space: reflecting on local ordinances during the Covid-19 pandemic

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Abstract

This article investigates the role of the spatial dimension in the formulation of pandemic rules in Italy, with a specific focus on the municipal ordinances enacted in Milan. The study conducts a critical review of multidisciplinary literature, which often marginalises the significance of spatial dynamics in the development of (pandemic) regulatory frameworks, relegating “space” to a peripheral rather than central concern. This research proposes an analytical framework to evaluate spatial rules based on key thematic categories, with reference to the application and structural attributes of pandemic regulations. The article also discusses the practical integration of spatial dimensions into regulatory design, emphasising the imperative of acknowledging and engaging with unique spatial characteristics in order to enhance the efficacy of legal and policy interventions.

Keywords Health emergency, Local scale, Municipal ordinances, Pandemic rules, Rules, Social behaviours, Social norms, Space, Spatial rules, Urban places

Introduction

This article seeks to demonstrate the central role of space when conceiving and drafting legal norms. To do so, the study illustrates how legal norms issued during the COVID-19 pandemic (henceforth “pandemic rules”) largely required some idea of *space*. Ontologically speaking, it seems obvious that physical *space* precedes *norms*; however, there is no systematic comprehension on how the so-called “space-rule tangle” actually affects legal and policy design. To a certain extent, the pandemic rules can be taken as an example of how the relationships between space and rules are more important (and intricate) than is usually assumed.

As Lorini and Loddo (2017: 198) remark, philosophers and legal scholars have often considered the physical *space* as a mere “deontic container” of norms. By contrast, not only does the functioning of norms depend on how actions occur *in space* (both compliance and infringement), but their understanding also requires and contains certain notions of *space*. During the recent COVID-19 health emergency, “maintaining space between people”, became a “rule” in itself, strongly altering the ordinary perception, meaning and use of physical spaces. The common discourse built on several space-related aspects (such as access, border, crowding, distance, movement, open/closed) has contributed to the emergence of what some scholars describe as “pandemic culture” (Ekberg et al. 2021).

Comparative studies have focused on the *spatial validity* of pandemic rules, highlighting differences in national policy approaches (Haug et al. 2020; Bonacini et al. 2021; Chen et al. 2022). Notably, and despite their variations, the recurrent concern (if not the shared central concern)

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of pandemic rules was what *to do in* and *about* space. This latter aspect stresses the importance of the precise and specific spatial reference of rules (Lorini and Loddo 2017; De Franco 2023a).

In Italy in particular, scant attention has been devoted by literature to the municipal level, and to understanding the decision-making processes leading to the introduction of local rules, and their effects in the unique context of daily life; while some researches included this level, they seldom refer to a specific “space-rule tangle” (Vese 2020; Sampugnaro and Santoro 2021; Conteduca and Borin 2022). As a matter of fact, municipal regulations have a significant and direct impact on the spaces that are lived in and used. During the COVID-19 emergency, the role of regional and local governments in the implementation of pandemic rules was far from marginal.¹ The main difference between supra-local (national or regional) and local normative instruments lies in the stricter relationship the latter entertain with space, in terms of both the actual location and movement (mobility, movability) of people in space and the role of space for different functions and uses. Therefore, it is also necessary to highlight the specific relationships between pandemic-related interventions and urban space, also in terms of connection with specific locations, and with existing or novel spatial divisions/boundaries.

In this regard, two main research questions arise. In what ways has the concept of “space” been defined and employed in the case of pandemic rules? How were these rules enacted and implemented in real-world physical settings?

The main aim of the article is to propose a novel and interdisciplinary analytical framework to investigate this space-rule tangle. The article is organized into five sections. After a section devoted to methods and materials, the following sections are focused on the theoretical framework and an in-depth normative analysis of the pandemic rules issued in the city of Milan (Italy). The subsequent section discusses the main findings and limitations of the study. The article concludes by summarizing the issues explored and suggesting further research developments.

Methods and materials

This study is based on: (i) a systematic review of multi-disciplinary literature; (ii) the collection and analysis of pandemic rules (contained in municipal ordinances); (iii) empirical and on-the-spot observations.

The literature review was focused on Scopus-indexed publications, combining keyword search centered on pandemic rules (sometimes referred to as “non-pharmaceutical interventions”, “COVID policies”, “COVID strategies”, “COVID interventions”, “COVID rules”) at the local scale (referred as “municipal”, “urban”, or local “places”).

The analysis of the pandemic rules was conducted in two stages. First, a preliminary collection and desk analysis of all the normative documents explicitly mentioning issues related to COVID-19 (i.e., from March 2020 till December 2021). In the 22 months under examination, a total of 43 municipal ordinances were issued (and selected for the analysis). All the documents were signed by the Mayor (or the Vice-Mayor) of Milan and set after collective discussions in the local council. Second, an in-depth appraisal of the pandemic rules contained in each document. Their contents have been analysed through methodical reading of their specific contents (all the documents were published in a dedicated webpage of the Municipality of Milan—and around 80% of them as readable PDFs, i.e., optical character recognition).

On-the-spot observations in the city of Milan, primarily involved direct observation of the impact of rules on urban spaces and their use. These empirical explorations are here mainly presented in a diagrammatic form (in Tables 2 and 3).

As regard terminology, the terms “space” or “spatial” refer to physical geographical areas (as in Lorini and Loddo 2017). The terms “norms” and “rules” are used here almost as synonyms; to avoid confusion, however, we will refer to “normative documents” as the formal documents in which formal rules are contained. The term “local” and “municipal” are here used interchangeably to indicate a specific administrative territory.

Theoretical framework

Space matters

Some scholars are of the opinion that social norms are space-dependent, as much of their sense and intelligibility depends on how they apply to “areas”, “objects” and “people”. For instance, shaping compliance and non-compliance with the law (Braverman et al. 2014; Blomley 1989; Bennett 2016; Chioldelli and Morpurgo 2022), affecting legibility of environments (Löwgren 2007; Torrens 2012; De Franco and Moroni 2023), affording certain values (Van Den Hoven and Mazalek 2011; Norman 2013 and 2016; De Franco 2022a and 2023b; Moroni 2023), influencing behaviours beyond linguistic conceptions of rules (Moroni and Lorini 2017; Lorini 2019; Moroni et al. 2020; Lorini et al. 2021 and 2022).

It could be argued that many cognitive, cultural, technical, and political aspects behind the construction of rules indirectly involve space. Social institutions

¹ On this issue see Lillieri et al. (2020), McDonald et al. (2020), Palumbo (2020), Brandtner et al. (2021), Kuhlmann et al. (2021), Marchetti (2021), Tan & Lasco (2021), Weissert et al. (2021).

are context-specific, path-dependent, embedded, etc. (Gertler 2010). These aspects are relevant in the Italian response to the COVID-19 emergency (Capano 2020; Consolazio et al. 2021). Recent discussions question how spatially defined rules may solve or enhance certain problems, and in this study, the focus is on specific issues concerning the drafting of pandemic rules, a problem that caught the attention of various disciplines.² Many resources were mobilised to exhort citizens to comply with the burdens introduced by pandemic rules (Lippi et al. 2020; Cantarutti and Reiter 2022). Even informal rules have implied relevant socio-economic sanctions (e.g., personal and business reputation; see Ekber et al. 2021; Chen et al. 2022; Vriens et al. 2024).

The use of ordinances during the pandemic was particularly criticised in the academic debate, although the role of municipal ordinances was strangely neglected in both public and scientific discourse. Only few studies focus on the relevance of municipal ordinances in influencing empirical processes (Moroni and Chiodelli 2014; Astor 2019), and even fewer mention their regulatory significance during sanitary emergencies (Trimarchi 2020; Quispe 2021; Yang and Berg 2022). Due to the health emergency, mayors in Italian municipalities could issue their own rules to manage issues of local biosecurity in implementation of regional directives (Di Capua 2021: 237; Marchetti 2021). These kinds of measures directly dealt with the use of local urban places; however, while in ordinary situations municipal ordinances are instruments mainly meant for administrative purposes (Palumbo 2020; Marchetti 2021), during the emergency they have been used as regulatory tools. This fact alone raised various doubts regarding their lawfulness and on potential inter-institutional frictions (Trimarchi 2020; Palumbo 2020).

When discussing COVID-19 measures, strategies, and policies, authors do not necessarily or unequivocally refer to rules issued by municipal governments. In some cases, the term “local” simply refers to the spatial validity of a rule in a sub-national administrative region (Wright et al. 2020; Weissert et al. 2021; Brandtner et al. 2021). Nevertheless, scholars agree that contagions varied also

as a consequence of the degree of discretion in the adoption of concrete measures at the local level (Lilleri et al. 2020; Moroni et al. 2023). In Germany and Sweden, for example, municipalities appeared to act before official recommendations were published by health ministries and agencies: “with some of them pursuing stricter and some of them looser approaches” (Kuhlmann et al. 2021: 7). By contrast, in Italy, the “centripetal orientation” of the legislative framework left municipalities with little margin of *maneuver* (Di Capua 2021: 237). On the one hand, municipal ordinances in Italy had to implement guidelines already defined by upper-level institutions (i.e., regional, national), without being allowed to derogate, tighten or loosen them. On the other hand, municipal ordinances could set additional rules, but only in those fields left uncovered by upper-level orders and as long as they were effective only within that municipality. Since municipal ordinances can be adopted by all types of cities and immediately enter into force, these instruments were the most available and thus key tools to project COVID-19 emergency protocols on the ground (Trimarchi 2020). This latter aspect is of paramount importance, considering how social perceptions vary over time, especially when dealing with invisible “paratextual forces” (Thrift 2004: 583) such as viruses.

The space-rule tangle

In the international debate on COVID-19, much discussion has been directed towards *ex-post* effectiveness in regulations (e.g., based on total contagions or deaths), but the relationship between modes of production, content themes, and the empirical operability of regulations (or *ex-ante* effectiveness) has not yet been systematically examined. In this regard, we shall consider the following aspects.

During the pandemic, legal and political scholars, social scientists, and philosophers alike pointing out “structural issues” in the production of rules (for instance, their redundancy, frequency, hierarchical relationships) and “readability issues” (in terms of vagueness, lack of simplicity, poor accessibility) might also have affected acceptance and compliance with certain measures (Hunt 2016; Grogan 2020).

Although comparing emergency policies and interventions measures is difficult, pandemic rules can be classified into four main categories, namely: (i) *restriction rules*, to limit social behaviours and activities (Ugolini et al. 2021; Young 2021); (ii) *simplification rules*, to reduce complexity and coordinate efforts in various areas (Pacchi 2022; Bruzzese 2023); (iii) *suspension rules*, to create exceptions from ordinary procedures (McDonal et al. 2020; Brandtner et al. 2021; Weissert et al. 2021); and (iv) *supporting rules*,

² Including administrative and political sciences (Trimarchi 2020; Kuhlmann et al. 2021; Weissert et al. 2021; Yarcia & Bernadas 2021; Chen et al. 2022), architecture and design (de Rosa & Mannarini 2021; Abusaada & Elshater 2022; Meziani et al. 2022; Nousir et al. 2022), economics (Wright et al. 2020; Bonacini et al. 2021; Onyishi et al. 2021; Lami et al. 2023), human geography (Urso et al. 2021; Morgan 2022; Phillips et al. 2022), health and clinical studies (Bonell et al. 2020; Lippi, et al. 2020; Jamison et al. 2021; Yang & Berg 2022), law and philosophy of law (Grogan 2020; Di Capua 2021; Marchetti 2021; Beynon-Jones et al. 2023; Vriens et al. 2024), social theory, psychology and behavioural sciences (Tan & Lasco 2021; Tunçgenç et al. 2021; Young 2021), urban studies, transport engineering and planning (Davy 2020; Jallow et al. 2021; Ugolini et al. 2021; Moroni et al. 2023).

Table 1 Analytical framework to investigate the relations between rules and space

Analysis of normative documents	Categories of the rules	Spatial dimension of the rules
Structural issues (e.g., frequency, redundancy, hierarchical relationship)	Contents of the rules (e.g., restriction, simplification, suspension, supporting rules)	Rules entailing space (e.g., affecting social behaviour and activities by implying spatial elements, such as distances, densities, surfaces)
Readability issues (e.g., vagueness, simplicity, accessibility)	Targets of the rules (e.g., abstract, category-based, agent-based, site-based)	Rules ruling space (e.g., affecting social behaviours and activities by directly intervening on spatial elements, such as areas, locations)

to support people and activities (Capano 2020; Onyishi et al. 2021; Marchetti 2021).

In terms of their targets, pandemic rules may also be distinguished into four categories: (i) *abstract*, when the rule is permanent and always valid (e.g., “respect social distancing”; Bonell et al. 2020; Davy 2020; de Rosa Mannarini 2021; McDonal et al. 2020); (ii) *category-based*, when the rule is valid for specific classes of activities (Haug et al. 2020; Kuhlmann et al. 2021; Moroni et al. 2023); (iii) *agent-based*, when the rule is valid for specific subjects (Palumbo 2020; Jamison et al. 2021; Yarcia and Bernadas 2021); (iv) *site-based*, when the rule is valid only in specific locations (Ugolini et al. 2021; Abusaada and Elshater 2022; Bruzzese 2023; see also De Franco 2022b).

The above-mentioned categories require fully acknowledging some notion of space. In some cases, pandemic rules need to have an idea of personal and interpersonal space involved (e.g., distancing, gathering, isolation). In other cases, rules directly govern the way in which spaces are used (e.g., mobility, usage of public and private spaces). Therefore, the space-rule tangle may be assessed based on the way rules are: (i) *entailing space*, namely implying spatial elements (e.g., lengths, surfaces, densities); or (ii) *ruling space*, namely directly intervening on spatial elements (e.g., places, people, objects). Hence (pandemic) rules have significant spatial and legal dimensions; they include principles, meta-norms, norms of conduct, advice (Moroni 2023), and all of them can be *conditioned* or *unconditioned*, *map-dependent* or *map-independent* (location-specific vs. location-generic; Moroni et al. 2020).

All these elements are key for the research design and analytical framework of this study (see Table 1). The next section offers a comprehensive view of the analyses conducted in this regard in the city of Milan.

The case of Milan

Overview

Milan was chosen as the city was one of the first major western cities called upon to deal with the COVID-19

health emergency (Pacchi 2022; Pasqui 2022; Bruzzese 2023). Local normative documents captured the most crucial moments (start and first evolutions) of the contagion in the most populated region of Italy (i.e., Lombardy; see Consolazio et al. 2021; Moroni et al. 2023). Making all the Mayor’s ordinances easily accessible was also an important element to account for (which does not mean that it is the only case in Italy, but that the information was immediately available and exhaustive).

The next sub-sections present the analysis conducted on the local ordinances.

Normative documents: structure and readability

As regards *structural* issues, frequency problems existed in the production of local normative documents. According to Italian law, municipal ordinances are valid for 15 days from their publication. When considering the whole number of ordinances in the period analysed here, the ratio is aligned with what the law establishes (i.e., 43 ordinances in 660 days: 1 ordinance every 15,3 days). However, especially in the periods of the closures and re-opening of economic activities (March and May 2020), ordinances were issued every 3 days. Redundancy is found in the number of words contained in each document. In average, the ordinances count 1,800 words, of which only 400 are specific to local measures (1 out of 5 pages), whereas the rest is devoted to listing the hierarchical relationship of that specific ordinance with other rules.³

³ To give an idea of the nesting of pandemic rules in Milan, to administrate the re-opening of local activities the municipality of Milan made reference to 20 local norms (e.g., previous ordinances, local codes), 9 regional norms (e.g., ordinances and laws issued by Lombardy Region), and 19 national norms. The many references to upper-level institutions were needed to justify the extraordinary situation (in accordance with national decree-laws: DPCMs, *Testo Unico ordinamento degli enti locali*; ruling by the T.A.R. and the President of the Republic of Italy). When cross-referencing the rules, different lexicons are used to express the same meanings (e.g., “having recognised that”, “having acknowledged that”, “given that”, “whereas”, “considering that”, “as it is deemed necessary that”, “having verified that”, “having assessed that”).

As for readability issues, all municipal ordinances are syntactically correct, but the legal jargon used in the documents is intricate. Certain word choices develop vagueness and imply a lack of simplicity. The presence of Latin expressions, archaic words, and Anglicisms may confuse and require specialised knowledge or assistance to be understood.⁴ In terms of accessibility, all ordinances were freely accessible on the municipality website—albeit written exclusively in Italian.

Categories of (pandemic) rules: classes of contents and targets

Restrictive rules. Some of them had abstract targets, as these were applicable for anyone, especially those prohibiting social gatherings and setting the obligation to wear protective equipment. Category-based restrictions established which commercial categories of activities could be “open” or had to be “closed”, and at which time they could be accessed. Agent-based restrictions forbade specific activities for specific people; for instance, banning street vending and artistic performances in public open spaces. Site-based restrictions limited the use (in full or in part) of specific spatial locations (e.g., churches, parks, playgrounds, schools).

Simplification rules. Some of them have been implemented in an abstract manner, for instance, by digitalising desk procedures wherever possible. Making protective equipment available and free-of-charge was a category-based simplification for healthcare workers. Unlimited movements across the city were possible for specific people working in healthcare, security, and official administration. Open-access burial procedures were site-based simplifications, for all types of cemeteries, both ordinary and monumental ones.

Suspension rules. They allowed to defer from certain fiscal obligations, sometimes in abstract terms (e.g., municipal waste tax: *TARI*), sometimes as category-based suspensions (e.g., tenants in public buildings, families paying school tuitions). Free parking was mainly an agent-based suspension (allowed to sanitary and public workforces during lockdowns; sometimes also to residents). Site-based suspensions mainly concerned local congestion charges (so-called “Area C” and “Area B”).

Supporting rules. Some of them were aimed at providing timely socio-sanitary services in abstract terms, for all city users (including non-residents). Free-of-charge socio-sanitary services were category-based supports,

especially for fragile and vulnerable citizens (e.g., frail, elderly and/or chronically-ill people). Agent-based supports concerned hospitalisation for people unable to conduct home isolation. Site-based provisions allowed transferring some economic activities from indoor to outdoor (e.g., restaurants). For a summary, see Table 2.

The spatial dimension of rules: entailing and ruling space

Pandemic rules were neither necessarily immediate nor self-evident, until these materialised in space. In many cases, rules implied that changes in space settings could foster or hinder collective benefits. In this regard, there are two main ways in which space comes into play in local pandemic rules: by *entailing* (implying) space or by *ruling* (managing) space. (They comprise primary and secondary features of formal rules; for a summary, see Table 3).

Rules entailing space. The first and most immediate example are pandemic rules on social distancing (i.e., maintain a physical separation of X meters between people), that typically refer to principles of “proportionality”, “adequacy”, “safety”.

A second example is the pandemic rules (including meta-norms) attributing extraordinary powers to social agents—for instance—to interdict access to specific places.

A third example is the pandemic rules introducing absolute obligations through general norms of conduct; for instance, gatherings above certain thresholds were prohibited in the light of specific density issues.

A fourth example is the pandemic rules proposing general recommendations, suggesting changes in ordinary work activities. Local rules for remote working circulated also in official documents, to share knowledge on how to work around agglomeration problems.





A fifth example is the pandemic rules conditioning activities according to the satisfaction of certain levels of spatial capacity (i.e., volumes, available surfaces, number of seats). Activities with more “fixed” numbers of users (e.g., workplaces, schools, universities) could instead be accessed relatively unconditionally, yet always having precautionary procedures in place.

A sixth example is the pandemic rules aimed at transforming the physical layouts of activities. Some of these rules were *map-dependent*, for instance those allowing the exceptional occupation of public land to transfer certain commercial activities outdoor (e.g., restaurants), whereas other rules were *map-independent*, namely valid equally and everywhere, such as constant sanitising surfaces, rooms, etc.

Rules ruling space. A first example is the ones making visible signs (e.g., stickers, timetables, alerts) as a mandatory requirement to delimit accesses to places under the principles of “graduality”, “turnover”, “progressiveness”.

⁴ Foreign terms (e.g., “coworking”, “smartworking”, “nearworking”, “COVID manager”) have changed over time without necessarily implying substantial changes in the rules; this is probably due to making certain expressions more neutral and general. See ordinances No. 23 (of 04 May 2020), N.24 (of 11 May 2020), N.28 (of 22 May 2020), N.3 (of 23 January 2021), No. 58 of (08 September 2021), available at: <https://www.comune.milano.it/home/coronavirus-informazioni-e-link>; last accessed on 02 February 2024).

Table 2 The categories of pandemic rules in the municipal ordinances of the city of Milan (Italy)

Main targets	Main contents			
	Restrictive rules (limitations on behaviours and activities)	Simplification rules (facilitations of certain processes)	Suspension rules (exceptions from ordinary procedures)	Supporting rules (assistance to people or activities)
Abstract 	Prohibition of gatherings, use of protective equipment	Digitalisation of desk services and procedures	Deferral from certain municipal taxes	Timely sanitary services
Category-Based 	Limitation of commercial activities	Free protective equipment for healthcare workforces	Deferral from public services fiscal obligations	Free socio-sanitary services for fragile groups
Agent-Based 	Ban of street activities	Free circulation for specific healthcare, security, and administrative agents	Free parking for socio-sanitary agents	Hospitalisation for those unable to conduct home isolation
Site-Based 	Limited access to specific places (e.g., parks, playgrounds and churches)	Open-access burial processes in all cemeteries	Suspension of local congestion charges	Discounts for the occupation of public land

A second example is the pandemic rules in the form of meta-norms (i.e., rules enforcing other rules) requiring certain forms of skill specialisation to manage sanitary and safety protocols (including checking body temperatures or the possession of healing/vaccination certificates).

A third example is the pandemic rules implementing contingent obligations through norms of conduct, for instance, by requiring to adapt and/or create complementary healthcare facilities to mitigate pressure on hospitals.⁵

A fourth example is the pandemic rules introducing specific advice to assure socio-spatial control. The suggestion to provide sanitary gel dispensers, gloves, and other personal protection devices is an example of this.

A fifth example is the rules conditioning social activities upon specific requirements (e.g., fiscal and administrative permits), or special procedures, applied unconditionally, to speed-up operations (e.g., delimit entries and exits from places).

A sixth example is the rules demanding physical changes to better direct flows of people. Some were

map-dependent, especially when concerning mobility, whereas others were *map-independent*, for instance, when asking to conduct contact tracing.

Discussion

Individuals and their activities are constantly immersed in a “nomosphere” (Delaney 2004 and 2010; Lorini 2020), an complex spatio-legal landscape (Chioldelli and Morpurgo 2022). The analysis of pandemic rules in Milan showed that local regulatory measures were more complex and varied than typically acknowledged.

Categorisations did not concern ordinances in their entirety, but the rules contained in them. *Suspension rules* were the most frequent (found in 40 out of 43 ordinances), followed by *restrictive rules* (33 ordinances), *supporting rules* (20 ordinances), *simplification rules* (11 ordinances).

Interestingly, by suspending certain mobility rules (on limited traffic zones, preferential lanes, congestion charges), the paradox arose of making circulation virtually (even if not actually) possible for all kinds of vehicles during lockdowns.⁶ The many suspension rules confirmed problems of redundancy and frequency emerged, partially affected by complex hierarchical relationships across governance levels

⁵ Ordinances acknowledging these issues point out to the difficulties that certain patients may have to comply with self-isolation and quarantine periods. For a more general overview on strategies for healthcare design during COVID-19 health emergency, see Capolongo et al. (2020), Locke et al. (2021), Setola et al. (2022), Meziani et al. (2022). See also Florida et al. (2021), McFarlane (2021), Teller (2021).

⁶ Certain ordinances lifted the previous municipal regulations prohibiting the circulation of pollutant vehicles in the city (e.g., Euro 0, 1, 2, 3, 4 diesel and Euro 2 petrol), therefore suspending the rules in place before the health emergency (ordinance No. 693 of 2019).

Table 3 Space-rule relations in the case of municipal pandemic rules in the city of Milan (Italy)

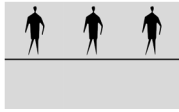
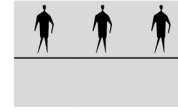
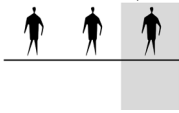
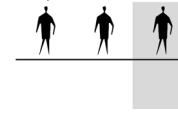
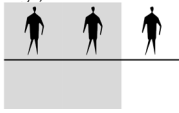
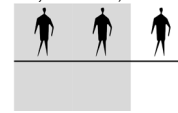
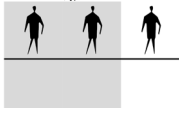
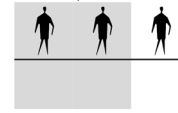
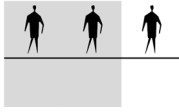
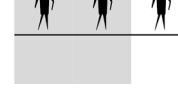

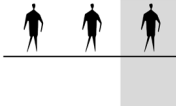


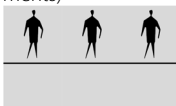

Elements included in the rules (primary and secondary)	Entailing space	Ruling space
Principles	Proportionality, adequacy, safety (e.g., social distancing) 	Gradualness, turnovers, progressiveness (e.g., delimiting accesses) 
Meta-norms	Attribution of special powers (e.g., interdiction of rule-breakers) 	Skill specialisation (e.g., sanitary and safety protocols) 
Norms of conduct	Absolute obligations (e.g., prohibiting gatherings) 	Contingent obligation (e.g., creating complementary facilities) 
Advice	General recommendations on (e.g., remote working, food delivery) 	Specific advice (on e.g., sanitary and protection devices) 
Conditioned rules	Safety requirements (e.g., granting space capacity) 	Specific requirements (e.g., official permits) 

Table 3 (continued)

Elements included in the rules (primary and secondary)	Entailing space	Ruling space
<i>Unconditioned rules</i>	Precautionary procedures (e.g., avoiding crowding) 	Special procedures (e.g., delimiting accesses) 
<i>Map-Dependent rules</i>	Concessions for occupying public land (e.g., transferring activities outdoors) 	Changes in mobility rules (e.g., for specific areas or classes of vehicles) 
<i>Map-Independent rules</i>	Constant sanitisation (e.g., surfaces, environments) 	Contact tracing (e.g., registries) 

(e.g., national, regional, local). Moreover, suspension rules show and explain the continuous “regulatory maintenance” made necessary also in the light of knowledge consolidation and (un)preparedness (Pacchi 2022; Lami et al. 2023; Moroni 2024; see also Moroni 2019).

The frequency, length and vagueness of local ordinances was a source of uncertainty for those operating in the city.⁷ Note that the definition of “essential” and “non-essential” services could have been treated as a local (and not a national) matter. Not only were these set

by nation-wide regulations, but also by arbitrary convictions on what was considered as “most” or “least” at risk, or needed, during pandemic times. While this aspect remains debatable (Grogan 2020; Haug et al. 2020; Kuhlmann et al. 2021), local agents had little or no say in this as in many other matters.

Rules asking to measure body temperature, to check citizens’ credentials, to do contact tracing, to constantly sanitise surfaces, were aimed at *ruling space*. Wearing facemasks, remaining in isolation, respecting social distancing, all *entail* (some notion of personal and interpersonal) *space*.

Considering the case of Milan, and Italy in general, some doubts remain on how certain orders were given and in what form. Many instructions concerning spaces (including remote working) were presented as merely advisory (hypothetically *non-binding*), though they were nevertheless contained within a normative document (ordinances actually are *binding*). This ambiguous way of regulating social activities during the pandemic has been

⁷ Issues of uncertainty have risen in the planning and management of commercial activities in public (in Milan, there are 94 weekly street markets, often located in unfenced road areas, within high-density neighbourhoods). Issues of vagueness are found, for instance, in remaining open and in operation, local ordinances advised supervisory bodies to “carry out the checks, using any means to prove compliance with the ordinance”. Obviously, the expression “any means” is open to many interpretations. This wording appears most notably in 2020s’ ordinances (ordinances Nos. 19, 24, 25, 26, 28, 29, 31, 32, 33, 36, 56 of 2020) and represents a form of reinforcement/reaffirmation of more nuanced and generic indications offered elsewhere (e.g., “carry out the checks and apply this ordinance”), for instance for anti-nightlife (i.e. the so-called “movida”) measures. See ordinances Nos. 18, 20, 21, 22, 30, 34, 45, 61 of 2020 and Nos. 3, 58, 59 of 2021.

transversal to all governmental levels (Di Capua 2021; Moroni et al. 2023).

The relatively scant attention from national governments regarding the potential role of local regulation did not, however, prevent the emergence of new social norms from bottom-up processes. Local ordinances introduced various meta-norms that were necessary to substantiate certain emergency protocols and to avoid tolerance towards their violations (Vriens et al. 2024). These meta-norms implied not only restrictive measures, but especially concessions. For instance, allowing illimited travel for healthcare personnel to increase the spatial performance of certain actions where these were most necessary (e.g., reaching hospitals, vulnerable citizens). These concessions were not only formally necessary, but also morally desirable and implemented also informally. Around Milan, especially during the first periods of the emergency, allowing sanitary workers to “jump the queue” in groceries and postal offices was considered a good norm of conduct. Therefore, spatial rules (in their most various forms) can strip formal and coercive aspects of (written) rules implicitly promoting collaborative attitudes and increasing awareness, also in difficult situations (Tunçgenç et al. 2021).

The presence, movement and interactions between agents make spatial references essential for governing various types of processes during pandemics (Young 2021; de Rosa and Mannarini 2021; Nouisir et al. 2022).

In the pandemic normative documents here analysed, the relation between rules and space was more straightforward in the case of map-dependent rules (i.e., rules connected to land use zoning, specific amenities, traffic areas, street parking regulations; present in 15 out of 43 ordinances). Nevertheless, significant space-rules relations were implied also in norms of conduct (9 out of 43 ordinances), advice (9 out of 43 ordinances), conditional (8 out of 43 ordinances), unconditional (6 out of 43 ordinances), map-independent elements (5 out of 43 ordinances), meta-norms (4 out of 43 ordinances), and principles (3 out of 43 ordinances).

In the case of Milan, local managers could have been more creatively involved to ensure the safety of individuals in specific urban places like theaters, museums, libraries, and public parks. Allowing for a broader accessibility to these and other places during lockdowns (while still ensuring adequate precautionary measures) would undoubtedly have contributed to making the pandemic period more “sustainable”, both in terms of psychological and physical well-being, for many citizens. Including more actively also local managers, may have been overlooked to prevent further institutional conflicts and uncertainty about regulations (McDonald et al. 2020;

Marchetti 2021; Brandtner et al. 2021).⁸ Additionally, constraints in budget and creativity in rulemaking cannot be excluded.

More attention to the use of spatial “normative artifacts” (Lorini et al. 2021 and 2022; Chiodelli and Morpurgo 2022: 726; Lorini and Moroni 2022), such as physical dividers, stickers, signs, etc., could have increased the efficacy of certain measures while avoiding distresses caused from sudden changes in spatial experiences (Young 2021; Abusaada and Elshater 2022; De Franco and Moroni 2023). This would entail a full acceptance of *non-linguistic rules* (Lorini et al. 2021 and 2022) and a more concrete departure from the idea that rules can be spatially blind.

In conclusion, there is no flat equivalence in the space-rule relationship; rather, space affects rules in varied ways.

While these findings are limited to a critical-qualitative scrutiny of the local ordinances, they made it possible to highlight elements in the space-rule tangle during emergency situations.

The categories here proposed are not necessarily exhaustive or definitive, and overlapping may exist; for instance, category-based and agent-based rules may not always be easy to distinguish from each other. However, the main limitation of this article is that it is based on a single case study; this allows us to explore specific aspects in depth, but a more comparative exploration is lacking.

Concluding remarks

This article highlighted how *space matters* in the production of norms. The aim was to demonstrate that while focusing only on words (i.e., verbal rules) may fall short, taking *spatial* facts seriously can help comprehend rules. This study proposes an analytical framework to investigate the space-rule tangle that has been assessed by analysing the normative documents and pandemic rules issued by the municipality of Milan. As regards the normative documents, issues of redundancy and frequency were found in the production of local pandemic rules, also due to the hierarchical relationships across institutional levels. Results show that local interventions were more complicated than customarily assumed, as these encompassed not only restrictions but also simplification, supporting, and especially suspension rules. At the intersection between contents and targets of pandemic rules, it emerged how *spatial references* matter for managing social processes also in pandemic times, entailing

⁸ On this issue, see also Capano (2020), Weissert et al. (2021), Yarcia & Barnadas (2021), Moroni et al. (2023).

physical interactions, while ruling the rearrangement of physical processes in space. Pandemic rules are an exemplary case in imposing ways of life in many manners opposite to what is considered desirable for contemporary lifestyles (e.g., freedom of movement, interaction with environments and other agents). Ultimately this analysis illustrates, and remarks on how, the legal and policy design effectiveness not only concerns how people would conform to the rules, but also how rules relate to *lived spaces*.

Future research could develop comparative studies of pandemic rules in different local contexts. Future studies could use the analytical framework proposed here in other extraordinary or ordinary situations.

Acknowledgements

We acknowledge support under the National Recovery and Resilience Plan (NRRP), Mission 4, Component 2, Investment 1.1, Call for tender No. 104 published on 2.2.2022 by the Italian Ministry of University and Research (MUR), funded by the European Union (NextGenerationEU), project title: "Normative artifacts and normative drawings: investigating non-linguistic regulation (NAND)", CUP D53D23007250006, Grant Assignment Decree No. 968 adopted on 30.6.2023 by the Italian Ministry of University and Research (MUR).

Author contributions

Conceptualisation: ADF, CP; Project Management and supervision: CP; Empirical analysis and data collection: ADF; Writing: Original draft preparation, review and editing: ADF, PC.

Funding

This work is supported by the RIBA project "Norms, Uncertainty and Space (NOUS)", Department of Architecture and Urban Studies, Politecnico di Milano (Italy).

Availability of data and materials

All data reported are publicly available (as indicated).

Declarations

Competing interests

The authors declare that they have no competing interests.

Received: 18 March 2023 Accepted: 31 May 2024

Published online: 15 June 2024

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