Toronto, October 2005 (Elvin Wyly).   Actually, the hidden meanings in that one-word caption are: [a certain part of] Toronto [at a certain point in time] [from a particular perspective] [using one kind of presentation].

How Geographers Approach the City
Geography 350, *Introduction to Urban Geography*
Elvin Wyly
September 11, 2012

A few years ago, Pierre Filion and his colleagues began their introduction to *Canadian Cities in Transition* like this: "Cities are worthy of our attention because of their inherently complex and dynamic nature," illustrated in recent decades by pronounced shifts "from industrial to post-industrial society, from modern to post-modern lifestyles, from social structures dominated by the middle class to an increasingly polarized society, from transportation to telecommunication, and from national to global economies."[1] More recently, Filion and Trudi Bunting offer an updated view of Canadian cities that emphasizes three key themes: sustainability, unevenness, and uncertainty. This last theme "refers to the instability generated by intensification of economic competition, which, propelled by globalization, is a source of increased risk for the numerous economic sectors facing international competition. Uncertainty for large numbers of

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[1] Pierre Filion, Trudy Bunting, and Len Gertler (2000). "Cities in Transition: Changing Patterns of Urban Growth and Form in Canada," in Trudi Bunting and Pierre Filion, eds., *Canadian Cities in Transition*, Second Edition. Don Mills, ON: Oxford University Press, 1-25, quote on p. 1.

Better City, Better Life. Shanghai, China, February 2010; below, Chicago, Illinois, December 2010 (Elvin Wyly).

"THIS MAY BE THE BEST OF TIMES TO BE AN URBAN GEOGRAPHER. ... NEVER BEFORE HAS A CRITICAL SPATIAL PERSPECTIVE BEEN SO WIDESPREAD, SO FOCUSED ON CITIES AND URBAN LIFE, AND SO GENERATIVE OF NEW IDEAS ABOUT ECONOMICS, POLITICS, CULTURE, AND SOCIAL CHANGE MORE GENERALLY. TODAY, NO SCHOLAR OF ANY STRIPE CAN AFFORD NOT TO BE, TO SOME DEGREE, AN URBAN GEOGRAPHER."[2]

[2]Ed Soja (2011). "Beyond Postmetropolis."
Urban Geography 32(4), 451-469,
quote from p. 451.
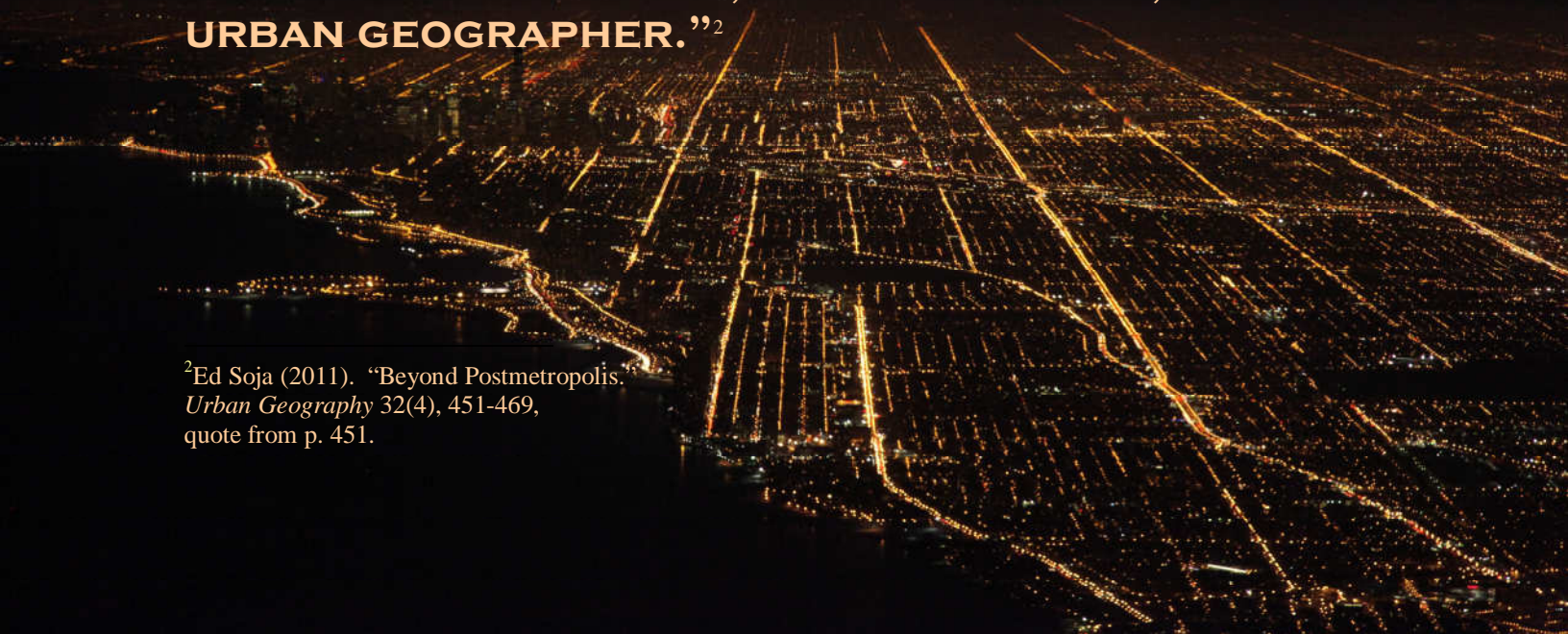
people will mean frequent changes in employment. Urban areas will have much less confidence that the economic sectors presently driving municipal economies will continue to maintain their performance."[3] And a few lines later, Bunting and Filion warn that "cities resist understanding because they are such very complex systems. It can be argued that, along with language, the large city is the most intricate of human creations. In both cases, complexity stems from the presence of a relatively stable structure upon which interchangeable elements can be affixed. In the case of language the structure is syntax, which supports nearly unlimited combinations of words; cities, on the other hand, owe their structure to major infrastructure networks that provide connections between different assemblages of buildings and other land uses. The degree of complexity further increases when we consider economic and value systems that underpin the urban built environment, the multiple ways people use this environment, and the perceptions and interpretations of this environment and the activities that take place therein."

> *"...along with language, the large city is the most intricate of human creations." -- Trudi Bunting and Pierre Filion*

Confronted with such dizzying transformations, how can we even get a clear *description* of the inherently complex and dynamic city? And how are we to go about *explaining* the processes driving urban change?

Please do not panic.

Perhaps cities do resist understanding. But as a geographer -- and especially as an urban geographer -- you will be up to the challenge of making sense of the urban. You have a lot of tools to choose from. Your main task is to enjoy the freedoms of plurality while honoring the responsibilities of rigor.

Describing the City

Perspectives and methods help to shape, guide, and sometimes constrain our understanding. There is no single correct approach that consistently exposes the "real" city, and we face important choices even when we begin the simple task of *describing* the urban. Bunting and Filion's parallel between the complexity of language and of cities is crucial here: different ways of describing cities and communicating insights about them each have distinctive strengths and weaknesses.

Images, maps, and other forms of what Peter Gould once called "graphical rhetoric" can quickly convey a great deal of descriptive information about urban places; but not all concepts

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[3] Pierre Filion and Trudi Bunting (2006). "Understanding Twenty-First Century Urban Structure: Sustainability, Unevenness, and Uncertainty." In *Canadian Cities in Transition*, Third Edition, edited by Trudi Bunting and Pierre Filion (Don Mills, ON: Oxford University Press), 1-23, quote from p. 2.

can be easily illustrated, and in any event, the power and appeal of the image stem in part from the fact that it can be interpreted, understood, and consumed in different ways.[4]

The ***abstract, formal rules and symbols of numbers, statistics, and mathematical relations*** can provide systematic and precise kinds of information about certain types of phenomena; but again, not all concepts can be distilled down to numbers. The prominent geographer David Livingstone once titled a chapter, "Statistics Don't Bleed."[5] Moreover, sometimes the systematic precision of quantification is illusory.[6]

Finally, ***qualitative narrative*** can express subtle nuances of meaning about cities and urban life. But narrative can be interpreted in very different ways, and interpretations depend crucially on a shared language.

Urban geography is remarkably pluralist and dynamic. Part of this dynamism comes from the wide range of different kinds of writing. But there's also a lot of disagreement.

Urban geography, like many other areas of inquiry, makes use of each of these modes of description. Page through the journals *Urban Geography*, *Urban Studies*, or *Urban Affairs Review*, and you'll find some articles making use of intricate equations, tables of parameter estimates and significance tests; other articles packed with eight-syllable words trying to capture the intricacies of certain theoretical sensibilities; still other pieces make use of eminently readable narratives of the histories of particular cities or the experiences of particular people in city neighborhoods; other articles make use of sophisticated maps showing complex spatial relations, movements, and flows.[7] And of course most good scholarship weaves together the best of gripping narrative, careful statistical measurement, and sophisticated graphical rhetoric.

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[4] For an insightful consideration of the enormous sums spent on "our new found way of seeing" in the case of satellite remote sensing, see Peter R. Gould (1986). *The Geographer at Work*. London: Routledge and Kegan Paul, Chapter 18. "As the old spiritual put it: 'I went to the rock to hide my face, and the Rock cried out 'No hiding place! There's no hiding place down here!'" Quote from p. 208. See also Denis Cosgrove's interpretation of the photographic image AS17-148-22727, taken at 05:33 Eastern Standard Time on December 7, 1972 by one of the astronauts on Apollo 17. Denis Cosgrove (1994). "Contested Global Visions: One-World, Whole-Earth, and the Apollo Space Photographs." *Annals of the Association of American Geographers* 84(2), 270-294.

[5] David N. Livingstone (1992). *The Geographical Tradition*. Oxford: Blackwell. Chapter 9, pp. 304-346.

[6] To cite a few clichés: Meaningless statistics increased forty-nine percent last year. It is better to be generally correct than to be precisely wrong.

[7] The use of photographs in urban description has until recently been less common in academic journals, in part because of the cost considerations of publishers, and in part because academic journals emphasize theoretical explanation rather than what has often been dismissed as "mere" description. But of course there are many wonderful books of urban documentary photography. For a tiny sampling of these works, see Reid Shier, ed., (2002). *Stan Douglas: Every Building on 100 West Hastings*. Vancouver: Contemporary Art Gallery / Arsenal Pulp Press; Camilo Jose Vergara and Timothy J. Samuelson (2001). *Unexpected Chicagoland*. New York: The New Press. For a slightly different but equally compelling approach, see John W. Reps (1994). *Cities of the Mississippi: Nineteenth-Century Images of Urban Development*. Columbia: University of Missouri Press.

Even so, there can be conflicts. Like all scholarly sub-fields, urban geography is like a family -- and, like many families, there's a bit of drama. Disagreements surface in a variety of ways, but the essence of the scholarly enterprise is writing -- which provides a written records of learning, discussion, and disagreement going back years, decades, even centuries. And, as it turns out, writing and geography are fundamental to one another -- right down to the meaning of the word geography, from the Greek *ge* (the earth) and *graphe* (writing). For better or worse, geography's long history, stretching all the way back to the ancient Greeks, has given us time to develop some strong opinions and disagreements on exactly how and what to write. In one of the most insightful pieces on geographical writing I've ever come across, Jonathan M. Smith observed:

> "There is no shortage of commentary by geographers on the merits and deficiencies of their colleagues' prose. Very nearly all of this can be classed as either commendation of the favored few or condemnation of the mediocre many. In the first instance the accolades are invariably specific, with individual authors singled out for personal praise, in the second the reproach is almost invariably general, with the mass of geographers herded together for collective censure. Brett Wallach is, for instance, 'an enchantingly fine writer' ... but repellent and inelegant prose is anonymously 'produced in the wasteland of contemporary academic life'.... I came upon these quotes by happenstance, but am confident that dozens, perhaps hundreds, more could be found that equally well illustrate the division of geographic writers into the favored few and the mediocre many."[8]

Smith argues that the disappointment felt by many readers has little to do with any objective, universal qualities of the writing itself. Rather, it's simply a product of a bad fit between reader and writer; ***it's an audience issue.*** The difficulty we have in finding writing that we regard as truly excellent is

*Geography has three different kinds of writers: **scientists, stylists**, and **critics**.*

"to some extent an illusion that results from each of us reading a great deal of writing for which we are not the intended audience. It is not 'addressed' to us, and writing appeals mostly, if not exclusively, to those to whom it is addressed.... Because it is not addressed to us it appears replete with spurious reasoning, tedious banalities, barbarous jargon, wild surmises, ponderous obscurities, pedantic quibbles, and half a dozen additional varieties of misstep and nonsense."[9]

Smith goes on to chart the descriptive, linguistic territories fought over by different kinds of geographers. There are the ***scientists***, "who are enamored by the positivist concept of language, and therefore value writing that makes clear, precise, and unambiguous reference to empirically established reality," the ***stylists*** "who are enamored by a literary concept of language, and therefore value writing that is expressive, evocative, and rich," and the ***critics***, who are "enamored by a critical concept of language, and who therefore value a

[8] Jonathan M. Smith (1996). "Geographical Rhetoric: Modes and Tropes of Appeal." *Annals of the Association of American Geographers* 86(1), 1-20, quote from p. 1.
[9] Smith, "Geographical Rhetoric, p. 1.

writing style that is purposefully ambiguous, incomplete, and open ended."[10] Smith offers a classification of different kinds of rhetorical strategies used in geographical writing -- geography as romance, tragedy, comedy, irony, and "Geography à la mode" -- and points out that

> "Although it is true that a reader should not judge a book by its cover, it is also true that a reader cannot judge every book by its contents. Judging books by their covers is one of the intellectual compromises required of mortal beings. Judging writers by their rhetoric is the same sort of compromise. We buy the book that we think we can trust based on a cursory scan of its cover (which may, of course, include more than its dust jacket). We buy the argument that we think we can trust based on a cursory scan of its rhetoric (its customary reasoning, ethical appeals, modes, tropes, etc.)."[11]

We "mortal beings" are forced to judge books by their covers. Unfortunately, these necessary shortcuts make it all too easy for the differences in writing and language in different parts of the field to create misunderstandings. When we don't have enough time to really learn all the histories and prerequisites of someone who's coming from a different perspective, then we often make a lot of mistakes when we encounter that alternative view. In many cases, it's possible to find common ground. But sometimes there are serious disagreements. Compared to other fields, geography has a more even and competitive balance of different kinds of writers: we've got lots of scientists, but we also have a lot of stylists and critics. And this arrangement seems even more pronounced in urban geography.

*The debates you usually see **between** different disciplines (economics, sociology, psychology) often happen **within** urban geography.*

What this means is that many of the fireworks you'll normally find between disciplines -- economists who see the world differently from sociologists and psychologists, chemists and engineers who approach things differently from journalists, planners, or architects -- happen a lot inside urban geography. This explains why many people look at what's going on in urban geography, and call it "interdisciplinary."

Explaining the City

Bunting and Filion's declaration that "cities resist understanding" might be too harsh a judgment. But it's clear that there are many different ways of describing cities, presenting us with a long menu of choices when we try to share insights with different audiences of city residents, policy officials, academics, or talented students in an *Introduction to Urban Geography* course. More fundamentally, however, how do we *explain* urban processes and urban problems? And what is distinctive about a *geographical* perspective on the city?

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[10] Smith, "Geographical Rhetoric," p. 3; the last phrase quotes directly from James Duncan and David Ley.
[11] Smith, "Geographical Rhetoric," p. 16.

A few years ago, E. Barbara Phillips sketched out a useful illustration of how different disciplines approach particular kinds of urban questions, focusing on the issue of concentrated urban poverty; she opens with the *Oxford English Dictionary* definition of slum:

> "a street, alley, court, etc., situated in a crowded district of a town or city and inhabited by people of a low class or by the very poor; a number of these streets or courts forming a thickly populated neighbourhood or district where the houses and the conditions of life are of a squalid and wretched character."[12]

The word can be traced to British provincial slang in the 1820s, and we should not be surprised that its meaning has evolved over the generations and has been adapted to the distinctive circumstances of particular cities and neighborhoods. In the case of Vancouver, contemporary versions focus on the Downtown Eastside as the nation's slum, as "'Vancouver's worst neighbourhood...probably Canada's worst neighbourhood,'" a part of the city "that was not simply outside of 'civilization,' but beyond 'the boundary into hell' itself."[13]

What explains the emergence and persistence of concentrated urban poverty? Why do slums exist? Consider just a few of the contrasts among scholars approaching these kinds of questions from different disciplinary perspectives. For an economist, the city is governed by the processes that allocate scarce resources amongst nearly unlimited human wants and needs. In the market for land and housing, these allocation processes often result in a spatial paradox: middle-class people living in spacious areas in suburbs, where land is relatively cheap, while poor people wind up crowded into dilapidated housing units densely packed onto centrally-located, expensive land. In this explanation, slums are the outcome of the urban interaction of supply and demand processes. For a sociologist, by contrast, the city can be understood as the product of relations among individual and group interaction. Many years ago, John Seeley[14] argued that the slum could never be eradicated, because it is fundamentally a *relative* concept defined on the basis of social interaction and struggles over meaning. Seeley offered a typology of different residents of slums, based on two divisions: permanent versus temporary, and "necessitarians" versus "opportunists." More recently, the sociologist Loïc Wacquant has updated and radicalized this kind of taxonomy, focusing on the particular case of African American poverty in Chicago and many other cities. His blend of participant observation, interviews, and analysis of social statistics has led him to suggest that slums play an important role in 'warehousing' African Americans and separating many of them from White society; in recent years, he suggests, much of this function is now being taken on by the prison industry.[15]

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[12] Cited in E. Barbara Phillips (1996). *City Lights: Urban-Suburban Life in the Global Society*, Second Edition. Oxford: Oxford University Press, pp. 33-34.

[13] Vancouver Sun commentators, quoted in Jeff Sommers and Nick Blomley (2002). "The Worst Block in Vancouver." In Reid Shier, ed., *Stan Douglas: Every Building on 100 West Hastings.* Vancouver: Contemporary Art Gallery / Arsenal Pulp Press, 18-58, quotes from p. 19.

[14] John R. Seeley (1970). "The Slum: Its Nature, Use, and Users." In *Neighborhood, City, and Metropolis*, edited by Robert Gutman and David Popenoe (New York, Random House, reprint of 1959 paper), 285-296.

[15] Loïc Wacquant (2000). "The New 'Peculiar Institution': On the Prison as Surrogate Ghetto." *Theoretical Criminology* 4(3), 377-389. Wacquant's blend of statistics and ethnography shines through in his work in Chicago's Woodlawn neighborhood, where he sifts through reams of census data to describe the neighborhood's recent history before undertaking in-depth interviews and conversations with people in the Woodlawn Boys and Girls Club. One fourteen-year old member put it this way: "The project where I stay here ain't too bad. The one over there is

For a geographer, the city is the product of interrelations among people and their environments -- and here, both the physical and social environments matter. Geographers also emphasize context and the role of space and place in processes that produce social inequality. David Harvey, for example, provides a careful critique of the mainstream economic explanation for slums, and reviews the empirical tests that many economists have conducted to validate their theory. "What for [the economist] was a successful test of a social theory becomes for us an indicator of what the problem is. The theory predicts that poor groups must, of necessity, live where they can least afford to live. Our objective is to eliminate ghettos. Therefore, the only valid policy with respect to this objective is to eliminate the conditions which give rise to the truth of the theory. In other words, we wish the ... theory of the urban land market to become *not* true."[16] Slums, for the geographer, are the outcome of the way space is used to maintain social inequality, and the outcome of long-term trends in urban settlement, migration, and development -- meaning that a general theory of urban poverty should not ignore the role of local, contingent factors.

O, Logos[17]

Understanding the explanations offered by any field requires that we have some sense of their assumptions, standards of proof, and acceptable forms of evidence. Sorting out these issues is easier if we think of a continuum drawn from various branches of philosophy, science, and the humanities. This continuum is also a *hierarchy*. At the highest, most abstract level is **ontology**, that branch of metaphysics that deals with the nature of being, with the essence of things. Ontological questions involve the conditions of possibility of human knowledge. How is it possible that we can know anything? **Epistemology**, by contrast, is the branch of philosophy concerned with theories of how to acquire knowledge, and how to evaluate the limits and validity of knowledge. Assuming that it is ontologically possible for us to know, how should we try to gain knowledge? **Methodologies** are related sets of techniques used to generate particular kinds of knowledge. **Methods** are specific approaches used to organize raw bits of information into a coherent form to allow interpretation and analysis. And at the lowest, most empirically specific level are **data**: raw qualitative or quantitative information, the words, images, numbers used to represent or symbolize a particular phenomenon.

> *Epistemology is the branch of philosophy concerned with theories of how to acquire knowledge, and how to evaluate the limits and validity of knowledge.*

somethin' else. I mean they're all bad, you, know, but that one's badder: it's Murdertown over there." Loïc Wacquant (2003). *Body and Soul: Notebooks of an Apprentice Boxer*. Oxford: Oxford University Press, p. 25.

[16] David Harvey (1973). *Social Justice and the City*. London: Arnold, p. 137. For more recent analysis of contemporary trends, including the proliferation of gated communities for the poor (i.e., prisons), see David Harvey (2000). *Spaces of Hope*. Berkeley: University of California Press.

[17] *logos* = word (Greek).
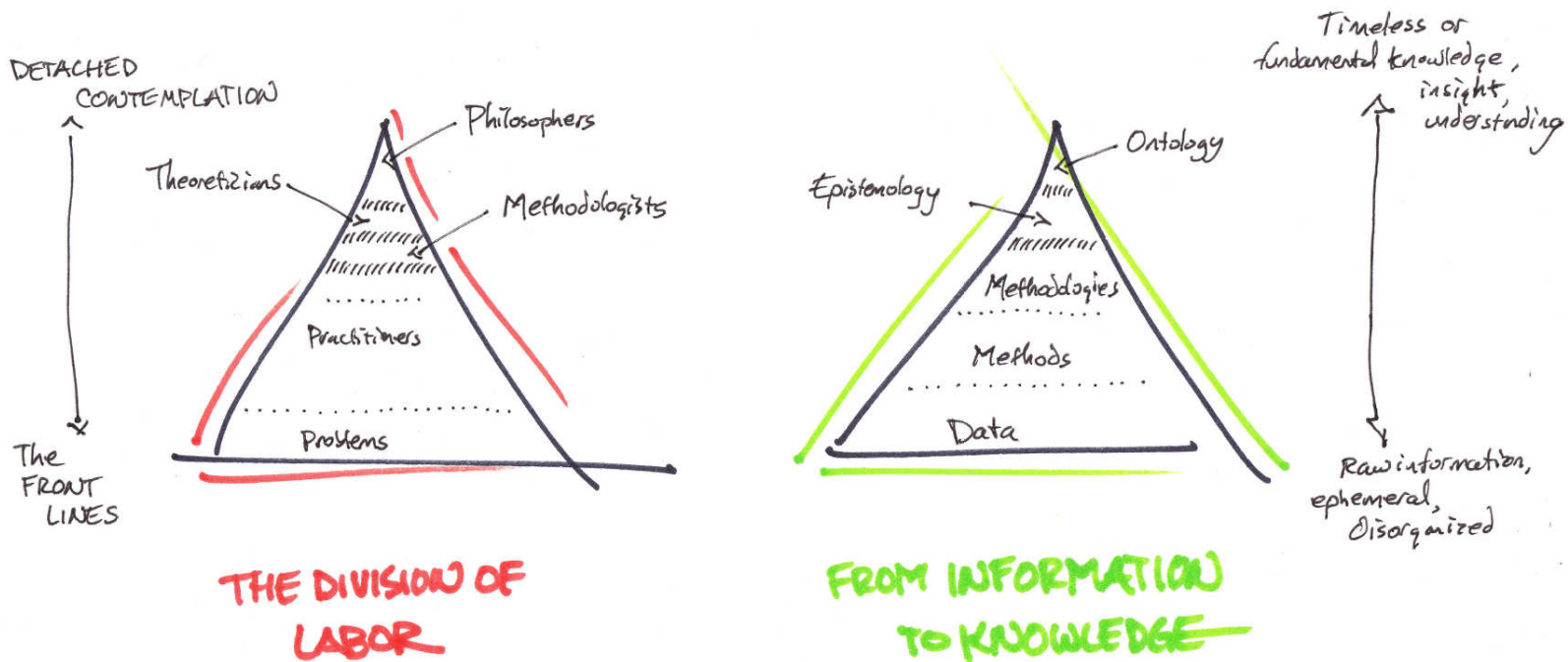
Two Hierarchies. In urban geography as well as in most other fields, the search for knowledge is often governed by two parallel hierarchies. Sometimes these hierarchies are implicit, meaning that people don't always talk about them, or recognize their importance. Source: on the left, modified and adapted from "The structure of a science," from Ronald Abler, John S. Adams, and Peter Gould (1971). *Spatial Organization: The Geographer's View of the World*. Englewood Cliffs, NJ: Prentice-Hall, p. 4. On the right: inspired by Eric Sheppard (1990). *Geographical Analysis*. Minneapolis, MN: Department of Geography, University of Minnesota.

We might call this hierarchy something like "from information to knowledge." It highlights several interesting issues. To begin with, we have too much stuff at the bottom of the pyramid, and not enough at the top. Even before today's information technology explosion that has given us attention spans that make fleas seem reflective,[18] we have always had a lot of raw data about the world. Data are not understanding nor wisdom, however. What we really need is to move up the hierarchy towards theories of knowledge, the essence of things, and (perhaps if we're ambitious) towards the nature of being. But of course this is hard, as you know from taking courses in philosophy: sometimes it can be quite a challenge to make sense of what philosophers are saying when they focus on epistemology or ontology, if they don't provide a lot of "real-world" examples. Those examples, of course, are easier for us non-ontology types to understand precisely because they take us down to the more familiar level of common, raw data at the bottom of the pyramid.

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[18] John S. Adams (2010). Personal Communication, by electronic mail, September 5. Minneapolis: Department of Geography, University of Minnesota.

Theory as retail brand and market niche. Meatpacking District, New York City, February 2012 (Elvin Wyly).

But here we encounter another crucial point. Hierarchical ways of moving from information to knowledge are often bound up with different roles in the division of labor. We thus have two parallel hierarchies. In any field, most of the people involved will be on the front lines dealing with all the day-to-day problems -- all the people who need help (social workers), all the applications for development permits or rezoning (urban planners), all the spatial patterns and processes that need to be mapped and analyzed (geographers). A smaller number of professionals are given time to reflect on the methods used in the field, while an even smaller share may be allowed to refine the field's theories and fundamental assumptions. Finally, a very tiny share of professionals -- philosophers -- are able to stay at the farthest possible distance from the day-to-day battles on the front lines, so that they can focus on general philosophical questions. These questions, we hope, will ultimately yield answers that will be useful across a wide range of very different fields.

> *Knowledge in urban geography is shaped by two parallel hierarchies: the continuum **from information to knowledge**, and the **division of labor**.*

Philosophers are essential in guiding the kinds of questions asked by society. "As a mark of profound respect and gratitude for this service," Abler, Adams, and Gould observe, "we usually assign full-time philosophers offices in the oldest buildings on college campuses and pay them low salaries."[19] One of these days, the philosophers are going to get militant and question this approach. I am reminded of the brilliant cartoonist Ros Chazt, who sketched a scenario for the *New Yorker* a few years ago: "Philosophers on Strike." One protestor holds a sign that reads, "Support Epistemologists Local 191, United Federation of Philosophers." Another has a placard boldly declaring "NO MORE SEARCH FOR TRUTH UNTIL OUR DEMANDS ARE MET." And another's sign reads, "We are RIGHT and I can logically prove it."[20]

So it's important to keep a sense of humor when considering philosophical questions. Still, four features of these dual hierarchies of knowledge are very serious.

First, it is all too easy for people working at one end of the continuum to feel distant and alienated from their colleagues at the other end. Practitioners may come to see theoreticians and philosophers as out-of-touch elitists; experts working with lots of empirical data may feel disrespected by those working on big questions of epistemology or ontology. Second, each of these hierarchies could be expanded to a third dimension to measure expertise. It takes time to become a good practitioner, and it also takes time to learn methods, theories, and epistemologies.[21] Some people spend all their time learning how to be a good practitioner and then doing that kind of work for an entire career; others work their way from practitioner to methodologist to theoretician. Still others wind up juggling multiple roles: thanks to the irrationalities of job markets, bureaucracies, and immigration policies, you sometimes find people working in "working class" jobs like cab drivers and janitors who have Doctor of Philosophy (Ph.D.) degrees. Third, economic and technological changes can re-order these tidy hierarchies, and perhaps destroy them. Part of the justification for giving methodologists, theoreticians, and philosophers the time and freedom to explore more generalizable questions is that this will help us teach the practitioners how to do their work better. Under certain conditions, rapid technological change can mean that the practitioners are much quicker to learn new approaches than the theoreticians, especially if the practitioners tend to be younger than the theoreticians.

Finally, each of these hierarchies appears somewhat different depending on the field of inquiry. It takes time to build up expertise in a particular subject. Once we do, we can easily be humbled if we cross a boundary to try to understand even the simplest questions at the heart of another field. This issue matters a lot. Sometimes it's hard to even recognize the levels in the hierarchies of another field -- say, the difference between the "higher level" questions of epistemology versus the "lower level" raw data. We know this happens when people from other fields look at geography: they often think all of us spend all of our time with that most boring and raw kind of data -- the information about the locations of countries, rivers, mountain ranges, national capitols, etc. Fortunately, there are some fields that are fairly close to geography, and

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[19] Ronald Abler, John S. Adams, and Peter Gould (1971). *Spatial Organization: The Geographer's View of the World*. Englewood Cliffs, NJ: Prentice-Hall, p. 4.

[20] Ros Chazt (2007), "Philosophers on Strike," *The New Yorker*, December 3, p. 83.

[21] I've been in this business for a long time now, and I'm still too cautious to claim that I have a deep understanding of what ontological questions really mean.

more likely to be interested in striking up conversations. You can see some of these conversations through "citation webs" -- networks defined by how scholars cite work published in various disciplines when they publish their own research (see Carl Bergstrom's maps for geography as a science, and as a social science).
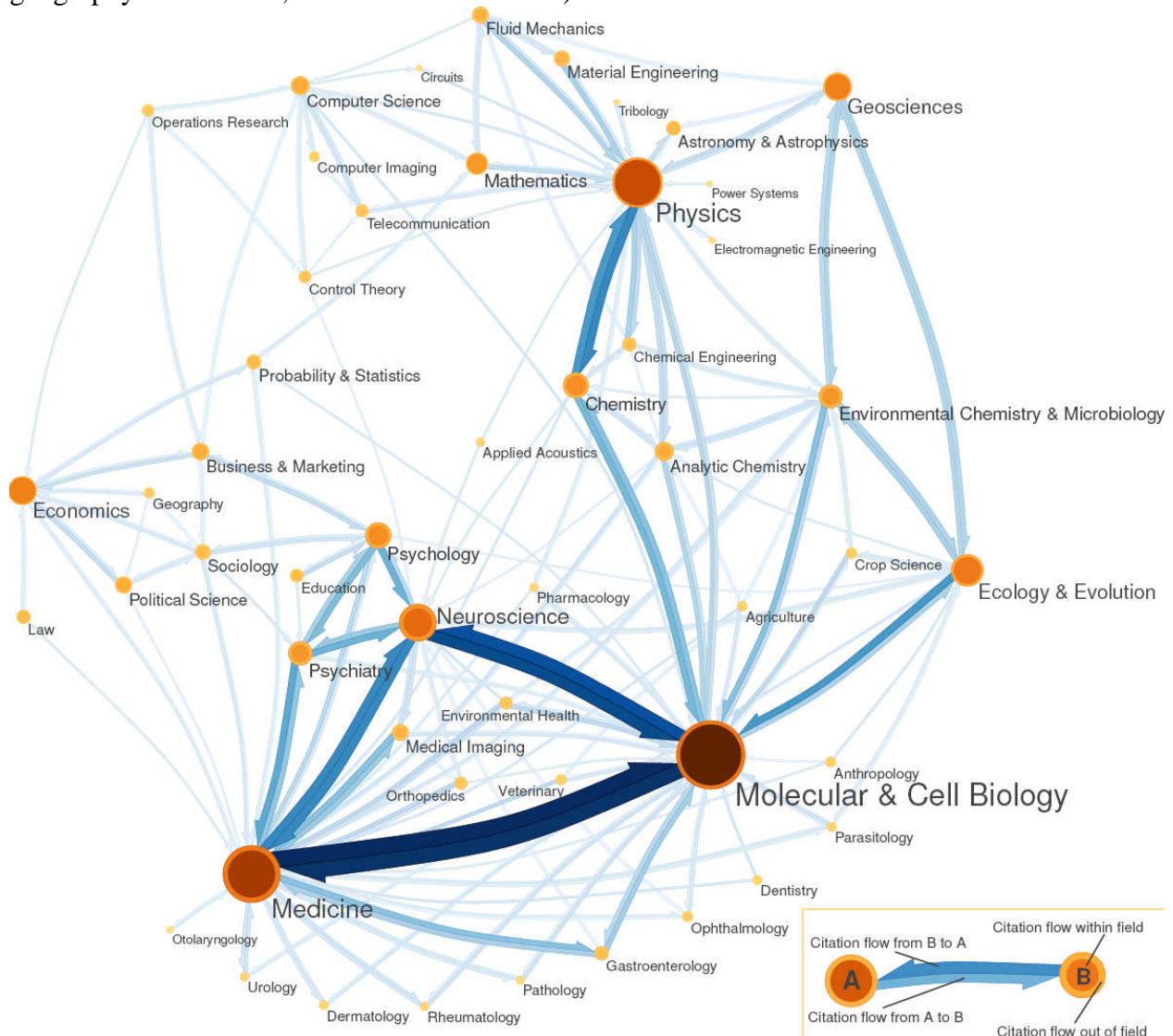
Mapping the Contemporary Sciences. Carl Bergstrom and a group of colleagues in the Department of Biology at the University of Washington adapted a familar series of statistical and visualization tools to map the way that articles published in different fields pay attention to what's going on in other fields -- through counts of formal citations to other published work. The underlying citation data come from the year 2004. Carl Bergstrom (2009). *Eigenfactor: Ranking and Mapping Scientific Knowledge*. Seattle: Department of Biology, University of Washington, available at http://eigenfactor.org. Reproduced under the provisions of Sections 29 ("Fair dealing for the purpose of research, private study, education, parody, or satire") and 30.04 ("work available through Internet") of Canada Bill C-11, the *Copyright Modernization Act*.
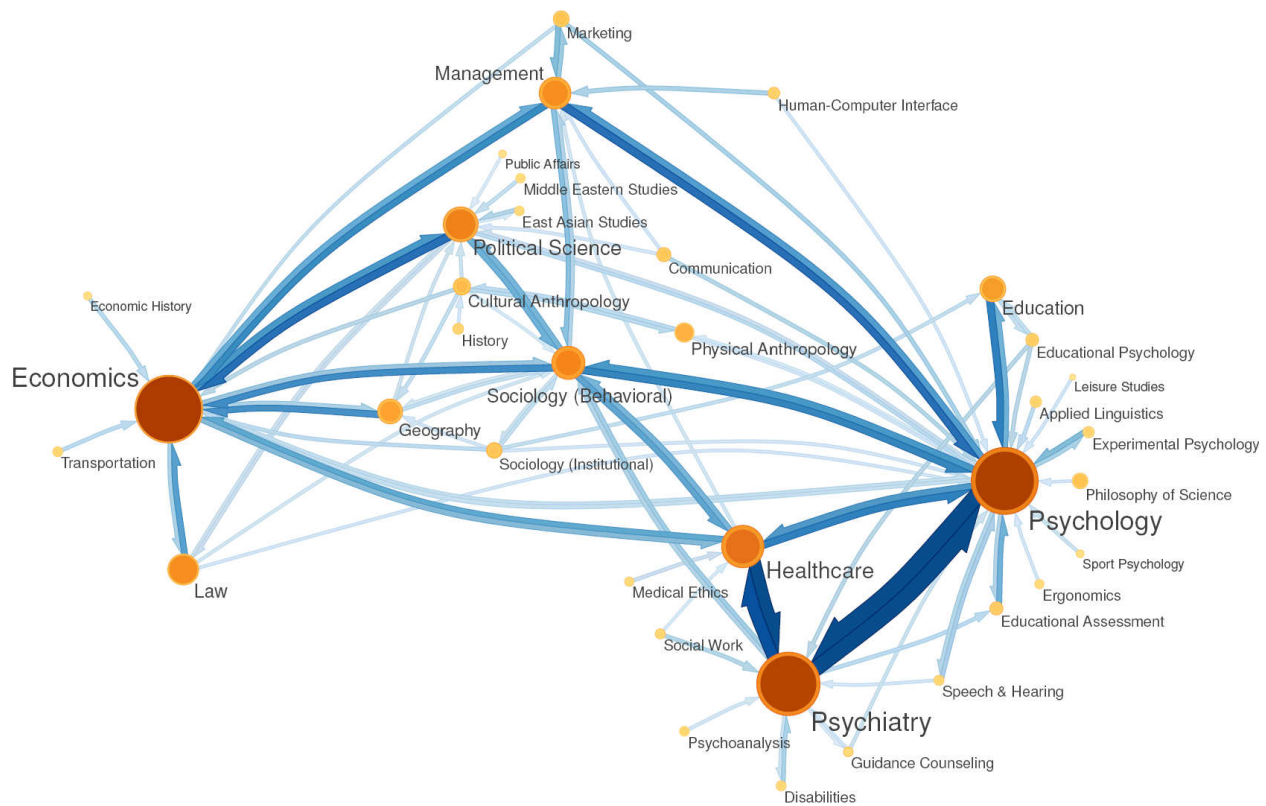
Mapping the Contemporary <u>Social</u> Sciences. Carl Bergstrom (2009). *Eigenfactor: Ranking and Mapping Scientific Knowledge.* Seattle: Department of Biology, University of Washington, available at http://eigenfactor.org. Reproduced under the provisions of Sections 29 ("Fair dealing for the purpose of research, private study, education, parody, or satire") and 30.04 ("work available through Internet") of Canada Bill C-11, the *Copyright Modernization Act.*

Epistemologies in Urban Geography

One of the levels in the hierarchy from information to knowledge concerns epistemology -- theories of how to acquire knowledge, and how to distinguish valid knowledge claims from useless speculations, assertions, and outright lies. Epistemology deserves some careful consideration. Contemporary urban geography is shaped by four broad epistemological traditions: positivism, structuralism, humanism-phenomenology, and poststructuralism. Each of these approaches differs in terms of ways of building explanations, principles for defining causality, and accepted criteria for the validation of theories.

1. **Positivism** involves an attempt to explain causal relations between observed phenomena. Causality is defined by observable linkages obtained through objective, widely-recognized techniques for analysis, and theories are validated by repeated empirical testing and rigorous application of shared criteria -- the 'scientific method.' There are many different streams of positivism, but most can ultimately be traced back to the French philosopher Auguste Comte (1798-1857). Comte attempted to develop a history and theory of knowledge that would help to distinguish science from religion and metaphysics. As such, Comte was working in the long, radical tradition of challenging official doctrine and authority -- a movement we would now call

the Enlightenment. Comte wrote a lot, but his approach is now best remembered for five key points.

Positivism, an epistemology launched by the French philosopher Auguste Comte (1798-1857), defines scientific knowledge in terms of observable linkages, empirical testing, and the rigorous application of widely-shared criteria -- the "scientific method."

"(1) Scientific statements were to be grounded in a direct, immediate and empirically accessible experience of the world, and observation statements were therefore privileged over theoretical ones...: observations of events were the leading particulars of scientific inquiry and as such, observation statements could be made independently of any theoretical statements that might subsequently be constructed around them.

(2) Scientific observations had to be repeatable, and their generality was to be ensured by a unitary scientific method that was accepted and routinely drawn upon by the scientific community as a whole.

(3) Science would advance through the formal construction of theories which, if empirically verified, would assume the status of scientific laws.

(4) Those scientific laws would have a strictly technical function, in that they would reveal the effectivity or even the necessity but emphatically not the desirability of specific conjunctions of events: in other words, they had to take the form '*If A, then B*' ....

(5) Scientific laws would be progressively unified and integrated into a single system of knowledge and truth...."[22]

Comte understood positivism in relation to the history of philosophy and human development. In other words, he believed that collective human understanding improved over time, such that "positivism" is not simply a technical description for a way of gathering knowledge, but also a judgment about progress, growth, evolution, development, and so on: positivism is a positive thing. Indeed, Comte's early work was based on an explicit distinction between positivism and negativism -- a tradition-bound refusal to accept and participate in the advance of science. This is how Comte describes that historical development:

"...each of our principal conceptions, each branch of our knowledge, passes successively through three different theoretical states: the theological or fictitious, the metaphysical or abstract, and the scientific or positive. In other

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[22] Derek Gregory (2000). "Positivism." R.J. Johnston, Derek Gregory, Geraldine Pratt, and Michael Watts, eds., *The Dictionary of Human Geography*, Fourth Edition. Oxford: Blackwell, 606-608, quotes from p. 608.

words, the human mind, by its nature, employs in all its investigations three methods of philosophizing, of an essentially different and even opposed nature: first the theological, then the metaphysical, and finally the positive. Hence there are three mutually exclusive kinds of philosophy, or conception systems regarding the totality of phenomena: the first is the necessary starting-point of human intelligence; the third its fixed and final state; the second is only a means of transition."[23]

These five steps formed the basis for a scientific and philosophical transformation of human knowledge in the nineteenth and twentieth centuries. "Comte was the crucial figure in establishing the idea that the methods of the natural sciences can and ought to be applied to the study of society,"[24] and for many generations, this was precisely the trajectory of inquiry, science, education, and policy. Positivism held out the promise of universal progress and modernity, and the hope of solving all of the problems facing humanity. By the middle of the twentieth century it became clear that the grand claims of positivism -- the 'single system of knowledge and truth' -- were impossible, flawed, and dangerous. A variety of competing philosophies of knowledge, some of them new and others rooted in prior centuries of thought, began to achieve victories in challenges to positivism. And yet even today, in many fields, positivism is often described as 'normal science.' Although relatively few scholars would describe themselves as 'positivists,' this is because in some fields positivism is the *only* accepted approach (such that there is no need for a "positivism" label); it is also the case that many scholars describe the steps in their research in ways that resemble the five-step formula outlined above.

Urban geography is shaped by four main epistemologies:
1. *Positivism*
2. *Structuralism*
3. *Humanism/phenomenology,*
4. *Post-structuralism.*

2. **Structuralism**, by contrast, is an attempt to explain observed phenomena as the outcome of *unobserved* structures and relations. Causality operates at the structural level -- at a 'deeper' level below the surface of appearance and observation -- and may not be directly observable. In structuralism, theories must be validated by internal logic and consistency. It is possible to devise and refine empirical tests in order to reveal difficult-to-observe relations and processes, but in general, structuralist inquiry places less emphasis on observation and measurement compared with positivism.

3. **Humanism** and **phenomenology** depart from the shared goal of positivism and structuralism. Rather than a search for causal explanations of observed outcomes, humanists seek to provide *understanding* and *interpretation* of human agency, consciousness, and creativity. In humanism

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[23] Auguste Comte, *Course in Positivist Philosophy*, in Stanislav Andreski, translator and editor (1974). *The Essential Comte*. London: Croom Helm, p. 20.
[24] Stanislav Andreski (1974), "Comte's Place in the History of Sociology." In Andreski, ed., *The Essential Comte*, p. 16.

and phenomenology, theories are evaluated on the basis of shared understanding, interpretation, and consensus: there is no attempt to 'verify' or 'falsify' a particular account, as in positivism,[25] or to 'excavate' the fundamental underlying dynamics of a particular process, as in structuralism. Instead, the goal is a "truly human geography" drawing inspiration both from the humanities, "that special body of knowledge, reflection and substance about human experience and human expression, about what it means to be a human being on the earth," and from those parts of the social sciences emphasizing "theoretical self-consciousness" through ethnographic methods and similar approaches.[26]

4. Finally, **post-structuralism** involves a wide-ranging attempt to move beyond the "foundationalism" of the sciences. Poststructuralists reject the claim to unambiguous and universal means for distinguishing legitimate from illegitimate knowledge claims, instead emphasizing 1) the role of language as a site of definition and struggle, and 2) the impossibility of assuming that there is "a unified, knowing and rational subject..."; "...post-structuralist writers maintain that there is no 'real' outside of cultural systems."[27] As a consequence, post-structuralists are greatly concerned with how knowledge is constructed, how situation and position shape the ways that different individuals gain understanding, and the ways that 'local' knowledges develop in particular times and places. In this approach, theories can never be validated as true (or falsified as fundamentally incorrect). Knowledge is based on partial, contingent, or contextual subjectivities that often blur the binary of 'true/false': truth is understood "as a thoroughly social process."[28] As Paul Knox and Linda McCarthy summarize, the poststructuralist approach "strongly opposes the idea that any general theories can explain the world. Instead, it accepts the shifting and unstable nature of the world and concentrates on questions of who defines meaning, how this meaning is defined, and to what end. It is concerned with understanding the power of symbolism, images, and representation as expressed in language, communication, and the urban landscape."[29]

In many senses, post-structuralism is the hardest of the four epistemologies to define. For one thing, its very essence is a challenge to the idea that anything can be defined in perfectly clear, unambiguous, or un-contested terms. The movement is thus naturally suited to a wide variety of approaches. Many feminist urban geographers, for example, define their work as poststructuralist -- although there are also feminist scholars working as structuralists, many who use humanistic and phenomenological approaches, and some who could be considered positivists. Many urban social and cultural geographers would describe their work first and foremost as post-colonial, or as part of an approach called non-representational theory. Non-

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[25] One of the initial backlashes against positivism in geography produced a 'behavioral' school, which fused psychological insights on human perception and behavior to produce what were seen as more realistic explanations of human geographies. Behavioralism emerged around the same time that humanistic geographies became quite influential, and so the two are often confused. But behavioralism shared the goals of positivism for objectivity and the development of 'laws' of spatial behavior, however, and so it subsequently endured many of the same criticisms.

[26] Derek Gregory (2000). "Humanistic Geographies." In R.J. Johnston, et al., *Dictionary*, 361-364, quotes from p. 361, 362. Second quote is Gregory's citation to Donald Meinig (1983). "Geography as an Art." *Transactions of the Institute of British Geographers* NS 8, 314-328.

[27] Geraldine Pratt (2000). "Post-Structuralism." In R.J. Johnston et al., *Dictionary*, 625-626, quotes from p. 625.

[28] Pratt, "Post-Structuralism," p. 626.

[29] Paul Knox and Linda McCarthy (2005). *Urbanization, Second Edition.* Upper Saddle River, NJ: Pearson/Prentice-Hall, p. 6.

representational theory is an approach that challenges the idea that scientific knowledge is nothing but a representation of an external reality independent of human and social ideas and actions. Non-representational theory emphasizes the interactions between human and non-human phenomena – the relations between people and what people call 'nature,' for example, or between people and various technological devices – it also emphasizes that social actions are often responsible for producing things that we then take for granted as observable realities. Non-representational theories "are theories of practice in that their focus is on what humans and/or non-humans do, and how the reproduction and revision of practices underpin the genesis and maintenance of interpretation and thus meaning."[30]

There are many important differences among post-colonial theorists, advocates of non-representational theory, and scholars pursuing other approaches. But most of these scholars do share the twin goals of poststructuralism – to analyze the role of language as a site of struggle, and to challenge the Western Enlightenment tradition of the unified, rational subject with knowledge of an independent, external reality.

Positively Overwhelming. Philosophy covers an enormous intellectual territory, and epistemology is only one branch of philosophy, and within epistemology, Comte's heritage for positivism is still an area of active discussion. Comte wrote a lot, and subsequent generations have written a lot about what he wrote, its implications for society, culture, science, and history. This is just one glimpse of one part of one of several sections at Koerner Library and the Barber Learning Center where you'll find shelves and shelves of books on the positivist legacy. Most of it's old

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[30] Ben Anderson (2009). "Non-Representational Theory." In Derek Gregory, Ron Johnston, Geraldine Pratt, Michael J. Watts, and Sarah Whatmore, eds., *The Dictionary of Human Geography*, West Sussex, UK: Wiley-Blackwell, 503-505, quote from p. 503.
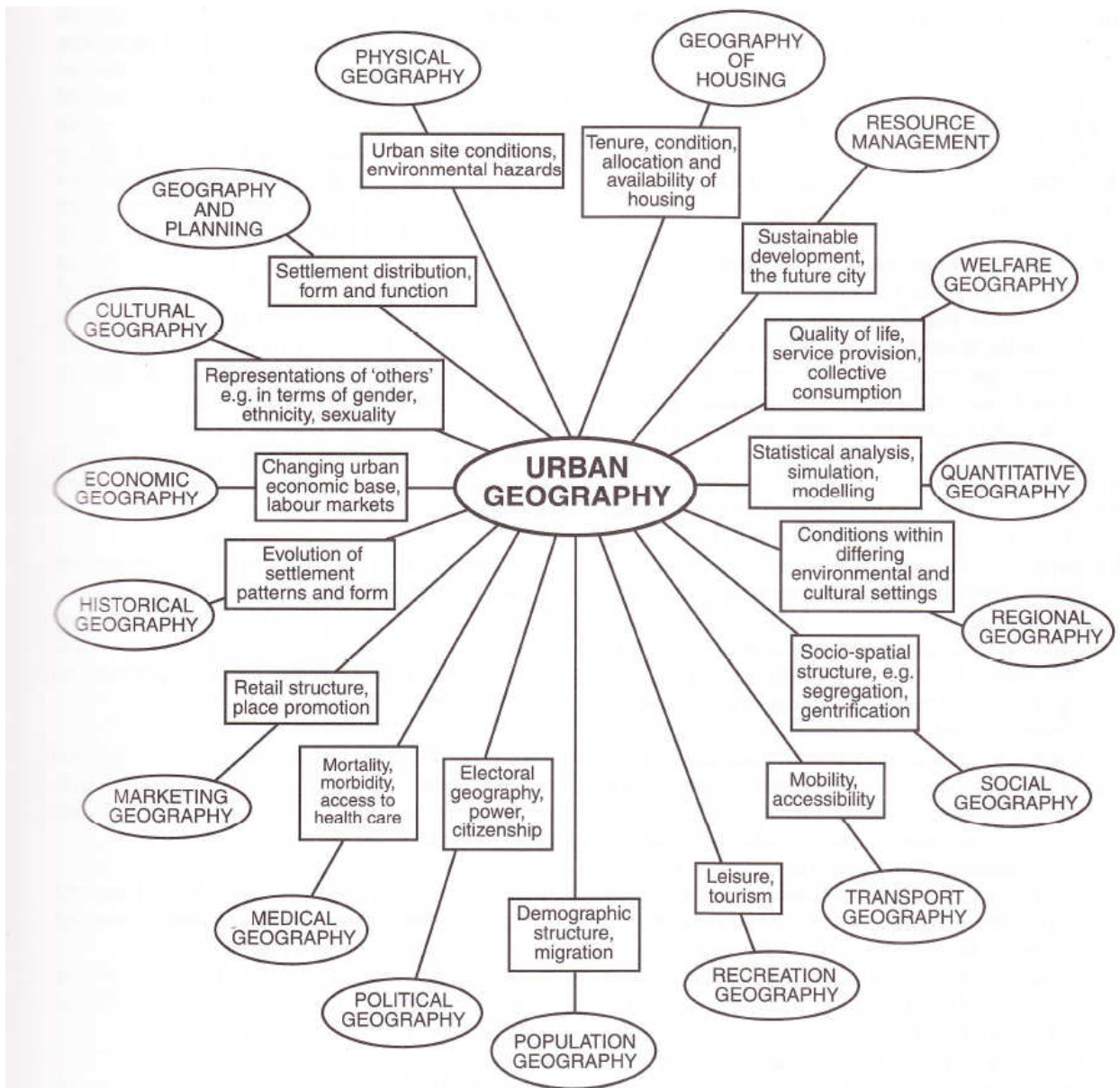
stuff, however, because after a wave of popularity, the failures of modernity and science in the twentieth century led to a backlash, and then obscurity. Few people *read about* positivism anymore, even if many social scientists' daily practice often resembles one kind of positivism. One exception is the philosopher Robert Scharff, who wrote *Comte After Positivism*. Scharff opens his analysis with this concise summary of the state of current philosophy: "As hard as it is nowadays to get agreement on what analytic philosophers could still possibly have in common, at least it seems safe to say that there is something they are universally against, namely positivism." Robert C. Scharff (1995). *Comte After Positivism*. Cambridge: Cambridge University Press, p. 1. Photograph: Koerner Library, University of British Columbia, September 2008 (Elvin Wyly).

Radical Openness: A <u>Rigorous</u> Pluralist Approach

So, what's the best way for us to approach the city?

Sorry, I can't answer that. It's the wrong question. For better or worse, most areas of social inquiry are shaped by pluralism: there is no clear, firm, uncontested consensus. Geography exemplifies this broader trend: our field permits and encourages theoretical and methodological pluralism. Urban geography, in turn, is especially open to different approaches. Although individual researchers usually specialize and play to their strengths, the sum of individual efforts involves a blend of many different traditions, methods, and styles. We have positivists, Marxists, interpretive humanists, phenomenologists, and post-structuralists, as well as people who would use a wide variety of other terms to describe their worldview and the kind of work they do. Perhaps the single most important feature about how geographers approach the city is this: compared to most other disciplines, ours places fewer restrictions on the kinds of questions we can ask, the methods we can use, and the sources of inspiration we can find. Geography's borders are porous, ill-defined, and poorly patrolled. This means that the territory has frequently been invaded, with new armies taking over on a fairly regular basis. It also means that geography is close to the center of all the action on a lot of interesting urban questions -- and thus the urban geographer Michael Pacione puts *urban* geography right at the center of all kinds of geography.

There is no One Right Way to Do Urban Geography. But that does <u>not</u> mean that anything goes. Doing urban geography well requires knowing the histories and methods used in different approaches, and then making careful and consistent choices.

PHYSICAL GEOGRAPHY

GEOGRAPHY OF HOUSING

RESOURCE MANAGEMENT

Urban site conditions, environmental hazards

Tenure, condition, allocation and availability of housing

GEOGRAPHY AND PLANNING

Sustainable development, the future city

WELFARE GEOGRAPHY

Settlement distribution, form and function

CULTURAL GEOGRAPHY

Quality of life, service provision, collective consumption

Representations of 'others' e.g. in terms of gender, ethnicity, sexuality

ECONOMIC GEOGRAPHY

Changing urban economic base, labour markets

URBAN GEOGRAPHY

Statistical analysis, simulation, modelling

QUANTITATIVE GEOGRAPHY

Evolution of settlement patterns and form

Conditions within differing environmental and cultural settings

HISTORICAL GEOGRAPHY

REGIONAL GEOGRAPHY

Socio-spatial structure, e.g. segregation, gentrification

Retail structure, place promotion

SOCIAL GEOGRAPHY

MARKETING GEOGRAPHY

Mortality, morbidity, access to health care

Electoral geography, power, citizenship

Mobility, accessibility

Leisure, tourism

TRANSPORT GEOGRAPHY

MEDICAL GEOGRAPHY

Demographic structure, migration

RECREATION GEOGRAPHY

POLITICAL GEOGRAPHY

POPULATION GEOGRAPHY

The Center of the Action. From "The Nature of Urban Geography," Michael Pacione (2005). *Urban Geography: A Global Perspective, Second Edition.* London and New York: Routledge, p. 21. Reproduced under the provisions of Section 29 ("Fair dealing for the purpose of research, private study, education, parody, or satire") of Canada Bill C-11, the *Copyright Modernization Act.*

Likewise, the prominent urban geographer Jennifer Wolch has made a specific case for "radical openness" as a valuable method. In *Urban Geography*, Wolch observes,

"One can find articles on urban transformations around the world, feminist urban geography and queer theory, homelessness and welfare reform, urban identity and citizenship, racial segregation and environmental justice, patterns of e-commerce as well as traditional manufacturing, transportation and land use, urban governance regimes, implications of globalization and transnational immigration flows. The list goes on and on, speaking to the rich tapestry of the field as it has

been woven throughout its recent history, nourished by the quantitative revolution, the rise of Marxian and humanistic geographies, and the effervescence of feminist, postmodern, and post-Colonial thought."[31]

Wolch argues that "we should practice a radical openness because it constitutes a critical method...."[32] Different theories and methods have different strengths and weaknesses, and so the more open we are to using different tools, the better we'll be able to understand things through the "alternative lens" of others we need to communicate with. We need to know a bit of GIScience, and we also need to know about discourse analysis, post-Colonial theory, feminist inquiry, and statistics.

> *Jennifer Wolch advocates "radical openness as method" in urban geography.*

This plurality takes a lot of work. In some fields, they can tell you exactly what methods you've got to master before you have the right to call yourself a professional [physicist | chemist | astronomer | mathematician | engineer | economist]. But in the liberal arts, we're more flexible, and we're especially flexible in geography.

Rigorous pluralism is not a lazy, anything-goes attitude that encourages anyone to say anything they want, with equal respect accorded to all viewpoints. Most scholars no longer believe that it is possible for us to determine The One Single Truth For All Time. But that does not mean that we can just accept *every* claim, explanation, and interpretation. Some claims directly contradict others. Some explanations make sense, and others do not. Some people -- fortunately, most of them outside the university -- lie, because certain kinds of lies are extremely profitable if you can get enough people to believe them. We have a responsibility to search for truth, even if many people today have serious disagreements over the context, meaning, and correct paths towards truth.

> *Rigorous pluralism recognizes that: 1) we need a wide range of different questions and methods, even if we can't be experts in all approaches ourselves 2) certain questions are more suited to some epistemologies than others, and 3) the methods must be matched properly with interpretations and applications.*

In practice, a rigorous pluralism means three things. First, the sub-field must remain open to a wide range of different kinds of questions, sources of data, and methods of analysis. This doesn't mean that you, as an urban geographer, have to become an expert in every method that's out there -- that's what a division of labor

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[31] Jennifer R. Wolch (2003). "Radical Openness as Method in Urban Geography." *Urban Geography* 24(8), 645-646, quote from p. 645.
[32] Wolch, "Radical Openness," p. 646.

is for! Play to your strengths, and choose a small number of methods to learn well -- but at the same time, keep your eyes open for all the many different kinds of approaches used by others. This means that you should be prepared to meet, and to find common ground with, poststructuralist urban geographers who, say, study the political construction of ideas of urban power, and other urban geographers who are calibrating quantitative models to evaluate alternative explanations for urban growth and decline.

Second, a rigorous pluralism recognizes that certain kinds of questions are more suited to certain epistemologies. Personally, I would rather not live in a city where the transportation system is designed by poststructuralists. On the other hand, do we want positivists to be using the scientific method to tell us the meaning of a particular city's artistic heritage, or its contemporary music scene, or its history of turbulent political struggle? Every epistemology has its place.

Third, a rigorous pluralism requires that the methods of analysis be suited to the kinds of purpose, interpretations, and applications of the results. This is a subtle point, and it is very hard to achieve. (Too) many people thus ignore it. Consider first the example of poststructuralist urban geographers, who often use lengthy, detailed, and in-depth conversations and interviews with a very small number of people -- sometimes just one, two, or three people -- in order to understand how different people frame certain issues, or how various individuals define reality in different ways. This is very valuable. But *none of the results can be generalized beyond the time, place, and individuals involved*. The only way the knowledge can safely be generalized is if the protocols of the positivist scientific method have been used to obtain a representative, random sample. Conversely, positivists will often develop complex statistical models of, say, a particular trend in urban migration among hundreds of thousands of people counted in a census. This is valuable too. But *none of the results can be used to explain all the human interpretations, meanings, and feelings of all those people making decisions about moving from one city to another, or from one part of a city to another*. The only way to get at those more humanistic (or perhaps poststructuralist) meanings is if appropriate non-positivist methods have been used to talk to the people migrating to understand their perceptions, motivations, and decisions.

A City Place of Mind

This pluralism is not without risk.[33] It does make things confusing sometimes. But it is an inescapable feature of what geography is, and especially *urban* geography. It quite literally defines who we are as urban geographers. To appreciate what this means, let's return to Pierre Filion and Trudi Bunting, and their chapter on "Understanding Twenty-First Century Urban Structure." Recall their suggestion:

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[33] Epistemological and methodological pluralism complicates disciplinary identity: scholars outside the field are often confused by what they perceive to be geography's careless stew of methods, assumptions, and principles. This perception is not as widespread in Europe or Canada as it is in the United States, where public familiarity with the field was destroyed by changes in high school curricula in the middle decades of the twentieth century. A separate risk of the pluralist approach involves intensified *intra*-disciplinary tensions, as advocates of different methods fight for recognition of the distinctive merits of their chosen approach.

"It can be argued that, along with language, the large city is the most intricate of human creations."[34]

There's actually quite compelling evidence on the links between cities, language, and the development of written culture in the advance of civilization. And now there's fascinating new evidence linking cities, language, and the human biological basis of thought itself. Neuroscientists are beginning to document the very physical changes in the human brain associated with certain inescapably urban experiences:

> "a group of British researchers scanned the brains of sixteen London cabdrivers who had between two and forty-two years of experience behind the wheel. When they compared the scans with those of a control group, they found that the taxi drivers' posterior hippocampus, a part of the brain that plays a key role in storing and manipulating spatial representations of a person's surroundings, was much larger than normal. Moreover, the longer a cab driver had been on the job, the larger his posterior hippocampus tended to be."[35]

The Hebb postulate: "neurons that fire together, wire together."

There is, in fact, a lot of research in what is called "neuroplasticity" -- a process of changes in the neurons of the human brain that are nicely summarized by the "Hebb postulate," named after the Canadian psychologist Donald Hebb: "neurons that fire together, wire together."[36] What this implies is that **part of the history of urbanization is the history of fundamental changes in how people think.** The dramatic contemporary advances in research on neuroplasticity provide compelling evidence from the so-called "hard sciences" that complements what we have learned from historical and philosophical inquiry. Abraham Akkerman, for example, marshalls compelling historical evidence that "the geometric street pattern of the late middle ages and the Renaissance, the planned townscapes, street views and the formal garden design, appeared as parables for the perfection of the universe and the supremacy of critical reason."[37] The physical

Part of the history of urbanization is the history of fundamental changes in how people think.

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[34] Bunting and Filion, "Understanding Twenty-First Urban Structure," p. 2.

[35] E.A. Maguire, D.G. Gadian, I.S. Johnsrude, et al., (2000). "Navigation-Related Structural Change in the HIppocampi of Taxi Drivers." *Proceedings of the National Academy of Sciences* 97(8), 4398-4403, cited in Nicholas Carr (2011). *The Shallows: What the Internet is Doing to Our Brains.* New York: W.W. Norton, p. 33

[36] Bernadette T. Gillick and Lance Zirpel (2012, forthcoming). "Neuroplasticity: An Appreciation from Synapse to System." *Archives of Physical Medicine Rehabilitation.*

[37] Abraham Akkerman (2001). "Urban Planning in the Founding of Cartesian Thought." *Philosophy and Geography* 4(2), 141-167, quote from p. 141.

structure of cities of the European Renaissance helped to shape the thinking of the definitive mathematician and philosopher of the European Renaissance: René Descartes. Akkerman's qualitative, historical inquiry documents "a bond between [Descartes'] perception of the changing Renaissance environment, and his intellectual disposition towards a fundamental change in the demeanor of reasoning."[38] And now neuroscientists are using Magnetic Resonance Imaging (MRI) brain scans to measure physical changes in the human brain with various changes in context and stimuli. Urbanism, of course, is now the context and stimulus for a majority of the world's population. Quite literally, we urbanists live in a city place of mind. And given the plurality of scientists, stylists, and critics that Jonathan M. Smith documents for geography, urban geographers' city place of mind is particularly diverse.

Wynn advertising the Wynn while the taxicab drives by the Wynn. Las Vegas, Nevada, July, 2012 (Elvin Wyly).

My own hippocampus has been reshaped by phenomena that remind me of the Hebb postulate and the neuroplasticity of the cabdrivers as documented in the *Proceedings of the National*

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[38] Akkerman, "Urban Planning," p. 143.

Academy of Sciences. One of the images imprinted on my brain is a map of regions of London, defined by a set of quantitative spatial analysis techniques that I first learned about as an undergraduate, based on a study of taxi-drivers' origins and destinations.[39] Another is the sight of the Wynn hotel and casino, accompanied by the deep self-promotional voice of the billionaire Steve Wynn, in the "captive audience" advertising proliferating in the taxicabs of so many cities.

Overwhelming Excitement

This might be a bit confusing at first glance. But it can be quite liberating if you can think of the city in metaphorical terms. For the positivists, the city is a bright galaxy, with so many stars to observe, measure, and map with as much precision as our technologies allow. For the structuralists, the city is the vast and exciting crowd at a political rally, with so many groups, large and small, of allies and adversaries -- each of them ready to teach us lessons about the underlying structures of urban wealth, power, and mobilization. For the humanists and phenomenologists, the city is a brilliant work of art, or perhaps a great work of literature. For the poststructuralists, the city might be a bazaar -- a fast-changing marketplace with all sorts of bargaining and disagreement over the true value of things -- or perhaps an ongoing conversation at a party, with all the familiar mixtures of passionate statements, partially-overheard rumors, misunderstandings, and whispered speculations on what's happening now, and what might happen next.

Like the city itself, urban geography can be overwhelming.

And that's what makes it so exciting.

Join me, and let's dive in.

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[39] J.B. Goddard (1970). "Functional Regions Within the City Centre: A Study by Factor Analysis of Taxi Flows in Central London." *Transactions of the Institute of British Geographers* 49, 161-182.