Producing Knowledge with Billboards: Graphic Design & Research Rebecca Ross

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Abstract:

This article contributes to recent debates regarding graphic design and research, in this journal and elsewhere, by reflecting on my own project that may or may not be considered research. *London is Changing*, was staged online and on large-scale networked digital billboards in Central London during 2015. It engaged the participation of more than 5,000 Londoners in a discussion about the future of the city. Reflection on the significance and outcomes of *London is Changing*, in particular why it is so difficult to frame as research, provides the basis for a broader reconsideration of the definition and valuation of graphic design research. One key question is whether it is productive for graphic design, a discipline that can arguably be defined by its experimental approach to publishing, to focus on conventional or externally prescribed forms of scholarly publishing in attempting to strengthen its position as a field of research? I conclude by arguing that graphic design's potential contribution to wider scholarship in the context of mounting pressures on all academic fields to demonstrate "impact," is rooted precisely in the integrated approach it takes to the production, form, and circulation of knowledge.

Keywords:

graphic design research; design of academic practice; impact; outdoor media; community engagement; urban planning; digital media

London is Changing was a conversation about the future of London that took place on networked electronic billboards around Central London and online in 2015. It was an experiment in the design and situation of public conversation about the future of London with the aim of facilitating greater city-wide engagement with the production of knowledge about its present situation. According to many definitions, it is debatable whether this project should be considered academic research. One purpose of this journal article is to explicitly frame it as such, so that it will become visible to the myriad of instruments to which a research-active member of UK universitys' academic staff in graphic or communication design is subject. London is Changing will "count" as research if accepted for publication by a well-regarded peer reviewed journal such as Design and Culture.

Recent debates in *Design and Culture* have explored denotations of graphic design research and sought to position graphic design research in dialog with wider conventions and expectations of academic practice. In response to these debates, the second purpose of this journal article is to reflect on the process and problems associated with publishing a journal article to frame a project such as *London is Changing* as graphic design research. Questions and reservations raised in doing so, provide the basis for a further elaboration of definitions

of graphic design research and our understanding of its value in dialogue with wider concerns regarding the "impact" of scholarship. An exploration of why *London is Changing* is difficult to present as research according to contemporary conventions of scholarly publishing raises questions about the situation of intellectual rigor in mass culture, particularly in the context of recent political events as well as the changing status and conceptions of truth and facts in Anglo-American culture. The article concludes that the intrinsic qualities of graphic design, its experimental approach to the form and circulation of knowledge as aspects of its production, mean that as a field of research it has the potential to make distinct and significant contributions to the wider definition, perception, and relevance of contemporary academic research and contribute productively to a broader recalibration of the concept of impact.

At the time of writing, the most accessed article in *Design and Culture*, a review of design thinking written by design academic Lucy Kimbell, has been viewed more than 6,000 times since its 2011 publication. Although most articles are unlikely to circulate as widely, each has the potential to reach thousands of design academics and students. The journal's ambition is to seek "rigorous and innovative critical frameworks to explore 'design' as a cultural phenomenon today" (Taylor & Francis 2018). Overall, it conforms to the requirements of scholarly documentation, consistent adherence to an established style of academic referencing, and, crucially, the facilitation of a peer review process. It therefore allows its authors to satisfy institutional and regulatory requirements for publication with their contributions. Its editorial board membership and rating of level 2 on the internationally recognized Nordic List indicates that it is a high-quality journal relative to other journals in related subject fields (Norwegian Centre for Research Data 2018). And, from the perspective of editorial design, compared to many academic journals, *Design and Culture* employs better typographic practice and provision for the incorporation of high quality images.

It bears asking, however, whether this journal would, or should, exist in its present form, were it not for the specific requirements associated with institutional reviews such as North American tenure or the UK's Research Excellence Framework (REF) and all their associated infrastructure and protocols. Like most other academic journals, its format is a function of these logics alongside the business interests of its publisher, Taylor & Francis. Depending on their constituent methods, for a range of academic disciplines and scholars, the journal article can be a highly effective medium for the formulation and circulation of knowledge. For others, it is a neutral instrument—a necessary, if imperfect, aspect of academic practice that sufficiently implements values such as depth and rigor by implementing and affirming mechanisms such as peer review. In its struggle to achieve recognition as a field of research, graphic design has a notably uneasy relationship with academic journals, even those where care with typographic and visual detail is taken. This struggle can be heard in the concerns of new academic staff attempting to balance a credible approach to and volume of studio-based work with the publishing expectations of the wider academic institutions that employ them. Indeed, it is difficult for a practice and field of study defined largely by its experimental engagement with the form of knowledge and the presentation of information to rigorously reconcile itself with externally prescribed and constrained conventions for its own dissemination.

For good reasons, many proponents of graphic design research have pursued its development through the adoption of modes of output associated with conventional academic research such as journal articles. On the surface, to remain close to established formal indicators of "academic-ness" would appear to be a good step for a field that has not yet earned long-term credibility or respect as a source of major scholarly contributions. However, in this article, I question whether this is a productive strategy for the maturation of graphic design as a university-based field. This article identifies and contributes to a larger project:

namely, understanding those substantive aspects of established academic practice that are important for graphic design research to embrace, and identifying those conventions that need to be approached more experimentally and critically. For example, my own formulation and articulation of these points and questions in this journal article has been strengthened considerably through the process of engaging with the comments of the two reviewers and editors who responded to an earlier draft. However, the rigors afforded by a well-facilitated peer review process are certainly not dependent on a narrow and under-considered palette of standardized typologies of academic publication.

This article begins with an overview of the rationale, context and outcomes of *London is Changing* as a graphic design research project. On this basis, subsequent sections broaden in scope to consider conceptions of graphic design research and its situation relative to contemporary issues facing academic practice more generally, including the pressure to demonstrate scholarly "impact" as well as the status of expertise in wider cultures. The conclusion advocates for the integral role of the kind of formal sensitivity afforded by graphic design expertise to conceiving of alternate forms of intellectual and critical engagement and knowledge production that also meet wider substantive definitions of "critical" and "rigorous," even if not instrumental ones.

Context and Rationale for London is Changing

London is Changing got its start early in 2014 after a series of public briefings at the Greater London Authority (GLA) regarding proposals for Further Alternations to the London Plan (FALP), the most recent iteration of Abercrombie and Forshaw's post-war plan. I became engaged with the FALP to get a sense of the substance of the proposed changes as well as to gain an awareness of surrounding public consultation and engagement processes. The proposed alterations were presented as a 350-page PDF. The base text, the 2011 London Plan had been prepared under the previous mayor. Proposed amendments were indicated in blue and proposed deletions appeared with a blue strike through, resembling Microsoft Word's track changes feature. Public responses were required to be submitted by mail or e-mail. To be taken into consideration, the comments would need to reference a specific FALP alteration by chapter, page, paragraph and line number, rather than any more general developments across multiple parts of the plan (Greater London Authority 2014, 2).

A policy expert reading the broader document would be able to abstract certain key themes by aggregating the large number of small seeming edits. Examples included: a change to the role of the private sector in the provision of social housing; altered definitions of social housing and affordability; a shift away from an emphasis on green open space and toward a concept of green infrastructure. However, it would have been difficult for an average Londoner, or even a journalist, without relevant expert knowledge to understand the implications of the proposals—let alone engage with them. This may be why the FALP, which involved several major policy shifts that had substantive repercussions, barely registered in any newspapers or on any local news broadcasts.

In the spring of 2014, community super-group Just Space held their own workshop concerned with the FALP. Just Space and its constituent members, voluntary sector and local community organizations from all over Greater London, set about trying to engage with and interpret the FALP by partnering with sympathetic experts including economists, development and planning scholars, geographers, and social scientists from University College London and London School of Economics. These academics helped community organizers cross-reference proposed edits, interpret their broader significances and formulate a response. For example, it was discussed that FALP edits would make it easier for disused land designated as industrial or commercial to be re-zoned as residential. Anyone with a superficial awareness of London's affordable housing crisis might interpret this as positive—

but an expert's reading revealed that because residential land commands a higher value, this change would remove the incentive from industrial landlords to contribute to the growth of industry and jobs. Rather than advance job growth, such landowners would instead neglect their property to the point that it would be considered derelict. The subsequent reassignment to residential use would have a negative impact on the local economy and availability of jobs in the long term (Just Space 2014).

As an academic working in a related field, the impulse to contribute to an expert reading of the FALP was familiar to me. However, of greater concern was the necessity to involve academic experts in the first place in what was supposed to be "public" consultation to which the government would be accountable. It seemed by "design" that the FALP was not registering with anyone besides a small number of community groups and academics struggling to assemble the resources required to keep up with the terms of engagement defined by the GLA and the mayor's office. One of the first questions that emerged for me was therefore regarding the role of academic practice, or narrow perceptions of academic practice, in defining the standards of evidence by which local government policy is rationalized and tested. Was it possible that adherence to fixed standards of academic practice associated with certain domains and methods, or the projection of adherence via the use of certain technical languages, was enabling the GLA to sidestep wider-scope and more openended public engagement?

At the same time, many architectural and urban scholars, geographers, community groups and journalists have effectively documented the ways in which contemporary city planning and regeneration programs in London and elsewhere prioritize a range of factors ahead of the needs and ambitions of citizens and communities. A growing number have begun specifically exploring the use of detailed computer graphic renderings to promote future development to the public. These pre-photographs of places prioritize a cinematic level of detail over the facilitation of substantive debate (Degan, Melhuish and Rose 2015). They are "place imaginaries," propelling cycles of degradation and regeneration as well as new forms of commodification through speculation and fantasy (Campkin 2013). Prior engagement with this work as an urbanist as well as an awareness of the potential role of design in facilitating meaningful public engagement led me to frame the unsatisfying scope and quality of public dialogue surrounding the FALP as a graphic design inquiry. Specifically, as conversations and non-conversations regarding the FALP continued, my university's innovation and business team was approached by an outdoor media company interested in exploring more dynamic and experimental ways of engaging the public with their networked digital billboards. We negotiated that my program would provide consulting time on an interactive shopping-mall based campaign they were developing with a shoe company. In exchange, the outdoor media vendor would provide airtime on a selection of Central London billboards. As these conditions fell into place, London is Changing developed around the following question: how can a public conversation be designed and situated to encourage greater participation in the production of knowledge about a city?

Summary of London is Changing

In January 2015, *London is Changing* was initiated via a web-site targeting people who were moving into, out of, or around Greater London (Ross 2016). A series of short answer and open text questions asked participants where they were moving from and to, why, and how they felt about it. The short-answer questions were structured for compatibility with existing demographic data standards to allow for future cross-referencing. The URL was circulated on social media through personal networks during January and February. During this time, around 180 participants contributed data. Short excerpts from the free-text responses were assembled into an RSS feed which could be updated over time.

Billboard airtime was scheduled for three weeks in February and March 2015 on two large scale networked billboards in Central London: one at Holborn High Street and the other at Aldgate. These locations were selected for their visibility to pedestrians, bus passengers, and motorists. Digital billboards normally operate on a one-minute cycle divided up into four "impressions." For the period of the campaign, *London is Changing* appeared in this rotation for fifteen seconds once each minute, sandwiched between ads for Cadbury's chocolates, the government's "UK is Great for Business" campaign, and a Facebook ad. For each impression, a different piece of testimony contributed by participants was drawn from the RSS feed, which was updated regularly throughout the project as new contributors completed the form via the web-site.

The largest number of responses to the survey came from people who recently relocated or who were planning to relocate because of the cost of housing in London: "London is too expensive, I can't afford to live without sharing a small flat with too many people or living too far out with an unbearable commute!" (Figure 1). Participants described difficulty balancing the cost of rent with other necessities: "You end up on the London diet: having to choose between food or transport after the rent is paid"; "We've lost hope. We'll go somewhere we can work without constantly worrying about eviction, empty cupboards and the lights going out"; "My wife and I have decent jobs and well above average salaries and yet we can't afford to live in the city where we work." Participants also identified the extent to which these kinds of day-to-day pressures would interact with long-term life decisions, e.g. whether to have children or what to do following a break-up: "I'd like to have children and wouldn't be able to afford to even rent a big enough place in London, let alone ever buy somewhere," or "After the break-up of a relationship, I could not afford the rent on my own and had to leave."

Difficulties with affordability were accompanied by positive comments regarding job availability and career advancement opportunities: "I recently moved back to London to find more work and opportunities within my field;" "We needed to make the move in order to get our careers back on track." One participant was "sad to move" away from Ireland, but was doing so because "there are more opportunities in London than at home." Over time, replies such as these began to be interspersed with comments related to earlier comments and to one another: "It's hard to marry the fact that London is totally unaffordable, but you can't live anywhere else because it's where all the jobs are."

Contributors celebrated the diversity and cultural richness of London: "The diversity of people is what makes London amazing;" "There are so many kinds of people in London and so much creative energy," and "That's where I wanted them [my children] to grow up—in a city which was alive and challenging, and busy" (Figure 2). One participant identified London as a comfortable refuge: "As a gay woman, I love the anonymity of the capital — its tolerance and diversity has made life very comfortable." However, deep concerns were also expressed regarding the break-up of communities and exclusion of certain groups: "I have lived in Brent all my life and have seen social cohesion almost wiped out. No longer is there a community where I live." A teacher asked, "What will the city do when all the nurses, teachers and police have left?" A broad sentiment was summarized well by one participant (Figure 3): "There is so much I love about London and I still feel the excitement of the city but is becoming increasingly polarised." An artist relocating to Germany lamented: "I can't develop my artistic practice if I have to work long hours full-time just to meet living costs."

Direct connections were also made between economic diversity and other kinds of diversity: "It's not the city I knew. It doesn't feel like it's for people like me anymore. It's a hell of a lot richer and duller." Some participants identified the possibility that such conditions are or will negatively impact scope for the development of culture or the nurturing of entrepreneurial activity in the long-term: "I do think the increasing rent prices are now

being reflected in the culture. Not as many interesting projects/businesses are able to function;" "I am taking myself and my startup overseas, as much as I would have loved to set it up here." Because of the rapid increase in property values and the cost of living in London, concerns were explicitly framed as generational issues. A younger PR consultant lamented, "If I was 10 years older I would have had a head start on the property ladder and would probably have managed to stay here." This was echoed in the response of a doctor: "I am desperately sorry for the generation below me who will have even less of an opportunity to live in this amazing city."

The first day the billboards were displayed, photos were taken and shared online under Creative Commons license. News of the project circulated rapidly across a range of media and web sites. Because the images circulated widely and quickly, a further 5,000 responses came in via the web-site over the following weeks and months. As the discussion grew, participants began to respond to one another's comments. Some of these responses raised questions about the centricity of London, particularly in the context of a country where there are stark divides between the south, which houses the capital, and the north, where there are fewer economic opportunities. For example, one participant wrote, "London is not the only paradise of opportunity on this earth." Another, moving up to Newcastle, declared, "Let's make the rest of the UK interesting and prosperous!"

The conversation did ultimately make its way to specific critiques of policy and local government. Many participants were "troubled by social cleansing of London left unchecked by local councils and central government." One contributor had left town after getting "bought out by the council to make way for 'regeneration'" via compulsory purchase (akin to eminent domain in North America) and was then unable to "afford to buy anything else in London." There were also questions about why the government chooses not to more actively regulate the rental sector such as, "With no realistic protection for renters or rent capping how is anyone supposed to settle in an area?" These comments clearly articulate concerns shared by many Londoners which don't get sufficiently considered as part of existing public consultation processes.

The Question of London is Changing as Research

London is Changing as well as my own experience as both a graphic designer and an urbanist doing this project raise several issues. Potential participants became of aware of the project via the billboards themselves but even more so through the photographs that circulated so widely on social media and news sites. Although only a small percentage of these fit the criteria of having recently moved or being in the process of planning a move, the 5,000 responses received represented a higher level of participation than was anticipated or is typical for either related academic studies or local authority public engagement activities. However, the pool of participants was self-selected and could by no means be considered a carefully distributed sample. Word had gotten around at first mainly via personal and professional networks. Informally, the occupations and comments of the participants suggest that the project primarily drew the attention of middle-class people who have been priced out of London. This is inconsistent with the fact that there were more people moving into London at the time, mainly economic migrants from abroad. At the same time, the level of participation and media coverage was far greater than what a typical public consultation activity or research project normally commands. In this way, the project achieved the goal of demonstrating a form of city-wide conversation that is more transparent, better integrated into the urban landscape and more widely engaging than the discussions that typically inform planning and policy decisions.

Politicians, planners, and other policy makers were nevertheless free to ignore *London* is *Changing*. However, the project attracted the attention of one conservative party politician

hoping to gain his party's nomination for mayor in 2016. The French embassy in the UK also extended an invitation to discuss any data related to movement between London and French cities. A company that carries out market research on the retail sector as well as a range of creative agencies and competing outdoor media companies also got in contact. Researchers and students from a variety of fields were interested in access to the raw data, which was later made available on the project's web-site under a Creative Commons license.

Some of the most interesting follow-up requests came from non-university-affiliated social scientists who work on a for-hire basis with developers and local government studying built environment issues. They discussed the inherent challenges of trying to maintain the integrity of researchers asking open-ended questions while at the same time being commissioned by developers with their own agendas. One complexity of contemporary regeneration projects is that it can be difficult to distinguish and track interactions between research and public consultation processes. In the case of the FALP, it could be argued that the large evidence base commissioned by the GLA was presented in a way that would be difficult for its public audience to interact with and consequently constrained the scope of public engagement. In contrast, the original 1943 County of London plan, which was also based on a range of detailed studies, was presented to the public in the form of a widelyattended exhibition and a short film, *Proud City* (Abercrombie, Forshaw and Latham 1946). These were intended to facilitate discussion but also to generate public confidence and support for a broad change in direction for London's future. In the FALP, the prioritization of certain research methods, along with a narrowly specialized approach to communicating and consulting on findings, allowed its adoption to largely sidestep public scrutiny and, indeed, avoid wide-spread public attention altogether.

An immediate concern that emerged was whether research commissioned by developers, and in some cases local government, is compromised. From this perspective, *London is Changing* had hinted toward the viability of an independently-initiated alternative. More generally, it registered a need to better understand relationships, interactions, and differences in purported integrity between data generated through public consultation and data generated through formal research. *London is Changing*, which could certainly be called "messy" from the perspective of various established domains of scientific research, had in a small way unexpectedly provoked a critical discussion regarding the design and credibility of knowledge practices associated with communities and local government. This was reinforced by the way that it was funded. Government-funded research and university-based work is normally positioned in relation to government-controlled objectives. Being resourced through barter with a private corporation resulted in *London is Changing* demonstrating some of the benefits of independence from certain political agendas. Paradoxically this position is both consistent and in-conflict with critiques of corporate funded research models, perhaps most famously that of the MIT Media Lab (Emerson 2016).

As previously mentioned, the project was covered by a wide range of newspapers and web sites, as well as TV and radio news in the UK and elsewhere. Its feature by the blog *Boing Boing* allowed it to reach social news aggregator *Buzz Feed*, which then fed widely into Facebook and Twitter where it continued to be reposted (Doctorow 2015). Coverage soon expanded to more TV and radio in the UK and abroad including in Norway, Spain, Japan, Australia, Germany, and the US. The project was best described in an interview with American journalist Brian Lehrer which aired on CUNY TV (the City University of New York's cable network) and framed *London is Changing* in relation to New York's own issues with housing affordability (Lehrer 2015). It was difficult to keep up with the volume of press requests and social media in the middle of the teaching term. Journalists filled in gaps in the interviews with incorrect information that was then repeated by other journalists and media outlets. However, any discomfort with the differences between scholarly and journalistic

editorial practices, as well as the complications of having a project go viral on social media, must be balanced with the project's aspiration to reach a broad public.

Design scholar and former journalist Peter Hall points out that the relationship between the inquisitive or evidence-based approach of academic writing and the broader appeal of more narrative-based journalistic writing can be perverse: "The great irony is that much academic writing utterly fails to stimulate broader discussion whereas the sweeping provocations and generalizations of journalistic writing often will stimulate lengthy (albeit sometimes cyclical) debate" (Hall 2014, 21–2). Since working on *London is Changing*, my email has seen a stream of requests from journalists and other members of the media to contribute to articles, broadcasts, films, and exhibitions as an academic specialist on housing policy and economics, sub-domains beyond my own fields of expertise. They are generally unconcerned with my reservations about being the right kind of expert to answer their questions. Attempts to steer conversations towards topics within my fields rarely result in anything beyond unfaithful editing and a compromise of my integrity.

To summarize, many of our default interfaces between scholarly expertise and mass media are un-rigorous and reinforce an unfortunate rift between academic and wider discourses. At times, differences in language, values, and cultures between conventional academic practice, which typically commands a smaller more specialist audience, and mass media, whose engagement with wider publics sometimes comes at the expense of intellectual rigor, appear unresolvable. *London is Changing* became an occasion not only to unpack some of these clashes but also to contribute, from the perspective of a researcher dual-trained in graphic design and urban history, new approaches and methods for navigating them. As a piece of research, it addresses the question of how a public conversation could be designed and situated to encourage greater participation in the production of knowledge about a city. It also demonstrates the suitability of graphic design to posing and exploring such questions. On this basis, the subsequent sections of this article seek to understand the idea of graphic design research in more depth, asking how its value should be understood and implemented in dialogue with wider conventions of academic practice.

Existing Debates Regarding Graphic Design and Academic Research

In 2016, in response to an exchange on an American Institute of Graphic Arts (AIGA) Education forum regarding tenure requirements for faculty in North American Graphic Design departments, a pair of articles by Meredith Davis and David Cabianca were published in *Design and Culture* (Davis 2016; Cabianca 2016). The articles are concerned with graphic design as a field of research, veering more widely at points into a discussion of design research more generally. A group of AIGA members holding full-time salaried posts in academic departments had expressed the belief that professional practice should be sufficient for meeting institutional requirements for research, a position to which Davis objects. In her view, it is concerning that "discovery-oriented research on which others build new knowledge—as opposed to inspiring artifacts of application—is often missing or suppressed in current tenure and promotion guidelines for design faculty" (2016, 124). She advocates for design to develop "a mature research component" in which the discipline is advanced through the structured production of new knowledge whose value is demonstrated to other fields (2016, 126). She cites engineering as an exemplar of an applied field aligned to a profession where academics are required to contribute new knowledge.

Cabianca (2016), in contrast, advocates for architecture as an example of a discipline that has avoided compromising its own defining characteristics by forcing a hard distinction between practice and research for the sake of complying with externally imposed definitions of new knowledge. He argues for graphic design, as architecture did in the latter part of the twentieth century, to draw upon its own humanism to establish more critical and reflective

forms of practice, or praxis, that contribute to its long-term development from within. Rejecting the notion that graphic design should be held to positivistic or purely empirical definitions of research maintained in the sciences, Cabianca writes: "I do not need to appeal to the sciences to find legitimacy for my practice, even if that means relinquishing access to capital or relegating myself to what is increasingly a trivialized position." (2016, 111)

This debate regarding the credibility of graphic design research was followed-up by Scott Townsend and Helen Armstrong in a special section of *Design and Culture* (2017). Townsend and Armstrong sought to push discussions away from a questioning of how and when graphic design research has validity and toward an exploration of the situations and contexts that give rise to graphic design research by inviting contributions from a range of graphic design academics. Andrea Marks addressed the relationship between research culture and the institutional positioning of graphic design within university structures. John Caserta explored the benefits and challenges associated with a highly-integrated approach to research, teaching and curriculum. Yoko Akama argues that design researchers need to avoid singular or universal frameworks in favor of situational and contingent approaches.²⁰ All three of these positions resist the idea of research as something that needs to supplement graphic design practice to substantiate it as a university subject.

As alluded to earlier in this article, what is also complicated about this particular debate regarding graphic design research is its current mode of academic output: a sequence of journal articles modelled structurally, visually, and editorially on a typology of output common to many academic subjects. Because of this, in the context of the breadth of some of their authors' practices and achievements, the articles have an incomplete or marginal quality. They function almost as footnotes to a more diverse range of publishing by their authors that more fully and directly articulate and implement pursuits of new knowledge in graphic design. Writing in *Design Issues* in 2001, Nigel Cross identified the need for design to cultivate its own "intellectual culture" that is neither subject to nor isolated from other fields of scholarship:

many researchers in the design world have been realising that design practice does indeed have its own strong and appropriate intellectual culture, and that we must avoid swamping our design research with different cultures imported either from the sciences or the arts. This does not mean that we completely ignore these other cultures. On the contrary, they have much stronger histories of enquiry, scholarship and research than we have in design. We need to draw upon those histories and traditions where appropriate, whilst building our own intellectual culture, acceptable and defensible in the world on its own terms (Cross 2001, 55).

Cross is of course writing about design in broad disciplinary terms. On the question of art and design research, cultural historian and former Rector of the Royal College of Art, Christopher Frayling, also speaking in broad disciplinary terms, critiques a tendency to "stereotype" art / design practice and research into unnecessarily separate conceptions when they have significant integrated potential to nourish art and design education. He argues that, in addition to written or published outcomes that are or that document enquiries "into" and "through" art and design, objects made by and "for" artists and designers can also be considered research "where the thinking is, so to speak, embodied in the artefact." (Frayling 1993, 5)

Lending some further nuance to Frayling, architectural historian and critic Jane Rendell, in her analysis of the approach to evaluating architectural research taken in the 2001 and 2008 UK Research Assessment Exercise (RAE, predecessor to the REF), argues for a more interdisciplinary definition of architectural research. She champions "the emergence of new forms of knowledge that are not yet classifiable," inclusive of buildings and drawings, as

well as written outcomes (Rendell 2005, 146). In the 2014 REF, the sub-panel evaluating Art and Design noted "the widest range of output types across the whole REF exercise" and specifically mentioned graphic design as an underdeveloped area: "While there were high quality exceptions, the intellectual and theoretical underpinning of graphic and communication design was thought to be generically weak" (Research Excellence Framework 2015, 85). In response to this assessment, typography and graphic communication researcher Sue Walker defends graphic design as a viable field of research by drawing from diverse examples in an attempt to define it more explicitly (2017, 549). Walker identifies a range of initiatives as well as practical challenges faced by graphic design researchers producing academic publications acceptable in conventional research terms, but leaves open the question of why such a gap persists between her own valuation and those of instruments such as the REF.

Why, despite greater inclusivity in typologies of output, among a range of design-related fields, has graphic design struggled to develop an intellectual culture that is, in Cross's terms, "acceptable and defensible in the world on its own terms" (2001, 55)? The report of the 2014 REF Art and Design sub-panel, in relation to its receipt of "the widest range of output types," made the following recommendation:

The sub-panel recommends that for the next exercise, the language describing output types should be subjected to greater standardisation, ideally with the provision of a glossary, as this will be an aid to the understanding of the form of the research being submitted, and will be more conducive to the creation of useful data for profiling the sector. (Research Excellence Framework 2015, 86)

This comment is indicative of what's at issue for graphic design, which emphasizes an explicitly experimental stance toward publishing and the creation and formulation of text and image. It reveals an under-discussed conflict between this defining aspect of graphic design and the wider push to rationalize typologies of academic forms that various instruments associated with contemporary academic publishing and regulation demand (Cezzar 2017; Kelly 2001). For graphic design, the production of new knowledge is necessarily highlyintegrated with experimentation into its form and circulation. This does not mean that it is not or cannot be systematic, inquisitive, validated by expert peers, and original. At its best, graphic design research incorporates all of these substantive characteristics in new and unanticipated forms of knowledge practice. However, when it deviates from established conventions of academic publishing that serve as superficial indicators of academic rigor, it has the tendency to slip out of view of institutionalized instruments for assessing quality. This limits graphic design's latitude to interact with other fields with potential to help develop and strengthen its own approaches; it also limits graphic design's significant potential to contribute its experimental perspective on publication, among other assets, to a wider research community.

Publics, publication and "impact"

My intention here is not however to argue for an exception or distinction on behalf of graphic design research. The specific situation of graphic design can only be approached within the context of broader reconfigurations of contemporary research conventions, particularly in the humanities under neoliberalism (Olsen 2015). For decades, academics have become subject to increased regulation in the form of requirements to demonstrate impact and application. In 1994, a group of social scientists studying academic research published a wide-reaching volume, *The New Production of Knowledge*, in which they describe a shift across the

humanities and sciences, which could be argued originates earlier in the twentieth century, between two modes of research:

In Mode 1, problems are set and solved in a context governed by the, largely academic, interests of a specific community. Mode 2 knowledge is carried out in a context of application. Mode 1 is disciplinary while Mode 2 is transdisciplinary. Mode 1 is characterised by homogeneity, Mode 2 by heterogeneity. Organisationally, Mode 1 is hierarchical and transient. Each employs a different type of quality control. In comparison with Mode 1, Mode 2 is more socially accountable and reflexive. It includes a wider more temporary and heterogeneous set of practitioners, collaborating on a problem defined in a specific and localized context (Gibbons, Limoges, Nowotny, Schwartzman, Scott and Trow 1994, 3).

Critics of *The New Production of Knowledge* point out a slippage within the positioning of this work. They argue it functions more as a "charter" or "manifesto" designed to participate in a reconfiguration of the relationship between governments and universities, even if packaged as a study documenting emerging approaches (Shinn 2002, 601). In either case, more than twenty years later, the contemporary system does appear to display many characteristics described as "Mode 2."

This most recent comprehensive comparative research on impact in the arts and humanities has been carried out by social scientists Ellen Hazelkorn, Magnus Gulbrandsen, and Paul Benneworth. They argue that the precarious present position of the humanities can be attributed to an over-simplified notion of conceptualization of "public" as "having an interest in only that kind of research which produces a direct 'economic' return to public investments" (2016, Chapter 7). The entrenched reductionism of this definition results in alternative models of impact being dismissed on the flawed basis that they are broadly against the notion of public value from research. The authors advocate for a definition of "public value" that extends beyond the narrowly economic. To this end, their principal practical suggestion is for the evaluation of research to take into account non-monetary indications of value such as mass media engagement with television or radio material derived from research.

Hazelkorn et al.'s point is that we should find ways to value the wide viewership. For example, novelist Chimamanda Ngozi Adichie's 2009 TED talk regarding the dangers of understanding complex cultures through the lens of singular narratives, or token works of literature has been viewed more than 12.7 million times online (Adiche 2009). In 2013, media theorist Benjamin Bratton, used his own invitation to deliver a TEDx address which critiqued the value and mode of TED's project of "spreading ideas, usually in the form of short, powerful talks (18 minutes or less)" (TED 2018). In an op-ed which followed in *The Guardian*, Bratton argued that TED's prioritization of feel-good factor, production values, and shorter length was at the expense of depth and rigor:

If we really want transformation, we have to slog through the hard stuff (history, economics, philosophy, art, ambiguities, contradictions)....Instead of dumbing-down the future, we need to raise the level of general understanding to the level of complexity of the systems in which we are embedded and which are embedded in us. This is not about "personal stories of inspiration", it's about the difficult and uncertain work of demystification and reconceptualization: the hard stuff that really changes how we think. (Bratton 2013)

Adichie does not purport to convey an original theoretical position in her TED talk but the platform of TED does allow her to convey important points in a compelling, accessible, and rigorously-embodied form to a wide audience. Arguably, in her writing she expresses related points in an original form. Bratton's own recently published monograph, *The Black Stack*, develops a highly original theory of planetary scale computation (2017). It is a significant scholarly contribution, but the character of its writing emphasizes "hard stuff" to the point that it couldn't possibly be intended to reach a general audience. The point here however is not to revert to longstanding debates composed of divisive accusations of elitism or stupidity (Smith 1999; Greif 2015). Rather, whether researchers like it or not, if it is true that as Hazelkorn et al. (Chapter 6) claim, that "end-user or stakeholder esteem is fast becoming an inevitable component," researchers need to move beyond setting intellectual rigor and mass culture against each other. The university must instead turn to cultivating a greater potential for intellectual rigor within, around, and through mass culture.

Writing in 2017 (and editing in 2018), there are even more urgent reasons for this. The UK's June 2016 decision via referendum to withdraw from the European Union and the election of Donald Trump as President of the United States in November 2016, were both political events characterized by a marked increase in an anti-intellectualism that has been on the rise since the 1960s. A trend first identified by Hofstadter (1963), this can especially be felt in the way that universities and scholarship are depicted in fiction, in comic books, on television and in cinema (Tobolowsky and Reynolds 2017). Beyond broadly negative sentiments toward cultures of expertise, as Al Gore noted in his new preface to the 2017 edition of *The Assault on Reason*, the Trump (and Brexit) campaigns actively sought to altogether disrupt the idea of credible or expert produced information through a range of tactics of deliberate misinformation. The term "agnotology" was coined in 2008 by historians of science Robert Proctor and Londa Schiebinger to draw attention to a gap in epistemology's attention to the active production of ignorance (2008).

Specifically, the recent and complicated transformation of online political messaging and the emergence of the alt-right movement, as well as its relationship with the left, has raised many questions about how characteristics of specific media interact with the credibility of knowledge. Studied in depth by social scientist and journalist Angela Nagle in her 2017 book Kill All Normies, the online culture wars of the period between the election of Barack Obama and Donald Trump demonstrate the extent to which newer media and platforms that defy the old logic of a presumed association between facts and established institutions have impact (2017). This is neither "impact" in the sense of inconvenient new regulatory requirements, nor in the sense of declarations of new "-isms," but something more substantive. For the sake of maintaining the long-term project of advancing human knowledge, it has become imperative for the academy to recalibrate presumed conventions of rigor and depth and altogether widen its approach to publishing and the form of knowledge. This is a project to which graphic design has significant potential to contribute. Put in other terms, it is as an extended application of media theorist Marshall McLuhan's half-century old aphorism: "The medium is the message" (1964, 7). Often quoted by scholars but largely ignored by academic publishing, it is a principle that is usually understood by graphic designers intuitively. This is demonstrated within projects ranging from Quentin Fiore's 1967 edition of The Medium is the Massage to Daniel Savage's recent film, "If you don't understand the medium, you don't understand the message" (2018). In fact, both Fiore and Savage are in dialogue with McLuhan in a way that demonstrates the role that graphic design has in contributing to the broader intellectual project by making his thinking meaningful to a wider audience, even in instances where the audience may have never actually read McLuhan.

Conclusion

In summary, my motivation for framing London is Changing as a case study that contributes to further understanding of graphic design research is to demonstrate some of the challenges, contradictions and opportunities inherent in concurrently (1) experimenting with the form of knowledge as an integrated aspect of its production and circulation and (2) meeting the expectations and adhering to established conventions of academic practice such as default typologies of publication in a way that is sufficiently visible to institutions and regulatory instruments. By way of a conclusion, and at a time when wider concepts of academic impact and expert knowledge are themselves under scrutiny, it is worth briefly elaborating on the opportunities and potentials in particular from the perspective of what is sometimes referred to as "critical" graphic design practice, ideally without becoming overly distracted by the distinctions, overlaps, and fluidity that exist between the terms "critical" and "research" (Laranjo 2015).

In my earlier reference to Benjamin Bratton in this article as an example of a theorist whose language is difficult for a general audience to access, I neglected to mention Bratton's long-standing connection to self-described "design think tank" Metahaven (Metahaven 2012). In 2009, an Eye Magazine profile headlined "Metahaven makes visual proposals that suggest a new role for graphic design in public life," critic Rick Poyner described their approach as inquiry-based and noted their depth of engagement with contemporary theory, such as that of Bratton, within their studio work, an aspect of their practice which has continued to develop (Poyner 2009). In a 2017 conversation between recent MA/MFA graduates Hannah Ellis and Jarrett Fuller on Fuller's (2017) podcast Scratching the Surface, Ellis observed that while Metahaven's use of strong visual language serves to draw designers into their intellectual concerns (Metahaven's distinct visuals have indeed brought many of my own students toward Bratton's writing), their work can be impenetrable to non-designers. A perceived relationship between the conjoined exclusivity of Bratton and Metahaven and the desire to project visual sophistication underlies a tendency by some designers to adopt their "style" without fully understanding its meaningful significance. As Fuller observes, "Metahaven's style has become synonymous with critical design even though in a lot of places now there [are] no critical ideas behind it."

Exchanges of this kind are typical of what one might understand as a reflexive edge of contemporary graphic design practice. This productive threshold has a presence in the design press and via art and cultural institutions. It wields a greater influence on students and faculty than does the kind of formal research that has mainly been discussed in this article. It tends to be content with its opaque and ad hoc approach to establishing credibility and integrity, irregularly drawing upon as well as serving as a counter-point to formal research. However, if the aspiration of graphic design should be to continuously transform itself into a more widely meaningful practice (as Rick Poyner suggests via his analysis of Metahaven), engaging more directly, visibly, and critically with institutionalized knowledge practices would forge new kinds of credibility and alliances on behalf of this endeavor. Rather than casting formal graphic design research as an unnecessary bolt-on to practice, a side effect of graphic design being taught as a university subject, a closer relationship between graphic design and university-based research presents an opportunity to broadly reconsider relationships between publishing, publics, and knowledge production. This would also require readers of journals such as this to set aside the notion that something is missing that is required to put graphic design "on par" with other fields of research, to flip it on its head with a refocus instead on graphic design's scope to contribute to strengthening the wider academic project as it simultaneously becomes more vulnerable and more integral.

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Figures



Figure 1: *London is Changing* displayed on a digital billboards in Holborn, February 2015. Photo by Duarte Carrilho da Graça.



Figure 2: *London is Changing* displayed on a digital billboards in Holborn, February 2015. Photo by Duarte Carrilho da Graça.



Figure 3: *London is Changing* displayed on a digital billboards in Holborn, February 2015. Photo by Duarte Carrilho da Graça.