

Studying Cities in their Context

Jan de Vries

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Article abstract

Urban historians have not transcended a fascination with specific places. Consequently, this field of historical inquiry has a relative lack of theoretical statements concerning sets of cities. Meanwhile, social scientists clearly have advanced many valuable theories and methods for the study of groups of cities; however, they largely have been concerned with projects of rationalization and models of modernization which truncate the past. This article suggests how definitions of urbanization, a few fundamentals of urban demography and geography, and theoretical analysis of urban functions and culture can help to define sets of cities while retaining the historian's sense of changes over time.

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Abstract

Urban historians have not transcended a fascination with specific places. Consequently, this field of historical inquiry has a relative lack of theoretical statements concerning sets of cities. Meanwhile, social scientists clearly have advanced many valuable theories and methods for the study of groups of cities; however, they largely have been concerned with projects of rationalization and models of modernization which truncate the past. This article suggests how definitions of urbanization, a few fundamentals of urban demography and geography, and theoretical analysis of urban functions and culture can help to define sets of cities while retaining the historian's sense of changes over time.

Résumé

L'histoire urbaine s'est réservée à l'étude de certaines villes captivantes. Aussi ses théories sur les villes en tant que système sont-elles insuffisantes. Les sciences sociales ont certes proposé beaucoup de théories et de méthodes valables pour l'étude de la ville; mais les approches utilisées, volontiers rationalisantes et souvent influencées par des concepts de modernisation, tronquent le passé. L'auteur montre comment, à partir de définitions de l'urbanisation, à l'aide de la démographie et de la géographie urbaines, et par l'analyse des fonctions et de la culture urbaines, on peut en arriver à définir des catégories en laissant s'épanouir le sens du temps et du changement propre à l'histoire.

I must begin this discussion of urban history as a field of study by saying a few words about how I came to it. Having begun my academic career as a specialist in agrarian history, my initial interest in urban centres was directed toward their role as markets for foodstuffs, and as sources of goods and services for the rural population. Important economic phenomena such as rural specialization and monetization were closely related to the size of the urban sector. But not to size alone: the pattern of urban settlements, how cities were distributed spatially, also affected the rural economy. Much remained unexplained, and so, in time, this rural historian "went to the city" to read more deeply in the work of urban historians.

I encountered many amazing and useful things, to be sure, but not the sophisticated city slickers I had expected. On the contrary, it appeared that urban history exhibited a theoretical provincialism in the sense that few concepts and generalizations transcended a strong orientation to time and place. Agrarian history, which would seem to lend itself to an outspoken particularism, has, in fact, equipped itself with a tool kit of middle level generalizations - some borrowed from economics and demography, others developed by such historians as B.H. Slicher van Bath and E. Le Roy Ladurie. These middle level generalizations have proved serviceable in integrating the details drawn from thousands of villages and millions of farms into comprehensible patterns. Agrarian history is unmistakably something other than local history. To say the same for urban history, it must become better equipped with middle level generalizations.

I was not the first observer of urban history to think along these lines. Over twenty years ago H.J. Dyos urged that "The study of urban history must mean not merely that study of individual communities, fixed more or less in time and space - what might be called the urban aspect of local history; but the investigation of altogether broader historical processes and trends that completely transcend the life cycle and range of experience of particular communities."¹ The task before urban historians then, is the identification and analysis of these "broader historical processes." In an earlier work I argued that the process of urbanization is fundamental, and that the history of urbanization offers a basic framework for urban history.² But what, one may ask, are we to understand by "urbanization?"

The classic definition was offered in 1942 by Hope Eldridge Tisdale: "Urbanization is a process of population concentration. It proceeds in two ways: the multiplication of points of concentration and the increase in size of individual concentrations."³ This intentionally sparse definition has been criticized for being too narrowly focused on spatial and demographic dimensions. Yet, its terms do suggest more than this. A moment's reflection suffices to remind us that the urbanization brought about by the increased size of cities, Tisdale's points of concentration, is a different phenomenon than the urbanization arising chiefly from the multiplication of urban centers. The ruthless analytical pruning of its definition notwithstanding, we are reminded that urbanization has more dimensions than the demographic.

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The dimensions hinted at, but missing from Tisdale's definition come fully into their own in a definition provided by Charles Tilly. He describes urbanization as "a collective term for a set of changes which generally occur with the appearance and expansion of large-scale coordinated activities in a society."⁴ He offers examples of such activities: the operation of a centralized state, the conduct of a religion with a professional priesthood, the control of water for irrigation, the production of goods in a factory system, and the channeling of exchange through a pervasive market. These activities foster urbanization because they 1) give rise to the appearance of social positions devoted to coordination (examples: bishops, merchants, bankers, governors); 2) require communications lines (to permit coordinators to carry out their work); and 3) stimulate the proliferation of cross-cutting social relationships, relationships that cross the boundaries of kinship, locality, and traditional alliances). Cumulatively, these three phenomena constitute urbanization, for they foster differentiation, standardization, change in the quality of social relations, and the concentration of population.

In this definition the emphasis is placed on the structural changes in a society that foster the concentration of *activities* at central points; Tisdale's definition of demographic urbanization, on the other hand, emphasized the concentration of *population*. Tilly's definition focuses on structural change, but inextricably tied to structural urbanization is a third dimension, behavioral urbanization. Cross-cutting relationships and the impersonal, instrumental behavior they foster is a prime example of what distinguishes urban from rural ways of life.

I have argued in favor of this three-headed definition of urbanization - demographic, structural, behavioral because of its useful combination of comprehensiveness and specificity. Another important feature of these three dimensions of urbanization is that they invite indeed, require us to view the urbanization process in a systemic way.

What I have in mind is this: demographic urbanization is a product of the redistribution of people. But why does this redistributive process favor some cities over others, or new urban locations over long-established cities, or large cities over small? Structural urbanization has to do with the elaboration of social functions that require spatial organization, communications, and frequent face-to-face contacts. These requirements call for a measure of concentration - a city - but they also call for means of transmission and control. In short, functional urbanization requires that the nodal points reach out to, control, and subordinate other such points; it calls to our attention the hierarchical character of urban centers. The foregoing suggests that behavioral urbanization, the third dimension of urbanization, is no simple or uniform phenomenon. In order to understand what kind of person is produced by the urban environment, we need to know something about the city's place in the larger urban network, how the city is "implicated in a nodal manner in the larger system of society, economy, and government."⁵

Demographic Urbanization

The concept of demographic urbanization is the most familiar of all. More often than not it is held to be

synonymous with the sum total of urbanization, and in most studies a single, homely statistic is made to represent this phenomenon: the percentage of the total population resident in cities. This humble ratio is supposed to indicate the changing scope of "large scale coordinated activities" and measure the intensity of the urbanism generated by those activities. This is a heavy burden for the urban percentage statistic to bear, and its task is made even more difficult by the general absence of any consistency in the calculation of this ratio across countries and across time. The weaknesses of the urban percentage are well-known; I have summarized them as problems of depth, breadth, entrants and annexations.⁶

The "depth" problem is the most widely recognized obstacle to the comparative and diachronic use of the urban percentage. It refers to the criterion for inclusion in the set of cities that contribute to aggregate urban population in this expression. How deep should one plunge to include small cities in the calculation of urban percentage? A variety of practical considerations prevent consistency in answering this question, yet the criterion chosen, often for purely practical reasons, can generate very different trends in the urban percentage of the same underlying population. Table I illustrates this point by displaying the urban percentage for Europe as a whole using three criteria: cities of at least 40,000 inhabitants, cities of at least 10,000, and a fixed set of cities, including all those that ever attained 10,000 population during the period under review.

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Table 1:
Three Versions of the Urban Percentage in Europe, 1500-1800

	1500	1550	1600	1650	1700	1750	1800
379 Cities 136%	7.4	7.8	8.8	10.0	10.5	10.4	10.1
> 10,000 179%	5.6	6.3	7.6	8.3	9.2	9.5	10.0
> 40,000 95%	1.9	2.6	3.5	4.4	5.2	5.3	5.6

Source: J. de Vries, *European Urbanization, 1500-1800*, pp. 39, 50, 76.

The "breadth" problem refers to the territory included in the aggregation of urban and total population, the two elements of the urban percentage. Meaningful comparison is difficult when units of highly unequal size are used, or when boundary changes occur over time. In a more profound sense, the breadth issue calls attention to the appropriate unit of analysis for the study of urbanization. Convenience directs us to the nation, but the argument can be defended that this is no more than a default option.

The "entry" and "annexation" problems can be discussed together, for they have the same distorting effect. When a size threshold is used to determine eligibility for the set of urban places, the growth of settlements (even when that growth is simply the reflection of a generalized population increase and not the result of an urbanizing process) results in the entry of new places to the urban category. Even when no fixed threshold is used, the physical extension of cities, for example through territorial annexations, brings previously excluded populations into the urban fold. Both of these events tend to overstate the

advance of urbanization over time and to misstate the timing of urbanization: that which is registered suddenly through entry and annexation is actually the product of an earlier development that, as it were, had been waiting in the wings until the arbitrary rules of the urban percentage calculation shoved it onto the urban stage.

Alertness to these problems should enable a more responsible use of this deceptively simple descriptive statistic. However, for there to be progress in the historical study of urbanization, it is even more important to recognize that the same underlying data necessary for the calculation of urban percentages can be used to calculate supplementary measurements of urbanization that can enhance and lend nuance to the one dimensional view provided by the simple urban percentage.

The most obvious supplementary step is to add an *interval measurement* to the *point measurement* of urbanization. The share of total population growth captured by the urban sector over a specified time period is the most straight-forward of these measurements.

This *urban share* $U_2 - U_1 / P_2 - P_1$ or, simply $\Delta U / \Delta P$ reveals how much of total population growth was attracted to the cities. The competitive posture of the urban sector is illuminated by this measurement and further refinements are possible.⁷

These measures offer useful insights into the urbanization process, but they do not address either of the two dimensions emphasized in Tisdale's definition. Neither the number of "points of concentration" (i.e., cities) nor their size plays any direct role in these measures. Data about both the number and size of cities stand behind the aggregates of *Table 1*, but have not yet been put to any direct use. This information should not go to waste, for it can add yet another dimension to our appreciation of the urbanization process. Consider the high level of urbanization reached circa 1700 by the Dutch Republic and south-eastern England. In both territories about 40 percent of the population then resided in cities. But in the Republic, that urban population was distributed among 19 cities of over 10,000 inhabitants and scores of smaller ones, while in the English region, urban population was overwhelmingly concentrated in one city, London, with all others being very much smaller.

This information is of importance because of our expectation, based on the Tilly definition of urbanization introduced above, that inter-relationships among cities reflect *how* societies become more complex. The meaning of urbanization is embedded in urban systems, and the difference between an aggregate and a system is that in the former the parts are *added* while in the latter they are *arranged*.⁸

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Happily, the analysis of these arrangements requires only the information needed to calculate the urban percentage. When the cities under consideration are arrayed from largest to smallest, and then size is plotted in rank order on a double logarithmic scale, the resulting rank-size distribution corresponds to the general form of the Pareto distribution and the related log-normal distribution. In non-technical terms this means that when cities are arrayed in rank order according to their size (population), they form a distribution that approximates a straight line of negative slope when plotted in logarithmic coordinates. Thus far we have a convenient way to display information about the size of the cities of a region or nation.

The rank-size *rule* identifies a special case of these distributions as a norm, a distribution that represents the steady state equilibrium of an urban system. This norm is a rank size distribution with a slope of -1. According to this norm, the population of the city of rank R is equal to the population of the largest city divided by its rank: the tenth city is one-tenth the size of the largest, the 100th city, one-hundredth the size of the largest, and so forth.

Now the question arises, how can this technique and the theory attached to it be exploited for the historical study of urbanization? Can we identify a pattern, or sequence through which the rank-size distributions of a region should pass in the course of urbanization? If, for the sake of argument, we accept the rank-size rule as the goal - the stable equilibrium distribution of a modern urbanized society - by what path, or sequence, is that position reached?

This is not the place to review the considerable literature that seeks to answer these questions,⁹ except to note that "immaturity" in the urban system has been described as nearly every conceivable deviation from the rank-size rule. A distribution that is too steep (greater than -1) exhibits "primacy," where the largest city concentrates within itself an inordinate share of the society's urban functions and thereby dominates the society economically, politically and culturally.¹⁰ A distribution of shallow slope (less than -1) is thought to reflect a society too backward to maintain a sufficient number of urban functions.¹¹ A distribution with a "flat top," where the largest cities are of comparable size even when the rest of the distribution is normal, is thought to lack sufficient integration among its constituent regions.¹² This embarrassment of explanatory riches is a product of over interpretation. Social scientists' efforts to invest this descriptive technique with theoretical meaning have been undermined by reliance on a largely arbitrary norm (the rank-size rule), confusion over measurement techniques (directly related to the unwarranted prominence of the rank-size rule), and the problem of arbitrariness in the delimitation of regions, or proper units of analysis.¹³

This does not mean that rank-size distributions are of no value. They can summarize effectively the process of urbanization and identify gross differences in the design of urban systems over time and, with greater difficulty, across societies. They should be treated as empirical findings, and allowed to reveal their own patterns as much as possible. In my book *European Urbanization, 1500-1800*, rank-size distributions revealed a progression that

formed the basis for a tripartite periodization of urban growth. Over time the slopes of the distributions become steeper and the distributions more regular. But they never achieved -1. Moreover, the maximum slope was attained *before* the beginning of the modern era. During early industrialization the slope became shallower. That is, the empirical study of rank-size distributions showed urbanization to be highly selective, and revealed periods in which the basis of selectivity changed. Urbanization has more than one "mode".

The proper use of the rank-size distribution undermines faith in the widespread assumption that urbanization is a unitary, linear process. The issue is not simply one of timing and rate of growth, it is also one of character, or "mode". In other words, we must ask not only "what drives urban growth"¹⁴ but also what causes urban growth to be sometimes located in the largest cities and sometimes in smaller places, sometimes highly concentrated in a handful of locations and sometimes dispersed among many, including new urban settlements.

Structural Urbanization

The broader range of measurements capable of describing demographic urbanization can lead us directly to new insights concerning the structural character of urbanization. The selectivity principles just referred to go to the heart of this dimension of urbanization for they can reflect those changes in urban function that may not be prominently registered in the standard demographic measurements precisely because they emphasize redistribution over growth.

If demographic urbanization is most noticeable as city growth, structural urbanization arguably best reveals itself as a mode of urban development. At the most aggregated level of European urban history, as displayed in Table 1, one can distinguish a city-creation mode and a city-concentration mode of urbanization. The city-creation mode predominated in the early and high middle ages and again in the era of the industrial revolution. In these periods, demographic urbanization, what there was of it, was chiefly driven by the creation of new urban centers and the growth of smaller cities. Technical and organizational developments in these eras planted urban functions where they had not existed before and permitted urban life to penetrate rural society in several areas, transforming the relationships between the urban and rural sectors. This was associated with "unbalanced" economic growth - unbalanced in the sense of giving rise to sharper regional and sectoral disparities in economic development.

The city-concentration mode predominated in the sixteenth and seventeenth centuries and again after the mid-nineteenth century. In these periods, demographic urbanization, even when it was very rapid, was highly concentrated in a narrow range of the total complement of cities, usually the very largest ones. Innovations, whether technical or organizational, tended to cheapen the concentration of urban functions and make possible the consolidation of previously far-flung activities. In this mode of urbanization the power and influence of the city - of selected large and rapidly growing cities - confronted society. The contrast between urban and rural became more sharply drawn, but

the integrative capacity of the growing metropolis brought about the economic organization of vast territories. A more balanced, multifaceted economic growth could occur under these circumstances.

These sketches of two modes of urbanization are only a beginning to what could become a more subtle understanding of the varieties of structural urbanization, one which includes many nuances. But the key point should be clear: urbanization need not be examined exclusively in the rigid linear framework of modernization theory. Once we recognize the considerable variety of historical urbanization, that it could not simply go faster or slower but could also, as it were, shift gears, we will be in a better position to interpret the peculiarities of contemporary western urban development.

Behavioral Urbanization

The creation of "city people"¹⁵ appears to be a straight-forward project of Weberian rationalization if we continue to be guided by Tilly's definition of urbanization - a definition which has, indeed, proven very useful to me. Nevertheless, the behavioral uniformity suggested by this definition hardly seems consistent with the diverse cultural and political influences exerted by Western cities. More than one kind of person is produced by, or required by the urban environment, and, as stated earlier, it is necessary to know how the city is integrated as an element in larger social, economic and political systems in order to address the difficult phenomenon of behavioral urbanization.

One simple, and in my opinion useful distinction was introduced in Hohenberg

and Lees', *The Making of Urban Europe, 1800-1950*.¹⁶ They make use of old anthropological categories, orthogenetic and heterogenetic cultures, and infuse new life into these concepts by linking them to two broad types of urban system: the "central place system" and the "network system."

The central place system is a stable and well-ordered hierarchy of cities, especially if it is reinforced by the political boundaries of a nation state. The function of cities in such a system is to form markets for rural hinterlands and subordinate cities and to perform the more specialized functions that such hinterlands cannot themselves support. At the peak of such a central place system we expect to find a regional or national capital, exercising the highest administrative and commercial functions. All roads lead to such a city; it is the highest expression of the society organized by this system of central places. The political role of such a central place capital is to reinforce the legitimacy of the entire system, which in modern times had meant the reinforcement of the national state. The capital city provides a stage for political life: coronations, inaugurations, political assemblies, the focal point of national celebrations, and in Canada the venue for a national policy of bilingualism.

Of particular interest here is the cultural role of such cities; their influence tends toward what the anthropologists Redfield and Singer called the orthogenetic.¹⁷ That is, central place cities elaborate and reinforce the prevailing culture and help transform it into a "great tradition" or the high culture. Through education, the conversion of the vernacular into a language of culture, publishing, and the

identification of cultural norms and standards, the central place capital acts both to elevate culture and make it uniform.

The central place system possesses an impressive theoretical integrity and elegance. In reality it is hard to find an example of such a system that is not compromised by important irregularities, by cities whose functions and character are not adequately explained by the model. Worse still, there are important urban areas that one cannot begin to understand from the central place perspective.

A second form of urban system, first analyzed by the Berkeley geographer James Vance, can be called a network system. Network systems are creations of long-distance trade, they connect different economic, or ecological zones through gateway cities and complex networks of linked urban nodes. The key spatial property of such a system is its flexibility. "Since cities are links in a network, often neither the first source nor the ultimate destination of goods, they are in some measure interchangeable."¹⁸ In other words, network capital cities are in competition for their position at the apex of the system. They are always looking over their shoulder. At any given time it may appear that all roads lead to Venice, or Amsterdam, or London. However, those roads are sea lanes and air corridors. They confer on their current beneficiaries no lasting monopoly.

The political status of a network capital can vary greatly, from informal control to imperial capital; at either extreme the political function of such a city can better be described as a political arena

than as a political stage. The city's well-being depends on the integration of unlike things and places, and hence it attracts varied political agendas. Instead of legitimating established institutions, it tends to call all things into question - albeit often unintentionally.

The cultural role of the network capital differs strikingly from the central place capital. Instead of being orthogenetic, it is heterogenetic, introducing alien cultures and values, and developing a specific urban hybrid that can conflict sharply with the norms of its region. While the orthogenetic capital is the highest expression of the national culture, the heterogenetic capital is a place of exception, a source of novelty, a threat to the local culture. At one and the same time its international status is uncontested while its national preeminence is resisted.

The dualities I have emphasized here of central place and network system, and of orthogenetic and heterogenetic culture, should be seen as opposing poles, or ideal types. Most cities cannot be thrown into one or another bin without first appending caveats, footnotes, question marks.

Conclusion

To understand the city we must first place it in its proper context. This calls for the examination of its hinterland or regional setting, to be sure, but it also requires examination of the system of cities in which it is implicated. "System" implies that the whole (the urban system) is more than - or at least other than - the sum of its parts (the aggregation of cities). This means that urbanization is not simply a phenomenon generated by

the sum of the cities, but also by the way in which those cities are arranged. And, conversely, it means that the history of the individual city should be written from a knowledge of its place in these arrangements.

A good illustration of my message is provided by the early history of Hamilton, Ontario.¹⁹ The illustration "Hamilton as it Should Be" shows the city of 1860 as the central place of southern Ontario. This wishful map reflects the belief that Hamilton's geographical situation called for a higher position in the urban hierarchy than it then possessed, or later would possess. To write Hamilton's history is, in part, to explain how it assumed a different place in Canada's urban system than seemed inevitable for so long and to so many.

A second illustration of the Canadian applicability of the concepts discussed here suggested itself during my visit to McMaster University to deliver this paper. The structural urbanization that benefitted Toronto over a century ago was chiefly felt by places such as Hamilton. Today, Toronto's new place in the urban hierarchy is felt more acutely in far more distant places. One need not visit Ontario to be aware of Toronto's new stature. But the character of the changes underway - the behavioral urbanization - seemed to be presented to the visitor in emblematic form on the television news as two news items were presented in succession, one concerning the enforcement in Montreal of Quebec Law 101, requiring commercial signs to be in French, and the second concerning the conflict surrounding a proposal to abolish Sunday closing laws in Ontario. Before one's eyes Toronto, which had long reigned as the orthogenetic central

city of Ontario, is putting the finishing touches on its new role as heterogenetic gateway city of a network system that is by no means confined to one country. Meanwhile, the city that long acted as the heterogenetic gateway, is being tugged in the direction of "orthogenetically" reinforcing the culture of the province in which it is located. Or, is this the sort of error into which one falls when watching the evening news?

Notes

- ¹ H.J Dyos, "Agenda for Urban Historians," in H.J. Dyos (ed.), *The Study of Urban History* (London, 1968), 7.
- ² Jan de Vries, *European Urbanization, 1500-1800* (London and Cambridge, Mass., 1984), 1.
- ³ Hope Eldridge Tisdale, "The Process of Urbanization," *Social Forces* 10 (1942), 311-16.
- ⁴ Charles Tilly, *The Vendé* (Cambridge, Mass., 1964), 16-17.
- ⁵ Philip Abrams, "Towns and Economic Growth: Some Theories and Problems," in Philip Abrams and E.A. Wrigley (eds.), *Towns and Society: Essays in Economic History and Historical Sociology* (Cambridge, Mass., 1978), 24.
- ⁶ I develop these thoughts more fully in "Problems in the Measurement, Description, and Analysis of Historical Urbanization" in Ad van der Woude, Jan de Vries, and Akira Hyami (eds.), *Urbanization and Migration in Historical Demography* (Oxford, 1980)
- ⁷ *Ibid.*
- ⁸ This is discussed more fully in Brian Robson, *Urban Growth: An Approach* (London, 1973), 16.
- ⁹ For introductions to this subject, see, Harry W. Richardson, "Theories of the Distribution of City Sizes: Review and Prospect," *Regional Science* 7 (1973), 231-51; Brian J.L. Berry and Frank E.

Horton, *Geographic Perspectives on Urban Systems* (Englewood Cliffs, NJ, 1970), Chapter 3; Salah El Shakhs, "Development, Primacy, and Systems of Cities," *Journal of Developing Areas* 7 (1972), 11-36.

- ¹⁰ Brian L. Berry, "City Size Distributions and Economic Development," *Economic Development and Cultural Change* 9 (1961), 571-87.
- ¹¹ Carol A. Smith, "Modern and Pre-Modern Urban Primacy," *Comparative Urban Research* 11 (1982), 79-96; "Theories and Measures of Urban Primacy: A Critique," in Michael Timberlake (ed.), *Urbanization in the World Economy* (New York, 1986).
- ¹² William G. Skinner, "Regional Urbanization in Nineteenth Century China," in William G. Skinner (ed.) *The City in Late Imperial China* (Stanford, CA., 1977).
- ¹³ These problems are discussed more fully in my *European Urbanization*, 85-95.
- ¹⁴ This is taken from the title of A.C. Kelley and J.G. Williamson, *What Drives Third World City Growth?* (Princeton, NJ, 1984).
- ¹⁵ This is taken from the title of Gunther Barth, *City People* (New York, 1980).
- ¹⁶ Paul Hohenberg and Lynn H. Lees, *The Making of Urban Europe, 1000-1950* (Cambridge, Mass., 1985)
- ¹⁷ R. Redfield and M.B. Singer, "The Cultural Role of Cities," *Economic Development and Cultural Change* 3 (1954), 52-73.
- ¹⁸ Hohenberg and Lees, *Making of Urban Europe*, 64.
- ¹⁹ M. J. Dear, J. J. Drake and L. G. Reads, eds., *Steel City: Hamilton and Region* (Toronto, 1987), 109.