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Introduction

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GEOGRAPHY AND DEMOGRAPHY

Geography of Inequality

Inequalities in Geographical Space

**Coordinated by
Clémentine Cottineau
Julie Vallée**

ISTE

WILEY

Inequalities in Geographical Space

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Inequalities in Geographical Space

Coordinated by
Clémentine Cottineau
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Introduction

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The most sensitive forms of inequality today are economic and social [...]. In concrete terms, the most perceptible divisions of economic and social inequalities are projected onto the use of space [...]. Space is made up of units with certain homogeneous characteristics, nested within one another. Within each of these units there are differentiated sectors of inequality. A geography of inequalities, like any geography, is thus articulated according to multiple scales. It is as necessary to take into account the social differentiations in the occupation and control of space in a city or region as it is to measure the differences between large continental groups. (George 1981, pp. 7–8)¹

Although the fight against inequality is an objective shared by most societies and international institutions today (it is, for example, one of the 17 United Nations

1. Original citation: “Les formes les plus sensibles des inégalités sont aujourd’hui d’ordre économique et social [...] Concrètement, les clivages les plus perceptibles des inégalités économiques et sociales se projettent sur l’utilisation de l’espace [...] L’espace est fait d’unités présentant certains caractères d’homogénéité, emboîtées les unes dans les autres. À l’intérieur de chacune d’elles se différencient des secteurs d’inégalités. Une géographie des inégalités, comme toute géographie, s’articule donc suivant diverses échelles. Il y a autant de nécessité à prendre en compte dans une ville ou dans une région les différenciations sociales de l’occupation et de la maîtrise de l’espace qu’à mesurer les écarts entre de grands ensembles continentaux” (George 1981, pp. 7–8).

Sustainable Development Goals for 2030), in retrospect this concern is a relatively recent one as it has only arisen following the establishment of democratic societies. Prehistoric societies – having not accumulated enough surplus for their members to distinguish themselves based on assets – did not see much of a difference, while pre-capitalist societies were instead analyzed in terms of homogeneous groups (classes, castes, social, ethnic, professional and religious groups) between which a “natural” inegalitarian order existed. It was only toward the end of the 19th century that greater attention started being paid to the inequalities between individuals. Indeed, it was at that time that the social and economic sciences abandoned the “representative agent” of productive groups and social classes and started to think about the lives of individuals as a legitimate object of analysis. Up until then, “[there was] no complete theory of personal distribution because there [was] no person” (Alacevich and Soci 2017, p. 36).

In geography, the analysis of inequalities is also concerned with social classes and individuals, but with a focus on space as an agent of production, of reproduction and of an expression of inequalities, and this is at different scales, as the quotation from George at the start of this chapter underlines. In this book, we are interested in inequalities between individuals in geographical space, that is, in the role geographical space has to play in revealing, maintaining and increasing or decreasing inter-individual inequalities over time. This Introduction reviews the vocabulary dedicated to the study of inequalities, analyzes the objects and subjects of inequalities that unfold in geographical space, as well as their spatial and temporal scales. It ends with a presentation of the different chapters of the book and their relationships with one another.

1.1. Back to the notion of inequality

1.1.1. *The lexical field of inequalities*

When it comes to the question of “inequality” there is a proliferation of terms with overlapping meanings. In this section, we would like to introduce and disambiguate the terms used interchangeably in common parlance in order to clarify what is meant by inequalities as they will be discussed in this book.

The combined development of capitalism and democracy in Europe created the conditions for the following paradox: at a time when societies were reaching record levels of inequality, they started promoting a liberal and meritocratic ideology that claimed fundamental equality among their members, at least from a legal point of view: this equality was later translated into the charters of northern European cities in the Middle Ages, and into the *Universal Declaration of the Rights of Man and of*

the Citizen (1789) that emerged from the French Revolution: “All men are born free and equal in rights”. This legal equality promoted by the bourgeois revolutions was only partial however: it notably excluded women and foreigners. Moreover, this legal equality did not include the equality of economic resources either, since the monetary remuneration from work and the distribution of resources were not integrated into the legal definition, it being understood – notably by the proponents of meritocracy – that this must be regulated by the effort made.

Beyond its legal dimension, the notion of inequality refers to questions of *hierarchies* and *disfavor*. According to Maurin (2018), “in order to speak of inequality, access to goods, services or practices must be able to be classified and valued in a hierarchical manner; otherwise, it is no longer a question of inequality, but of differences. A difference only becomes an ‘inequality’ when what we are talking about can be ranked in a hierarchy²”. *Differences*, in the mathematical sense of the term, are in fact limited to describing differences in levels and values. For Lahire, the distinction between difference and inequality lies instead in the way in which the presence or absence of provision is harmful to individuals:

For a difference to become an inequality, the social world in which the ‘privileged’ and the ‘disadvantaged’ live must be organized in such a way that the deprivation of a particular material resource, cultural good, activity, knowledge, or service constitutes a lack or a handicap. Being rich, educated and healthy is not an option to be chosen from among other possibilities. It is precisely because wealth is more enviable than poverty, that education and knowledge are more highly regarded than a lack of education and ignorance, and that good health is preferable to bad health, that it is not just a question of social differences between rich and poor, educated and uneducated, healthy and unhealthy, but of inequalities. (Lahire 2019, p. 39)³

2. Original citation: “pour parler d’inégalités, il faut que l’accès aux biens, aux services ou aux pratiques puisse se classer, être valorisé de façon hiérarchique ; sinon, il ne s’agit plus d’inégalités, mais de différences. Une différence ne devient une ‘inégalité’ que lorsque ce dont on parle peut être hiérarchisé”.

3. Original citation: “Pour qu’une différence devienne inégalité, il faut que le monde social dans lequel vivent ‘privilegiés’ et ‘lésés’ soit organisé de telle façon que la privation de telle ressource matérielle, de tel bien culturel, de telle activité, de tel savoir, ou de tel service constitue un manque ou un handicap. Être riche, instruit et en bonne santé n’est pas une option qu’on aurait à choisir parmi d’autres possibles. C’est bien parce que la richesse est plus enviable que la pauvreté, que l’instruction et les savoirs sont mieux considérés que l’absence d’instruction et l’ignorance, et que la bonne santé est préférable à la mauvaise santé qu’il n’est

The notion of *disparity* also communicates the idea of a difference rather than a hierarchy. It applies well to certain types of geographic variation, such as levels of amenities, where the disparities observed – for example, in terms of transport infrastructure between a large city and a rural area – reflect differences in population and density levels between these two types of space, rather than a socially organized inequality in the treatment of these spaces. These differences between geographical areas can, however, become inequalities when they introduce a hierarchy between individuals according to, for example, the possibility of accessing education or medical care, and the harm that can result from living/working/studying in a space where these possibilities are greatly reduced. In the same register as difference or disparity, we find the term *diversity*. Simply referring to the co-presence of a non-hierarchical plurality of categories and situations, this term is not suited to the description of social inequalities in geographical space, in the sense that it tends to place all differences on the same level. Diversity is, however, a precondition for inequality, since a society of clones cannot distinguish or discriminate between its members. It is therefore the diversity of individuals and their characteristics (but also the diversity of the geographical spaces in which they live and which they contribute to differentiating) that constitutes a prerequisite for the processes of production, reproduction and mitigation of inequalities in geographical space.

Associated with the idea of disfavor, the idea of *injustice* can also be brought up. Since the work of Rawls (1971), inequalities between individuals have been analyzed and justified within the interpretative framework of social justice. The liberal philosopher, in line with the tradition of Rousseau's writings on the social contract, introduced the idea of compensation between citizens who are unequally endowed by nature (in terms of talents, in particular) in order to achieve a fair society. The optimal principle held by Rawls to carry out this redistribution is that of the *maximin*, that is, the maximization of transfers to improve the situation of individuals with the least resources. This idea feeds into recent thinking on *equity* (the principle of giving more to those who need it most). It can also be linked to corrective policy actions aimed at fighting inequalities, whether they concern the whole population (universal approach) or those that target certain groups or certain territories (targeted approach), with modalities or an intensity that vary according to need (proportionate universalism). In addition to the moral issues or the issues of justice between individuals with which these redistribution principles are associated, some authors also defend the idea that inequalities deserve to be combated because,

pas seulement question de différences sociales entre riches et pauvres, instruits et non-instruits, personnes en bonne santé ou personnes souffrantes ou diminuées, mais bien d'« inégalités » (Lahire 2019, p. 39).

beyond their individual consequences, it is society as a whole that is harmed by them (see Box I.1).

Rawls' theory, which remains a key reference on the question of inequalities and redistribution rationales, can nevertheless be criticized, notably for the fact that it does not take into account the perception and feelings of the actors concerned. Thus, redistributing resources in a society may resolve material differences, but it will not cancel out the experience of humiliation and the feeling of victimization of those who have suffered from inequality (Dupuy 2003).

If all these social and moral reasons were not enough to consider the issue of inequality, it is worth noting that high levels of economic inequality can contribute to lower levels of collective well-being and economic growth for the country as a whole. This is consistent with the idea put forward by Rawls (1971) that inherent differences between individuals are neither moral nor desirable for a harmonious and collaborative society, and that redistribution between members of society is desirable so as to ensure that citizens who are unequally endowed by nature (e.g. in terms of talent) form a fair society. This idea that the difficulties encountered by one part of society are detrimental to society as a whole has been empirically studied by Wilkinson and Pickett, based on work in social epidemiology, happiness economics and sociology. In their book *The Spirit Level* (2009), they show that most of the ills generally associated with poverty – they cite low life expectancy, poor skills, mental health problems, crime and early pregnancy, among others – can also be attributed to the gap between rich and poor in the same society, i.e. economic inequality. The reason for this would be that hierarchical and rigid social stratification increases social anxiety in the population as well as the perceived threat of being downgraded: “Greater inequality seems to heighten people’s social evaluation anxieties by increasing the importance of social status” (Wilkinson and Pickett 2009, p. 41). They then conclude that *inequality is not only harmful to the poorest*, but that *society as a whole suffers the consequences*. For example, by encouraging the poorest to resort to loans and mortgages to acquire houses, economic inequalities may have contributed to the subprime crisis of 2007–2008. Fitoussi and Savidan (2003) and Alacevich and Soci (2017) also make the link between high levels of inequality and threats to democracy, since the disproportionate wealth of individuals allows them to influence political campaigns and political personnel, but also to express their opinions and grievances more strongly than others. Finally, Stiglitz (2016) summarizes the channels through which *high inequality harms the entire economy*: (1) by reducing aggregate demand, and thus increasing debt to maintain the consumption levels of the poorest; (2) by reducing equality of opportunity, and thus not allowing the talents of working-class individuals to flourish; and 3) by reducing investment in common goods (e.g. public transport infrastructure).

Box I.1. *Beyond its consequences on individuals, why focus on inequality?*

Some authors thus explicitly consider the *feeling of injustice* as a medium which transforms difference into inequality. For example, we can cite Brunet et al. (1992, p. 253), who define inequality as “a difference perceived or experienced as an injustice that does not ensure the same opportunities for everyone”⁴, or Bihr and Pfefferkorn (2008), who define inequality as “the result of an unequal distribution, in the mathematical sense of the expression, between the members of a society, of the resources of the latter, an unequal distribution due to the very structures of this society, and giving rise to a feeling, legitimate or not, of injustice among its members”⁵ (p. 1).

The notion of inequality also implies the idea that differences acquire the status of inequalities when they are *systematic*. Indeed, it is the repetition of individual situations, associating the fact of being a woman with having a lower salary for equal skills, of living in a disadvantaged area with being in poorer health, of having a foreign-sounding name with not being able to find a job, that gives rise to the feeling of injustice for an entire group facing systematic deprivation. One of the channels through which systematic inequalities are produced is that of *discrimination*, which translates a difference in the treatment of an individual or a social group according to certain visible or supposed characteristics (race, gender, sexual orientation, disability, age, geographical origin, religion, etc.). Although discrimination can be positive (particularly in the context of quota policies aimed at reducing certain social inequalities), the default use of the term refers to the negative treatment of discriminated social categories.

In addition to being systematic, some inequalities between individuals are *systemic*, that is, they are part of the usual functioning of the system that produces them.

In other words, these inequalities are not due to chance or to an unfortunate turn of events for the individuals who suffer them: they are an integral part of the reproduction of the society that produces them. Colombi (2020) shows, for example, how the poverty of some brings prosperity to others in our societies – in other words, how the privileged existence of well-off households depends on the exploitation of the most vulnerable (for childcare, personal transport, cleaning, home delivery, etc.), since the people who make up this low-cost labor force are kept in a

4. Original citation: “une différence perçue ou vécue comme une injustice n’assurant pas les mêmes chances à chacun”.

5. Original citation: “le résultat d’une distribution inégale, au sens mathématique de l’expression, entre les membres d’une société, des ressources de cette dernière, distribution inégale due aux structures mêmes de cette société, et faisant naître un sentiment, légitime ou non, d’injustice au sein de ses membres”.

situation of dependence on these jobs for their survival. In this mechanism of social reproduction, even exceptional trajectories of social or economic mobility participate in the maintenance of the *status quo*. Jaquet uses the notion of *transclass* for this phenomenon: “Non-reproduction, in this sense, is only the perpetuation of reproduction by other means. The social order is preserved by the expulsion of an element that threatens it, that introduces disorder, because it does not conform to the ambient model”⁶ (2014, p. 78).

In summary, inequalities are defined here as *differences in the distribution of valuable resources (wealth, health, education, for example), which are systematic, detrimental, experienced as injustices and fueled by discrimination practices*. However, this definition of inequality does not solve the questions addressed in the following section, namely: who are the subjects and objects of inequality?

1.1.2. Plurality of subjects and objects of inequality

1.1.2.1. Objects of inequalities

In analyses of economic inequality, the subject (“who”) is often an *individual* or a household, while the object (“what”) is an *economic quantity* whose distribution is studied: we are thus interested in inequalities between individuals with respect to their income or wealth (see Box I.2).

These studies of economic distribution are thus distinct from studies of poverty, that is, studies which focus on the lowest part of the distribution (Atkinson 2003). Indeed, by isolating one sub-population (the poor) from society as a whole, poverty analysis often ignores the gradients among sub-populations, their interactions and associated transfers of wealth. “While poverty may be shrugged off as a non-antagonistic issue, inequality will always, sooner or later, trigger a discussion about the structure of power and social disparities in a given society” (Alacevich and Soci, 2017, p. 15). In the field of economics, analyses of inter-individual inequalities in different countries of the world, as well as their historical evolution, have been the subject of many successful publications in the last decade (Piketty 2013; Atkinson 2015; Stiglitz 2015). This work draws on economic theory to try to explain the mechanics of inequality and reverse the trend of its historical growth.

6. Original citation: “La non-reproduction, en ce sens, n’est que la perpétuation de la reproduction par d’autres moyens. L’ordre social est préservé par l’expulsion d’un élément qui le menace, qui introduit le désordre, car il n’est pas conforme au modèle ambiant”.

Although they are sometimes confused as being the same thing, income and wealth refer to distinct economic realities and very different levels of inequality. Indeed, wealth is much more unevenly distributed than income in general, and labor income in particular.

Income, for an individual or a household, refers to the sum of wages, interest and dividends from work and capital earned over a given year. It is the economic quantity most frequently studied in terms of inequality. Income inequality between individuals in the world has tended to decline since the 1970s, due to the significant enrichment of a large number of citizens from emerging countries (and notably from China). Thus, the global Gini index has fallen by 3.8% (from 0.662 to 0.637), the Atkinson index has fallen by 6–8%, and the ratio of the richest 10% to the poorest 10% (P10/P90) fell by almost 20% between 1979 and 2000 (Sala-i-Martin 2006, p. 384). However, income inequality has tended to increase among citizens of the same country. The inequality report by Alvaredo et al. (2018), based on their Top Income Database, shows that national income inequalities have been on the rise again since the 1980s: following a phase of significant inequality reduction in China, Russia, the United States, Canada and India following World War II, the richest 10% of these countries have collected between 40% and 60% of total annual income since 2015.

The **wealth** (or riches, i.e. gross wealth minus debts and duties) of an individual or a household is a stock of net income accumulated over time, sometimes over several generations. Although less visible (and less easily observable due to less accessible data), wealth inequality is even greater than income inequality in contemporary societies: “currently, at the beginning of the 2010s, the share of the top 10% of wealth is around 60% of national wealth in most European countries, and in particular in France, Germany, the United Kingdom and Italy. Perhaps most striking is that in all of these societies, the poorest half of the population owns almost nothing: the poorest 50% in wealth always owns less than 10% of the national wealth, and usually less than 5% [...] For this half of the population, the very notion of wealth and capital is relatively abstract”⁷ (Piketty 2013, pp. 404–407).

Box I.2. Economic inequality in terms of stock and flow: wealth and income

7. Original citation: “actuellement, au début des années 2010, la part des 10% des patrimoines les plus élevés se situe autour de 60% du patrimoine national dans la plupart des pays européens, et en particulier en France, en Allemagne, au Royaume-Uni et en Italie. Le plus frappant est sans doute que dans toutes ces sociétés, la moitié la plus pauvre de la population ne possède presque rien : les 50% les plus pauvres en patrimoine possèdent toujours moins de 10 % du patrimoine national, et généralement moins de 5%. [...] Pour cette moitié de la population, la notion même de patrimoine et de capital est relativement abstraite”.

The study of inequality between individuals is not limited to their economic resources. Other unequal distributions relate not to what individuals accumulate but instead to what they consume – the consumption of electricity or running water, greenhouse gas emissions, and so on (Hedenus and Azar 2005). This unequal consumption can give rise to a feeling of injustice within a given population, which is linked to wealth inequality, since consumption reflects economic means, but also to the environmental damage that this consumption brings about. Although more recent and less numerous than studies on the distribution of economic wealth, studies on the distribution of energy consumption share the same logic in that they analyze how a tiny portion of the population appropriates or consumes prized resources. In fact, inequalities go far beyond the question of income alone to extend “from education to employment, via health and leisure, etc.”⁸ (Maurin 2018). Drawing on work from sociology, we can also cite “cultural capital, social capital, power, prestige, health, living conditions, ‘happiness’, the multiple risks we are exposed to, social mobility...”⁹ (Dubet 2011, §1). Drawing on work from geography, we can cite inequalities related to spatial mobility (Bacqué and Fol 2007), accessibility or the quality of living space. This book attempts to account for such a variety of inequalities and their intersection in geographical space.

1.1.2.2. *Subjects of inequalities*

The individual subjects of inequalities can be analyzed through the lens of common characteristics that contribute to the maintenance and reproduction of the inequalities in which they participate.

Inequalities are observed between people and can therefore be grouped, for example, by age, gender, occupation (social background), etc. [...] To understand inequalities is to grasp how they constitute an overall system in which factors are intertwined. You may be a woman, but you are also of a certain age, of a certain social background and of a certain skin color. Anyone who wants to observe and understand inequalities must analyze the relationships between these domains and categories of populations and unravel their respective weight. (Maurin 2018)¹⁰

8. Original citation: “de l’éducation à l’emploi, en passant par la santé et les loisirs, etc.”.

9. Original citation: “les capitaux culturels, les capitaux sociaux, le pouvoir, le prestige, la santé, les conditions de vie, le ‘bonheur’, les risques multiples auxquels nous sommes exposés, la mobilité sociale...”.

10. Original citation: “Les inégalités s’observent entre des personnes que l’on peut comparer et donc regrouper, par exemple, par âge, par genre, par métier (les milieux sociaux), etc. [...]”

Inequalities are multidimensional and involve both social groups and their interrelations. As a prerequisite for the measurement and analysis of inequalities – whether in terms of measuring the inequalities that affect individuals or the dynamics that (re)produce them – it is thus important to identify coherent social groups. In these analyses, the default subject of inequalities refers to the individual or the household, but there is also a second subject, that of the social group to which one refers in order to compare the position of the groups with one another. The object of inequality may be an economic quantity, the distribution of which is studied, but it can just as well be a quality (being in good health or not; having a job or not; holding a higher diploma or not, etc.) the distribution of which is analyzed among social groups. In this case, inequality emerges when the fact of being deprived of this quality (or of being endowed with it) is specific to a social group and is experienced by members of this group as an injustice or as discrimination. The comparison of average quantities can shed light on economic inequalities between population groups: for example, women’s wealth is lower on average than men’s wealth (Bessière and Gollac 2020). Analysis of the distributions of these quantities within groups reveals additional dimensions of inequality: for instance, the distribution of incomes is less spread out among women (and particularly among mothers, see Waldfogel (1997)) than among men (Lise et al. 2014). Similarly, the trajectory of capital accumulation differs over the life course of women and men, as Atkinson (1971) illustrates: while the most represented age group for women with wealth of more than £200,000 is 55–64 (8.5% of adults), almost as many wealthy adults are found among men in the 25–34, 35–44 and 45–54 age groups as in the 55–64 age group (between 13 and 15% of adults). Thus, Atkinson shows that wealth accumulation occurs much earlier over the life course of men than over that of women, a conclusion confirmed by Bessière and Gollac (2020).

1.2. Inequalities in geographical space

1.2.1. *Projecting inequalities in geographical space*

Starting from our definition of inequalities as being systematic, detrimental differences, experienced as injustices and fueled by discrimination practices, we must now analyze them in relation to geographical space in order to show that inequalities are inseparable from the geographical space in which they are inscribed.

Comprendre les inégalités, c’est saisir comment elles constituent un système d’ensemble où des facteurs s’entrecroisent. On est une femme, mais aussi d’un âge particulier, d’un certain milieu social et d’une certaine couleur de peau. Qui veut observer et comprendre les inégalités doit analyser les relations entre ces domaines et ces catégories de populations, et démêler leur poids respectif’.

Our starting point consists of projecting these differences in geographical space: on the one hand to spatialize the differences, and on the other hand to situate the discourses, perceptions and feelings of injustice. These two aspects are closely linked, since the quantification of differences in geographical space can, depending on the case, encourage the emergence of a feeling of injustice, or result from this feeling of injustice. Highlighting the differences in resources within a city or a country thus contributes to the feeling of injustice by making the unequal situation in which a society finds itself collectively visible and public, an unequal situation that would otherwise remain a simple juxtaposition of individual and private situations. But, at the same time, it is also the injustices felt by certain individuals who systematically experience discrimination that can lead the scientific and political communities to want to objectify the deprivations of which these individuals declare themselves victims. The long-standing debate on statistics with regard to ethnicity in France is a good example: quantifying inequalities according to ethnicity or race would make it possible to objectify the discriminatory experiences of ethnic minorities, to measure their prevalence and to render the mechanisms that produce inequalities intelligible: this is a frequent demand of minority groups (and a position assumed by the American and British social sciences). However, “the reticence of French social sciences with regard to the registers of ethnicity and ‘race’ [refers] to the republican credo of ‘indifference to differences’ and [to] the desire to make cultural disparities less salient in order to unify the nation” (Simon 2008, p. 153). The definition of ethno-racial groups as statistical categories would, moreover, carry the risk of freezing these groups and institutionalizing identities.

1.2.1.1. *Spatializing difference measurements*

To spatialize differences (whether within a population or between social groups), several approaches are possible. The crudest way to do this is to compare the magnitude of differences according to administrative or political spatial units (municipalities, regions, countries, etc.). This is often done in the analysis of income inequality, when comparing the magnitude of inequality (and its evolution over time) across countries (see Chapter 6). The spatial location of inequalities can also mean identifying, locating and mapping the areas where populations subject to discrimination are systematically concentrated, whether in terms of income, employment, health, etc.

As with social groups, one may wish to group spatial units in order to create coherent socio-spatial groups, either in terms of measuring the inequalities that affect these spaces, or the dynamics that (re)produce them. These socio-spatial groups can be constructed a priori from a third indicator (e.g. political regime, population density) that may or may not include a spatial proximity constraint, or

a posteriori (e.g. from measures of spatial autocorrelation) when one seeks to identify spatial units that are similar and spatially close.

The construction of these socio-spatial groups also generally relies on the statistical categories available to delineate the social groups between which certain inequalities are measured. For administrative or census data from *national statistics*, the requirements of anonymity and national synthesis often impose the geographical level of aggregation of income, education and health data of individuals. In France, for example, in the study of economic income, only income deciles are available at the commune level, while percentiles (a tenfold finer description of the distribution) are only disseminated at the regional and national levels. In the same way, when one wishes to cross-reference individual variables (e.g. access to healthcare by income level), a trade-off is often made between the fineness of the thematic classification and the fineness of the geographical level at which the data are aggregated. The compulsory *aggregation* of data therefore “smooths over” empirical knowledge on inequalities by masking local geographic disparities, which is harmful when looking for explanatory processes for inequalities, as well as when evaluating them in statistical models. However, the finest administrative unit at which aggregate data are available is not necessarily the one that should be favored in explanatory models. The choice of the scale to be used for aggregating information is a question that comes up time and again in all empirical studies with a geographical dimension, especially since the way in which the data are aggregated has a significant impact on the results of the analyses. This impact refers to the so-called modifiable areal unit problem (MAUP). This notion – proposed by Openshaw (1984) and widely taken up and discussed afterwards – underlines the sensitivity of the results of an aggregation of geographical units to the size (scale effect) and shape (zoning effects) of the units. While this sensitivity should not be ignored, it should not be considered as a bias, since the variation in the results obtained according to the spatial division adopted reflects the spatially heterogeneous and multi-scalar nature of the phenomenon studied. As such, it represents a contribution to knowledge about this phenomenon (Madelin et al. 2009). Another precaution must be taken when using aggregated data, that is, not to infer at a lower geographical level the relationship observed at the aggregated level. In doing so, one would be exposed to the so-called *ecological error*, by reasoning as if the relationships between variables observed at the group level could be transposed to the level of the individuals that make up these groups. For example, one might find a positive correlation between a city’s poverty rate and its house price level. This does not mean, however, that poor people pay the highest house prices. The relationship at the aggregate level may in fact be linked to a third variable, for example, in this case, city size, which determines both – albeit independently – the poverty rate and the level of house prices.

For the analysis of inequalities in geographical space, the construction of socio-spatial groups can also make use of social and spatial data collected through *surveys* and *interviews*. These customized data sources can indeed allow researchers to obtain finer-grained, multidimensional individual data (on perceptions, in particular), as well as to follow cohorts over time (longitudinal data). However, these information-rich surveys are very time- and cost-consuming, and for this reason are mainly deployed on small samples of individuals, which often requires reaggregation of the information within larger geographic grids to obtain estimates with satisfactory statistical precision. Finally, some data also need to be reaggregated because of the non-coincidence of the geographic grids in which they are produced; for example, in France, health data in hospital perimeters, education data in academy perimeters and socioeconomic data in employment areas.

1.2.1.2. *Situating discourses, perceptions and feelings of injustice*

Spatializing measures of difference in geographical space is only one part of projecting inequality in geographical space. The feeling of injustice, the discourses and the perception of inequalities by individuals deserve to be analyzed in relation to the spaces in which they are located. “Growing spatial segregation is becoming an increasingly important factor in the constitution of the identity of social groups” (Maurin 2003, pp. 32–33). In addition to playing on the identity of social groups, the geographical dimension intervenes in a decisive way in the inegalitarian processes and in their analysis, since it orients and determines the perception, the experience and the reproduction of inter-individual inequalities.

In a major survey on the perception of inequality and injustice by French people, Forsé and Galland (2011) showed that the way in which individuals perceive the overall level of inequalities and their place in society depends in part on their social, political and demographic characteristics. In this case, they point out that “women and adults in the prime of life judge inequalities to be greater than the average French person” (Galland and Lemel 2011, p. 15), and that “the rich are more accepting of inequalities than the poor, the more educated more than the less educated, men more than women, and the elderly more than the young” (Forsé 2011, p. 35). They also found cognitive distortions when individuals placed themselves on the national income scale, as “25% of respondents incorrectly placed themselves in the lowest category,” and that these distortions were particularly pronounced among high-income earners (Phan 2011, p. 70), producing the false image of a “middle-class society”. Even if this survey does not account for differences in perception related to the location and spatial practices of individuals, it is possible to think that

representations of society and its inequalities vary according to the social network constituted by individuals (which is bound by their daily interactions and their geographical constraints), and that the experience of inequalities is not the same between individuals depending on whether they frequent segregated, mixed, fragmented or, on the contrary, homogeneous spaces.

Space also guides the discourses that reflect and fuel stereotypes about different social classes (see Chapter 5). The same is true for the feelings of injustice that fuel political struggles. In this respect, analyses of the *gilets jaunes* (yellow vests) protests in France highlight the role of space in the perception of territorial inequalities; the inhabitants of peri-urban areas or peripheral urban areas consider themselves in turn to be the “losers” of French social policy, a feeling that polemical discourses often like to exacerbate by placing territories (and their inhabitants) in competition with one another (Epstein and Kirszbaum 2020).

Another illuminating example is what Bret (2018) calls the “Catalan paradox”, in relation to the results of the 2017 Catalan independence referendum. Bret sees a paradox in the fact that the secessionists who denounce the exploitation of Catalonia by Spain (to whose budget it makes a positive contribution) are mainly located in the areas of Catalonia that are net beneficiaries of the internal redistribution of the *Generalitat*, that is, outside the metropolitan area of Barcelona (the main contributor to the regional budget). This reading emphasizes the importance of considering the geographical scale in the analysis of inequalities and territorial egos. However, it must be qualified. Indeed, the vote in favor of keeping Catalonia in Spain by those on the coast reflects less the altruism of the productive metropolis or its European interest but rather the strong presence of non-Catalan Spaniards. Moreover, Oller et al. (2020) showed that at the individual level, the most disadvantaged tended to vote against independence, while the most privileged segments of the population supported (and financed) the secessionist movement.

The geographical projection of inequalities is protean: it concerns both unevenly distributed resources and the factors of this uneven distribution and the feelings of injustice that result from it. This geographical projection of inequalities is a necessary (but insufficient) condition for political actors to take up the issue of inequalities and to give themselves the means to combat them. However, this projection is only a first step: it says nothing about the mechanisms that are at the origin of inequalities in geographical space, and does not make it possible to specify what, in these inequalities, is the result of social and spatial structures.

1.2.2. *Thinking about the spatial logics of inequalities*

While questions about the occupation, use and control of geographical space are central to understanding contemporary social phenomena in general, and inequalities in particular, there is little consensus about the status to be accorded to space (Gaudreau 2014).

Since the 1970s, *critical* and *neo-Marxist geographers* have deplored the lack of consideration for geographical space in dominant theories of social justice. Harvey (1973), for example, introduced the idea of uneven development as a direct consequence of the processes of capitalist production: according to him, globalization does not lead to a homogenization of territories but, on the contrary, to the amplification of geographical inequalities. The recurrent over-accumulation of capital is in fact temporarily resolved by the geographical displacement of investment in order to avoid its devaluation (spatial fix), whether it be to other continents and countries during colonization, or to the run-down districts of Northern cities in the form of gentrification (Smith 1996).

This inequality, associated with intrinsic features of the capitalist mode of production, leads to oppression as sources of injustice in space (Harvey, 1996a, 1996b). Over time, critical geographers further developed Harvey's political economy by emphasizing the question of injustice, especially in the contemporary capitalist urban world. The notion of spatial justice deliberated by Ed Soja and others (Dikec, 2001; Marcuse, 2010) is a noticeable example. The term "spatial justice" refers to institutions, policies, discourse, and practices involved in formulating the organization of space, thus shaping human interactions that define (un)just geographies (Soja, 2010a, 2010b). (Israel and Frenkel 2018, p. 650)

More recently, research has analyzed how inequalities accumulate and combine to form a multidimensional whole. This cumulative process refers to the notion of intersectionality, which designates the situation of people who are simultaneously subjected to several forms of domination or discrimination in a society, or to the notion of "systemic discriminations", which designates the processes that maintain unequal social positions. Space participates in this systemic process of reproduction of power and domination, insofar as living spaces do not constitute an element that is simply added to the other factors of injustice or discrimination, but rather a factor that multiplies the force of injustice and discrimination (Hopkins 2019). Space is thus, for example, at the heart of the multi-layered and routinized forms of domination (Crenshaw 1991, p. 1245) that racialized women face in the context of

their domestic or professional activities, whether in public or private places (see Chapter 2).

In the analysis of spatial reasoning on social inequalities, another field in the literature deserves to be mentioned, that of the neighborhood effects (Galster 2012) or place effects. The recent publication boom on neighborhood effects has, however, paradoxically led to an impoverishment of the meaning of space: by considering space as a simple medium whose complexity is overlooked, much of this work (generally based on multilevel regression models) has led to a compartmentalization of what is related to the individual and to space, and to a lack of awareness of their interactions and of the strategies deployed by individuals in order to take advantage of the opportunities of space or to resist its constraints. We find here the Bourdieuan criticism toward a substantialist consideration of places, which ignores the relationships between the structures of social space and the structures of physical space (see Chapter 1). This impoverishment of spatial reasoning does not, however, concern all the works devoted to neighborhood effects. Majority of it – most notably Wilson’s *The Truly Disadvantaged* (1987) and his notion of the concentrating effect – has highlighted the double burden that the poorest individuals face: that of their own lack of income and that of living in a poor neighborhood. In explaining how living in a neighborhood with a concentration of poverty had a particularly negative effect on the lives of the poorest individuals, this work emphasizes that people’s vulnerability to the neighborhood effects can vary according to their socio-demographic profile and their ability to cope (see Chapter 7). The social dimension of the neighborhood effects does not, however, only operate at the residential level. Recent analyses relating to the different neighborhoods that individuals frequent on a daily basis have shown that the physical distance between the facilities available and the various places of daily activities of individuals only harms socially disadvantaged individuals who do not have – unlike socially favored individuals – the opportunity or the ability to overcome the barrier of geographical distance (Vallée et al. 2021). Disentangling the importance of spatial structure versus social structure is in fact a central question when it comes to thinking about the spatial patterns of social inequalities. One can, like authors such as Di Méo (2004), explicitly want to distinguish the social from the spatial by placing them – alongside the individual – at the apex of an equilateral triangle. Other authors, however, do not adhere to this mode of representation, which may lead one to believe that there is a non-social space (see Chapter 1). This discussion finally refers to the “fetishism of space” denounced by Lefebvre (Gaudreau 2014), a fetishism into which we risk falling when we give space a reality of its own, even though it is just one of the concrete expressions of the state of social structure. It is undoubtedly to the difficulty of making social structure and spatial structure interact

that we can attribute the current popularity of the term “socio-spatial” (or “socio-territorial”). The term *socio-spatial*, which is associated with inequality and suggests that the spatial is the symmetrical equivalent of the social, often conceals a theoretical and conceptual inaccuracy that extends into empirical studies (Vallée 2019). This imprecision is less marked in empirical studies of socio-spatial inequalities in the strict sense of the term, which focus, for example, on analyzing people’s incomes according to their residential location (Fleury et al. 2012) – and, hence, *socio-spatial segregation*. But things become more complicated when socio-spatial inequalities concern an object that could be described as external: socio-spatial inequalities in health, socio-spatial inequalities in educational success, etc. One may then wonder whether the term socio-spatial is not being abused in studies of the spatial distribution of a phenomenon, but without the role of social structures being explicitly considered (Deboosere and Fiszman 2009), or when spatial units are used as simple containers to compare, at an aggregate level, the health profiles of the population and their socioeconomic profiles (Rican et al. 2003). In order for the mechanism being studied to qualify as socio-spatial, it is important to understand the interactions between the social and spatial dimensions, for example, by analyzing how *spatial disparities* of a phenomenon *vary across social groups* or, conversely, how *social disparities* of a phenomenon *vary across the spaces* considered (Rican et al. 2003; François and Poupeau 2008; Chen and Wen 2010; Eggerickx et al. 2018). When these interactions are explored (and the methods for doing so are diverse; see Chapter 6), it seems to us that the term socio-spatial can be mobilized on robust empirical grounds: without it, it turns out to be more of a convenient shorthand that fails to account for the interdependencies between the social and spatial dimensions of inequalities.

Other theories should also be mentioned when discussing the agent–structure couple and the place to be afforded to the spatial structure in relation to the social structure from a geographical perspective. One can think of the *structuration theory* of Giddens (1984), which makes the link between the dynamics of individual and collective structuring by emphasizing the modes of reflexive control of action that agents exercise on a daily basis, or of *the capability approach* developed by Sen (1973), which emphasizes the actual possibility of individuals to access available resources. A number of researchers, however, distance themselves from the capability approach and its liberal reading, which ultimately leaves little room for the role of social (and spatial) structures in the development of individuals’ choices and, ultimately, actions (Bowman 2010).

Far from exhausting the subject, this brief overview of the work on the spatial pattern of social inequalities also raises the question of the spatial and temporal scales to which we refer when we want to analyze inequalities and their dynamics in geographical space.

1.2.3. *Spatial and temporal scales*

Inequalities between individuals unfold simultaneously at different spatial and temporal scales. It is important to distinguish between them in terms of measurement and observation, as well as in the identification of the processes that cause them and the actions that can reduce them, for the different types of inequalities. For example, some processes interact between spatial scales, which can lead to the reduction, compensation or amplification of the phenomenon studied. As an illustration, the disadvantage of living in a disadvantaged neighborhood may be partially compensated for when the neighborhood is located in a dynamic, accessible and inclusive metropolitan area or, on the contrary, it may be amplified when the neighborhood is located in a declining, highly segregated city, or when the financing of and access to public services is organized locally (as in many American cities).

1.2.3.1. *Spatial scales*

Paying attention to the spatial scales of inequalities is essential if we wish to take into account the local, family, social, economic and cultural contexts in which inequalities are inscribed (and thus avoid falling into the *atomistic fallacy*, which consists of extending the interpretation of extensive individual data to the level of an entire group or space, without taking into account the environment in which individuals evolve¹¹). Although the concept of spatial scale is central to geography, its use remains polysemous. In this book, we wish to distinguish between the

11. The *atomistic fallacy* is frequently considered the opposite of the *ecological fallacy* (Elissalde 2018). Yet the type of error is not quite the same. The ecological error consists of inferring at a lower level what is observed at a higher (or aggregate) level. If we follow this line of reasoning, the reverse of the ecological error would be to transpose to a higher level what is observed at the lower level. If, for example, one observed that poor people are less healthy, one would conclude that the poorest countries are those where the populations are less healthy. This reasoning holds and is not strictly speaking an atomistic fallacy. Indeed, the atomistic fallacy occurs when one neglects to integrate higher level explanatory factors into a relationship. To return to our previous example, this would consist of not considering that the relationship between a person's poverty and his or her health status depends on their country (and the social protection measures and redistributive patterns implemented). The atomistic fallacy therefore concerns more the omission of higher level factors as such than the transposition of a relationship to a higher level than the one at which it has been obtained.

concepts of scale and level, favoring the use of the term *level* to describe the degree of geographic aggregation of an object, and the term *scale* to describe the geographical perimeter within which inequalities and their mechanisms are measured and analyzed. In the context of city networks, the level, for example, qualifies the type of urban definition used: municipality, morphological agglomeration or urban area; while the scale represents the horizon of interaction of cities: regional, national or global, for example (Rozenblat and Neal 2021).

But even once this distinction has been made, there is often a confusion between the geographic levels to be favored, depending on whether one wishes to measure the extent of inequalities, identify the spatial patterns at work in the reproduction of inequalities, or act to reduce the inequalities (Vallée 2019). The trade-offs related to the availability of data and the territorial political grid lead to considerable confusion about the very status of space. The basic administrative unit used by public statistics to make aggregate data available is more than just data formatting; it also has a performative value because it acts as a channel for questioning, processing and interpretations (see Chapter 7). This is illustrated by the practice of giving priority to the finest administrative unit for which aggregate data are available when it comes to analyzing spatial logics, even though these logics are *multi-scalar*. Another example of scalar confusion in the analysis of inequalities is the inclusion of “explanatory” social variables measured at the neighborhood level (such as the median income of households residing in a neighborhood), without explaining what these “neighborhood-level” variables are supposed to capture or “explain”. The interpretation of the outputs of the statistical models can then be ambiguous, since these aggregated neighborhood-level variables can be thought of as indirect measures of the social status of individuals – to compensate for the lack of individual data – or as measures of the collective level of poverty in the neighborhood – to account for neighborhood effects (Vallée and Philibert 2019). The choice of geographic levels for the analysis of inequalities is in fact akin to a quest for the Holy Grail when one hopes to be able to use a single geographic level to quantify the magnitude of differences, to compensate for the lack of individual data, to quantify place effects and to promote neighborhood-based policies. By reasoning from a single geographical level (whatever the geographical scale at which one is situated), one ignores the plurality of processes operating at the level of the individual and the urban region (Petrovič et al. 2018), and even beyond: it is then a whole part of the patterns which produce social inequalities that one does not give oneself the means to understand, and against which one does not give oneself the means to act (see Chapter 7).

Attention to spatial scales is also necessary when considering the mechanisms cited in the economic literature on the reproduction of income and wealth inequalities. Indeed, it is useful to recall that prices or interest rates generally considered at the national level fluctuate in a non-random way between regions of the same country, making the behavior of households in these different regions vary. Similarly, whether it is the cost of banking services, healthy food or housing, examples abound in the literature that show that residents of poorer areas and those in minority neighborhoods tend to pay more for the same or even lower quality goods or services (Walker et al. 2010; Flood et al. 2011; Colombi 2020). On the other hand, when economists invoke the effect of inheritance or education on the reproduction of inequalities, it is worth remembering that the return on inherited capital (if it is real estate, in particular) or on education received (including the effects of peers, information circulating between families and the extent of the school curriculum taught) is not uniform across the country. Thus, inheriting a property of identical value in the center of Paris or on the outskirts of Nevers does not have the same guarantees of evolution and liquidity, and does not participate in the same way in the reproduction of wealth, symbolic capital and opportunities for heirs. As for education, François and Berkouk (2018) show that the accumulation of experience and tacit knowledge in the preparatory classes of a few high schools in large French cities (notably Paris, Lyon and Bordeaux) allows them to place a disproportionate number of their students among those eligible for the entrance exam to the “*grandes écoles*”, which in turn reinforces the accumulation in these high schools of experience and tacit knowledge about how the exam works.

1.2.3.2. *Temporal scales*

The question of the geographical scale of inequalities is also inseparable from that of *time* for several reasons: first, because the analysis of the evolution of inequalities over time requires us to question the relevance of the spatial units used at each step. This is a central question that arises when we want, for example, to compare the levels of social segregation of a city over the years, even though the city's boundaries may have changed (Musterd 2005).

Moreover, taking time into account makes it possible to highlight the plurality of places with which individuals are (or have been) connected. We can thus make the connection with life-course approaches (or *biographical approaches*), which aim to provide an intersection of family, professional and residential events in time and space in order to identify the precise sequence of events (Courgeau 1985) and to highlight inequalities in access to the city according to a longitudinal and generational approach (Hedman et al. 2019; Le Roux et al. 2020). This corpus thus

considers the residential strategies of individuals over the course of their lives in relation to the social position they occupy in society, for example, with regard to their access to the world of work (see Chapter 4). In this corpus, spatial mobility is still mainly studied from the point of view of residential trajectories: few links are established with the literature of time-geography (Hägerstrand 1985), which considers the daily trajectories of individuals and the inequalities that their different spatiotemporal programs of activities may generate, particularly according to gender (Kwan 1999). Yet, the cross-analysis of residential and daily trajectories could be interesting for understanding the different social and spatial positions that individuals may occupy over the course of their lives (Dubreuil et al. 2020), and the *accumulation effects* of place over time.

This temporal approach allows for a discussion of the effects of time on the relationships that individuals form with places. The work on emotions and *nostalgia* for places (Gervais-Lambony 2012) thus highlights the relationships to past spaces and times: these relationships can lead to *inertia* in place effects when some places remain significant for individuals, even if they no longer frequent them. In parallel with this inertia effect, we can also observe changes in relationships to places, either because the individual uses the same places but these change over the years, or because the changes come from changes in the individual themselves rather than in the places they frequent. In addition to the effects of time on relationships to places, the temporal dimension is important to mobilize in order to discuss the effects of time on the relationship of individuals to the social structure. In this respect, we can note that there is an inertia of the effects of the social structure since the dispositions acquired by the socialization of an individual in a defined social space last in time, even if the individual is in a different social space (see the notion of *hysteresis*, developed by Bourdieu). Finally, some individuals experience multi-situated trajectories when they are simultaneously inscribed in distinct places within which they occupy different social positions. This is the case of transnational migrants, studied by L. Roulleau-Berger in Chapter 3.

Finally, an interest in the temporal scales of inequality means being interested in the *temporal dissonance* that can affect the representation that individuals have of the level of inequality existing within their geographical space, as shown by Chauvel (2003) in relation to the gap between class consciousness and inequality in France since the Industrial Revolution. He notes that it often takes several decades and generations for class identities to adjust to the intensity of inequalities, which creates a gap between the reality of social structuring and its representation. Thus, the

structuring of French society into very unequal classes (in the first half of the 20th century) contributed to the creation of a strong class identity in the following decades, even as this structuring was breaking down. The representation of a “classless” society was, however, renewed from the 1980s onwards, at the very moment when inequalities began to increase again.

Although the spatial and temporal scales of inequality have so far been presented and discussed separately, they are in fact closely linked. As soon as we become interested in the dynamics of inequalities, we cannot ignore the importance of the trajectories (residential, daily, social) of individuals, as well as the trajectories of geographical spaces (whether at the level of neighborhoods, cities, countries, etc.). *Inequalities are in motion in time as well as in space*, and the same is true for the factors that participate in their (re)production. This double articulation of the spatial and the temporal is, in fact, inherent to any analysis of inequalities in geographical space. From a methodological point of view, however, the study of this spatiotemporal dimension requires overcoming a certain number of obstacles, linked as much to the availability of data as to the methods to be used to cross the spatial and temporal dimensions and to model the dynamics of inequalities in geographical space over time (see Chapter 6). From a theoretical point of view, the introduction of the temporal dimension into the reflection on social and spatial structures is proving fruitful, as shown by the notion of *rhythmanalysis*, developed by Lefebvre (1992) to emphasize that repetitions and rhythms are not foreign to the production of space, or the notion of *regionalization* introduced by Giddens (1984) in his theory of structuring. Giddens, like Gombin (2014, p. 5):

[...] thus considers that routine, everyday social practices are not only inscribed in space-time, but contribute to form particular regions in space-time which, in return, structure and constrain (as well as allow, according to the rationale of double structuring) these social practices. If this conceptualization, notably inspired by Simmel’s *time-geography* [...] (from whom he borrows this idea that it is reciprocal human action that generates the space which, in return, makes action possible) [...] and by Elias [...] seems at first sight simple, it actually opens interesting perspectives to social science research attentive to the spatial and temporal dimensions of social processes.

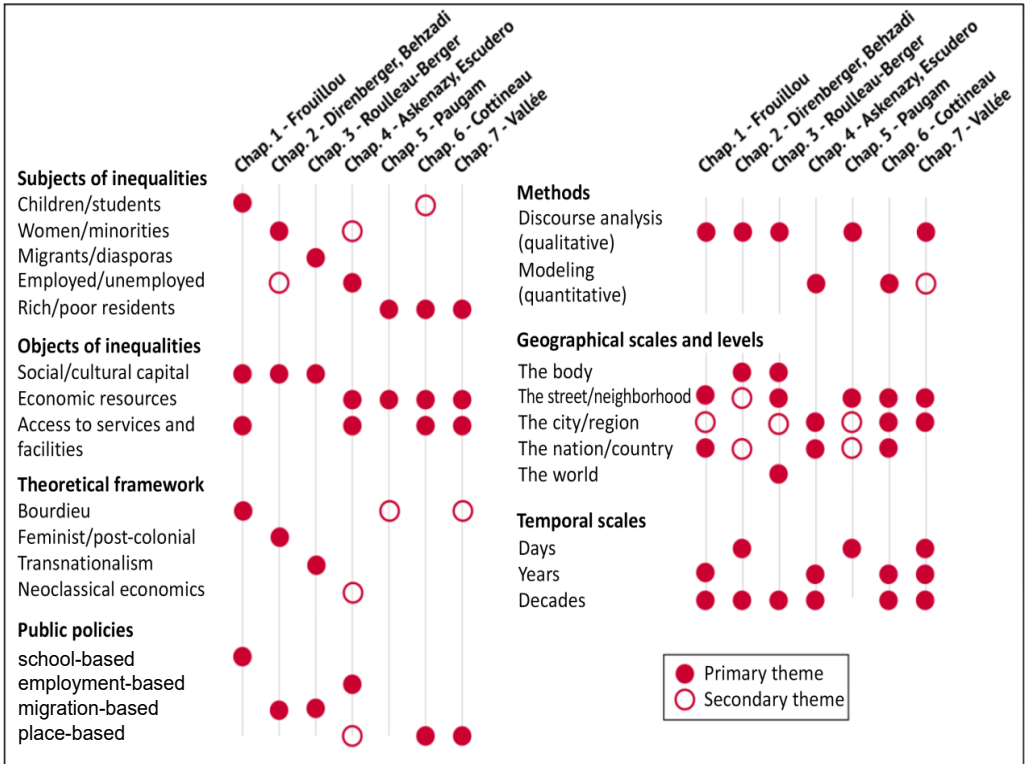


Figure I.1. Thematic, methodological and scalar coverage of the book's chapters.
For a color version of this figure, see www.iste.co.uk/cottineau/inequalities.zip

1.3. Coverage of the book

In this book, we cannot claim to be exhaustive in our approaches, scales and methods on all the inequalities and individuals concerned.

We have therefore chosen to maximize the overall diversity of approaches by assembling chapters that each go into greater depth on one object of inequality, or one approach, or one method, by applying it to several scales or geographical contexts. The advantage is that we have been able to invite authors to deal with subjects in which they are specialists, while hopefully providing a complementarity of views throughout the book.

The distribution of chapters by theme, method and scale is summarized in Figure I.1.

1.3.1. *The subjects (the “who”?)*

The book offers specific insights into four categories of inequality issues. In Chapter 1, L. Frouillou addresses inequality between schoolchildren, students and their families within the school system. In Chapter 2, L. Direnberger and N.E. Behzadi focus on gendered and racialized characteristics of individuals in public and work spaces. In Chapter 3, L. Roulleau-Berger focuses on the inequalities experienced and managed by migrants in their host and transit societies. Finally, P. Askenazy and V. Escudero study inequalities in access to employment in the geographical space of the “Northern” economies (Chapter 4). The following chapters are cross-cutting with periodic focuses on certain categories of individuals.

1.3.2. *The objects (the “what”?)*

In the different chapters, individuals are analyzed according to their unequal possession of or access to resources. Chapter 1 deals with the social, economic and cultural capital that differentiates families and children. Chapters 3 and 4 deal with jobs. Wealth is addressed in Chapter 5, where S. Paugam analyzes the perceptions of poverty and the justifications of inequalities by the most privileged individuals. Wealth is also the subject of inequality, which is addressed from the perspective of modeling by C. Cottineau in Chapter 6. Finally, Chapters 2 and 7 focus on inequalities in access to certain spaces and services, the first in relation to migration experiences, and the second in the context of public policies to reduce inequalities, as analyzed by J. Vallée.

1.3.3. Theoretical frameworks

In terms of theoretical frameworks, some of them apply particularly well to the study of certain objects of inequality, as is the case with Bourdieu's constructivist approach in the study of educational inequalities (Chapter 1). In the same way, feminist and post-colonial approaches, as well as intersectional theory, allow us to shed light on the patterns of gender, class and race inequalities (Chapter 2). The transnationalism approach could do the same in the study of migrants (Chapter 3). On the contrary, neoclassical economic approaches are confronted by the authors of Chapter 4 with empirical observations to describe and explain the persistence of geographical inequalities in access to employment.

1.3.4. Public policies

Most of the thematic chapters deal with the issue of public policies, either to analyze their effects on one aspect of inequality (Chapters 2 and 3), or to assess their performance in reducing inequality (Chapters 1 and 7). In particular, school, migration, territorial and employment policies are addressed in this book.

1.3.5. Methods

One chapter of the book is dedicated to the presentation of a set of methods for analyzing inequalities in geographical space. Chapter 6 presents in detail three families of models: graphic and cartographic models, statistical models and simulation models. Chapter 5 is based on a field survey of wealthy residents of the inner cities of Paris, Sao Paulo and New Delhi. Finally, Chapters 2 and 3 refer to qualitative studies, while Chapter 4 is based on quantitative analyses.

1.3.6. Geographic scales and levels

The geographical levels mobilized in the book go from the level of bodies, inscribed at the heart of the power relations (re)producing inequalities (Chapters 2 and 3), to the level of the neighborhoods considered as units of public action, whether as neighborhood-container or neighborhood-agent (Chapter 7). The geographical scales at which inequalities are analyzed vary from the domestic and professional space to the street (Chapter 2) and the neighborhood (Chapters 1, 5 and 6). Some chapters refer to urban and regional processes, especially in relation to labor markets (Chapter 4) or housing (Chapters 6 and 7). The state and the nation are frameworks for analyzing school (Chapter 1) and economic (Chapters 4 and 6)

systems, while the transnational approach developed by L. Roulleau-Berger in Chapter 3 considers the world as the most relevant scale for analyzing migration-related inequalities.

1.3.7. *Temporal scales*

The scales of analysis in the book are divided into three temporalities: that of the day to address the effect of daily interactions on perceptions, discourses and power relationships between individuals in the geographical space (Chapters 2, 5 and 7); that of the year to evaluate the effect of school, political and economic organizations on the dynamics of inequalities in the medium term (Chapters 1, 4, 6 and 7); and that of the decade to account for the dynamics of the reproduction of inequalities in most chapters.

Each chapter of this book has been iteratively evaluated by the two coordinators of the book. The chapters written by the book's coordinators were also carefully reviewed by Denise Pumain, Leïla Frouillou, Philippe Askenazy and Lucia Direnberger (Introduction), Lena Sanders (Chapter 6) and Renaud Epstein (Chapter 7). The two coordinators would like to thank them, along with the authors of the different chapters, as well as Bernard Bret for the intellectual exchanges to which the writing of this collective work gave rise.

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