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Case Studies in Planning: Comparative Advantages and the Problem of Generalization

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Abstract:

This paper examines the emphasis on the case study method in planning research. It argues that the nature of planning gives the case study approach many advantages over other methodologies. In particular, case studies can better handle complex urban processes with unclear boundaries, inputs and outputs. The most influential urban planning research has arguably been based on case studies rather than large statistical analyses, and on exceptional rather than typical cases. However, the heavy reliance on this method leads to ongoing difficulties with analytical rigor, disciplinary legitimacy and cumulative generalization of knowledge.

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For many social scientists, case studies are illustrative and exploratory tools that nevertheless cannot easily be generalized or consistently replicated. Despite these alleged shortcomings, planning researchers heavily rely on the case study method. This papers examines why planners emphasize the case study approach (both openly and implicitly), the kinds of research questions that lend themselves to case studies (and those that don't), and the persistent dilemma of generalization.

The very characteristics of urban research that hinder rigorous statistical analysis can be advantageous for a powerful case study. In particular, case studies can better handle the exceptional case, and more directly challenge existing theoretical assumptions. However, the problem of generalization remains, especially in these exceptional cases. Overall, the appealing yet sometimes inconclusive use of case study methodology parallels the broader problematic of urban planning: both are interdisciplinary tools that are more flexible, grounded and narrative than more traditional tools, yet both can suffer from the lack of analytical consistency, disciplinary legitimacy or the ability to function cumulatively.

Why does planning research heavily use case studies?

Case studies are well-suited for research situations with specific characteristics: causal questions are being asked about a contemporary set of events; little control over events (precluding experimentation); difficulty in separating the phenomenon from its larger context; and multiple sources of evidence (Yin 1994). These elements are characteristic of urban research.

Planning's emphasis on contemporary causal processes is clear: it is an action-oriented field, seeking cause-effect understanding to guide contemporary intervention. The field also generally lacks the power and resources to test theories using controlled experimentation -- certainly randomly assigned experimentation. (For skeptics who disdain planning as an intrusive form of social engineering, this lack of control is surely a relief.) The closest one can generally come is quasi-experimentation: to mimic a controlled experiment by synthetically creating "experimental intervention" and "control" groups after the fact. (A good example is Isserman and Rephann's study on the impact of the Appalachian Regional Commission (Isserman and Rephann 1993).)

The blurry line between the phenomenon and the context of case studies is also an intrinsic characteristic of urban processes. Scholars are attracted to cities because they house complex networks of social, economic and political activity. Planners shy from excluding any variable from the model: the parameters for other disciplines become their variables. This broad inclusion reflects the legitimate concern that such isolation removes the urban phenomenon from its real life context, thus distorting its behavior. Yet this very connectivity thwarts the scientific requirement of *ceteris paribus*. When transportation influences land use, which in turn influences housing and the environment, which affect the local economy, and so forth, then the boundary between variables and parameters are either unclear or arbitrary. In such situations, case studies can far better handle these "loose ends" than traditional statistical analysis.

This challenge of separating the phenomenon from its larger context is particularly difficult in planning due to the field's emphasis on space. This difficulty arises from the use of space itself as a variable. A subject's location in space (e.g., a person's residence or a firm's location) is often highly correlated with other variables (access to resources, educational level, neighborhood effects, climate, administrative institutions, race, class, labor markets, etc.). Researchers in "non-spatial fields" can overcome this multicollinearity by randomly assigning cases across space. For example, a medical study of the effectiveness of the drug AZT on slowing AIDS symptoms can control for the complex influences of a subject's residence by distributing both the experimental and control groups randomly across the country. Yet for urban research, it is this very influence of spatial context that is of interest. Urbanists have a hard time isolating phenomena from context because it is this context itself -- the complex cluster that is a city -- that is the subject of study.

Related to the interconnectivity of planning is the field's reliance on interdisciplinary methods. Unlike economics or other social and natural sciences, the field of planning is not defined by a clear set of methods. Instead, planning is defined by a set of both scholarly and practical questions. Planning borrows a variety of methods from various fields, sometimes appropriately, sometimes not. With this melange of methods also comes many embedded units of analysis (the city, the neighborhood, the public sector, the family, the individual, the firm, the social institution, etc.) and

multiple sources of evidence (including data, observation, interviews, and histories). The field has no dedicated set of data (unlike, for example, public education), but uses data gathered for many other intended purposes. These unwieldy combinations favor the case study method, which is malleable enough to handle such an ecumenical mix. Most recently, planning's contemporary emphasis on understanding the pluralism of the city's multiple interests adds to this complexity: a case study can more flexibly represent the varied and conflicting voices of the city than a traditional statistical summary.[1]

Finally, the practice orientation of planning means that the field is constantly looking for examples of best and worst practice (Garvin 1996; Hall 1980). Case studies are more effective tools than statistical analysis to define best practice. Cases are useful not only to identify best practice, but also to use the rich narrative of a case study to vividly detail this practice. Cases are a better communication tool; it is much harder to show the actual steps of best practice from a set of data. (One sees the same emphasis on cases in business and medical education.)

All these characteristics of urban research have rightly led the field to favor the use of the case study approach. Overall, the case study method is a far more flexible method that can tolerate the complex and unruly elements of urbanism. Yet its common use will continue to be a reason why planning will often have ambiguous, hard to generalize research results. In particular, case studies still lack the accepted legitimacy of quantitative analysis.

In addition, the promise of identifying "best practice" remains largely unfulfilled. Planning currently lacks a systematic, standardized set of case studies to form a reliable set of best practices. The reader of planning literature is often forced to either accept an author's claim of a "best practice" without adequate comparative cases, or else to make one's own judgement of what is "best" based on reading a motley assortment of individual case study reports containing inconsistent variables and formats. Case-based evaluation studies are spotty and too often simply focus on the process rather

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[11]Though I would not go as far as saying that traditional statistics are the single voice of the modernist "master narrative" and case studies speak the multiple narratives of the postmodern, multicultural world.

than on outcomes. This frustrates the production of cumulative planning knowledge through incremental generalization, let alone the pursuit of "basic research".

Statistical Analysis versus Case Studies: Breadth vs. Depth

The case study approach is not a neatly defined and contained methodology. It is pliable and open-ended -- which is a reason for its perceived lack of rigor or consistency. The case study method is easier to define by what it is not: most commonly, it is not inferential statistics.[2] As a result, users of case studies often are put on the defensive, compelled to justify why they don't use statistical analysis, and why they have so few cases. Their results are compared unfavorably to the presumed legitimacy of inferential statistics and its claims on generalization, representation, parsimony, rigor, and objectivity through random sampling.

However, the two are not just different approaches to answering the same research question, but instead two approaches that answer divergent sets of questions. Each has its legitimate place in planning research. One should not inherently criticize the use of case studies instead of statistical analysis, but only when the research question is better suited for statistical work. For example, to profile the overall status and classification of American high-tech computer firms in 2000, a broad survey with summary statistics is appropriate. But to understand how a firm has adapted to the recent crisis in Asian markets, a case study approach can better identify the complex human relationships and institutional forces within the firm. (With industrial case studies, however, by just looking at existing firms, one runs the risk of interpreting common business characteristics as

[2]A more subtle and difficult comparison is between case studies and "mere" stories, or worse, anecdotes. I passed out to a doctoral research seminar a scholarly case study of the Los Angeles aerospace industry (Markusen et al. 1991) and a lengthy essay about the social decline of Lakewood (an industrial suburb of Los Angeles dominated by McDonnell-Douglas), written by Joan Didion for *The New Yorker* (Didion 1993). Both matched the classic case study definitions: multiple sources of evidence to address a complex issue involving many interests and institutions. Yet students said that the Didion piece, though wonderfully written, was merely a "story." Hard-pressed to precisely explain the difference between a case study and a story, students were responding to Didion's lack of an explicitly stated research question and hypotheses, her lack of citations and data tables, a formal "analysis" section, and not being formally grounded in the literature.

reasons for success in the marketplace, when these same characteristics might have also been present in the firms that failed.)

At the core of this difference is the way the two methodological approaches use the individual "case". For statistics, there is no direct interest in the particulars of the individual case. The case is simply a means to the larger end of making inferences about the population as a whole. One could repeat the study with a totally different set of cases drawn from the sampling frame and still replicate the same results. (Indeed, such a replication would demonstrate the strength of the sampling strategy.) By contrast, the case study researcher is typically interested directly in the individual case per se. This results in different priorities of selection: the statistician is concerned with the rigorous selection of a random "sampling frame," while the case study researcher focuses (with some exceptions) on the specific and non random qualities of the individual case.

Statistical analysis works best with many cases and a discrete number of variables. In urban research, one is more likely to encounter the opposite: few relevant cases with many variables (because of the difficulty of excluding variables from the model). The units of analysis we commonly use in urban research lead to relatively few but complex cases. For example, an analysis of the leading global cities would include less than a dozen cities but far more variables. Statistical analysis requires far more cases than variables to allow for strong probabilistic confidence (for example, in regression, *degrees of freedom = number of cases - number of variables - 1*). With many variables but few cases, there are no degrees of freedom, precluding statistical analysis.

The choice between statistical and case study analysis is thus a trade-off, a choice of focus. They represent two distinct types of generalization from different sets of evidence, to answer different questions. For Yin, the difference is the statistical generalization from the sample to the population and the analytical generalization from the case study to theory (Yin 1994). In research, we would like to be able to make generalizations that are both empirically and theoretically compelling. But often we are forced to make a trade-off: either generalize about patterns in the population without a strong theoretical explanation for these patterns, or make a compelling theoretical explanation about a single case, but lack the ability to generalize to the larger population.

Is there a way to get around this trade-off between empirical breadth and theoretical depth? There are several possible strategies. A quite common approach is to combine the two. If many other disciplines use case studies as an exploratory prologue to the primary focus on large data set analysis, urban planning research typically reverses this order: a broad statistical overview chapter, followed by several detailed case study chapters. The result is a broader coverage of the theme, though often these two sections remain separate and unintegrated, with little connection drawn between the broad data and the case specifics. The better studies use the initial statistical overview to clearly situate the case studies that follow, both by justifying the choice of the particular case and suggesting to the reader how the results might have differed had the author chosen a different set of cases.

A second strategy is the comparative case study approach, with the belief that additional cases provide greater weight to the author's generalizations. The researcher has several choices. Selecting a similar case provides replication (similar starting conditions leading to similar outcomes), while a divergent case provides theoretically explained contrasts (different starting conditions leading to predictably divergent outcomes).[3] Ideally, the results of multiple case studies will fall tidily into these two categories. But often the results lead to surprises. One is a hybrid of the first two -- similar starting conditions but divergent outcomes -- suggesting that the researcher go back and look for the crucial omitted explanatory variable. A fourth outcome -- different starting conditions leading to the same outcome -- can mean either that some of the ostensibly differentiating variables may in fact not be relevant, or else that there are multiple paths to the same result. In either situation, the initial model needs retooling.

Some researchers will draw a sharp distinction between single and multiple case studies, arguing that a single case study has little power of generalization. I would agree that, in theory, there is no possibility to generalize from a single case in isolation. Analysts of single case studies tend to accept

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[3]AnnaLee Saxenian's research on computer industries is a useful example. Her explanation of Silicon Valley's ascendance and Route 128/Boston's stagnation contrasts the West Coast's successful strategy of innovating new products using a new industrial culture with the East Coast's difficult attempts to innovate new products using a traditional industrial culture (Saxenian 1996).

too much on face value, misinterpreting transient contingencies as more universal causal relationships. But all case study research is inherently comparative. Sometimes this comparison is explicit (where the author includes the comparative cases in the research itself). Yet more commonly this comparison is merely implicit, with the act of comparison (and the choice of either replicating or counterfactual cases) left up to the reader. The author's task in this latter approach is to make the single case as modular and "comparison-friendly" as possible, using accepted variables and providing full disclosure of any extenuating circumstances regarding the case. (And rather than argue that "the more (cases) the merrier," often the best advice given limited research resources is that a well-done single case, presented in an easily translatable format, is more compelling and ultimately more useful than an anemic set of multiple cases where the analysis is a superficial set of lowest common denominator comparisons.)

A third strategy is to pick a typical case that is the rough equivalent of the "median value" case. One might call this the "Peoria strategy," since the city has traditionally been used as a proxy for the U.S. as a whole. The Peoria Area Convention and Visitors Bureau markets this quality of the city: "As national test marketers have found, Peoria is a microcosm of America herself. To 'Play in Peoria' is not only an old term for vaudeville, but a catch-phrase used today inside the thoughts and habits of the typical American."[4] The advantage of using a typical case is more direct translation of results to other cities, the economy of effort, and a greater acceptance of its representativeness. These cases also offer the chance to identify "omitted variables" in the initial research design.

Typical versus exceptional cases: Peoria vs. Berlin

It is therefore tempting to favor the Peorias in case study research, since they can act as a (non-parametric) proxy of the larger population. And yet limiting case study research to such cases would deprive the method of arguably its greatest power: the ability to take advantage of aberrant cases.

[4]http://www.peoria.org/history.htm

Not all methods can handle exceptional cases well. In statistical procedures, such as regression analysis, though the ideal set of cases contains variation (or else there would be no explanatory power), this variation should ideally be along a continuum.[5] Cases that fall outside this continuum are designated as outliers and often removed from the sample. For example, some statistical analyses of the relationships between urban density, public transit and private automobile trips in American cities remove New York City as an outlier, since its values deviate so radically from most other American cities (and hence undermine the predictive value of the model). And yet it is the very exceptionalism of New York City that illustrates an example of an otherwise elusive planning goal: to radically reduce automobile use. This exceptionalism makes New York an excellent candidate for case study research.

The choice of cases thus determines the type of generalization that follows. Typical cases are better as proxies to represent and replicate patterns of the larger population. Exceptional cases are more effective for challenging existing analytical assumptions and pushing theory forward. The latter are akin to the "exception that proves the rule." There are (at least) four characteristics of exceptional cases that can be quite useful. Such cases can be prescient: a city can be ahead of its time, transforming in ways that will only come to other cities years later. (Los Angeles has been used this way, with both utopian and distopian overtones.) Cases can also be exaggerations, showing in stark relief new urban phenomena that can barely be detected elsewhere (New York is often used this way). Then there are the critical cases: the presence of but a single case refutes an assumption by proving that something is indeed possible (e.g., a highly successful public school in a run-down inner-city neighborhood). These cases can be seen as a type of "best practice," whose exceptionalism in fact forms an innovative model for the future.[6] Finally, cases can be deviants: the

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[5]In statistical analysis, though one tries to predict and explain the behavior of individual units, one only has stable accuracy at the group level. At the aggregate level the randomness of individuals ideally cancels each other out, creating a continuous, predictable pattern. But for case studies, one is more interested in explaining these variations/fluctuations at the individual level.

[6] Conversely, a critical case can also support a position that a certain relationship is not possible. For example, the finding of a Brookings case study that even the Camden Yards baseball stadium in Baltimore, touted as the prototype of successful new ballparks, cannot generate positive net public benefits, lends credence to the argument that stadiums in general are not worth the public investment (Noll and Zimbalist 1997).

intentional selection of a case that is abnormal makes explicit and visible the factors in cities that are often invisible (e.g., research on how the Berlin Wall deprived West Berlin of a hinterland reveals the importance of hinterland-city relations in other metropolises).

Of course, a researcher has to be explicitly forthcoming about the use of an exceptional case: passing off an aberration as a representative case (either through intentional misrepresentation or unintentional silence) is deceptive and unethical, and is a missed opportunity to appropriately exploit the power of exceptional cases.

One of the more elegant uses of exceptional case studies is by the medical researcher Oliver Sacks. In his *Anthropologist on Mars*, Sacks examines rare diseases not for their freakish quality alone, but to use the exception to illuminate patterns of human behavior and biology that are usually not questioned, and thus invisible (Sacks 1995). The colorblind painter forces the reader to examine how most people see color. The man who can no longer process new experiences as memory reveals how integral our own memory is to our identity. The surgeon suffering from Tourette's syndrome -- though fortunately not while working in the operating room! -- leads to an understanding of the role of mental concentration and how most people repress verbal and physical urges. Such cases not only assure us of our own normalcy, but also temporarily suspend our habit of taking human behavior for granted and thereby kindle a self-reflective curiosity.[7] In other words, they turn invisible parameters back into visible variables.

This is not to say that careful evaluation of "normal" cases is without merit. Most planners will likely work in typical cities rather than in the bizarre ones. Lessons learned from New York City and other exceptional places cannot be directly used without major translation and adaptation, and some may not apply at all. And yet much of the provocative, innovative research that has captured the field's imagination has arguably been case studies of the exceptional. One can easily imagine a professional-academic divide over the selection of case studies: the practicing planners favor the more

[7] Another example is Jane Goodall's lifelong research on primates in Africa, which not only advanced the understanding of these creatures, but also would ultimately shed light on tendencies towards social group formation, violence and compassion in the human species.

representative cases to guide their own daily work, while the planning scholars prefer the aberrant cases since they are more intellectually stimulating. One is more likely to gain attention among academic circles with a book on London, New York and Tokyo than on Birmingham, Cleveland and Nagoya. (This bias is likely reflected in this paper.)

The best known example of an exceptional case is likely Jane Jacobs' *Death and Life of Great American Cities*. Despite references to Boston's North End and other American cities, Jacobs essentially uses the single case of New York to challenge existing dogma in urban planning (Jacobs 1961). Her dense streets in Greenwich Village are hardly typical of the American landscape, and perhaps this is exactly the power of the study: to use the exaggerated urbanism of Manhattan to both accentuate what is possible and amplify what is being lost (under the bulldozers of renewal). Though Jacobs has been criticized for, among other reasons, her lack of statistics and citations, it is hard to imagine her book being nearly so influential had it been framed as a rigorous statistical study comparing density, diversity, night life, block size, building age, and rent patterns in 57 American cities. The strength of her book is that of the case study: a strong narrative to tell a rich story with passion, focus and nuances (for a discussion of stories in planning, see Forester 1993).

From the opposite coast comes a notorious if fundamentally different case study: Mike Davis' bleak vision of Los Angeles (Davis 1990). Like Jacobs' book thirty year before, *City of Quartz's* strength lies in its engaging narrative and passionate criticism of existing planning, unencumbered by statistical analysis (albeit coming from a radically different political tradition than Jacobs). Davis evokes powerful images of Los Angeles, though in the end the reader is hard-pressed to derive a set of planning and policy measures to address the crisis of Davis' LA. As such, Jacobs' book will arguably continue to influence the practice of planners, while Davis' book will more likely stir the anger of planners (and ultimately be less influential). For some, it is also easier to marginalize Davis' prognoses -- rightly or wrongly -- as either "it could only happen in LA" or simply the apocalyptic vision of an urban misanthrope.

The contrast of Jacobs and Davis is not just of 1960s vs. 1990s sensibilities, but also of the contrasting intellectual cultures of New York vs. Los Angeles. Los Angeles, once an under

researched city, is now the subject of an impressive array of new writings, in part coming out of the so-called "LA School." Though both New York and Los Angeles are clearly "exceptional cases" due to their size, economic power, and role in the national and international imagination, much of this current Los Angeles research strongly suggests a distinctive "LA exceptionalism." Akin to the "American exceptionalism" tradition in comparative historical analysis, this Southern Californian version raises tricky issues for case study generalization. When one asserts that a city doesn't play by the traditional urban rules but instead is inventing its own, then the writer both makes possible the discovery of newly emergent urban theories and runs the risk of exaggerating the differences and thereby ignoring the obvious: that LA operates under the same rules and laws of urbanization, development and capitalism as the rest of the country. As Allen Scott and Edward Soja comment in their recent anthology on Los Angeles: "It is still an open question, for example, whether to view Los Angeles as an exceptional case, a persistently peculiar and unreproducible type of city, or as an exemplary, if not paradigmatic, illustration of the essential and generalizable features of late-twentieth-century urbanization" (Scott and Soja 1996).

Another influential use of case studies is Saskia Sassen's *The Global City: New York, London, Tokyo* (Sassen 1991). This book is inherently about exceptional cases: global cities are by definition not typical, but rather the rare command-and-control centers at the top of the international urban hierarchy. Though she makes ample use of data, these cases are representative of no other cities outside these elite few. Interpreted narrowly as a book on three unique cities, the planning relevance for more earthly cities is limited. But if one views global cities as one element of a larger global network, then such exceptional case studies do apply to the Detroits, Philadelphias and other non-global cities. The significance of these cities is not only their exceptionalism, but also their dominant power to shape the economic fate of the rest of the world.

Sassen's book also exemplifies a type of case study research where the individual cases are subordinated as illustrations of a larger theoretical model. Sassen minimizes the arguably significant differences between these three cites to underscore the existence of an underlying global city type. London and Tokyo are capital cities of dramatically different centralized nations, while New York is a

non-capital in a decentralized, federal state. There is a strong tendency to homogenize global cities into a unitary theory, and thus to speak of an archetypal "global city" without hesitation. This orientation reflects a central theme in the global city literature: the convergence of city forms and functions arising from the standardization of markets, currencies, corporate architecture, tourist zones, information systems, business support services and labor markets.

The alternative research approach is to emphasize the idiosyncrasies of each case, with less energy spent searching for underlying structural commonalties. For example, research on national capital cities, rather than on economic global cities, would stress each city's distinctive identity as products of particular national cultures, histories, political structures and ideologies.

These two approaches represent a trade-off between theoretical parsimony and richness of singularity. As an applied field, planning's lack of a basic research tradition precludes purely deductive inquiry. But in planning, as in other fields, there can be no purely inductive research either: cases don't just appear, they arise from questions. That said, there are many variations along the deductive-inductive spectrum of case study research. The case study can be either an intermediate stage to theory development (and thus not wholly alien to the way cases are used in statistical analysis), or else an end in itself, where the individual story has *prima facie* meaning. This trade-off often divides disciplinary groups. A Cold War diplomatic historian will be interested directly in the unique particulars of a single diplomat or east-west encounter (such as the Soviet Blockade of West Berlin), while a political scientist will more likely look at a set of these cases to identify the essential political forces (e.g., hegemony, power, mistrust) that underlie these cases. Hirschman sees a similar distinction in his classic attack on the preoccupation with searching for paradigms, arguing against a premature rush to look beyond the case to find underlying rules (Hirschman 1970). This trade-off is not absolute, but it does reveal a divergence of intellectual motivations to pursue case study research: either to distill a single underlying model (with modest, rational variations), or else to reveal the irreducible diversity of seemingly similar cases.

Two case study examples: military cities and divided cities

In collaborating on the *Gunbelt* project in the late 1980s and early 1990s, we faced the choice of whether to understand the spatial distribution of U.S. defense contracts through statistical analysis or case studies (Markusen et al. 1991). We chose to emphasize the cases, using statistics to set the broader scene. We selected six cases: Southern California (the center of the Gunbelt), Seattle, Colorado Springs, suburban Washington D.C., southern New England, and the Midwest. The goal was not to be representative, but instead to target those places with the highest defense contract concentrations (and to use the Midwest as a kind of counter-factual: a former defense contracting center that lost out since the Korean War). The intent was not to have these Gunbelt cities represent the rest of the country, but rather to specifically profile this unique type of industrial location and to generalize about defense-attractive locations in the U.S. The greatest methodological challenge was to penetrate these secretive businesses for interviews, to reconcile contradictory stories, and to verify stories based on a single source. Though individual interviews might have produced unrepresentative stories about the defense industry, the weight of all the interviews, taken as a whole, painted a clear and compelling picture of the locational logic of the industry. An additional (and unanticipated) benefit of the case study approach came at the time of writing the book: it was far easier to write a rich, coherent narrative from the multiple sources of evidence (interviews, site visits, industrial data, company records, government documents, histories, scholarly writings) than it would have been from a rigorous statistical model.

The final example of a unique case study is my research on Berlin and the interaction between the city's political role (as a front city and capital city) and its economic development (as a former world city now struggling to redefine its economic role). The city's bizarre history is both its attraction and its challenge. Few other cities have gone through such a discontinuous series of boom and bust, removal and reinsertion of governmental functions, division, isolation and reintegration (Campbell 2003, forthcoming). A literal comparison of Berlin to other cities falters on the simple lack of any city that matches up. Only Jerusalem, Beirut, Hong Kong, Singapore, Vienna, or the Vatican have shared some of Berlin's geo-political qualities, and the value of such a literal comparison may seem

limited, at best, to a certain novelty. If typical cities work well as representative cases that serve as proxies for other cities, Berlin would be a poor proxy.

It is beneath this level of literal generalization, at the level of theoretical generalization, that Berlin is of wider interest. The theoretical connection between Berlin and other cities is their common experiences with four powerful forces of urban development: a high dependence on the national government, dramatic upheaval due to war or other disasters, dramatic industrial restructuring, and changing geopolitical situations. In particular, I have found the case of Berlin to be an especially compelling and provocative case to examine the larger class of capital cities. Berlin's bizarre history offered the unusual opportunity to observe the loss and recent recovery of the national government seat. The city's rapid, 20th Century transformation as the capital of an imperial, then a republican, then a fascist, and finally to a decentralized democratic government, demonstrated the challenge for capital cities to adapt to (or resist) broader historical revolutions. The capital city debate in 1991 between Berlin and Bonn -- as well as subsequent controversies over renovation of historic buildings and architectural plans for new government buildings -- revealed a broader debate over national identity. Political battles in the city highlighted the alternately collaborative and conflicting relationship between the local residents and the national power-brokers of the capital. As such, this exceptional case served as a proxy for the nation and the Cold War as a whole. Finally, the current economic policy of restoring Berlin to its prewar status as a world economic city is conflicting with the harsh new realities of global economic networks, and reveals the changing relationships between global cities and capital cities. (Ironically, the re-assimilation of the city into the western European economic and political landscape will likely improve the city's stability but reduce the city's exceptionalism, diluting the exotic cachet for visiting urban researchers (Campbell 1999).)

Conclusion

In the end, there are two basic questions to ask of a case study: has one convincingly explained the functioning of the case itself, and can one generalize the results to other cases? This appeal of generalization is the appeal of theory: to learn from one and understand many. It is an intellectual

scale economy, a cognitive multiplier effect. It transcends the limitations of a specific, unique empirical knowledge of individual cases. It is akin Kant's to *synthetic a priori*: to use theoretical rules to expand knowledge (rather than to expand only through empiricism).

However, case study generalization remains an inexact science, involving persuasive narrative and leaps of faith as well as analytical rigor. Case study results invariably face the challenge from critics of the counter-factual (another case that contradicts your predictions) and the counter-argument (an alternative explanation for the pattern you have found). Single case studies can lead to generalizations, though they are arguably more effective in rejecting theories than proving them. Multiple case studies quiet the skeptics somewhat, but effective multiple studies benefit from careful case selection: similar cases for internal generalization, and contrasting cases for external generalization. Typical case studies (e.g., Peoria) are more effective for descriptive generalization, whereas extreme case studies (e.g., Berlin as a capital city, or New York as an American city) better serve analytical generalizations by challenging prevailing assumptions (due to their extreme, deformed, or prescient nature). Empirically, cases are more effective to prove that something is possible (e.g., a talented community development corporation can revive a downtrodden neighborhood) than reveal its precise likelihood. Theoretically, case studies are more able to explore or challenge theories than to conclusively prove them.

This trade-off of case studies creates a tension: planning scholars understandably call for systematic, empirical research to cumulatively advance the field and test key hypotheses. (For example, is the compact city environmentally more sustainable than the decentralized city? Are sports stadiums worth the public investment? Do gated communities actually undermine the common public interest?). Yet it seems to be the books on cases, especially exceptional cases, that have been most cited and influential in shaping the big ideas in the field. This disconnect likely reflects the difference between inter- and intra-paradigmatic research, where the former jolts theory forward, while the latter fills in the empirical and mechanical details within the prevailing planning paradigm (Kuhn 1970).

Overall, the mixed blessings of case study methodology parallel the mixed blessings of urban planning: both are flexible, interdisciplinary tools, often using available resources and ad hoc methods. Just as case studies blur the boundary between phenomenon and context, so too is there a blurry boundary between planning and other activities. Both benefit and suffer from the lack of a single-minded disciplinary rigor. What it lacks in mathematical complexity it gains in social complexity. If the methods of a discipline reflect its vision of the world, then the prevalence of case studies tells us much about how planners think. The comparative advantage of case studies is their ability to handle messy, complex, contradictory social situations and communicate the results in a clear, persuasive narrative, which is a good definition of city planning as well.

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