A NEW PHILOSOPHY OF SOCIETY

Assemblage Theory and Social Complexity

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5
Cities and Nations

Interpersonal networks and institutional organizations may be studied without reference to their location in space because communication technologies allow their defining linkages and formal positions to be created and maintained at a distance, but as we move to larger scales spatial relations become crucial. Social entities like cities, for example, composed of entire populations of persons, networks and organizations, can hardly be conceptualized without a physical infrastructure of buildings, streets and various conduits for the circulation of matter and energy, defined in part by their spatial relations to one another. In fact, sociologists discovered the social relations generated by territoriality in the 1920s when the famous Chicago school began its studies of urban contexts, viewed both as spatial localities as well as sites structured in time by habitual or customary practices.[1] More recently sociologists such as Anthony Giddens, influenced in part by the work of urban geographers, have returned to this theme, reconceptualizing social territories through the notion of a 'regionalized locale'. As Giddens writes:

> Locales refer to the use of space to provide the *settings* of interaction, the settings of interaction in turn being essential to specifying *contextuality* ... Locales may range from a room in a house, a street corner, the shop floor of a factory, towns and cities, to the territorially demarcated areas occupied by nation-states. But locales are typically internally regionalized, and the regions within them are of critical importance in constituting contexts of interaction ... One of the

> reasons for using the term 'locale' rather than place is that the properties of settings are employed in a chronic way by agents in the constitution of encounters across space and time. [Locales can be] 'stopping places' in which the physical mobility of agents' trajectories is arrested or curtailed for the duration of encounters or social occasions ... 'Regionalization' should be understood not merely as localization in space but as referring to the zoning of time-space in relation to routinized social practices. Thus a private house is a locale which is a 'station' for a large cluster of interactions in the course of a typical day. Houses in contemporary societies are regionalized into floors, halls and rooms. But the various zones of the house are zoned differently in time as well as space. The rooms downstairs are characteristically used mostly in daylight hours, while bedrooms are where individuals 'retire to' at night.[2]

Giddens' description of regionalized locales, as physical territories structured in time by social rhythms, lends itself nicely to an assemblage approach, providing his definition is augmented with the expressive elements with which locales and regions distinguish themselves from each other. The stress on rhythmic or periodic routines, however, would seem to present a problem. I have argued in previous chapters that, except in the most uneventful situations, routine behaviour must be complemented with deliberate decision-making in the explanation of social action. But when studying the effect of human behaviour on the form of urban components the emphasis on routine activity is justified because, as the historian Fernand Braudel reminds us, urban forms tend to change extremely slowly. A house, as he says, 'wherever it may be, is an enduring thing, and it bears witness to the slow pace of civilizations, of cultures bent on preserving, maintaining, repeating'.[3] Given this slowness it seems correct to emphasize those human activities that are so regular they have a chance to impinge on urban form in the long run, such as the journeys to work or journeys to shop that give cities their daily rhythms. On the other hand, in those cases where we witness historical accelerations of this slow pace we will have to add choice to routines since acceleration in the change of urban form typically implies breaks with tradition and hence, deliberate design.

Let us now give an assemblage analysis of these regionalized locales, starting with individual buildings. The material role in buildings is played, first of all, by those components that allow them to be successful *load-*

bearing structures. For buildings that are a few storeys high, the walls themselves perform this task, in conjunction with columns and independent beams, but large governmental, religious and corporate buildings must make use of more sophisticated techniques as they become taller. As skyscraper designers know well, radical changes in form may be needed once a critical height has been reached, such as the use of an interconnected iron or steel frame which, beginning in the 1850s, liberated walls from their load-bearing duties transforming them into mere curtains. Other components playing a material role are those determining the *connectivity* of the regions of a building. If locales are stations where the daily paths of individual persons converge, the regions that subdivide them must be connected to each other to allow for the circulation of human bodies and a variety of other material entities.[4] In a simple dwelling, this connectivity is effected via doors, hallways and staircases shaping the flow of people, and by windows for the circulation of air and light. In taller buildings, on the other hand, internal transportation technology may be needed. Thus, the same decade that saw the introduction of the internal metallic frame also witnessed the transformation of old mechanical lifting devices into the earliest elevators, and a corresponding transformation in the vertical connectivity of buildings.

Changes in connectivity, in turn, impinge in a variety of ways on the social activities performed in a given locale. Fernand Braudel, for example, argues that the connectivity of some residential buildings in the eighteenth century changed dramatically at the same time that the function of the rooms became more specialized, with the bedroom in particular becoming a fully detached region. As he writes, the new connectivity contrasted sharply with that which characterized previous buildings:

> In a Parisian town house of the seventeenth century, on the first floor, which was the noble storey, reserved for the owners of the house, all the rooms – antechambers, salons, galleries and bedrooms – opened off each other and were sometimes hard to tell apart. Everyone, including servants on domestic errands, had to go through all of them to reach the stairs.[5]

A hundred years later, some rooms had become public while others were strictly private, partly as a result of the fact that the routine circulation

through a house was now constrained by a different distribution of doors and hallways. Privacy, in a sense, was created by the new regionalization of these locales. In nonresidential buildings the changes in connectivity brought about by elevators altered the form of the circulation of employees, from a horizontal to a vertical form, whenever firms were not able to secure nearby buildings to accommodate a larger number of workers. As the urban geographer James Vance writes:

> For the financial district [the] mechanical lift was of critical importance, because much of the movement tended to be internal to a rather clearly defined group of employees in a single organization or in a modest number of commonly related organizations. In that situation the walking zone limits could be reached within a few adjacent buildings, as in the structures built to house a legal community, a medical one, or even a very large single insurance company ... It seems to me not at all a matter of chance that the earliest skyscrapers to be built, those in New York and Chicago, were constructed predominantly for insurance companies and were among the earliest buildings to be equipped with elevators. Large metropolitan newspapers were other early entrants into the construction of skyscrapers, again finding a great advantage in piling large numbers of workers on top of each other and thus, by elevator, being able to secure rapid personal communication.[6]

The introduction of internal transportation also had expressive effects. Thus, the apartment buildings that were constructed prior to the elevator, in Paris for example, displayed a clear vertical stratification in which the social status of the inhabitants decreased with height. After the elevator was introduced, this stratification of regions was reversed, with apartments higher up expressing increased status.[7] Other expressive components vary with the activities housed by the building. In the case of residential buildings, the distinctive furniture of their internal regions and the decorative treatment of walls, floors and ceilings, have often played a role in the marking of social-class territories. Ostentatious displays in the aristocratic homes of Renaissance Italy, as Braudel reminds us, were in fact a way of using luxury as a means of domination. But as he goes on to argue, this luxury was purely expressive, since until many centuries later it was not associated with any kind of material comfort.[8] In the case of public buildings, particularly important examples are cathedrals,

churches, mosques and synagogues: locales used for worshipping services, processions and religious ceremonies. These buildings must demarcate a sacred territory from a profane one through the expressive use of geometry and proportion. In medieval Europe, for example, the overall cruciform shape, arcaded cloisters and rhythmic patterns in stained-glass windows were all sacred territorial markers. No doubt, these spatial expressions often coexisted with religious representations. The fan-vaults of some English Gothic churches, for instance, with their series of ribs radiating upwards, express an expansive, ascending motion well suited to mark a sacred territory. This physical expression, of course, must work in conjunction with linguistic ones (the belief that, for example, heaven is above the earth), but it is not reducible to them.

What are the processes that stabilize or destabilize the identity of these assemblages? In the Chinese, Indian and Islamic civilizations, as well as among the European poor, the weight of tradition seems to have been almost overwhelmingly stabilizing when it comes to building techniques and materials, as well as the evolution of furniture and other elements of interior decoration. This evolution, when it took place, occurred at a glacial pace. The birth of *fashion*, on the other hand, had deterritorializing effects, although these were at first confined to the European rich. Fashion greatly accelerated the pace at which the interior and exterior decoration of buildings evolved, although it was not until the 1700s that the rate of change approximated the speed to which we have become accustomed today.[9] The impetus behind fashion was not just the desire to mark social-class territories through the way bodies and homes were dressed but also derived from the fact that, in Europe, aristocracies saw their distinguishing expressive markers constantly under threat by the increased social mobility of rich merchants and artisans. This resulted in a spiralling 'arms race' that drove change. As Braudel writes:

> I have always thought that fashion resulted to a large extent from the desire of the privileged to distinguish themselves, whatever the cost, from the masses that followed; to set up a barrier ... Pressure from followers and imitators obviously made the pace quicken. And if this was the case, it was because prosperity granted privileges to a certain number of *nouveaux riches* and pushed them to the fore.[10]

Another process deterritorializing the identity of buildings is drastic changes in the routines which give them a temporal rhythm. In the case of

organizations possessing an authority structure, changes in either practices of legitimization or enforcement may affect the identity of locales. As new enforcement routines replaced old ones in the seventeenth and eighteenth centuries, for example, they generated a distinct regionalization and connectivity in the buildings of factories, prisons, hospitals and schools. As Michel Foucault writes, these buildings have

> an architecture that is no longer built simply to be seen (as with ostentatious palaces), or to observe the external space (cf. the geometry of fortresses), but to permit an internal, articulated and detailed control – to render visible those who are inside it ... The old simple schema of confinement and enclosure – thick walls, a heavy gate that prevents entering or leaving – began to be replaced by the calculation of openings, of filled and empty spaces, passages and transparencies.[11]

We can extend these remarks to other types of locales, such as office buildings. The bodies of bureaucrats, for example, must also be analytically distributed in space, pinned down to their offices, and separated from any activity not directly related to their jobs. 'The physical separation of offices', Giddens writes, 'insulates each from the other and gives a measure of autonomy to those within them, and also serves as a powerful marker of hierarchy.'[12]

The changes brought about by fashion, or by the disciplinary use of space, already point to the fact that buildings exist in collectivities of similar assemblages, since in both cases we are concerned with how new forms propagate over time through an entire population. These populations of buildings, in turn, form larger assemblages such as residential neighbourhoods, commercial, industrial or government districts, or even moral (or immoral) zones, such as red-light districts. What components play a material or expressive role in these larger assemblages? On the material side, we must list all the physical locales defining stations for the periodic intersection of the life paths of neighbours (the local square, churches, pubs, shops) as well as the streets providing the necessary connectivity among them. A whole underground infrastructure, starting with water and sewage pipes and conduits for the gas that powered early street lighting, was added in the nineteenth century, and the twentieth contributed with electricity cables and telephone wires.

On the expressive side, it was the exterior of buildings, that is, the decoration (or lack of it) of their facades, that defined the personality of a neighbourhood. In residential neighbourhoods where streets were narrow and their layout formed a complex maze, the frontage of houses remained rather plain. Hence, expressive exteriors appear first in public buildings. These were typically located on a central square in which the surrounding space opened up vistas, that is, opportunities for unusual visual experiences, and effect enhanced by a straight street leading to the church, administrative building or monument. Aristocratic residential buildings joined public ones by the fifteenth century, as the European rich began deliberately to pick observable sites for the location of private houses. Only when enough space was left open around these buildings could expressive ostentation, and the interclass competition that fuelled it, begin to touch the external surfaces.[13] Besides opening up vistas, the central square of a town played another expressive role: as a centre determining the location of residential neighbourhoods, with proximity to it expressing greater social prestige. This concentric arrangement was characteristic of many European medieval towns, but was more prevalent south of the Alps. In the north, where merchants or craftsmen dominated their settlements, a market-place occupied the centre of the city, and accessibility to it determined the desirability of a location. This functional rather than social separation led to a more egalitarian form of expressivity, particularly in those planned towns named '*bastides*' which were used in the late Middle Ages as a means to colonize economically backward areas within Europe.[14]

Next we must list the processes that sharpen the boundaries and increase the internal homogeneity of a given neighbourhood. The processes of *congregation and segregation* are among those that perform this territorializing function. As James Vance writes:

> The activities that grow up in cities show a strong tendency to come together in limited areas of specialization drawn into a congregation by the internalizing linkages among them. Whether it be the use of shared sources of materials, the selling to a common body of customers, the practice of a given religion, or the speaking of a particular language, the institutional practice shapes the process of congregation, which is internally induced and highly responsive to matters of scale. A few persons doing a particular thing normally congregate, but not in an obvious congregation. When numbers are increased to the point that they present an areally extensive pattern, then a geographical congregation is to be seen ... In contrast to a congregation is a similarly extensive grouping of ostensibly similar individuals induced by external forces. Instead of being drawn together, they are forced together by segregation.[15]

Commercial and industrial neighbourhoods have often been subject to the processes of congregation and segregation: similar crafts and trades have traditionally tended to congregate, while certain noxious activities like slaughtering have often been the target of institutional segregation. But residential neighbourhoods too acquire relatively well-defined borders, and a uniform internal composition, through these processes. The case of institutionalized segregation is perhaps the clearest example, since in this case both the boundaries and composition of a neighbourhood are codified by law and enforced by government organizations. But congregation may also result in a relatively homogenous composition (by race, ethnic group, class, language) even when one assumes a desire by residents to live in a relatively integrated neighbourhood. If people who do not actively discriminate also prefer not to be in the minority, whether relative to their immediate neighbours or relative to their overall proportion in the neighbourhood, there will be critical thresholds in the composition of a neighbourhood beyond which a chain reaction takes place causing a flight away from the locale by one of the groups.[16]

Important examples of processes of deterritorialization are increased *geographical mobility* and the effect of *land rents* on the allocation of uses for a particular neighbourhood or district. As the sociologists who pioneered urban studies pointed out long ago, segregation sharpens the boundaries of residential areas, whereas transportation tends to blur them.[17] A good example of the destabilizing effects of the increased mobility afforded by mechanical transportation are the changes that working-class neighbourhoods underwent towards the end of the nineteenth century. These neighbourhoods had sharply defined borders when the journey to work was on foot, but as the electric trolley became available the need to live near the factory was removed and new working-class suburbs with more porous boundaries emerged. Vance summarizes the situation thus:

> The fundamental assemblage of buildings and uses in the English industrial city was the working class district composed of row housing ranged around one or several factories and served by quite local shops

and pubs. The locating factor was the factory, because the hours of labour were long and the virtually universal way of going to work was on foot. The result was the creation of a city, or even a metropolis, of small, very definite neighbourhoods, which contained the life of most people save for weekly or less frequent visits to the market square, the market hall, or the street market for the buying of items of clothing, house furnishings, or perishable food. This parochial existence was enforced by conditions of work and housing and the economic unavailability of access to mechanical transportation. Only later in the nineteenth century, when the bicycle, the trolley, and finally the cheap excursion to the seaside by train began to come into the life of the working class, did any appreciable breaking out of this narrow geographical frame of life occur.[18]

Increased geographical mobility, in turn, interacted with the way in which land-assignment and land-use were determined to produce more drastic changes in the identity of neighbourhoods. Central authorities have always had a say in these allocative decisions, and they still do, their zoning regulations having a territorializing effect. Land-rents, on the other hand, when they became sufficiently fluid to give rise to economic speculation, were a powerful deterritorializing force, divorcing the reasons for land-ownership from any consideration of the activities taking place in it and promoting the relatively rapid displacement of one land-use by another. Early urban sociologists referred to this phenomenon as *land-succession*, after the ecological process in which a given assemblage of plants gives way to another assemblage as an ecosystem grows towards its climax mix of vegetation. Instead of plants these sociologists were concerned with land-uses and modelled this succession as a concentric expansion away from a city's centre. The core was taken over by a central business district, encircled by a zone in transition, with light manufacture and deteriorating residential neighbourhoods. Next came a ring of working-class neighbourhoods, followed by middle- and upper-class neighbourhoods, and finally the suburbs or the commuters' zone.[19]

Those early studies, however, focused on a single city (Chicago) and did not give a full explanation of the mechanisms involved in succession. The concentric-ring model seems to be valid for many cities in the USA, where incomes do tend to rise with distance from a city's centre, but not for many parts of Continental Europe, where the reverse is the case.[20]

This may explained by the older age of European cities and the fact that, as I mentioned before, proximity to the centre was very prestigious earlier in their history. At the core, the displacement of residential by commercial uses in the nineteenth century was a kind of territorial invasion which produced the central shopping district. While a wholesaler's location was determined by proximity to the port or the railroad station, the location of retail shops became increasingly determined by the intensity of pedestrian traffic and the convergence of transportation lines.[21] Having conquered its territory near the centre, retail itself differentiated into specialty shops (with more locational freedom) and commodity-combining shops, such as the centrally located department store, the first example of which emerged in Paris in the 1850s.[22] In addition, retailing had to compete with activities involving the exchange of information – as it occurs among brokers, bankers, couriers and other traffickers of knowledge – and its shops with the office space sought out by these service providers. Eventually, taller buildings decreased the intensity of the competition by giving the territory a vertical differentiation, with shops occupying the first floor and offices those higher up.

Explaining the process of land-succession already involves going beyond individual neighbourhoods to a consideration of populations or collectivities of neighbourhoods interacting with one another. Moreover, since these interactions depend on the relative location of members of these populations with respect to a central locale, land-succession implies the existence of larger assemblages of which neighbourhoods and districts are component parts: towns and cities. The identity of these larger assemblages, in turn, may be affected by the succession processes taking place within them. As I argued above, the centre of a city, particularly when there is a single one, is a privileged locale which plays a large role in defining its identity. A central square may owe its location to the building which served as a nucleus for the urban settlement, a church or a castle, for example, and to this extent may serve as an expression of the historical origins of the town. Likewise, when the centre is occupied by a market-place, the commercial character of the town is expressed by that very fact. Thus, when a city loses its *mono centricity* its historical identity may be affected. This multiplication of centres occurred in many countries after 1945 as suburbanization and the increased use of automobiles made the city's core a less promising place for retail activities, and as shopping centres in outlying locations became increasingly common.

But even before the proliferation of suburbs and industrial hinterlands, the identity of urban settlements depended on their relationship with their surroundings. Until relatively recently this meant the countryside and its rural villages. A town may emerge within a pre-existing rural area, a process referred to as *synoecism*, or on the contrary, it may be planted in an area lacking previous rural inhabitants with urban life projected outwards on surrounding areas, a process called *dioecism*.[23] But whether it is through a rural implosion or an urban explosion that the difference between town and countryside is established, it is this difference that constitutes them both, a difference in their mix of routine activities and in their density of population. The distinction of routine activities is based on the oldest form of division of labour: that between agricultural activities on the one hand, and those of commerce, industry and formal government on the other. Until the last two centuries, this separation of activities was not abruptly discontinuous: towns kept vegetable gardens and raised farm animals within their walls, while rural villages engaged in small-scale industry.[24] The distinction in terms of demographic density also varied in sharpness, but it was always there, however blurred. Some big villages may have been larger than some small towns, but the latter always packed more people into the same amount of space.

The relations between town and countryside may be characterized in terms of the resources with which they supply one another. A medieval town of 3,000 inhabitants, for example, needed the land of about ten villages (or 8.5 kilometres) to generate enough food for its inhabitants.[25] But those villages, in turn, needed services from the town, from the commercial services provided by its market-place to the legal, medical, financial and educational services supplied by its organizations, as well as the military protection afforded by its walls and armies. Yet, despite the mutuality of resource dependencies, cities have always tended to dominate the countryside because of the cumulative, *self-stimulating dynamics* that characterize them. There are many models of these dynamics, some stressing the mutual stimulation between the accumulation of workers in a place and the availability of economic investment, private or public, in that place; others focusing on the mutual stimulation between different economic activities that supply each other with materials and services and provide demand for each other's products. In all models, however, 'spatial concentration itself creates the favourable economic environment that supports further or continued concentration'.[26] These self-stimulating

dynamics can make towns grow much faster than their countryside, increasing their influence and breaking the symmetry of the resource dependencies.

In fact, an assemblage analysis of urban centres must take into account not only town and countryside, but also the geographical region they both occupy. This region is an important source of components playing a material role in the assemblage. The geographical site and situation of a given urban settlement provides it with a range of objective opportunities and risks, the exploitation and avoidance of which depends on interactions between social entities (persons, networks, organizations) and physical and chemical ones (rivers, oceans, topsoil, mineral deposits). In addition to ecological components there are those making up the infrastructure of a city, that is, its physical form and its connectivity. While the physical form of some towns may result from a mere aggregation of its neighbourhoods, some aspects of its connectivity (those related to citywide mechanical transportation) tend to have properties of their own, and are capable of affecting the form of the neighbourhoods themselves. The best example is perhaps that of locomotives. Their large mass made them hard to stop as well as to accelerate again, and this demanded the construction of elevated or underground tracks whenever they had to intermesh with pedestrian traffic. The same physical constraints determined an interval of two or three miles between train stops, directly influencing the spatial distribution of the suburbs which grew around railroad stations, giving this distribution its characteristic beadlike shape.[27]

The components playing an expressive role in an urban assemblage may also be a mere aggregation of those of its neighbourhoods, or go beyond these. Let's take for example the silhouette which the mass of a town's residential houses and buildings, as well as the decorated tops of its churches and public buildings, cut against the sky. In some cases, this *skyline* is a mere aggregate effect, but the rhythmic repetition of architectural motifs – belfries and steeples, minarets, domes and spires, even smokestacks, water-towers and furnace cones – and the way these motifs play in counterpoint with the surrounding features of the landscape, may result in a whole that is more than a simple sum.[28] Either way, skylines, however humble, greeted for centuries the eyes of incoming people at the different approaches to a city, constituting a kind of visual signature of its territorial identity. This was particularly true before the blurring of city boundaries by suburbs and industrial

hinterlands, but cities endowed with large skyscrapers continue to possess this physical expressivity even in these new conditions. In some cases, however, as the architectural historian Spiro Kostoff reminds us, the process through which old and new skylines become territorial signatures involve a variety of visual representations, such as those found in coins, paintings and prints aimed at tourists.[29]

The processes that stabilize a city's identity concern both the sharpness of its physical borders as well as the routine human practices taking place within those borders, in particular, the form taken by *residential practices*. In ancient Greek towns, for example, a substantial part of the population returned to their rural homes in summer months or in times of economic trouble. This custom, in turn, affected the process of congregation that formed neighbourhoods within towns: residents tended to congregate by their rural place of origin and maintained their geographic loyalties.[30] In addition, military threats made the inhabitants of a Greek town disperse rather than hide behind its walls. This combination of factors resulted in towns that, in a sense, blended with their countrysides and therefore did not have a sharply defined identity. The opposite case is exemplified by medieval European towns, where fortified walls provided not only protection for the rural population during a siege but also a sense of security against undefined outsiders: a sense which, even in the absence of overt conflict, helped to make citizens into clearly defined insiders. In addition, the stone walls marked the point beyond which the exclusivity of citizenship and its privileges ended, unlike the Greek case in which citizenship could be held by those who practised a duality of residence. Overall, medieval towns had a much sharper identity as locales. These cities, as Braudel writes, 'were the West's first focus of patriotism – and the patriotism they inspired was long to be more coherent and much more conscious than the territorial kind, which emerged only slowly in the first states'.[31]

The native town in ancient Greece and the walled medieval town represent two extreme forms which city boundaries may take. An interesting intermediate case was created by the rise of the suburb in the nineteenth century, and its proliferation in the twentieth. Whereas at first suburbs and industrial hinterlands simply blurred the outer boundaries of cities which otherwise retained their centre, and hence their old identity, after the Second World War not only the area which suburbs occupied but the variety of their land-uses (retail, wholesale, manufacturing and office space) multiplied, recreating the complex

combinations that used to characterize the old central business district. As I noted before, this process created brand new centres in the suburban band. In some cases, the urban realms around these centres were so self-sufficient that the daily paths of their residents could be contained within their limits.[32] Thus, by creating a true multi-centred urban space, suburban growth – and the changes in connectivity brought about by the automobile and the freeway – acted as a powerful deterritorializing force.

As usual, an assemblage analysis of singular, individual entities must be complemented by a study of the populations formed by those entities. An important property of populations of towns and cities is the birth-rate of new urban settlements, as well as the rate at which old settlements disappear. These determine the overall *rate of urbanization* of a particular geographical region. In the case of Europe, urbanization intensified in the eleventh and twelfth centuries, accelerated again in the sixteenth, and picked up speed once more in the centuries following the Industrial Revolution. Between 1350 and 1450, and between 1650 and 1750, both the human population and the overall rate of urbanization declined.[33] The first wave of city-building took place against the background of feudalism, creating densely occupied areas in which a certain autonomy from feudal relations could be achieved – the city's land still belonged to a bishop or a prince, but the city as a whole paid the rent – as well as areas with lower urban density in which cities could not shed their shackles.

Higher density affected not only the relations of cities with feudal organizations, making them more contractual and less directly tributary, but also the intensity of the economic interactions between cities. In the period between the years 1000 and 1300, cities in the low-density feudal areas (Spain, France, England) did not develop systematic relations among themselves, remaining within relatively closed politico-economic domains in which trade relationships were mostly local. In the high-density areas (northern Italy, Flanders, the Netherlands, some parts of Germany), on the other hand, the regularity of trade was greater, its volume higher, and it covered much larger areas. This led to the generation of more systematic and enduring relations among urban centres creating the conditions for the emergence of larger assemblages: hierarchies and networks of cities. Much as the differentiation between a city and its surrounding countryside involved breaking the symmetry of its resource dependencies through self-stimulating accumulations, other cumulative processes – related to differential degrees of autonomy from feudal organizations, the relative speed of different forms of transporta-

tion, differences in volume and intensity of trade – destroyed the possibility of a uniformly sized population of towns with symmetric resource dependencies.

In formal models of urban dynamics, assemblages of cities of different sizes emerge from a sequence of symmetry-breaking events, as each town confronts centripetal processes, like the capture of population, investment and other resources, as well as centrifugal ones, like congestion, pollution, traffic. At the tipping-point, when one set of forces begins to dominate the other, a town may grow explosively or shrink to a small size in the shadow of a larger one.[34] In computer simulations the actual pattern that emerges *is not unique* – as if there existed a single optimal pattern to which the urban dynamics always tended – but is, on the contrary, highly sensitive to the actual historical sequence of events. For this reason, the emergent pattern of urban centres is like a memory of this symmetry-breaking sequence 'fossilized in the spatial structure of the system'.[35]

A recurrent emergent pattern in these formal models is one familiar to geographers: a hierarchy of *central places*. In its original formulation, central-place theory was an attempt to describe the hierarchical relations among regularly spaced urban centres, with larger ones displaying a greater degree of service differentiation than smaller ones. In the hierarchies that emerged in medieval Europe, for example, the smallest towns offered a small market-place and a church as services to their rural surroundings; medium-sized towns added to this marketing function more elaborate religious services, as well as some simple administrative and educational ones, such as county jails and schools, which they offered to their countrysides as well as to lower-ranked towns. Larger towns, in turn, multiplied the variety of marketing, administrative and religious services and added new ones, such as the sophisticated educational services provided by universities.[36] In short, in a central-place hierarchy each rank offers all the services of the immediately lower rank and a few more, and these added services create resource dependencies across ranks. To these it must be added the economic dependencies which trade may create, since larger towns typically offered a larger variety of products than smaller ones, as well as political dependencies derived from the fact that the largest towns at the top of the hierarchy were usually regional or provincial capitals. In addition to landlocked central-place hierarchies, trade among the European population of towns in the Middle Ages generated extensive *networks of maritime*

ports in which cities were not geographically fixed centres but changing relays, junctions or outposts. As the urban historians Hohenberg and Lees write:

> Instead of a hierarchical nesting of similar centres, distinguished mainly by the number and rarity of services offered, [a maritime network] presents an ordering of functionally complementary cities and urban settlements. The key systemic property of a city is nodality rather than centrality, whereas hierarchical differences derive only partly from size and more from the nature of the dominant urban function. Control and innovation confer the most power and status, followed by transmission of goods and messages, and finally by execution of routine production tasks. Since network cities easily exercise control at a distance, the influence of a town has little to do with propinquity and even less with formal control over territory.[37]

Each node in these networks specialized on a subset of economic activities not shared with the rest, with the dominant nodes typically monopolizing those that yielded the most profits. Since rates of profit vary historically, as sources of supply change or as fashion switches demand from one luxury product to another, the mix of activities in each node of the network also changed, and this, in turn, affected the dominance relations between nodes. For this reason, the position of dominant node, or 'core', as it is sometimes referred to, changed over time, although it was always occupied by a powerful maritime port. The sequence of cities occupying the core was roughly this: Venice was dominant in the fourteenth century, followed by Antwerp in the fifteenth, Genoa in the sixteenth, Amsterdam in the seventeenth, London in the next two centuries, and New York in the twentieth.[38] Besides economic specialization, Hohenberg and Lees mention control at a distance as a characteristic of city networks, a relative independence from spatial proximity made possible by the much higher speed of transportation by sea relative to that over land. Faster transportation implied that nodes in the network were in a sense closer to each other than to the landlocked cities in their own backyard: news, goods, money, people, even contagious deceases, all travelled more rapidly from node to node than they did from one central place to another.

As assemblages, central-place hierarchies and maritime networks have different components playing material and expressive roles. Materially,

they vary in both geographical situation and connectivity. On the one hand, the geographical siting of central places always gave them command over land resources, farmland in particular. By contrast, the cities in maritime networks, particularly the dominant nodes, were relatively poor in these terms: Venice was so ecologically deprived it was condemned to trade from the start, and Amsterdam had to be constantly reclaiming land from the sea. In terms of connectivity, roads linked central places following the ranks of the hierarchy: there were seldom direct land-routes connecting the smaller towns to the regional capital. Also, the relative slowness of terrestrial transportation forced towns to cluster together, since the services offered by larger centres could only be enjoyed if the smaller ones were located at relatively short distances: the distance its inhabitants would be willing to walk to get the needed service. Maritime ports were not subject to these constraints. Not only were long distances less of a problem, given the faster speed of their ships, but they could all be directly connected to one another regardless of rank. The key to this connectivity was the sea. During the first wave of urbanization, for instance, 'the two inland seas, the Mediterranean–Adriatic and the Channel–North Sea–Baltic, served to unite trading centres rather than to separate them'.[39] After that, first the Atlantic Ocean, and later on the Pacific, became the connecting waters of a network that by the seventeenth century had acquired global proportions.

While the expressive components of these assemblages may be a mere aggregate of those of the towns that are their component parts, the aggregate may have a pattern of its own. In the case of central places, if we imagine travelling from the smallest and simplest towns up the ranks until we reach the regional capital, this experience would reveal a pattern of increased complexity in the expressive elements giving towns their personality: taller and more decorated churches and central plazas, more lavish religious and secular ceremonies, a greater variety of street and workshop activities, as well as more diversified and colourful market-places. In the case of maritime networks, it was not the increased differentiation of one and the same regional culture that expressed a dominant position but the gathering of expressions from all over the world. The core cities, in particular, always had the highest cost of living and the highest rate of inflation, so every commodity from around the world, however exotic, tended to flow towards their high prices. 'These world-cities put all their delights on display', writes Braudel, becoming universal warehouses, inventories of the possible, veritable Noah's Arks.[40]

Territorialization in these assemblages is performed by the processes that give an entire region a certain homogeneity. The largest central places, often playing the role of political capitals, attracted talented people from the lower-ranked towns: people who brought with them linguistic and nonlinguistic elements of their own local culture. Over time, these capitals gathered, elaborated and synthesized these elements into a more or less homogenous product which was then re-exported back to the smaller centres.[41] The *higher prestige* of the more differentiated culture at the top acted as a magnet for the short-distance migratory patterns of cultural producers, and gave the synthesized cultural product the means to propagate throughout the region. Long-distance trade, on the other hand, had deterritorializing effects. The nodes of a maritime network often played the role of *gateways to the outside*, opening up to foreign civilizations, so they housed a more colourful and varied population. Having a larger proportion of foreign merchants than did the central places, maritime ports offered their inhabitants the opportunity to be in more regular contact with outsiders and their alien manners, dress and ideas. The existence of dominant nodes implies that the more cosmopolitan culture of urban networks was not egalitarian, but its heterogeneity was preserved since it was 'superimposed on a traditional periphery with no attempt at integration or gradual synthesis'.[42]

Moving from the scale of city assemblages to that of territorial states may be done in an abstract way, simply noting that the landlocked regions organized by central-place hierarchies and the coastal regions structured by maritime networks are today component parts of nation-states. But this would leave out the historical process behind the absorption of cities into larger entities, as well as the resistance offered by urban centres to such an integration. In Europe, the outcome of this process varied, depending on the segment of the population of cities that was involved. In the densely urbanized regions cities managed to slow down the crystallization of territorial states until the nineteenth century, while in the areas of low density they were quickly absorbed. In particular, unlike the central-place hierarchies just examined, those that emerged in the areas where feudalism remained dominant tended to adopt distorted forms with excessively large cities at the top. These disproportionately populous and powerful centres formed the nucleus around which empires, kingdoms and nation-states grew by a slow accretion of territory, and, in time, they became the national capitals of these larger assemblages.

Although the incorporation of cities in the sixteenth and seventeenth centuries was performed through a variety of means, direct military interventions were often involved. In some cases the rulers of kingdoms or empires made claims to the territory on which cities were located: claims legitimated by inheritance or marriage but often enforced through the use of organized violence. But warfare also influenced the outcome of the contest between cities and territorial states indirectly through the enormous expense that armies and fortified frontiers implied. Only large, centralized governments, commanding the entire resources of a land and its inhabitants, could afford to stay in the arms races that developed between new weapons (such as mobile artillery) and defensive fortifications. As the historian Paul Kennedy writes:

> Military factors – or better, geostrategical factors – helped to shape the territorial boundaries of these new nation-states, while the frequent wars induced national consciousness, in a negative fashion at least, in that Englishman learned to hate Spaniards, Swedes to hate Danes, Dutch rebels to hate their former Habsburg overlords. Above all, it was war – and especially the new techniques which favoured the growth of infantry armies and expensive fortifications and fleets – which impelled belligerent states to spend more money than ever before, and to seek a corresponding amount in revenues . . . In the last few years of Elizabeth's England, or in Phillip II's Spain, as much as three-quarters of all government expenditures was devoted to war or to debt repayments for previous wars. Military and naval endeavors may not always have been the *raison d'être* of the new nation-states, but it certainly was their most expensive and pressing activity.[43]

The historical period that sealed the fate of autonomous cities can be framed by two critical dates, 1494 and 1648, a period that witnessed warfare increasing enormously in both intensity and geographical scope. The first date marks the year when the Italian city-states were first invaded and brought to their knees by armies from beyond the Alps: the French armies under Charles VIII whose goal was to enforce territorial claims on the kingdom of Naples. The second date celebrates the signing of the peace treaty of Westphalia, ending the Thirty Years War between the largest territorial entity at the time, the Catholic Habsburg empire, and an alliance between France, Sweden and a host of Protestant-aligned states. When the peace treaty was finally signed by the exhausted

participants, a unified, geopolitically stabilizing Germany had been created at the centre of Europe, and the frontiers that defined the identity of territorial states, as well as the balance of power between them, were consolidated. Although the crucial legal concept of 'sovereignty' had been formalized prior to the war (by Jean Bodin in 1576) it was during the peace conference that it was first used in practice to define the identity of territorial states as legal entities.[44] Thus, international law may be said to have been the offspring of that war.

As I argued in the previous chapter, it is important not to confuse territorial states as *geopolitical entities* with the organizational hierarchies that govern them. Geopolitical factors are properties of the former but not of the latter. As Paul Kennedy argues, given the fact that after 1648 warfare typically involved many national actors, geography affected the fate of a nation not merely through

> such elements as a country's climate, raw materials, fertility of agriculture, and access to trade routes – important though they all were to its overall prosperity – but rather [via] the critical issue of strategical *location* during these multilateral wars. Was a particular nation able to concentrate its energies upon one front, or did it have to fight on several? Did it share common borders with weak states, or powerful ones? Was it chiefly a land power, a sea power, or a hybrid – and what advantages and disadvantages did that bring? Could it easily pull out of a great war in Central Europe if it wished to? Could it secure additional resources from overseas?[45]

But if territorial states cannot be reduced to their civilian and military organizations, the latter do form the main actors whose routine activities give these largest of regionalized locales their temporal structure. A good example of the new organizational activities that were required after 1648 were the fiscal and monetary policies, as well as the overall system of public finance, needed to conduct large-scale warfare. On the economic side there were activities guided by a heterogeneous body of pragmatic beliefs referred to as 'mercantilism'. The central belief of this doctrine was that the wealth of a nation was based on the amount of precious metals (gold and silver) that accumulated within its borders. This monetary policy, it is clear today, is based on mistaken beliefs about the causal relations between economic factors. On the other hand, since one means of preventing the outward flow of precious metals was to

discourage imports, and this, in turn, involved the promotion of local manufacture and of internal economic growth, mercantilism had collective unintended consequences that did benefit territorial states in the long run.[46] For this reason, however, it is hard to consider the people making mercantilist policy decisions the relevant social actors in this case. Another reason to consider the activities of organizations the main source of temporal structure for territorial states is that many of the capacities necessary to conduct a sound fiscal policy were the product of *slow organizational learning*, a feat first achieved in England between the years of 1688 and 1756. As Braudel writes:

> This financial revolution which culminated in a transformation of public credit was only made possible by a previous thoroughgoing remodeling of the kingdom's finances along clearly defined lines. Generally speaking, in 1640 and still in 1660, English financial structures were very similar to those of France. On neither side of the Channel did centralized public finance, under the exclusive control of the state, exist. Too much had been abandoned to the private initiative of tax-collectors, who were at the same time official money lenders, to financiers who had their own affairs in mind, and to officeholders who did not depend on the state since they had purchased their posts, not to mention the constant appeals that were made to the City of London, just as the king of France was always calling on the goodwill of Paris. The English reform, which consisted in getting rid of parasitic intermediaries, was accomplished steadily and with discretion, *though without any discernible plan of action*.[47]

An assemblage analysis of organizational hierarchies has already been sketched in the previous chapter, so what remains to be analysed is the territorial states themselves. Among the components playing a material role we must list all the resources contained within a country's frontiers, not only its natural resources (agricultural land and mineral deposits of coal, oil, precious metals) but also its demographic ones, that is, its human populations viewed as reservoirs of army and navy recruits as well as of potential taxpayers. As with all locales, the material aspect also involves questions of connectivity between regions: questions that in this case involve the geographical regions previously organized by cities. Territorial states did not create these regions, nor the provinces that several such regions formed, but they did affect their interconnection

through the building of new roads and canals. This is how, for example, Britain stitched together several provincial markets to create the first national market in the eighteenth century, a process in which its national capital played a key centralizing role. And, as Braudel argues, without the national market 'the modern state would be a pure fiction'.[48]

Other countries (France, Germany, the USA) accomplished this feat in the following century through the use of locomotives and telegraphs. The advent of steam endowed land transportation with the speed it had lacked for so long, changing the balance of power between landlocked and coastal regions and their cities, and giving national capitals a dominant position. With the rise of railroads, as Hohenberg and Lees write, although

> many traditional nodes and gateways continued to flourish, the pull of territorial capitals on trade, finance, and enterprise could grow unchecked. With their concentration of power and wealth, these cities commanded the design of rail networks and later of the motorways, and so secured the links on which future nodality depended. Where once the trade routes and waterways had determined urban locations and roles in the urban network, rail transportation now accommodated the expansion needs of the great cities for both local traffic and distant connections.[49]

On the expressive side, the most important example was the use of national capitals as a means to display central control. This was achieved through the so-called 'Grand Manner' of urban design pioneered in Europe by the absolutist governments of the seventeenth and eighteenth centuries. Italian cities created the basic elements of the Grand Manner, but it was in France after 1650 that these elements became codified into a style: residential blocks with uniform facades acting as frames for sweeping vistas which culminated with an obelisk, triumphal arch, or statue, acting as a visual marker; long and wide tree-lined avenues; a use of the existing or modified topography for dramatic effect; and the coordination of all these elements into grand geometric configurations.[50] Although the use of symbols and visual representations was also part of this global approach to urban design, it can be argued that the overall theatricality of the Grand Manner, and its carefully planned manipulation of a city's visual experience, physically expressed the concentration of power. To quote Spiro Kostoff:

> If the Grand Manner is routinely associated with centralized power, we can readily see why. The very expansiveness it calls for, and the abstraction of its patterns, presuppose an untangled decision-making process and the wherewithal to accomplish what has been laid out. When such clearcut authority cannot be had the Grand Manner remains on paper ... It was not an accident that Washington was the only American city to celebrate the Grand Manner unequivocally ... This was the only city in the United States that had a centralized administration, however deputized, being under direct authority of Congress. Elsewhere one could only resort to persuasion, and try to advance whatever fragments of the overall plan one could through the tangles of the democratic process ... The presumption of absolute power explains the appeal of the Grand Manner for the totalitarian regimes of the Thirties – for the likes of Mussolini, Hitler and Stalin.[51]

The stability of the identity of territorial states depends in part on the degree of uniformity (ethnic, religious, linguistic, monetary, legal) that its organizations and cities manage to create within its borders. A good example of homogenization at this scale is the creation of standard languages. In the areas which had been latinized during the Roman Empire, for example, each central place hierarchy had its own dominant dialect, the product of the divergent evolution that spoken or vulgar Latin underwent after the imperial fall. Before the rise of national capitals the entire range of romance dialects that resulted from this divergent differentiation coexisted, even as some cities accumulated more prestige for their own versions. But as territorial states began to consolidate their grip, the balance of power changed. In some cases, special organizations (official language academies) were created to codify the dialects of the dominant capitals and to publish official dictionaries, grammars and books of correct pronunciation. This codification, however, did not manage to propagate the new artificial languages throughout the entire territory. That process had to wait until the nineteenth century for the creation of a nationwide system of compulsory elementary education in the standard. Even then, many regions and their cities resisted this imposition and managed to preserve their own linguistic identity, a resistance that was a source of centripetal forces. Although in some countries, such as Switzerland, political stability coexists with multilingualism, in others (Canada, Belgium) even bilingualism has proved to be a destabilizing force.[52]

In addition to internal uniformity, territorialization at this scale has a more direct spatial meaning: the stability of the defining frontiers of a country. This stability has two aspects, the control of the different flows moving across the border, and the endurance of the frontiers themselves. The latter refers to the fact that the annexation (or secession) of a large piece of land changes the geographical identity of a territorial state. Although these events need not involve warfare aimed at territorial expansion (or civil war aimed at secession) they often do, and this shows the importance of deploying armies near the border or constructing special fortifications for the consolidation of frontiers. A few decades after the treaty of Westphalia was signed, for example, France redirected enormous resources to the creation of coherent, defensible boundaries, through the systematic construction of fortress towns, perimeter walls and citadels – separate star-shaped strongholds sited next to a town's perimeter. In the hands of Sebastien le Prestre de Vauban, the brilliant military engineer, France's defining borders became nearly impregnable, maintaining their defensive value until the French Revolution. Vauban built double rows of fortresses in the northern and southeastern frontiers, so systematically related to each other that one 'would be within earshot of French fortress guns all the way from the Swiss border to the Channel'.[53]

Migration and trade across national borders tend to complicate the effort to create a single national identity, and to this extent they may be considered deterritorializing. The ability to reduce the permeability of frontiers depends to a large degree on the conditions under which a territorial entity comes into being. Those kingdoms and empires that crystallized in the feudal areas of Europe had an easier task creating internal homogeneity than those in the densely urbanized areas that had to cope with the split sovereignty derived from the coexistence of many autonomous city-states.[54] Similarly, territorial states born from the collapse of a previous empire or from the break-up of former colonial possessions can find themselves with unstable frontiers cutting across areas heterogeneous in language, ethnicity or religion: a situation which militates against a stable identity and complicates border control. A more systematic challenge to border control and territorial stability has existed since at least the seventeenth century. As the identity of the modern international system was crystallizing during the Thirty Years War, the city of Amsterdam had become the dominant centre of a transnational trade and credit network that was almost as global as anything that exists

today. If the rise of kingdoms, empires and nation-states exerted territorializing pressures on cities by reducing their autonomy, maritime networks not only resisted these pressures but were capable then, and still are today, of deterritorializing the constitutive boundaries of territorial states. The pressure on these boundaries has intensified in recent decades as the ease with which financial resources can flow across state boundaries, the degree of differentiation of the international division of labour, and the mobility of legal and illegal workers, have all increased.

That networks of cities, and the transnational organizations based on those cities, can operate over, and give coherence to, large geographical areas cutting across state boundaries, has been recognized since the pioneering work of Fernand Braudel, who refers to these areas as 'world-economies'.[55] It is too early, however, to tell whether these world-economies are as real as the other regionalized locales that have been analysed in this chapter. Some of the processes that are supposed to endow these economic locales with coherence, such as the synchronized movement of prices across large geographical areas following long temporal rhythms (the so-called 'Kondratieff waves'), remain controversial. But what is clear even at this stage of our understanding is that approaches based on reductionist social ontologies do not do justice to the historical data. This is particularly true of macro-reductionist approaches, such as the so-called 'world-systems analysis' pioneered by Immanuel Wallerstein, in which Braudel's original idea is combined with theories of uneven exchange developed by Latin American theorists.[56] In Wallerstein's view, for example, only one valid unit of social analysis has existed since the end of the Thirty Years War, the entire 'world-system'. Explanations at the level of nation-states are viewed as illegitimate since the position of countries in the world-system determines their very nature.[57] An assemblage approach, on the other hand, is more compatible with Braudel's original idea. Although he does not use the concept of 'assemblage', he views social wholes as 'sets of sets', giving each differently scaled entity its own relative autonomy without fusing it with the others into a seamless whole.[58]

It has been the purpose of this book to argue the merits of such a nonreductionist approach, an approach in which every social entity is shown to emerge from the interactions among entities operating at a smaller scale. The fact that the emergent wholes react back on their components to constrain them and enable them does not result in a

seamless totality. Each level of scale retains a relative autonomy and can therefore be a legitimate unit of analysis. Preserving the ontological independence of each scale not only blocks attempts at micro-reductionism (as in neoclassical economics) and macro-reductionism (as in world-systems analysis) but also allows the integration of the valuable insights that different social scientists have developed while working at a specific spatiotemporal scale, from the extremely short duration of the small entities studied by Erving Goffman to the extremely long duration of the large entities studied by Fernand Braudel. Assemblage theory supplies the framework where the voices of these two authors, and of the many others whose work has influenced this book, can come together to form a chorus that does not harmonize its different components but interlocks them while respecting their heterogeneity.