THE CITY IS NOT A LAB

by Leah Meisterlin

How (not) to experiment in a volatile, uncertain, complex and ambiguous world.

Published May 15, 2014

At the scale of urbanism, applied architectural inquiry contends with a researcher’s catch-22: the volatility and complexity of cities demand active investigation that in turn makes it impossible to isolate or fully preempt the unintended side effects of one’s work. The urgency of urban problems is so great that we must act despite what cannot be modeled or forecast; we must simultaneously conduct and apply research without the benefit of verifiable conclusions drawn in advance. Yet even our best knowledge cannot anticipate the consequences of our actions. As a result, applied research in urbanism has become a form of active design practice—one that balances science with art and demands the same nuanced sensitivity to a future not yet written that is inherent in other modes of architectural intervention.

The definition of applied urban research as design practice presents a new set of conundrums in execution. Urbanists practice in public. Our research is enacted upon cities rather than conducted within a lab, our assertions are deployed as propositions rather than tested as hypotheses, and our successes and failures are felt by potentially millions of humans, most of whom never give consent as research participants. These ethical conundrums are raised from questions of authority and authorization, participation and choice, vulnerability, justice, and social externality. It is this definition of urbanism coupled with both the urgency and complexity of the need for such practice that has thus far exempted urbanists from most existing forms of ethical oversight. Instead, the work operates in an institutional interstice not immediately subject to the protocols of academic research on human subjects nor governed by codes of professional conduct.

This paper calls for a reintroduction of the field of ethics into architecture and urban praxis. The argument outlined here will touch upon a few key themes that may enable urbanists to develop an appropriate set of applied ethics and motivate the field toward an ongoing discursive approach to a working ethical agenda. Toward this discussion, we must first establish two working premises: (1) the city is not a lab, and (2) urbanism is not an experiment. We shall not hold these premises axiomatically, as investigating their basis and value can carve out ethical questions facing practicing urbanists operating in a volatile, uncertain, complex, and ambiguous (VUCA) world.¹

THE CITY IS NOT A LAB
In most academic fields, laboratories are controlled environments for experimental research. They allow certain conditions to be held constant while others are intentionally manipulated through calibrated control mechanisms, ultimately to offer the unfettered opportunity for reactions to occur in a way that also allows precise measurement. Such environments are specifically designed to eliminate the presence of confounding variables and to mitigate the effects of bias, as well as other internal and external validity concerns. They produce conditions for a specific form of research that rarely produces, let alone measures, externalities. By this definition, the lab is both a spatial and methodological construct, comprised of environmental enclosures at multiple scales and a set of stochastic means by which to model and measure isolated conditions.

Certainly, much of the research on urban forms, systems, and processes is conducted in laboratory settings. Some of these labs are institutional. Some are abstracted analytical.
The city is not a model of a thing, but the thing itself. As base and reductive as it seems, this is a crucial distinction for applied research on urban systems conducted within and upon the city. It is not merely a question of nomenclature, but one with increasingly profound effects on the meaning of our findings, the modes of research design, and the social products of research when applied. Not only does the city fail to produce the necessary conditions for controlled inquiry, it also produces the opposite in abundance. Cities are dynamic spaces. Their control mechanisms are not calibrated against absolute baseline values; they are modulations in complex systems yielding both relative and relational results. Researching urban systems is itself a study in bias, operational confounding, variable interdependence, and four-dimensional hyperspecificity, to such an extent that typically conceived validity concerns are rendered moot and generalizability is not only imprudent, but often downright impossible.\(^2\)

That the city is not a lab places obvious and important limitations on our findings when research is understood through laboratory-science frameworks. Urbanists are at a critical inflection point of methodological crisis, as the inapplicability of generations-old research techniques and technologies (including even the Scientific Method) become increasingly problematic. A full account of emerging methods and method-based failures is beyond the scope of the present paper,\(^3\) but one popular and commonly proposed solution warrants brief discussion.

As techniques for urban information sensing, creation, collection, storage, and sharing continue to proliferate, we are often confronted with the hope that more data may help flesh out our models such that they come to represent (rather than abstract) the city itself. While the promise is alluring, “more information” is not synonymous with “more informed.” Instead, it is quite likely that more data without better methods will exacerbate our analytical shortcomings and ameliorate only the research community’s anxieties about what we simply do not know. The ethical implications of this are twofold: (1) the danger of false knowledge claims, and (2) the likelihood of very real and very human unforeseen effects of the research when actively applied to urban contexts.

Ultimately, the city need not be a lab to house applied research effectively and responsibly. The city understood as a holistic methodological space, one in which the abstracted possibilities of modeled scenarios and their analytical ease are removed, has opened truly unprecedented avenues for research design, methods, and criticism, in almost every field of study from computer science to anthropology. Further, without isolating any particular variable or topic of interest, applied research within the city has brought the growing importance of inter- and transdisciplinary agility to the academic fore. Situating various research disciplines concurrent in space and time is arguably enriching the knowledge base of those previously siloed fields while reconstituting space itself within the analytical landscape of academic inquiry.\(^4\) In addition to the consequences on established disciplines, this process has also revealed wholly new fields of study from geographic information science to the burgeoning development of a critical theory of data science. In short, active research conducted and applied within the city has served the aim of knowledge generation in architecture, urbanism, and many other fields, very well.

The distinction between laboratory-based research on cities and city-implemented research raises questions on the substance of “applied research” activity as differentiated from design activity and on the meaning of research-as-intervention within the context of urbanism. Today, applied urban research is rapidly changing and in continual development with new approaches being designed regularly. As our ability to model complex systems grows, augmented by the ubiquity of data collection and the increase in urban empiricism, so too grows the data-driven and computational functioning of the city itself. This parallel development has led to a confusion of methods and research framing, particularly surrounding urban informatics and the use of data...
Just as the status of the city as the fact that attempts at visualization in architectural inquiry. A defining characteristic of research applied in urban practice is its fundamentally qualitative nature: with or without quantitative data, the findings are contextualized and understood as individual case studies. Further evaluation of these questions brings us to our second operational premise.

URBANISM IS NOT AN EXPERIMENT

Urban research is applied to the city not just to generate knowledge but to instigate intervention and direct action. The city offers neither an appropriate opportunity nor a venue for the traditional “testing” of ideas. Rather, research applied within urban contexts constitutes full deployment regardless of the scale of intervention. Given the interconnected conditions of globalized and VUCA urban systems, each intervention alters these systems and their networked organization. Thus, just as the city does not supply a model of itself, applied research in cities is not (and cannot be) experimentation. Experimental testing is, by nature and definition, replicable. Yet applied urban researchers can never fully “reset the experiment,” whether to undo or to verify results. By virtue of the fact that attempts at urban-level “testing” will act upon and thus change the systemic conditions being tested, such replicability is lost.

The classification of applied urban research as anti- and non-experimental is an operational premise with nontrivial consequences for urbanism in practice and, more importantly, for the ethics of such work. In short, to act upon urban environments with a mode of practice defined by the logic of experimentation amounts to experimenting on human subjects without their consent, thus without the authority to do so, and without appropriate measures of accountability for the impacts levied upon those populations. As a result, applied architectural research at this scale might consider adopting the sensitivity of methods characteristic of research in ethnography, social work, and urban planning.

Just as the status of the city as non-laboratory should not hinder research activity, the status of the methods as non-experimental should not halt active intervention. The admittedly thorny ethical difficulties stemming from emerging methodologies, from the want for proving grounds, and from new technologies of urban organization are counterbalanced by the undeniable need for new design options and approaches to praxis. Our planet’s increasing urbanization has generated a demand for heretofore unseen, unimagined, and untested design propositions. By 2050, the global population will add another two billion to our ranks, and the urban population is projected to double, equaling roughly eight of every ten humans. The result of this startlingly massive shift will be more building activity in the next thirty-five years than human history has accomplished in sum before the present.

Whether planned or ad hoc, what humans will soon add to the built environment will constitute an unabashed frenzy of construction by any prior metric. We know that the current socio-spatial order of the city—any city—is unsustainable in the face of such density and growth, whether we consider environmental resilience, public health, economic justice, access to basic resources such as food, forms of local governance, provision of housing, or any of a host of questions particular to urban life. We know that we will need new ideas and that they will need to be implemented. We know that applied research has the capacity to shape lives through form, process, and policy design predicated on research, and through the persistent reconstitution of socio-spatial practice and infrastructure.

We also know that the costs and benefits associated with all urban conditions and interventions are not evenly distributed.
WHERE WE FIND GREAT NEED, WE FIND GREAT VULNERABILITY

Admittedly, the preceding is not new and uses quite strict definitions of both “lab” and “experiment.” This is not to discount the compelling figurative use of these terms in architectural discussion but rather to ground research practice in an appropriately precise and nonfigurative basis to frame the ethical mandate of the work. The non-experimental nature of the research and the immediacy of need in urbanism do not exempt researchers from their ethical obligations. Nor does the application of research through design practice exempt the work from the ethical expectations maintained of other critical (non-design) research activity.

The primary ethical questions outlined above point to the use of human subject involvement in research and the externalities generated by intervention in YUCA contexts. This danger is compounded by the uneven distribution of burdens and needs in urban areas both locally and globally. As the challenges presented by the next few decades of urbanization (coupled with climate change) mount, we find ourselves actively working within some of our most vulnerable communities, neighborhoods, and regions, where present populations tend not to hold the resources necessary for meaningful opportunity and choice. As such, the effects levied upon these already vulnerable populations must be evaluated as their involvement is not only effectively involuntary without the required standards of informed consent but is often also based on the absence of any recourse for “opting out.” How this evaluation might be conducted and how mitigating protocols might be determined are difficult given the aforementioned lack of institutional oversight. It is further complicated by the fact that research practice would arguably lose effectiveness if altered to align with existing mechanisms for ethical accountability.

To start addressing these questions, applied architectural research conducted at the city scale must significantly engage the transdisciplinary discussion on spatial justice. We must do so holistically by addressing the justice-related concerns of the information we use and share, the processes (political, economic, methodological, and otherwise) we engage in, and the actors (both human and non-human) who benefit from research outcomes.
employ in both investigation and design, the public practices involved in our work (including the creation of new urban analysis, images, artifacts, and systems), and the possibilities for transparent recognition of our shortcomings. Given that research frequently targets vulnerable populations, the neglect of a continuously renewed and collaborative evaluation of justice—the determination and constitution of just action, the consideration of both ends and means, and the unfailingly difficult question “for whom?”—will soon warrant condemnation for both irresponsibility and hubris.

While the formulation of justice-oriented principles is in order, fully codified ethics for applied urban research would be inappropriate and too static for productive ethical deliberation. Professional codes of conduct in urban planning discuss research and design affecting persons other than one’s client. For example, the American Institute of Certified Planners’ (AICP) Code of Ethics and Professional Conduct (Code) includes rules regarding research analysis conducted in the hopes of reaching specific findings, the clarity and accuracy of shared information, and full disclosure of one’s interests and the interests of one’s employer or client to relevant publics. However, these have been criticized for their reliance on rationalist linearity, tendency for oversimplification of trade-offs, and lack of context-specificity required in twenty-first-century urban dynamics. That said, perhaps cues taken from the theoretical work on applied ethics in urban disciplines (rather than their professional heuristics) may prove more fruitful toward the development of a discursive, collaborative, and ongoing approach to applied ethics in the practice of urbanism. Again citing developments in the planning profession, the American Planning Association and AICP have put some of this theoretical work into practice by offering documentation of accepted ethical principles as guidance for professionals, policymakers, and researchers engaged in urban work but not subject to the Code as well as training materials to help facilitate ethics-related discussions. Taking the discursive approach to applied ethics one step further, these organizations also launched an online blog in 2013 devoted to ethical issues in practice.

Almost twenty years ago, urban planning theorist Richard Bolan employed an epistemological and deontological approach to planning’s ethical dilemmas concluding that “[e]thical professional practice is intrinsically a process. It can be seen as a way of being in the world; or, rather, it is finding a way of being in the world. We live our lives in search of value as we perceive it.” Within an emerging urbanity predicated on the exertion of processes, Bolan’s suggestion seems a strong start. The next question is whether urban research can investigate applied ethics as a process in its attempt to make sense of and responsibly act in our cities.

2. The limited generalizability of research findings does not imply that theorization founded on evidence, empiricism, and experience is impossible. Rather, meaningful and expandable conclusions may likely stem from observational methods on relational processes and not from resultant measurable outcomes and forms.
4. In recent decades, this is evident from the strength and proliferation of spatial theory and the rising popularity of sophisticated spatiotemporal framing with a marked departure from Cartesian reference space toward the sorts of relational and social spaces described by geographers such as David Harvey and Edward Soja. As a result, architecture and the spatial techniques of analysis (both quantitative and qualitative) inherent to architecture are becoming increasingly relevant to activity in many other disciplines and professions.
5. In other words, where measured and quantitative outcomes are feasible in urban research, such outcomes are framed and interpreted through the constraints of qualitative analysis. For example, collected interval and ratio data may only carry the socio-spatial meaning of their nominal and ordinal counterparts in practice. Similarly, the statistical clustering of data points within cities must be evaluated relative to the statistical assumptions violated by the design of urban environments.
6. We can also argue that the deployment of design strategies in one city is not an adequate test for future applications elsewhere. The specificity of place-based contexts, cultural difference, and socioeconomical and political particularity makes such prototyping intentions at the scale of urbanism misguided at best.
7. Among these implications are questions regarding the efficacy of so-called “smart city” schemes and the appropriateness of design prototyping.
13. Much of applied urban research practice is inappropriate for consideration by institutional review boards and is equally unaffected by codified professional ethics in architecture. That said, important exceptions exist and should be noted. For example, in the United States, any and all applied research activity conducted within university settings or supported with federal funds is and should remain subject to evaluation by institutional review boards, regardless of the applicability of professional codes of conduct, if the possibility for effect on human subjects exists. Whether implemented architectural projects supported by public funds should be subject to ethical review remains an open question.

14. As a straightforward matter of pragmatism, these shortcomings include the fact that architectural researchers cannot meaningfully absorb the breadth and depth of their urban inputs and outputs.

15. The literature on theories of justice as applied and manifest in urban systems is well-developed. For a thorough and succinct summary of the philosophical underpinnings of concepts of justice, see Susan S. Fainstein, “Philosophical Approaches to the Problem of Justice,” in The Just City, (Ithaca: Cornell University Press, 2010): 23–56.

16. Whether Kantian, Rawlsian, utilitarian, or another.


Leah Meisterlin is an urbanist, architect, and planner; a geosocial data scientist, geographic information systems specialist, and cartographer. Currently, she is an assistant professor of architecture at Barnard College and Research Director at Special Project Office (SPO). Her research is primarily focused on concurrent issues of spatial justice, informational ethics, and the effects of infrastructural networks on the construction of social and political space. leahmeisterlin.com, specialprojectoffice.com