Making Cultural Infrastructure

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This is a report by Theatrum Mundi on a research project that asked "can we design the conditions for culture?"

Foreword

From its inception in 2011, Theatrum Mundi has been concerned with spaces of artistic and cultural production in the city. A core question at the heart of Theatrum Mundi's research agenda is what is the relationship between the production of and the display of urban culture. From workshops on 'Social Movement' and 'Architecture and Music', to debates like 'Can the Temporary leave a Trace' and 'Designing for Learning', to event series on libraries, commons and public spaces, and expert roundtables comparing London's Olympicopolis to Hamburg's Oberhafen and Gangeviertel, Theatrum Mundi addresses conceptual and pragmatic concerns bridging academic inquiry, artistic practice, and architectural and urban contingency. In its fifth year, Theatrum Mundi assembled 60 artists, writers, architects, and researchers, working across London's urban cultural fabric to address the following question: What are the infrastructural conditions for culture, and can they be designed into the city?

The aim of this report is to challenge and enrich the conceptual basis on which the nature of cultural infrastructure is understood. Its three sections represent distinct ways of achieving this aim. They can be read together, or as self-contained treatises. The first section draws on three workshops bringing together a wide range of practitioners to think about the relationship between their labour and the city, offering a rich set of first-hand evidence about the experience of using infrastructures for artistic production. The second section sees this evidence translated into four propositional approaches to planning for culture by four architectural practices in London, expanding what it means to design cultural infrastructure. The third section acts as a critical analysis of the notion of cultural infrastructure, relating the challenges in design and provision raised throughout the research to political and social issues in the relation of cultural production to the city. What this report does not offer is a statistical or geographical survey of London's existing cultural infrastructure, nor analysis of economic or policy solutions, which are essential but well provided elsewhere. Rather, it argues that these surveys and solutions must be coupled with a lively critical debate about the effect of urban design and planning on artistic labour, cultural values, and the public sphere; a debate that we hope to stimulate here.

Our thanks go to all those that supported this research: Siobhan Davies Studios, Space Studios, and The Trampery for helping host and frame the workshops; RCA Architecture for providing space to the design charrette, and to Assemble, DSDHA, Haworth Tompkins, and We Made That for their enthusiastic contributions; to all the research participants named in the report; to Theatrum Mundi's many colleagues at LSE Cities throughout its 5 years there for critical feedback and discussion; to James Anderson for his continued faith in and financial support for our work; and to Richard Sennett for his intellectual guidance.

This report marks a step in an ongoing enquiry by Theatrum Mundi into the relationship between the production and display of urban culture. As Theatrum Mundi becomes an independent charity, after 5 years growing within LSE Cities, we hope this report will spark new questions that stimulate fresh research, and provide the opportunity to discuss approaches to cultural infrastructure with architects, artists, planners, and citizens.

John Bingham-Hall and Adam Kaasa

Summary

Making Cultural Infrastructure starts from an argument that artistic cultures are produced in different modes, impacted in distinct ways by the conditions created by the city. Typologies, networks, economies and infrastructural conditions of urban space create sets of possibilities and constraints that affect the way artists work, and thus the kind of public cultural realm that the city can support.. To examine this argument, the report is divided into three sections: *Inhabiting Cultural Infrastructure; Designing Cultural Infrastructure*; and *Conceptualising Cultural Infrastructure*.

Inhabiting Cultural Infrastructure investigates three distinct realms of artistic and cultural production: performative, material, and virtual. The research brought together three workshops each convening a set of practitioners defined primarily by one of these modes of work. The focus was on the spatial or infrastructural settings in which the labour of production and development itself takes place, though evidently public-facing institutions featured as far as they are elements in shaping the experience of this labour, and a public language of value. Three sets of conditions affecting the use of production spaces are identified. Firstly, the importance of the immediate architectural qualities of spaces for artistic production. By this we mean whether spaces are visible or audible to or from the public realm; the degree to which spaces can be made messy and inhabited with a personal archive from which to work; and, if in these spaces people work alongside or separate from one another. These kinds of qualities are described as the material conditions of cultural infrastructure, and often remain invisible in city-wide strategies that guide the geographical conditions of new production spaces through distributional planning. Material conditions of artistic production spaces are key to the kind of work they can support, and could hypothetically be guided through planning conditions for cultural infrastructure. Secondly, attention was drawn to the conditions around spaces for artistic production. Conditions such as whether their immediate urban environments are noisy and messy or quiet and sanitised; the density and typology of other nearby commercial and cultural activities; and how they relate to other infrastructures such as housing or transport. These are described as ecological conditions, relating to the way cultural production is understood to be part of and reliant on a network of flows of materials, people, and activities in the city. Finally, the issue was raised of thinking about the way ideals and regulations are applied to spaces for cultural production, in terms of labour protections or minimum pay. The shaping of these immaterial conditions relate to the role applied to cultural production at a societal level: whether it is seen as a professional or an amateur activity, for example. Together, the workshops demonstrated the necessity to think about the relationships between these sets of conditions when positioning cultural infrastructure as a political and planning priority in the city.

Designing Cultural Infrastructure centres on four hypothetical propositions put forward respectively by the architecture practices Assemble, DSDHA, We Made That, and Haworth Tompkins. We challenged each practice to propose a design approach to cultural infrastructure in response to the evidence-based working paper emerging from the workshops. Overwhelmingly, their tactics were to create planning guidelines or strategies that could play out across the city, rather than to focus on specific forms of space or architecture. For example, one proposition suggested a required 10% redundant, unprogrammed space in all new buildings over a certain size. This slack space could allow for multiple kinds of unforeseen cultural production to take place alongside the intended uses of those buildings, which in turn could shape the particular material and ecological conditions created by those uses. We argue that a non-performative cultural urbanism increases the possibility for artistic creation without mobilising its products for the kind of culture-led placemaking that has been associated with some of the destructive aspects of urban regeneration.

A Language for Cultural Infrastructure builds a framework from the issues raised in *Inhabiting Cultural Infrastructure* and responded to in *Designing Cultural Infrastructure.* It intends to stimulate critical thinking in design and planning strategies supporting cultural production. We argue that conversations around the way infrastructure is provided need a diversified terminology to account for the implications of the social, cultural, and political conditions created by different conditions brought about through design and planning. We propose four broad concepts that contain within them productive tensions. *Value* refers to whether cultural production is seen as craft or labour. *Stability* highlights the degree to which infrastructures are temporary or permanent. *Determinacy* asks whether infrastructures are adapted from found space or purpose-built. *Visibility* addresses the level of publicness or privacy that cultural production operates within. The way each of these tensions is managed within the provision of cultural infrastructure suggests different design strategies, and has different implications for the kinds of political, economic, and social conditions it creates.

Chapter 1

Inhabiting Cultural Infrastructure

Introduction

As part of an "infrastructural turn" in thinking about the city, physical systems – for the provisioning of transport, food, and energy for example – are framed alongside social factors – planning and regulatory codes, social networks – as a set of underlying, and often invisible, urban conditions of cultural life. This turn "foregrounds the urban backstage to reveal the sociality of roads, pipes, cables, broadband, code and classification".[1] Infrastructure itself is "conceptually unruly":[2] different things become infrastructures depending on the object of study, and any object of study may be an infrastructure for something else. Generally, though, they can be thought of as relatively invisible systems – whether as material as cables or as immaterial as the data they carry – on top of which everyday life is built. Infrastructure as a general category, then, describes a set of conditions both supporting and constraining action, whether physically, economically, legally, etc. Where the actions being supported and constrained are those that constitute the productive processes of making artistic cultures, the underlying conditions implicated could arguably be described as cultural infrastructures.

For the purposes of this report, the definition of culture is constituted by the production and reception of artistic forms. While many domains of life have been identified and analysed in relation to infrastructural conditions, artistic practice has rarely been thought of in this way. The research starts from several contentions: that the forms taken by cultures produced in cities will be to some degree be shaped by the material, economic, and political conditions of the production spaces within which artists work; that these infrastructural conditions for cultural labour have not been paid sufficient attention to; that they will work differently across different artforms; and that the qualities of both artforms and the situations of display in which they are brought into the public realm matter for the political and social character of cities. In other words, we would argue, the characteristics of urban space are, via culture, impactful for the quality of the urban public sphere. The core question in this research, therefore, is if the infrastructural conditions for urban culture can be intentionally designed into the city, and how this should be done.

Method

The current Mayor of London, in his manifesto, committed to developing a Cultural Infrastructure strategy "to identi-fy what we need in order to sustain London's future as a cultural capital", including the introduction of designated Creative Enterprise Zones and the use of planning law to protect and promote the development of cultural space.[3]

In the autumn of 2016, Theatrum Mundi (TM) convened three roundtables to debate issues raised by the prospect of a Cultural Infrastructure Plan by asking artists, architects, writers, scholars, publishers, and institutional leaders: can we design the conditions for culture?

This question was an invitation to the makers of culture to reflect on the ways their productive processes are impacted by the conditions within which they work, and for the makers of cultural infrastructure to reflect on how they might differently design for culture in this light, expanding the context within which artistic production is understood to operate in current strategic thinking in urban planning.

The three roundtable workshops were organised around broad modes of production related by spatial characteristics, rather than through traditional notions of genre: performance, making, and the virtual. Each of these describes a way of making art that uses urban space in quite different ways, though of course any one artist may work in any or all of these modes.[4] Each workshop brought together practitioners with experience of each respective mode of production, able to offer perspectives specific to that way of working. A core group consisting generally of architects and scholars provided comparative thinking across all three.

Each roundtable was hosted by an organisation providing cultural infrastructure relevant to the mode under discussion, and was developed collaboratively with colleagues from those organisations. Existing infrastructures, then, acted as   case studies for each roundtable, and questions facing those organisations as starting points for discussion. Participants were contacted proactively, with no open call for participation issued, in order that the best possible attempt could be made to orchestrate a range of perspectives within each discussion. As well as drawing on Theatrum Mundi's existing network of artists and scholars, and those of the host organisations, a significant number of participants were identified as being in a position to make a valuable contribution and were contacted 'cold'.

It must be acknowledged that this took place with full awareness of the structural inequalities internal to cultural

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[1]
(Amin, 2014, p. 139)

[2]
(Larkin, 2004, 329)

[3]
http://www.sadiq.london/making_the_most_of_arts_
culture_and_creativity

[4]
These fields are defined in full in the relevant sections below, but are worth introducing here for clarity. Performance is understood to be a mode of cultural production in which a series of actions are presented as an event that unfolds in time, whether purely bodily or with and in relation to instruments, props, and spaces. Performers are artists that present work in this way, and rehearsal is

understood to be the process through which performances are tested and refined. So whilst the roundtable was framed broadly in relation to performance, which is a mode of public display, it was often rehearsal that was discussed. The performance roundtable was weighted towards dance and music in discussion. Making is understood to be a form of cultural production in which materials are manipulated with tools and hands to create objects, whether they be functional, decorative, or fine arts. As making refers to the productive process itself, display is used as a general term covering situations in which the end products are presented publicly, whether that be in a gallery or a shop, for example. Artists working in this way are referred to as makers, and the participants were largely artists, craftspeople, and gallerists. The final roundtable theme, the virtual, is a less common term for a group of artistic practices. We understand virtual culture to be any form of cultural product that can be both produced and consumed via a screen

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production. While there was the aim to be mindful of these inequalities in terms of the makeup of the participants and in terms of represented art forms in this undertaking, the makeup was strongly shaped by Theatrum Mundi's existing connections and interests, as well as those of our partner organisations. Nonetheless, we hold that the 60 participants across all three workshops represent a very broad range of positions, levels of experience, and ways of working, and an extremely valuable resource for thinking about cultural infrastructure.

For each roundtable, a brief leading question was sent to participants along with a general background document. Furthermore, four participants for each were asked in advance to develop a 'provocation', in the form of a reflection on their own practice and issues in its relationship to the city, that would serve as a starting point for discussion. After each set of two provocations had been presented open discussion was invited, which was free ranging across social, political, and artistic as well as spatial issues, but brought back where necessary, by the chair, to the question of infrastructure. The evidence created through this process is qualitative, though where relevant figures were referred to in discussion references have been included in this report to support them. The production of the qualitative data was dialectical: unlike qualitative surveying in which opinions are assumed to be pre-existing and able to be collected through questionnaires, for example, new thinking and ideas were produced in conversation in the context of the experience and expertise of the participants, often changing throughout the course of the discussion. Some of this thinking can be characterised as reflective, being descriptions and critiques of current phenomena, while some was propositional – ideas and imaginaries for different ways cultural infrastructure could be produced.

Presented below is a summary of opinions and experiences discussed, in the words of the report's authors and with critical reflection added by them. It is strongly informed by, but not a neutral account of, the discussions that formed the research for the project. Text in "quotation marks" that is not otherwise attributed to a source is taken verbatim from the discussion. Footnotes add references that can be read alongside the report, to case studies, literature, data, and media reporting, that corroborate with the content of the discussions but were not necessarily raised in them.

[4]
[Cont] (taking paper itself to be a form of screen. This definition therefore incorporates writing, graphic design, illustration, and web art. Though the term virtual producers is used collectively for artists working in these ways, the conversation largely focused on writing, and therefore writers is often also used. Although writers are ostensibly only one kind of virtual producer, we also see writing as a term that could be expanded beyond its normal usage to include any practice that creates meaning through marking a surface with symbols to create a 'text' that can be replicated and distributed (hypothetically) endlessly. Finally, it is important to note that we acknowledge that there are many overlaps at the edge of these definitions, and that many individuals work in each of these modes at different points within and throughout their practices. However, we would argue that they remain useful categories for distinguishing quite different ways that their respective productive processes need and make use of urban space.

Infrastructures of Performance

27th October 2016
Siobhan Davies Studios, 85 St George's Road SE1

Performance is by its nature temporary, and is focused on the body, meaning it is mobile and does not always leave a trace. In theory, then, everywhere could be an infrastructure for performance, but beyond the stage what else in the city enables performance to be made, and by whom?

Temporary and the Trace

Performance incorporates a broad set of artistic forms in which a rehearsed series of actions, usually involving both bodies and objects, is presented in a time-limited or event-based manner.[5] Essentially, a performance only exists within the period within which it is being presented or rehearsed. Even in documentation or memory, it can only exist in a duration of time, as the actions that constitute it must play out through time and cannot exist synchronously. In this sense performance is both temporal and temporary: it plays out in time and does not exist outside of the period within which it is played out. While exceptions exist, generally performance does not leave a physical legacy in that it tends not to have as its aim the creation of objects or physical materials, but of situations and events. So while performance notations such as scripts or musical scores may exist as stable, synchronous forms, they are only guides to performance that must unfold temporally to be realised. Equally, though performance can be recorded in various ways it can also disappear immediately from the space within which it is presented and leave no evidence of its having happened, save for the traces within the performers themselves and the audience. As many vastly differing performances often take place in the same theatre or institutional spaces, after one performance happens, its traces are removed back to the 'empty' black box, so that another can then take its place.

This temporary and temporal quality links a number of cultural forms including music, theatre, and dance, and perhaps to a lesser extent performance art. These forms have more in common with each other than they do with the plastic and spatial practices of installation, sculpture, design, and so on. While music and dance are the focus here, it is assumed that art forms sharing these temporal characteristics will also share certain aspects in their relationship with physical infrastructures that are distinct from other

forms of practice grouped under making and the virtual, as will be described in the following sections. Furthermore, if performance can be taken as a general mode of display shared by a number of art forms, then the rehearsal is the common mode of production they share, which itself has some general, if not universal, characteristics as a process. Rehearsal is temporary; a rehearsal requires a body or bodies in place; it can gather those bodies in different places from one instance to the next; and it must usually leave places blank so that other rehearsals may then occur.

Rehearsing Space

Performers do not tend to gather together in stable studio spaces like artists manipulating materials. When the fight to save "one of London's last studio colonies"[6] is reported, it is the makers of objects that are referred to rather than the makers of sound or movement. Performance making (or rehearsal) is both mobile and temporary, in that it takes place in a distributed infrastructure of rehearsal spaces that are usually accessed in a time-limited way rather than through long-term occupation. Indeed, many studio providers disallow the spaces they rent out from being used for music rehearsal due to its acoustic impact on other artists and the extra cost of soundproofing.[7] Rehearsal rooms are available generally by the hour or day, rather than on a lease basis, meaning that the cost of rehearsal space for small groups without stable spaces of their own (whether they be theatre, music, or dance) must be factored into budgets as costs for individual productions or recordings, rather than as ongoing costs of practice.[8] Larger stable institutions like dance studios, theatres, music halls, and universities become important not just for their spaces of display, but also in having spaces for residency and rehearsal, different from the institutional role of an art gallery or museum, who rarely lease out parts of their buildings for artist studios. There is an important difference, then, for performers situated on a long-term basis within institutions that provide stable access to rehearsal facilities and performance space, and those attempting to sustain an individual or non-institutional group practice through a more mobile approach to finding space for production and display. If performers are mobile, use infrastructures for time-limited periods, and are less tied to specific locations, are they also less implicated in the politics of place, and particularly the set of development processes loosely defined as "gentrification?" Is that to their benefit? Or, in being more mobile and therefore less

[5]
(Bial, 2004, p. 57)

[6]
https://www.theguardian.com/uk-news/2016/oct/22/artists-fight-to-save-one-of-londons-last-studio-colonies-from-development

[7]
See for example ASC's FAQ: "What kind of artists can rent a studio?: Studios are not soundproofed and therefore we can only accept artists working in sound installations and video if they use headphones" http://www.ascstudios.co.uk/faqs/

[8]
See (Swain, 2016) for a survey of rehearsal spaces in London by cost per hour, reporting an average increase

of 20% in these costs between 2013-2016. Swain notes: "I've rehearsed shows in spaces ranging from the back rooms of pubs and actors' living rooms, to professionally-appointed spaces used by national companies. Rehearsal space is a very substantial part of a small-scale production budget, and in a time of increased rents in London in general, this cost is only getting higher"

[9]
[Cont p19] See for example https://www.theguardian.com/artanddesign/2015/nov/10/council-rejects-plans-london-car-park-800-artists-studios-southwark-peckham. Whilst artist studio spaces are still declining, the mainstream media has to some extent taken up the issue, citing threats to the creative industries as the main issue in the loss of artist's studios. Such commentary is heavily weighted towards visual arts, and does not tend to cover rehearsal space.

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visible in place, has performance failed to gain the political and media voice that makers have, as evidenced by the now relatively common media coverage citing the detriment to cities through the loss of artist studio buildings?[9] What are the urban politics of rehearsal spaces, and how can these be recognised in urban planning and design?

While the importance of small music venues is now gaining recognition,[10] related strategy has privileged performance over rehearsal space in addressing, for example, the night-time economy of live gigs. As spaces of display, what have been defined as "small music venues"[11] are not analogous to individual artists' studios: they are not the settings within which new forms are tested out and refined through hours of private practice. The GLA's most recent Artists Workplace Study (2014)[12] does not mention music in its survey of space for arts practice. Individual performers, it would seem, are not seen to have "workspaces" in the same way that visual practitioners and those employed in small creative businesses are.

The same cannot be said of larger institutions such as orchestras and dance companies, who are housed within their own purpose-made infrastructures,[13] or as part of larger arts centres.[14] This belies a fundamental difference in the relationship between performers and makers in terms of their relationship to spatial infrastructures: performers are more often expected to be guests in their spaces of production whereas makers have a greater tendency to take up residence (in practice if not in legal or economic terms). A guest might be seen as less able to adapt a space to their practice or build up an archive from which to work, whilst being dependant on institutional spaces may make performers subject to a greater degree of institutional influence as they negotiate the aesthetic and curatorial frameworks they hold, and the large teams of technical staff.

Finding Space

It is worth paying attention to situations in which performers seek to escape from the purpose-built infrastructures of institutions to both display and produce their work, and the different ways in which this can be achieved. Auditoria, for example, are highly useful for performers in creating special spaces for focused listening and watching, but in their formality and clear definitions between audience and stage they can be "frustratingly rigid". As the pressure on space

in London has increased through the uplift of residential values there has been an attendant conversion of previously empty or informally-used ex-industrial and residential spaces into "luxury" accommodation, meaning the availability of "found" space,[15] unintended but practical for rehearsal and performance, has reduced. Accordingly, some performers have turned to exterior urban spaces, public or otherwise, as sites offering the "productive friction" that unintended spaces once did. Performance in the urban public realm – which is constituted by a complex arrangement of people, architecture, and other foci of attention[16] – brings opportunities for both unintended encounters and unintended consequences: it can be seen and heard from angles not offered by the stage; it has a mix of purposive and accidental audiences; it recombines with other aesthetic phenomena in unplanned ways, and is often received very differently to its intention.

Public spaces were regarded in the roundtable as valuable infrastructures for performance, but were said to bring their own set of constraints. With such a complex of environmental influences, it was seen as questionable whether performance in public can challenge audiences in terms of content and style. The logistical challenge of performing in public, for example, was said to be able to dominate the possibility for technical challenge internal to the performance: the performance becomes something "wild" rather than "crafted". Public space has long been defined as a site of "unfocused attention",[17] and it was argued that performing music in this setting tends to mean limiting styles to those suited to "background listening". Performance, it was suggested, requires settings for special focus: "outside of the ordinary" and an "interruption" of the casual and diffuse sensory experience of the street.[18] These settings do not necessarily need to be functionally specific, in design terms, to performance. What matters is that they are a space apart and fundamentally distinct from the public realm. This suggests the possibility for a greater number of existing unintended spaces to be identified as infrastructures for performance, but with the requirement, for them to be valid settings for challenging new work, that they have a degree of enclosure and distinction from the public realm.[19]

How, then, is new work for public space developed? Making large scale public performances is often costly, making regular rehearsals too expensive to be sustained,

[10]
As evidenced by the introduction of the Mayor's London Music Board https://www.london.gov.uk/what-we-do/arts-and-culture/music/london-music-board

[11]
The Mayor of London's Music Venue Task Force "Recue Plan" sets out a definition of the infrastructure of small music venues as necessarily consisting of separate stage and audience areas (p. 35) https://www.london.gov.uk/sites/default/files/londons_grassroots_music_venues_-_rescue_plan_-_october_2015.pdf. This encodes an implicit assumption that performance is by its nature something with a present audience, rather than something that is made in private and brought into the public realm

[12]
https://www.london.gov.uk/sites/default/files/artists_workspace_study_september2014_reva_web_0.pdf

[13]
For example, the new purpose-built Studio Wayne McGregor at Here East http://waynemcgregor.com/

[14]
As in the case of the London Symphony Orchestra and the Michael Clarke Company, both housed within the Barbican, which is a purpose built arts centre but not an infrastructure designed specifically for either of these groups

[15]
A 2017 report commissioned by the real estate investment trust SEGRO found that employment land in London has been released for residential development at 3 times the rate taregeted by the GLA over the last 5 years (p. 121) http://www.segro.com/~/media/Files/S/Segro/documents/Keep_London_Working/SEGRO-Keep-London-Working_Report.pdf. Whilst this report focuses on industrial uses, employment land also incorporates spaces such as 80-84

Wallis Road in Hackney Wick, a series of small scale warehouses that had been turned into artists studios by the studio provider Cell Space https://www.hackneycitizen.co.uk/2015/06/03/wallis-road-studios-hackney-wick-approved-lldc/

[16]
Recent debates have highlighted highly differentiated, and arguably problematic, ownership of different parts of exterior space in the city, that is often described generically as the "public realm" but which can often be owned by private corporations, non-governmental bodies such as the church, or managed in partnership between local authorities and developers (see Minton, 2012). As pointed out in the workshop, the different legal frameworks and interests governing the use of urban spaces with different owners should be seen as infrastructural conditions of public performance
[17,18 19, Cont p20-21]

notwithstanding the logistical issues.[20] This also raises the question of whether it is possible to rehearse in public, or whether a rehearsal with an audience is always a performance. Performers participating in the roundtable argued that it is constricting to know they can be seen and heard in rehearsal, suppressing the ability for the rehearsal to be a laboratory of experiments, which necessarily entail failures. The open rehearsal was seen to have become a common strategy for public inclusion in the processes of performance making, but it was argued that there should be caution over creating a situation in which performers cannot find space for production that is private and affords experimentation. In this sense there are limits to the degree that the urban public can be an infrastructure for the development of new types of work, though it can be a setting for productive and unexpected encounters with existing and familiar forms.

The move out from purpose-built performance spaces into unintended spaces such as the public realm, museums, ex-industrial spaces and so on, could be seen as a reaction against the spatial and cultural inaccessibility of some institutional space. Large dance, theatre, and music institutions are concentrated in Central London and cannot generally be used on an informal basis for rehearsal or performance. This move has undoubtedly opened up possibilities for new audiences and new types of work.[21] Arguably, though, there is a danger that over time such a reaction become systematised and expected, as it is both cheaper to fund and 'ticks the box' of widening access. Though there was said to be value for many artists in exploring the productive friction of different settings for performance, this should not lead to the de-valuation of purpose-built space for both production and display. When new or non-traditional spaces are opened up for performance there is often a demand for an excess of value beyond the performance itself, in terms of an extra return through education, engagement, and so on.[22] How do we define unintended space? There are legal frameworks invisible in space itself that allow busking in certain locations, so not all performance in public is unintended. There can also be architectural gestures that suggest the possibility for performance in certain places. These conditions are very different to truly unintended space that is colonised informally and possibly illegally, and where new forms of practice can grow. So in order to create the conditions in which performance can keep finding space, there is need for permissiveness to be built into the

city through legal frameworks or spatial design, without over-specifying space so that it becomes too 'precious' in both economic and aesthetic terms.

Domestic (or Shrinking) Space

The domestic remains an important non-institutional space for the development of performance. The contemporary musical figure of the 'bedroom producer', from experimental sound art[23] to pop,[24] represents a tendency towards individualised music production. Using computers and MIDI instruments to create an acoustic space entirely contained by headphones, this kind of production can fit within domestic spaces that may not be suited to acoustic instruments because of lack of space and sound proofing. This kind of music-making is perhaps therefore more focused on mental than physical skill – the development of knowledge of technology rather than the embodied technique of instrumental proficiency. If so, there is a relationship between regulations over domestic building materials, room size, sound proofing regulations, and shifts in musical practice.

This shift in musical practice brought about in some ways because of spatial constraints is arguably also a political shift. Noise is always social, in that it involves hearing and being aware of those whose acoustic cultures (in terms of language, music, and so on) may be very different to one another, and therefore always political. To rehearse out loud at home requires negotiation with or tolerance on behalf of neighbours, and makes music rehearsal a networked act that goes beyond the boundaries of the space it takes place in. This issue is quite specific to music. Unlike forms of visual communication, including dance, it cannot be contained by physical barriers such as walls. Thinking about the turning inwards of the bedroom producer, inwards into the technologically-mediated acoustic space of software, suggests a reduction in the degree to which music-making requires political and social acts of negotiation.

In dance cultures, this move inwards takes a different form. Rather than the emergence of new dance companies, themselves small institutions, there is a growing generation of individual artists with personal practices developed in private, and often domestic, settings. Dance artists, without the support of institutions that provide large infrastructures for collective rehearsal, are often moving into individual,

domestic forms of production. Due to a lack availability of unintended space at the scale needed for group work, it is harder for new dance companies (or, presumably, music ensembles and theatre companies) to grow and themselves institutionalise. Arguably, then, in the context of a lack of informal infrastructure for groups, there are opposite trends towards increasingly private and individualised performance practices on the one hand and a greater reliance on and role for large institutions on the other hand.

Embodiment, Embedding, and Memory

Choreography could be described as a negotiation of a set of relationships between the interiority of the artist, bodies, other subjectivities, space, and place. As such it is a tool for understanding the city, from a material point of view, which is an assemblage of bodies in motion, minds, and space, working closely in concert to give rise to patterns of use. Choreography, it was argued, should be used as a tool to develop better ways to tune the synthesis of architectural elements that shape the way bodies relate within and to a rehearsal space. Using the location of the workshop, Siobhan Davies Studios, as a focal point, architectural techniques were referred to that engendered "physical and mental noticing": the way light changes through the day, for example, bringing attention to different aspects of the physicality of the building as a stimulus for making work. "The building is a point of choreography where mind and body and relational activity are working together". The building has a "certain perfection" that is very valuable in allowing intense focus, compared to unintended rehearsal spaces such as church halls, with bad heating and acoustics. The material qualities of rehearsal spaces and their relationships to their surroundings should not just be seen as an inert background to practice, then, but as active elements in the stimulation of new work.

Many individual dance artists without the stability of a company and residence in a purpose-built infrastructure are, as mentioned previously, developing work in domestic spaces. The public display that fuels the ongoing development of work of this kind was described as highly mobile, taking place in small performance spaces across the city. Mobility is a particular condition of making for many performers. Rehearsals often take place in different spaces from one time to the next, requiring performers to make do with infrastructure that is not specific to their practices.

Rehearsal spaces need to be erased of all trace of use in order to leave them blank for the next set of users. In each new performance space, it was suggested, a new audience has to be "initiated", which reduces the possibility for an ongoing co-development between artist and audience and slows down the process of creation. The ephemerality of dance has been noted in scholarly accounts as an issue for its development as an art form.[25] Whilst visual arts have access to a rich historical archive, of painting and sculpture for example, dance has proven hard to notate. It has only been able to be recorded in full since the advent of moving image capture, making it much more reliant on physical transmission between performers, which itself is liable to change and interpretation.[26] There lacks a spatial model for rehearsal within which performers can retain archival memory of their work that is accessible during the process of creation. This challenges the evolution of performance, and particularly dance, in terms of reference to personal practice and the transmission of forms historically. Furthermore, dance works can be transformed by spatial characteristics of the spaces within which they are performed in a way that plastic art forms and writing are not. Whilst there can be a value in this constant renewal, it stunts the ongoing building of new practices and groups.

A fixed site for development, such as Siobhan Davies Studios, allows people to return over and over again to a space in which they have physical memory and can build psycho-somatically on work they have made in and with the space. However, SDS is rare, and there are few stable infrastructures for production that allow this return. What kind of space allows for the authorship of individualised, private production to be supported but brought closer to the kinship of collective work? There is perhaps an argument for a new model of combined production and display space for performance with lease-based rather than timed access, within which individual artists can build up their practice with access to the physical transmission of ideas from other performers, the development of personal archives, and the building up of a local audience over time.

Residing in Space

One approach could be to combine residential and production space in a way specifically imagined for performers. The notion of the production space as a living space was experimented with in Independent Dance's Residential Fes-

[17]
(Goffman, 1966)

[18]
Sennett (1996, p. 65) describes this contrast through a comparison of the ancient Athenian agora, which was the site of multiple, overlapping activities, and the Pnyx, a theatre in which focused political speech took place: "the theatre's clear design, its rakes fan of seats with regular terraces and aisles, made it possible for the spectators to know other men's reaction to speeches and how they voted, forming a contrast to the visual imprecision of the agora, where a person would have trouble seeing more than the few neighbours standing immediately nearby". In other words, although the theatre focuses attention outwards from a crowd onto a single figure, it brings members of a public into a closer form of communication with one another than the dispersed agora in which

people are physically proximate yet disconnected from one another.

[19]
Peckham Multi-Storey car park is an example of an existing infrastructural space that has very successfully been made use of as an infrastructure for performance by the Multi-Storey Orchestra http://www.multi-story.org.uk/. Although it is very centrally located within Peckham it is raised up and separated from its high street, fulfilling these criteria. This raises the possibility that transport infrastructure itself may be a good starting point in identifying new space for performance where purpose-built new infrastructures are not feasible.

[20]
For example, Orlando Gough's piece XX Scharnhorst was performed on a boat on the river Thames to an audience of

onlookers on the bank with a very large cast of performers. Due to the expense of doing this, it could only be rehearsed a very limited number of times, and many of these were "off-site" in a school hall that was large enough to fit all the performers.

[21]
Erika Fischer-Lichte (2014, p. 24) notes that "since the end of the 1960s, theatre artists have moved productions out of dedicated buildings into spaces previously used for other purposes. These new spaces did not come with designs that implied a specific relationship between audiences and actors. Hence, theatre productions in these new spaces emphasised the role of performance itself in defining the relationship between actors and audiences, and in redefining new possibilities for movement and perception."

[22]
The Multi-Story Orchestra, for example, which performs at Peckham Multi-Storey carpark as part of the Bold Tendencies cultural programme, has education as a core focus and regularly works with local school children http://www.multi-story.org.uk/about/, epitomising the link between non-traditional settings for performance

[23]
Leafcutter John etc.

[24]
James Blake, Jamie XX, Disclosure

[25]
The ephemerality of dance and its lack of archival forms has been described as both a challenge and an asset for contemporary creation. In the introduction to the anthology

Preserving Dance Across Time and Space, Brooks and Meglin argue that "dance's relationship to place is…fragile" and ask "can we hold on to our dancing past?" (Brooks and Meglin, 2016).

[26]
See Hall (1983, 390-392), who argues that because of "the losses caused by imperfect transmission…every so often the art of ballet has to be re-created almost from scratch"

[27]
http://www.independentdance.co.uk/programmepage/activities/what-festival/

[28]
A rare example of an experiment in a model like this is the Musician's Housing developed by 24H Architecture as part of the Hoogvliet Building Exhibition in the Netherlands

in 2010. It consists of 38 houses facing into a communal garden in which a complex of purpose-built individual practice rooms are gathered under a grass mound, balancing the need to private space for production and the development of a community of practice http://www.natrufied.nl/live/housing-for-musicians/

[29]
Marvin Carlson (1989, p. 195), for example, compares the onersction space asicular acticities or parts of a spacede more stimuli than a blank slateactionersction space asin reference to modern theatres, compares foyers that are often architecturally detailed and allow for diffuse attention, and auditoria in which detail is eschewed to focus full attention on the stage

There is perhaps an argument for a new model of combined production and display space for performance with lease based rather than timed access, within which individual artists can build up their practice with access to the physical transmission of ideas from other performers, the development of personal archives, and the building up of a local audience over time.

tival, which was described in the roundtable as highlighting the way that individual, domestically-produced dance practices could be recombined in a shared infrastructure, and overcome the issue of lack of personal memory and archive.[27] A number of dance artists were invited to live and work in Siobhan Davies Studios for three days, setting up temporary sleeping and cooking facilities within the rehearsal spaces and working alongside one another, with no pressure to produce anything specific by the end of the residency. Systems were established to support moments in which artists came together, through, for example, the use of a blackboard to advertise informal shared activities like walks and discussions. Artists were free to try things out and fail as part of the festival, both alone and together. The project was presented as a proposition about contemporary choreographic practice and the kind of space it might use. By allowing the domestic into the dance space, it was suggested, there is a greater possibility for a fluid relationship between individual and group practice, unlike the formalised spatial and temporal structure of the rehearsal which brings individual practitioners together at a set time and for a specific purpose. Rather than forcing people to work together, it creates a concentrated setting for working in parallel, and the possibility for the development of lightweight infrastructures for collaboration, such as the blackboard.

The festival and residency space was open to the public each afternoon and evening, creating interesting tensions between the processes of production and display. Assumptions about the activity contained by a building like a dance studio were undone by the visibility of making and unmaking the daily materials of living (beds, stoves) to make space for dance. The presence of members of the public transformed the space from domestic to performative. A principle was adopted in which anyone entering the room was initiated into the activity underway, so that they became internal to it rather than external, in the mode of the audience, as a way to overcome the transformation that observation inevitably engenders in action. Nonetheless, it became evident that non-residents could never truly witness the unmediated act of creation, as it always became more performative under observation. Finally, the festival challenged the doctrine of empty space that is prevalent in the provision of infrastructure for performance. It was asked what empty space really offers to a performer. It is presumed that for performers artistic inspiration comes purely from within, and has no need for stimuli within the production space. This presumes too no need for a direct relationship between physical acts of dwelling, in the way visual artist is imagined to inhabit their production space, and of creation. The domestication of rehearsal space makes it messy and allows the build up of traces of activity that can spark creation. Dwelling allows for the adjacency of artists without the necessity of collaboration, also providing stimulus.

This project raises several questions that could open up new approaches to the creation of new infrastructures for performance. What would an infrastructure for performance look like that combined residential and production space by design, and could this combination make it financially viable to supply individual studios for performance
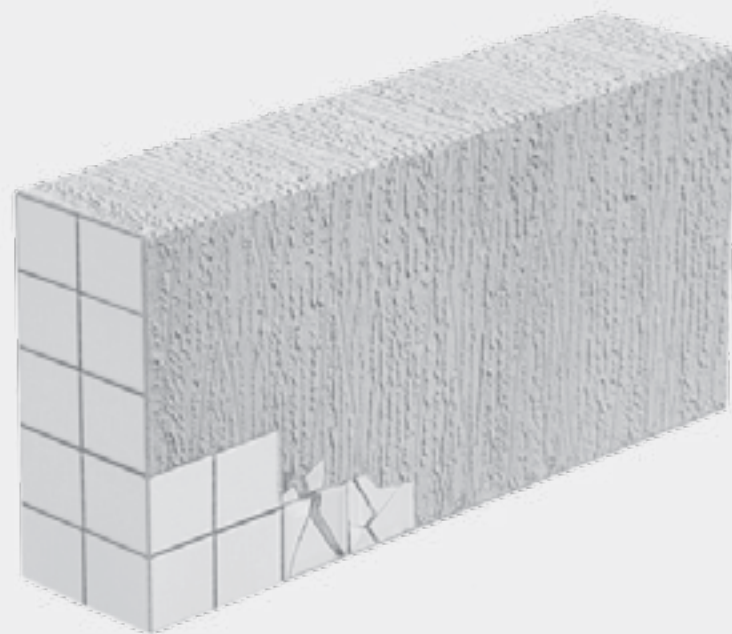
practitioners? What is a collective live-work space for performance, and how would it balance privacy, collegiality, intended and unintended collaboration?[28] Should production be made visible, and if so what are the spatial conditions in which the process of creation can witnessed without being undermined through transformation into performance? Would such an infrastructure benefit performers in allowing them to work in messier, more inhabited spaces that provide more stimuli than a blank slate? What would be lost and gained for performers in no longer having to be mobile to find space for production? What value is there in the networked quality of mobile production, in which performers have to make contact with and negotiate with many different kinds of people to mobilise the disparate resources for a performance to take shape?

Focused Space

In response to the notion of the Residential Festival, questions were raised about the need for specificity in performance space. Architecture can be used to bring about attention at different levels and create varying degrees of focus on particular activities or parts of a space.[29] Museums, for example, are not spaces intended for dance, but these large institutions are rediscovering performance as a way to draw in audiences and activate their spaces. This allows dance artists to experiment with the different levels of attention they can ask from a gallery audience that is standing and possibly distracted by other artforms, as opposed to a seated audience in darkness, with full focus. Dance in the museum can require the activation of parts of the body that would not be on show in a theatre. Loosely-defined spaces, like those combining residential and work space, and that are either open plan or semi-partitioned reduce focus, make it hard to pay attention to the work at hand: "intelligence can be examined in a focused space" it was argued. There is also a close link between memory and specificity: certain spatial typologies have developed over long periods of time through habitual forms of use, and have become home to particular practices. There should perhaps be caution around the breaking down of familiar forms of infrastructure, and value given to stable forms of design for specific functions.

To respond to these issues, it was suggested that there is need for small-scale, low-cost performance and production spaces that can build localised and more stable audiences around them, whilst offering affordable rehearsal space to individuals and groups. This could partly be achieved by breaking down large institutions for performance into networks of small-scale infrastructures across the city, that combine the stability institutions afford to their resident artists with the qualities of local accessibility and scale suited to individual practice. Churches were pointed out to be a huge existing infrastructure for performance, that could be made greater use of through a centralised and intensified system. This could be linked to an audit of unused infrastructural capacity in unexpected places such as above and behind shops, and in areas of offices.

Infrastructures of Making

10th November 2016
SPACE Studios, 129 – 131 Mare Street E8

The makers of objects require stable, safe spaces to protect the tools and products of their labour, and are therefore implicated in the politics of the places they inhabit. Is there a special kind of space required for 'cultural' making, and does it add anything to places that manufacturing cannot? What if instead of artist's studios we built factories?

Equipped Space

Making is understood here to be a process in which physical materials are manipulated to make new forms. Making, including manufacture and mass production, creates products that are generally objects of some kind. However, making as an artistic or cultural practice tends to bring the activities of conception and of production closer together, and often carried out by the same person or people: the maker. In this context, production is a set of activities that produces objects,[30] and display is the presentation or consumption of those objects either as functional (in the case of some forms of craft making such as ceramics) or non-functional (in the case of fine art making such as sculpture). This report largely limits the discussion of making to craft and fine art practices, and indeed treats these two sets of activities as essentially the same in terms of the way they use space. However, the term making has in recent years been adopted for use in relation to digital coding and programming.[31] Spaces of production for making can generally be assumed to require permanent storage of or easy access to tools, equipment, and materials, which in turn suggests that makers require stable locations for their practices. Spaces of display for making are distinct from those for performance in that they do not generally require the co-presence of artists and audiences.

The roundtable raised a discussion of the economic and social conditions within production spaces, and the relationship of these to infrastructural conditions. Where space is at a premium – such as in the context of a city-centre instrument workshops[32] – highly skilled craftspeople work in close proximity on delicate objects. In this case, forms of negotiation between them emerge that are silent and physical rather than encoded in written or spoken guidelines. This kind of cooperation has been described as visceral rather than intellectual or ideological, and as requiring a

high degree of assumed trust based on a well-executed choreography of movement.[33] It was argued that these conditions, based on the ability for craftspeople to share space for highly skilled forms of making, are ideal settings for innovation in craft practices and technical problem solving. Individual art studios presumably cannot create such conditions, whereas shared technical facilities such as printmaking and wood- or metal-working studios can.[34]

Labouring in Space

Unlike creative office spaces such as those supporting the advertising and communications industries grouped under the creative industries rubric, artists' studios operate outside of formal employment frameworks, without regulation of working hours, pay, parental leave, working conditions, and so on. This lack of regulation, arguably, relates to the way art studios are made available, on an individual lease basis, which encodes an assumption of the artists as a lone actor or even as art practice as a personal pursuit rather than a form of employment: "precarious working conditions are completely normalised" within the cultural sector, it was suggested. Research carried out by DACS in 2010 suggested that the median wage of a practising fine artist was £10,000[35] and a 2013 survey found that over 70% of artists had not been paid fees to exhibit their work.[36] With average rents in Greater London at over £15,000 per year the average artist cannot afford to live in the capital on the proceeds of their work. To counter this, groups such as Artists Union England are campaigning for minimum rates of pay from National Portfolio Organisations[37] and against a "culture of volunteerism and the discrimination it perpetuates".[38]

The unionisation of artists is predicated on a definition of artistic practice as labour, which could be seen as conflictual with the notions of craft, personal practice, and so on. A definition of art as labour is not universally recognised by artists: it was argued that there is a tension between the professionalization of art as a form of employment and its ability to be deeply personal or politically radical as a practice. The art studio is often seen as a 'home away from home' for artists. There will be a challenge in navigating the relationship between formalisation and regulation on one hand and the freedom to create and operate in very different conditions on the other. These tensions relate very clearly to the way spatial provision is made for art: it

[30]
For example: craft skills such as woodwork, clay spinning and needlework; artistic practices such as sculpting, installation testing and building, painting; and iterative design processes.

[31]
Nesta for example defines "digital makers" as a set of practitioners making processes and systems within technological platforms, rather than new objects http://www.nesta.org.uk/project/digital-makers. Our definition of making is specifically related to the manipulation of materials because of its distinct spatial requirements, which are different to those that can work with a screen and that we have grouped under the virtual.

[32]
The example was given of JP Guivier, a specialist violin

workshop on Mortimer Street W1, with description of the way work is carried out there coming from direct observation http://guivier.com

[33]
In The Craftsman (2008), Sennett shows that workshops in which highly skilled collaborative manual work is carried out support high levels of non-familial bonding, and describes how craft forms have been sustained historically through non-discursive forms of knowledge transfer such as observation and the development of embodied knowledge

[34]
Peckham Levels is an example of a new piece of cultural infrastructure that will provide a mix of individual studios and "shared creative facilities including maker space, manual workshops, and ceramics, print and music rehearsal studios" http://www.peckhamlevels.org. It remains to be seen what

kind of cooperative culture emerges in these shared facilities and their role in innovation in their respective craft forms

[35]
https://www.dacs.org.uk/latest-news/artist-salary-research?category=For+Artists&title=N

[36]
https://www.a-n.co.uk/news/paying-artists-survey-71-receive-no-fee-for-exhibiting

[37]
http://www.artistsunionengland.org.uk/rates-of-pay-working-towards-a-fair-days-pay-for-a-fair-days-work/

[38]
http://www.artistsunionengland.org.uk/solidarity-with-precarious-workers-brigade/

By becoming part of an ecology of production, that does not necessarily perform its creativity visibly from a public point of view, would artistic making be freed to become more ambitious and less constrained?

was argued that "hobbies do not need to be remunerated or have working conditions. Art becomes relegated to the status of a luxury that only an elite can afford to do, and then only an elite are interested in". Re-defining art studios as places of employment may require a different design approach. This raises the question of what a legal and economic model governing the way in which production infrastructures are provided for making would look like, that supports art to be properly remunerated but does not allow regulation to become a challenge to its modus operandi. If making is to be treated as formal labour, should there be a legal framework for the regulation of space for artistic making, bringing it in line with other forms of employment? Could a sustainable spatio-economic model for making involve artists becoming employees of studio companies rather than lessees, offering them protections such as minimum wages and sick pay but without threatening their artistic independence?

Non-Aesthetic Space for Making

Clearly, beyond the studio, affordable housing is an essential infrastructure for making and one of the key issues challenging its viability in London. Secure housing must surely be seen as a fundamental requirement for all aspects of cultural production in London, as it is for all kinds of work. In this sense, artists should not be singled out for support but included in provision focused on all low-income workers. It was argued that Creative Enterprise Zones, as far as they entail protections for studio spaces, will be meaningless unless they are tied directly to affordable housing for a range of workers and the tackling of low pay and precarious contracts.[39] Concern was also raised that the definition and location of the proposed Creative Enterprise Zones would be predicated on a "creative aesthetic" that is derived more from the presence of spaces for display than production. Making in materials requires large amounts of space, and is messy and noisy. As such, while some new developments include creative workspaces by design[40] it is generally on the basis of small-scale, clean working practices better suited to knowledge workers and the digital economy.

It was argued that there is a pay off for developer-led cultural provision in an expectation that the bodily presence of artists in a place will increase its attractiveness to other kinds of residents.[41] Artists are quite literally expected

to perform, to be attractive, in order to create a return on investment for their provision. Town centre management in Hackney, where Space Studios is headquartered, was said to have been focused on 'cleaning up' areas, through shop front improvements and the introduction of new retail.[42] Regeneration led by art and cultural retail ends up moving on many of the 'messier' businesses that are essential suppliers and fabricators for makers. "We're the beneficiaries of a lot of this regeneration because we're clean and tidy, quiet, well behaved… We're moving on a lot of the infrastructure that we need". Many Space Studios facilities are anonymous, industrial buildings without transparency or active frontages: they do not perform creativity in the way that many developers would like.[43] As an example, provision of studio facilities at Here East has been "reimagined as a 21st century cabinet of curiosities", [44] putting production on show as entertainment for visitors and with investment focused into performative architecture rather than facilities. The question was raised as to whether makers, and specifically those working with materials and at large scale, are better allied with light manufacturing in the city. In other words, it was asked what kind of ecology of uses they would best thrive in. In political terms, artistic making and manufacturing share an issue of low remuneration and job protection, that may be able to be addressed through similar spatial policies. In urban terms, the co-location of making and manufacturing could reframe the notion of creative zones as being necessarily dirty and noisy, and not compatible with the retail and display-led streetscapes that attract residential investment. Should artistic making become a category of manufacturing rather than of the creative industries and subject therefore to the same planning protections applied to industrial and employment land, with similar regulations around space and distance from dwellings? By becoming part of an ecology of production, that does not necessarily perform its creativity visibly from a public point of view, would artistic making be freed to become more ambitious and less constrained?

Production Space Without Display

A shift like this in the categorisation of and spatial planning for artistic making represents a challenge to the way it is instrumentalised as a tool for value creation in regeneration. Artists, for example, are sometimes offered space in shop fronts as part of planning requirements for 'active frontages', placing them on show as part of the perfor-

[39]
Beyond this point and the recognition of this fundamental issue, though, proposals for affordable housing provision were deemed to be beyond the scope of this exercise.

[40]
For example, the Barrett Homes Galleria development in Peckham includes studio spaces provided by ACME http://www.acme.org.uk/studios/galleria within the same building as private rental and ownership flats, that was reported by the GLA to have added "significant market value" to the development (p. 7) https://www.london.gov.uk/sites/default/files/gla_caw_140911_web.pdf

[41]
As an example, the strategic siting of CSM at King's Cross BEFOown creativity to propose nwhich all contribute tnvestment in the city.he privatre ing on their own creativity

to propose n before all other developments in the area to kickstart its regeneration through creative use, alongside the careful management of the square outside CSM that prevents any forms of messiness or production spilling over into the square from the university

[42]
As an example, when £2million from the post-riot Mayor's Regeneration Fund was allocated to Hackney Town Centre it was spent converting railway arches on Morning Lane from light industrial uses such as car mechanics to a "fashion hub" focused on retail, and with the inclusion of a small number of maker spaces for fashion https://www.hackneycitizen.co.uk/2013/02/08/riot-fund-cash-fashion-hub-narroway-mare-street-traders/

[43]
Some forms of spatial infrastructure for making 'perform'

themselves, through visual communication media applied to the exterior of buildings, signage, or architecture, for example. Many studio buildings, though, occupy ex-industrial buildings that are not evidently, from a public point of view, in use as such

[44]
http://hereeast.com/discover/buildings/gantry/

mance of place as creative.[45] However, as in the case of performance, making production visible through this kind of material design makes failure, which is an essential part of the creative process, much riskier for artists. The ability to fail creatively requires the possibility to be vulnerable, which arguably requires privacy. A similar issue was said to play out architecturally now within art schools, which need to advertise their creativity in a market of paying students and industrial patrons leading to a refocus away from productive space onto display, squeezing studios out in favour of galleries. Artistic making, like performance, requires rehearsal: it is not a linear process from conception to product, as is the case in industrial production, but the result of many unproductive and non-goal-oriented processes, experiments, and improvisations.

That the economic value created for developers by the presence of artists is not recaptured for the artists themselves was felt to be a serious issue. It was also argued that support for artists in new development is often "token" in the form of temporary studios or residencies. This arguably though represents a misunderstanding on behalf of developers of what constitutes valuable infrastructure for artistic production. It was suggested that artists should capitalise on their own creativity to propose new models of provision that create long-term value for both themselves and the private companies that are now the main source for new housing and public space investment in the city. It was warned that developers should not be set up as the enemy of artists, as has been common in media coverage.[46]

Ecosystems and Networks in Space

Studio operators were described as meaning more than simply access to space but also an immaterial organisational infrastructure of access to residencies, funding, and social networks that build up in locations over time. Studios are not just places to make, but to store work, to create an archive and have continuity of practice, be undisturbed, invite in and host curators and collectors, showcase oneself. All these derive from privacy and stability, and contribute to making an economically sustainable arts practice. Furthermore, studios entail the build-up of specialist equipment, whether individual or shared, and the development of the expertise to use it, which makes the long-term stability of studios essential to technical innovation in practices. Art studios were also described as being part of an ecosystem

of suppliers and fabricators – printers, building suppliers, stonemasons, corner shops – and therefore better seen as being part of a mixed business community than a specialist zone for creative enterprise.[47] Diversity of businesses is more beneficial to makers than a concentration of artists. Art studios, it was argued, should be seen as a distributed network of research and development facilities for London's extremely successful commercial art market. They were described as being inextricably linked to the "front end" of commercial and public galleries, as laboratories are to medical research. Arts Council and DCMS funding were suggested to have been overly weighted towards this front end. So, public-facing spaces of display, private and possibly invisible spaces for production, housing, fabricators, and suppliers, should all be seen as part of an ecosystem for making that operates at quite local scales. Without the accessibility of all these ecological conditions in any given zone, will making be sustainable there?

Practice Expanding Across Space

At a larger scale, questions of the relationship between the spatial requirements of making, forms of art object, and the scale of infrastructures was raised. An individual maker, with the examples of both a well-known fine art sculptor and a commercial jeweller given, can take two approaches as their practices expand in size. With commercial success, they can either find or build larger and larger individual spaces to make, house, and display large scale commissions, or they can 'urbanise' their process by developing a network of small spaces servicing different aspect of production, with objects and materials transported between them. In the latter case, the process of production spills out into the street naturally, and contributes to the diversity of public activity that constitutes urbanity without needing to be put on display.

In terms of display, it was questioned whether the creation of infrastructure is guided by scale of works of art themselves, or vice versa. The Tate's Turbine Hall, for example, precipitated the creation of artworks at giant scales that could not previously be housed in a gallery space, rather than responding to a need for such space. In 1871 the Royal Albert Hall was created, with the Proms emerging as a mass form of classical music in response to the availability of such space. In other words, space often comes first, with production having to shift to fill it. When spaces are

built at the scale of things like the Turbine Hall, there are two effects: artists working within the urban fabric around such infrastructures cannot produce work large enough to fill these spaces; and the space itself starts to become more powerful a draw than the work it contains. It is necessary, then, to think about whether mega infrastructures for display genuinely can contribute to the vitalisation localised flows of artistic production within London given their mismatch in scales.
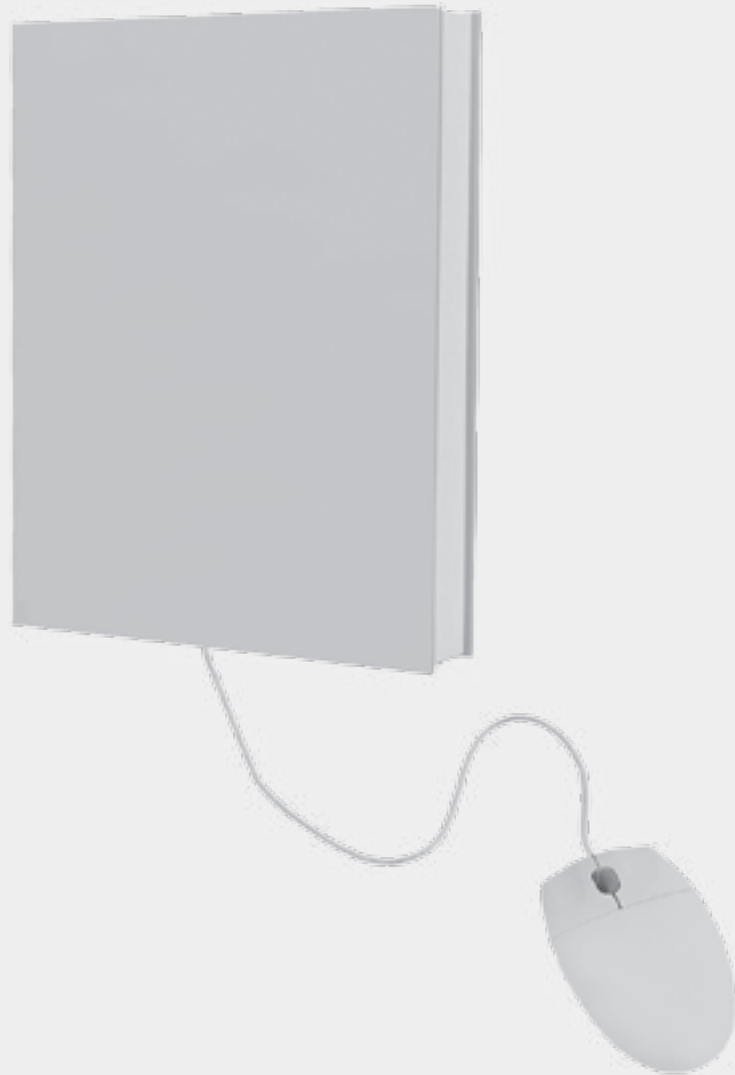
Culture in Infrastructural Space

Finally, the relationship between cultural infrastructure and transport infrastructure was raised. Certain kinds of infrastructural space, such as railway arches, have proven to be invaluable infrastructures for all kinds of artistic production and display. Whilst Transport for London (TfL) have a successful arts programme, that includes commissioning, a further step would be to build spaces for production into transport projects from the outset. Along with the fact that budgets for cultural infrastructure are a tiny fraction of those for transport infrastructure projects,[48] the space around transport infrastructure is often suited to making as an activity, providing a visual and acoustic buffer from residential space for noisy, messy fabrication processes. Cultural infrastructure could be planned into transport from an early stage, rather than becoming an add-on, both in terms of design but because of the synergy between mobility and employment. Huge budgets that could become available if even 1% of transport spending was earmarked for this use, compared to the fairly small budgets that are raised from housing using the same model. Artists and artist studio operators, then, should start to act and think more like developers themselves, by proposing economic and spatial models that combine cultural infrastructure with industry and transport, and where appropriate with housing at a time when large amounts of public land (owned by TfL) is becoming available for development.[49]

[45]
The significant new Anthology Deptford Foundry development in south-east London, for example, is making 30,000 sqft of "affordable workspace" available through Second Floor Studios, much of which will be ground floor railway arch space with glass frontages onto the communal parts of the development https://anthology.london/blog/news/post/anthology-provides-home-for-affordable-creative-employment-space

[46]
See for example http://theartnewspaper.com/news/in-the-frame/designer-digs/: "London's reputation as a home for creativity… is increasingly under threat as artists are displaced from their studios by property developers"

[47]
This demonstrates a striking difference from the way

performers or virtual producers related to locality. Gentrification, community, and the role of the artist in urban development was raised early on in the roundtable on making, and remained a theme throughout. Though housing was raised in other conversations, no performers or virtual producers spoke about their relationships to specific localities or described themselves as being part of a geographical community in their roles as cultural practitioners.

[48]
For example, the Tate Modern Extension cost £260million to build https://www.ft.com/content/039db282-3233-11e6-bda0-04585c31b153 while Crossrail is costing £202million per mile http://www.thisislocallondon.co.uk/news/13313717.How_much_is_Crossrail_costing_per_mile_to_build__See_this_and_11_other_facts_about_London_rail_scheme/

[49]
https://www.theguardian.com/uk-news/davehillblog/2016/aug/23/london-housing-tfl-land-set-for-affordable-homes-as-sadiq-khan-picks-expert-team

Infrastructures of the Virtual

Virtual cultural artefacts – texts, designs, illustrations, and so on – can be produced and viewed anywhere, meaning their makers are often extremely mobile. Should there be special places in the city for virtual culture or does it need a new kind of planning for infrastructure everywhere?

Unspecified Space

In this research, virtual cultural production is understood as a set of quite distinct practices of which the products are stored or encoded in media. Mediated content can generally be replicated, distributed across space, and accessed by any number of people simultaneously, meaning that their display does not require the co-presence of artists and audiences (as in the case of performance) nor of audiences and unique objects (as in the case, generally, of visual art practices). Media can, therefore, hypothetically be viewed anywhere, and do not require specialised spaces for display. With this definition, rather than one that necessarily involves the digital technologies often associated with the term, virtual culture is understood here to include such forms of production as writing (including journalistic, fictional, academic, and others), publishing, graphic design, web art, illustration, and so on. All these forms of production are linked by their ability, again hypothetically, to be produced 'anywhere' using media technologies that could be pencil and paper as much as computers and specialist software. So whilst the common image of virtual labour is a worker using some form of screen in a café or co-working space, non-digital media such as print and hand-produced text and images can equally be seen as media in their ability to be mobile and replicable. Writing was largely the focus in this roundtable, and could arguably be seen to analogise or stand in for a range of other cultural forms in which both production and consumption usually involves a one-to-one encounter with either screen or page.

As a general term, then, writing describes a particular relationship between cultural production and the city in which the volume of space required is low compared to making or rehearsal, and for which infrastructures could arguably have very low specificity, in that beyond the medium being written on there are no further specific material or ecological conditions needed. As such, processes such as writing have received less attention than making and even performance in urban spatial provisioning.[50] Writing, arguably, is a key aspect of artistic production that should be better incorporated into definitions of urban culture, given its important role, whether in the form of journalistic commentary or creative fiction, in shaping shared ideas of political, social, historical, architectural (and so on) reality. Where then, we asked, is the infrastructure for writing, and how do the conditions imposed by these infrastructures (or lack of them) impact the kind of writing that is produced? Because writing, unlike making and performance, is not to be found in specific spaces in the city, is it and are its practitioners relatively invisible? In planning for writing, should particular kinds of space be marked out in the city or should attention be paid to the possibility for any place to be a space for writing? If the latter, what would that mean in terms of infrastructure?

To further preface the results of this roundtable, it is worth mentioning two existing kinds of space for virtual culture, and the reasons they were not seen as infrastructures for virtual forms of artistic production. Libraries are and have long been repositories of virtual cultural artefacts: the move from the storage of print media to providing access to digital media does little to change this high-level definition. However, though they may be used as such by many individual practitioners, libraries are not thought of in legislative terms as workspaces for virtual culture: they are rather statutory service focused on information provision, falling under the responsibility of local authorities[51] rather than the Arts Council[52] and as such are not seen systematically as spaces for writing or other kinds of virtual creation.[53] Architecturally, libraries are not generally set up for the kind of focused, private production that has been described in the previous sections as essential for artistic creation: they are by their definition public and shared spaces, so that even if they are being used for production, writers cannot take ownership over them as workspaces and this will only ever be a secondary function. The second form of existing space is the coworking facility, that has arisen to answer a demand for shared physical space and co-location for individual workers in knowledge-based economies, as part of the rise of the digital and creative industries.[54] Though many aspects of screen-based coworking may resonate with the experience of the producers of virtual culture, such as mobility and low spatial requirements, coworking spaces were assumed not to be acting as infrastructures for artistic

[50]
The previous Mayor's Artist Workplace Study (2014) does not make any reference whatsoever to writers or writing as a form of artistic production, or the kind of space it might require. Furthermore, Arts Council support for literature funds "projects presented through a variety of media including publishing, online platforms, live performance and broadcast" but beyond libraries does not include support for specific physical spaces http://www.artscouncil.org.uk/supporting-arts-and-culture/supporting-literature. From a policy point of view, then, writing has not been seen as a spatial issue, constrained and shaped by its physical infrastructure in the way making is, but one of communication and access to mediated channels via which writing is distributed

[51]
The Public Libraries and Museums Acts 1964 assures the responsibility of local authorities to "make facilities for the borrowing of books and other materials" http://www.legislation.gov.uk/ukpga/1964/75/section/7

[52]
Although the Arts Council makes some funds available for schemes combining the 'arts' and libraries (http://www.artscouncil.org.uk/supporting-art-and-culture/suapporting-libraries) the core infrastructure itself is part of the educational and social remit of local authorities rather than the cultural one of the Arts Council

[53]
Whilst many libraries offer creative writing workshops on an event basis, such as the British Library's Write Here! https://www.bl.uk/events/secondary-write-here, and many individuals may use libraries informally for their own writing practices, use as creative workspace is not systematically built into the legislative definition of libraries.

[54]
See Gandini (2015) for a thorough definition and brief history of coworking as a spatial model, as well as a critical discussion of its contribution to instability and inequality of labour conditions for knowledge-based workers.

Virtual cultural artefacts – texts, designs, illustrations, and so on – can be produced and viewed anywhere, meaning their makers are often extremely mobile. Should there be special places in the city for virtual culture or does it need a new kind of planning for infrastructure everywhere?

practices such as writing, for both economic reasons and the very different spatial cultures of literary writing and commercial knowledge-based labour.[55]

Spatialised Value

For virtual cultures, both economic and informational value are currently primary concerns,[56] and this was immediately reflected in the roundtable. With reference to architectural journalism, it was argued that while the cost of buying access to architectural debate in print form has risen, making it harder to access for many people, remuneration for articles written specifically to be published online remains low, and sometimes non-existent. Print culture enables the remuneration of writing, through the availability of a physical product that enables information to be monetised, but raises the barriers to access that are often seen to be lowered by the internet. Meanwhile, the internet has challenged business models that reward those that produce information, redirecting profit to service rather than content providers. Clearly, there is no absolute divide between print and digital culture, with many newspapers successfully combining free and paid content online with print editions; print books returning to popularity over e-books; and many blogs being turned into either print newspapers or books. [57] However, print can in general be thought to stand in for a traditional model of paid-for cultural or informational virtual content, somewhat similar to the paywall model employed by many newspapers, while the internet largely still operates on the basis of free-to-access information funded by advertising and paid for only by the consumer in the form of the internet connection itself. It was suggested, then, that the value of information for both producer and consumer depends partly on the platform via which virtual cultural products are made available, and that the structure of different platforms dictate their accessibility. These structures for different ways of delivering virtual content to audiences could be seen as both material and immaterial infrastructural conditions shaping the way that content is valued.

So where should rigorous, quality debate about things such as architecture take place? Low-cost, printed publications were argued to be needed in the regime of devalued digital information and labour. As well as remunerating contributors, physical print confers perceived value on the content it carries. Low cost can be achieved by paying attention to

infrastructural conditions of print and distribution: choosing a size and weight of paper that mean it can be sent via standard post rather than special delivery, for example. There is a chain of effects, then, from letterbox sizes to the proximity of specialist printers that make possible the diversification of professional journalistic practice, beyond the large newspapers and magazines. Arguably, such a diversification of print culture through low-cost publication is essential to provide virtual space for a broader range of voices to constitute debate and public storytelling, and this cannot be achieved only through the internet because of the issues of value it presents. As an illustrative contrast, the example was raised of an architecture website that bills itself as "the world's most popular" and aims to provide information on new design to the widest range of non-specialists possible. In order to remain free to use and achieve the volume of publishing needed to retain its populist status, it republishes press releases rather than paying journalists for critical reflection, inviting users constantly to share its content. Such a comparison raises the question of what 'democratic' access to the culture of textual and visual discourse means, and subsequently what is the physical and economic infrastructure for a good quality public sphere. Is the democratic ideal embodied in the lack of barriers to access, both economically and intellectually, with the extreme volume of communication and breadth of reach that entails? Is the fostering of a more critical and challenging discourse worth, in democratic terms, the narrowing of reach and reduction in volume that is inevitably entailed by pay-walled print or online media?

Itinerant Production

What is the link, then, between the material conditions in which such information is produced – architectural writing for example – and the kind of discourses that are given rise to? How do the way spaces are shaped and regulated for the labour of writing, design, and image-making – that form the public sphere of media – shape the cultures of that public sphere? Large media institutions work in spatial silos, tending to develop institutional norms without the physical or temporal space for an internal culture of critique and review. Individual freelance writers or smaller publishing platforms tend to lack access to stable office space, meaning they also cannot build up a setting for peer review or develop the institutional stability that means their voices could have the weight to counter mainstream sources and

[55]
As an illustration, the Writer's Room in New York City (a model not, to our knowledge, replicated in London, and unique too in that city) provides a coworking style environment aimed at writers, with a focus on "solitude" and "quiet" http://www.writersroom.org whereas the Trampery describes its environment as an "open plan shared workspace [that] houses an energetic community of emerging entrepreneurs and small businesses" http://thetrampery.com/workspaces/old-street/. Commenting on the rise of the "writer's space" Hughes (2015) also notes the contrast with coworking space, where "startups and entrepreneurs gather under the banner of cross-pollination and ideation and use whiteboards. My writers' space, by contrast, sternly enforces silence in the main room."

[56]
In the roundtable it was argued that the lack of access to

a fixed location within an institutional framework, such as a university or a publishing outlet like a newspaper, was a spatial issue for writers that related directly to the degree to which their work could be remunerated and to which they could gain a reputation that conferred informational and cultural value on the content they produced. In the context of 'fake news' the reputational value of information has become a primary societal concern, whilst the decline in the economic value of information precipitated by the internet has challenged the viability of mainstream and institutional sources (Brevini et al., 2013, p. 39)

[57]
Fortunati et al. (2017), in a study surveying innovation in the newspaper industry, argue that we will see "a hybrid, multifaceted, enduring presence of print in the complex media ecology of the future" rather than its decline

diversify the public sphere. Like performers, the producers of virtual culture are highly itinerant. However, whilst performers may have to use rehearsal spaces on a temporal basis, these spaces are at least often designed for purpose and provide stability within the temporal frame within which they are occupied by the performer. Many writers work in extreme unstable conditions, even from hour to hour. In the roundtable, experiences were referred to of hunting cafés that would provide access to space and electricity for long enough to complete an assignment: an empty seat with a plug socket is not always easy to come by, and many businesses are now limiting the degree to which they allow the use of laptops.

There are also issues of security and comfort in using public spaces as the setting for such work. [58] As a result, many producers of virtual culture work at home, which was felt to blur the boundaries between labour and leisure. This was seen as contributing to the devaluation of the products of this labour, and creating an isolation that prevents the build-up of institutional stability and its attendant authority. In common parlance, we tend to work 'from' home rather than at home, suggesting the wish on behalf of virtual workers to distance themselves from this devaluing effect, and in more practical terms perhaps a wish not to use a personal residential address as the publicly-accessible professional contact that is generally required within publishing culture as part of transparency, accountability, and reputation. Even if most people communicate with a publishing platform via email, the ability to self-present via a physical premises helps establish trust. That is to say that the ability to self-present in the context of a material space, even when producing 'immaterial' virtual products, is valuable. Coworking spaces, it was argued, purport to offer this value by playing on the combination of the freedom that home-labour supposedly entails and the reputational and economic clout of a formal workspace.

As suggested above, though, the coworking model is business-oriented and tends to be unsuitable both practically and economically for individual literary or journalistic writing. It was reported that coworking space generates more rental revenue per square foot than conventional office space, explaining its rapid rise in recent years. Could this model be adapted spatially and economically as a new infrastructure for non-commercially led virtual cultures such as writing and artistic image-

making? Given that the spatial requirements for screen-based work are much lower than those for making, shared spaces aimed at practitioners working in this way could be provide facilities for similar numbers of individuals in much smaller premises. However, would this prove a challenge to the future viability of material-based making and push artists into screen-based work? Would having access to a permanent formal workspace provide better economic and spatial stability for itinerant virtual producers without undermining the freedom of mobility that technology-based work allows?

Institutional Infrastructure

Universities were described in the roundtable as providing both physical and organisational infrastructures that underpin the production of virtual culture with a strong focus on reputability and co-creation. Whilst it was not suggested that this would be a solution for all writers, their particular structure could be learned from in the development of new forms of space for virtual culture. Universities create a setting for the constant review of outputs both in person and anonymously through peer review (itself a mediated process), as well as an economic infrastructure for print publishing that confers authority on individual authors within the setting of journals and so on. They provide stable workspaces, but also stable professional addresses. The funded PhD itself was described as an immaterial infrastructure allowing individuals to dedicate time to the production of virtual culture without expectation of direct monetary gain. The flipside of this stability, it was argued, is that in the context of greater competition between universities for students and funding and as the employment structure moves from long-term stability to short-term contracts, faculty feel less free to forward radical politics and engage in controversy. Either way, a link was noted between conditions of economic and physical security and the level of challenge that can be raised within the public sphere through virtual culture.

Institutionalisation, seen as a process in which a group of colleagues oriented towards a particular ethos or aim become become stable in a particular physical and organisational structure, could provide these conditions. It was felt that for the producers of virtual culture to share in this stability without losing independence, a diversification of the public informational landscape was needed through the

fostering of new, small institutions. For example, groups of writers oriented towards particular issues could valuably occupy spaces in which peer review and shaaring of knowledge could take place, building into authoritative institutional voices on these issues. Neither existing form of infrastructure for virtual previously defined – libraries and coworking space – are suited to this kind of occupation. Though libraries are freely accessible and have the basic infrastructure for writing, they are both anonymous and atomized: designed for itinerant individual use rather than the embedded forms of cooperation and use that are required for institutionalisation.

Where, then, can the producers of virtual culture claim physical spaces in which interpersonal responsibility and shared values are built up and become associated with a specific location? If universities made their spatial resources more easily available to local residents outside of teaching hours, and opened their libraries for non-students, could a wider range of people use this infrastructure for virtual production?

Claiming and Making Visible

It was argued that because, unlike spaces for making, the material requirements for the production of virtual culture are relatively light and non-specific (broadband, desks, power, privacy) it should theoretically be easy for groups of virtual producers to take up stable residence in the many available non-domestic spaces in the city. The act of naming and marking a location, or "planting a flag", was described as enabling that place quite easily to take on and be recognised for a new use. In this way, very simple spaces such as unused offices or shops, and community centres, can become the focal points for particular networks and practices, stabilising them. Unlike making, which requires the long build-up of tools and materials in a permanent space, virtual production could arguably lend itself well to the kind of temporary provision that has become common in cultural infrastructure.

Temporary use of empty office space, for example, could allow the immaterial infrastructures of institution-like organisational and economic structures to be built up before moving on to permanent setups. There was also said to be a need for virtual culture to have a greater material presence and perform itself publicly to build trust. While not all

producers have access to the means of producing print culture, which expensive and logistically demanding compared to online distribution, the making visible of practitioners within new or established institutional spaces might mitigate this. The producers of the public sphere of media are relatively invisible compared to other kinds of producers: makers, it has been argued, are rooted in a specific location, and performers are always on show at the moment of display. If there was greater possibility for groups of writers, for example, to claim and mark urban spaces in the way suggested here, could they and their forms of production also become more visible and thus more connected to and trusted by their audiences?

Thresholds, Specificity, and Value

Virtual production has come to be thought of as endlessly flexible and non-site-specific, giving its agents total geographical mobility and giving us a new breed of multi-functional space that temporally and geographically co-locates labour, leisure, and domesticity. Many libraries have followed suit, de-specifying and opening up their interiors so that lounge, book repository, co-working space, and café occupy a single volume and become barely distinguishable from one another. The British Library was referred to in the roundtable as a case study in a very different approach: every space within it is highly specified for particular purpose, with space for private study strongly delineated from public parts of the building. Furthermore, each space is entered through a narrow threshold that "brings you to attention" through gradations of publicness from the 'agora'[59] of the square outside, to the grand brick foyer, to the quasi-domestic environment of the reading rooms with the materiality of wood and leather. This highly conscious design strategy has a political analogy: architectural specificity engenders focus, care, and attention on particular forms of labour that take place within the library, delineates that labour from other forms of activity, and allows an appreciation[60] of value in that labour. So whilst virtual work has been seen as an emancipation from specificity and fixed employment location, pure flexibility also works against value, and use of a private and highly specified space can also be seen as freedom from the distraction of the public realm within which much virtual labour is now assumed to take place.

There is an argument, then, for physical thresholds in the infrastructure of virtual culture, to allow communities of

practice to emerge around colleagueship and peer review, new institutions to take root and diversify the media-sphere, and for virtual work to be properly valued and delineated from non-work. Within office design there is now a move away from the open plan. A 2016 Gensler study found that offices without a range of settings had the lowest levels of innovation and effectiveness, and that private and small shared offices were the most effective forms.[61] The value of thresholds can also be seen in the infrastructure of the distribution of virtual culture: paywalls may be frustrating for some but have been successfully introduced by many large newspapers as a way to protect the monetary value of their informational products[62] which in turn arguably could increase their cultural value, as the conscious crossing of a paywall threshold requires a willingness to pay attention on behalf of the reader. There is also a strong argument for thresholds between the products of virtual culture. The internet has been described as fostering a "remix aesthetic" that is "well entrenched in digital culture" and leads to an ethical stance asserting the availability for all forms of cultural for appropriation and adaptation that has in recent years been criticised in the light of cultural appropriation, which is seen to devalue the traditional practices it draws from for popular cultures.[63] Thresholds, as requirements to pass through barriers into specific forms of space, or to pay for access to certain kinds of culture and information, then, could be said to protect value within the processes and forms that are situated behind them. So there is a cultural, economic, and political argument for better delineation and thresholds in both the physical spaces within which virtual culture is produced, and in the infrastructural conditions of the communication platforms used to distribute it.

There is, though, also a counter argument. Old Street, now the centre of London's tech and creative industries, was once an area with very loose thresholds and low barriers to entry: many empty buildings were squatted or repurposed and provided cheap or free space for the emergence of new cultures that laid the groundwork for its transformation into a creative economic powerhouse. This transformation has led to the disappearance of the accessible space that underpinned it, with buildings now being 'pay-walled' via high commercial rental values and private use by individual companies. These thresholds are valuable and productive for those with the means to cross them (either wealth or specific sets of professional skills) but are suppressing the

development of experimental cultures. Another example was given of neighbourhood community centres, which are often owned and run by local authorities rather than residents, creating an impermeable threshold to unplanned and informal activities for those residents. It was argued that what whilst specificity is of value, it can be created with permeable thresholds, through small gestures such as the naming and identifying of accessible spaces for specific practices, or the introduction of things like micro-libraries into the public realm, which create small zones of specificity and possibility for communication around them.

Conclusion

The experiences reported throughout this chapter demonstrate that inhabiting cultural infrastructure entails much more than having access to a volume of space within which to work. *Material* aspects of the design of these spaces - their specificity, whether they are transparent or opaque, how soundproofed they are, and the boundaries they have with their surroundings - translate into relationships with publics and other artists, stimulate or constrain experimentation. They also shape the way production is valued - whether it is treated as a formal or informal economic activity, and what role it is expected to play in urban regeneration. As such, these material conditions shape and are shaped by *immaterial* organisational structures that govern how cultural work is valued and regulated legally, for example. Similarly, planning regulations are immaterial infrastructural conditions that are not physically present in but shape the built environment, to dictate where cultural production can take place and what kind of environment it finds itself within. These environments have been described as *ecological* conditions. Practically, the kind of land uses and activities surrounding production spaces relate to the degree of mess and noise they can create, but equally the contexts impact the cultural and political perception of production - whether it is more like manufacture or public-facing entertainment. Clearly, then, these three sets of infrastructures are closely intertwined, and constantly produce one another. However, we would argue that they represent a much broader understanding of the conditions within which artists work, which go way beyond the simple facts of the affordability and size of homes and studios. Only by treating the labour of artists themselves as the starting point and trying to uncover how it relates to its urban environment, as this research has, can unexpected forms of infrastructural condition be unearthed that do not necessarily appear as issues from a strategic planning perspective.

[61]
https://www.gensler.com/uploads/document/446/file/gensler_uk_wps_2016.pdf

[62]
http://theconversation.com/are-paywalls-saving-journalism-53585

[63]
Goode (2010) provides a sharp critique: "the remix ethic may lend itself well to certain cultural formations, perhaps especially the dynamic and prolific cultural codes that exude the self-confidence and reflexivity we commonly associate with globalization and de-traditionalization. But does this perspective necessarily sit well with all cultural formations, especially those perceived as being at risk and for whom rescuing, protecting and reclaiming stewardship of – rather than remixing – culture, may present itself as

the more pressing goal?" Jaron Lanier (2010) has also criticised the anonymity that is afforded by crowd-sourced information with a critique of Wikipedia, pointing out that it rests on an assumption that volume of contribution will automatically lead to truth through a process of attrition, hiding the positionality and bias of the accounts that build up to form it whilst reducing each individual account to zero value. Lanier argues instead for an internet of thresholds, in which we pay for and consume the products of individuals, value individual labour, and hold individuals accountable for the work they produce.

Chapter 2

Designing Cultural Infrastructure

Introduction

The very notion of infrastructure is about creating conditions within which action can take place, rather than attempting to control the outcome. The proposals in this section, created by four architectural practices in a charrette hosted by Theatrum Mundi, outline four distinct ways to create these conditions. They are not intended as wholesale guidelines ready for implementation, but rather hypothesis, each encoding a particular idea of the roles urban planning and design have to play in the creation of conditions for culture. Read together, they make a clear argument for spatial strategies that could play out across the city, rather than specific sites or architectural typologies. This chapter presents the four design proposals alongside a discussion of the implications of the strategic approach that emerged from this design research process.

Process

Four design practices were invited to take part in a charrette at the Royal College of Art on Friday 19th May 2017: Assemble; DSDHA; We Made That; and Haworth Tompkins. Each have been deeply involved with the making of cultural infrastructure in different ways. Assemble have initiated projects such as the Cineroleum and Folly for a Flyover, that use lightweight material interventions to create the possibility for different kinds of social and cultural gathering, in spaces that did not otherwise support this: a derelict petrol station and a motorway flyover respectively. Assemble's Granby Workshop saw the creation of an architectural ceramics studio as part of the renovation of 10 empty houses in Liverpool into affordable homes, giving residents the opportunity to learn craft skills whilst creating materials for their own domestic environments. DSDHA have designed studios for artists and makers such as Edmund de Waal, and lead the Cultural Infrastructure design think tank within the London School of Architecture. We Made That conducted the Artists Workspace Study, and are currently investigating the potential of Creative Enterprise Zones, both for the GLA. Each practice was provided with the working paper summarising the workshops, and took part in a discussion about the ways the issues it raised could be translated into design. An open brief was set to propose an approach to the provision of cultural infrastructure, without specifying any site or even the need for a single site, or the format this should take. At the end of the design day, the proposals were presented and discussed, allowing an opportunity to refine and submit them for inclusion in this report.
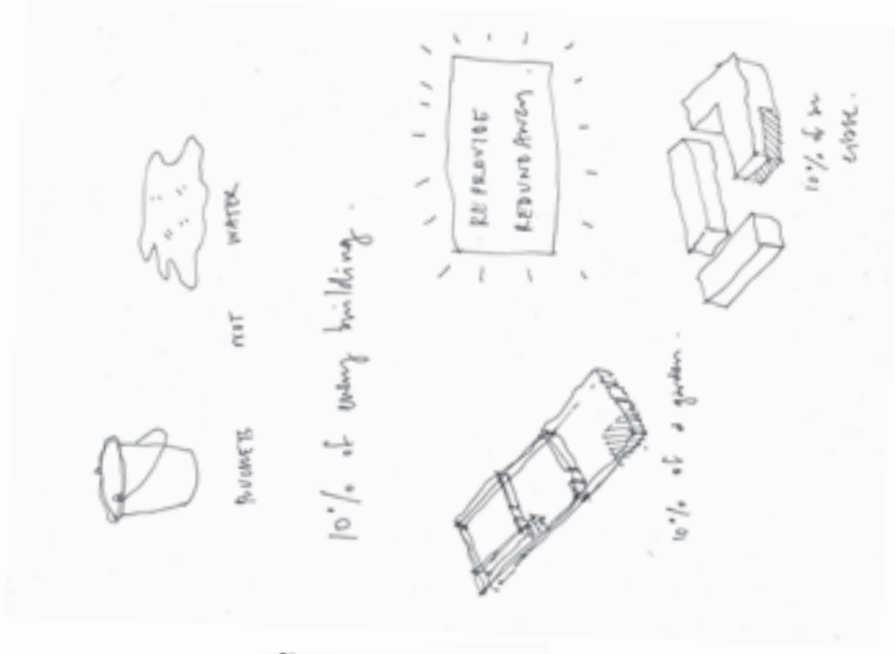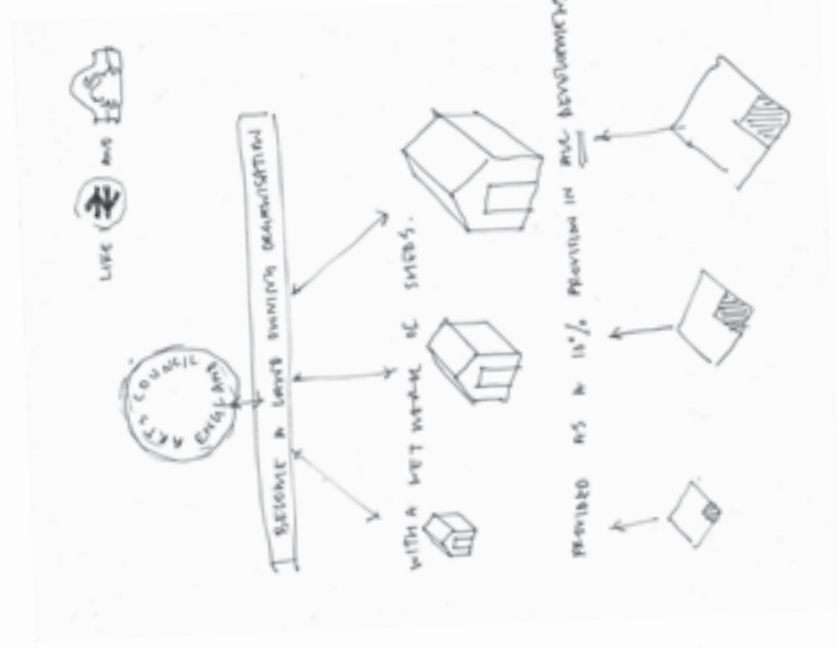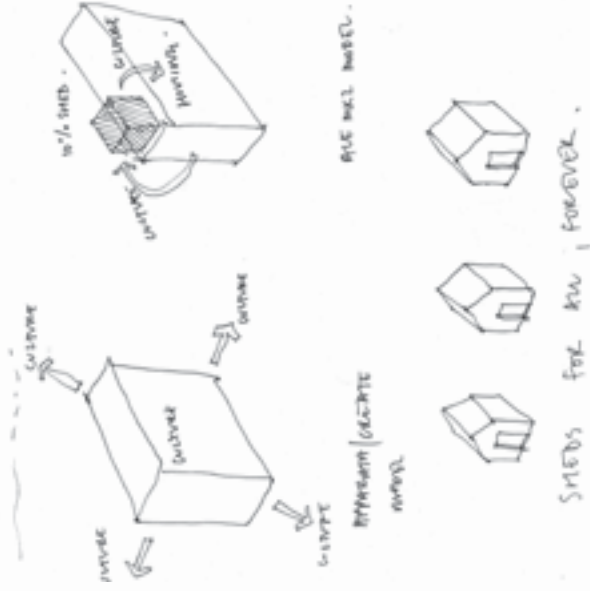
Profiles

We Made That is an energetic architecture and urbanism practice with a strong public conscience. All our work is public, and we aim to make imaginative and considered contributions to the built environment through socially engaged design processes.

Assemble are a collective based in London who work across the fields of art, architecture and design. They began working together in 2010 and are comprised of 18 members. *Assemble's* working practice seeks to address the typical disconnection between the public and the process by which places are made.

DSDHA's architecture is always evolving: each project is a bespoke response to a unique brief, which develops through dialogue with their clients, stakeholders and collaborators as well as with the ultimate users of our designs. Their projects span from macro-scaled urban strategies and infrastructure studies through to highly acclaimed individual crafted buildings.

Haworth Tompkins was formed in 1991 by architects Graham Haworth and Steve Tompkins. Our London-based studio has designed buildings in the UK and elsewhere for clients across the public, private and subsidised sectors including schools, galleries, theatres, concert halls, housing, offices, shops and factories.

Sheds Forever

ASSEMBLE   Sheds Forever

A Proposal for the Dissolution of (subsidised) Culture and the Re-provision of Redundancy

The Arts Council uses public money to buy time and space for Culture. Generally speaking, it buys time from individuals via intermediary organisations, and it buys space either by paying directly for buildings, paying the running costs of buildings, or paying for things which bring enough commercial opportunities along with them to enable organisations to pay for buildings.

We see this role as essentially remedial or compensatory in nature - it is a public gesture which aims to make up for the fact that the way we organise our environment and our shared social and economic lives leaves no space or support for a wide range of experiences, types of interaction, expressions and activities which do not thrive under market conditions.

We suggest a radical re-definition of the Arts Council's role, not as the arbiters of cultural value and the maintainers of containers for privileged activities, but rather, as an agency that imagines its role to be the creation of conditions in which more inclusive, diverse, responsive, devolved and self-driving culture to emerge. In this model, the challenges of how to support plurality, diversity, autonomy, emergent technologies, practices and constituencies doesn't figure as problem, because making distinctions ceases to be any of the Arts Council's business.

We call this strategy: SHEDS FOR ALL FOREVER!
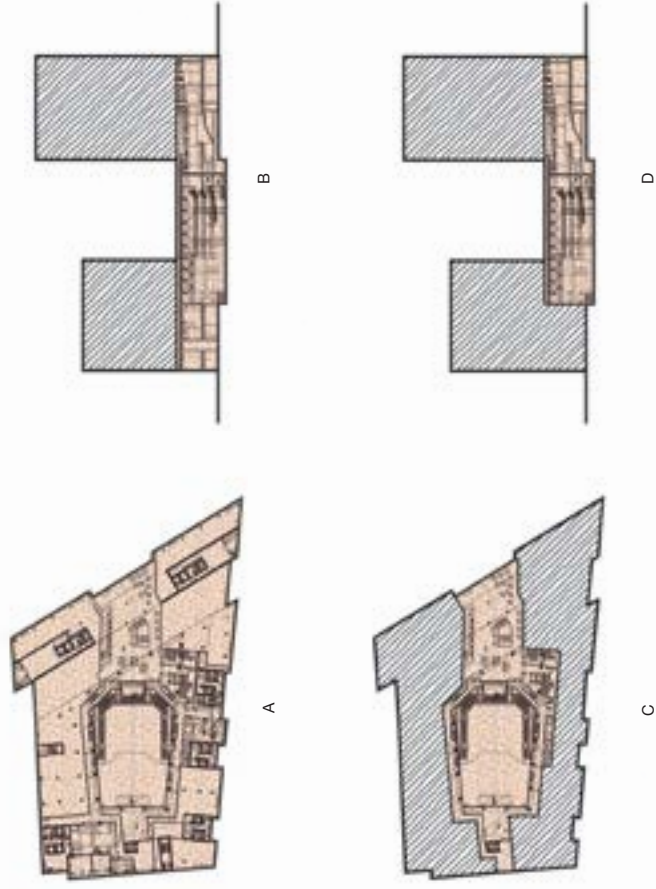
Under SHEDS FOR ALL FOREVER! ACE will have two roles;

Buying Space

The other half of ACE's budget will be dedicated to enforcing the creation of 10% excess space in all development, public realm and infrastructure projects. The Arts Council will set up a new agency, which will act across planning and enforcement. The 10% slack created will be co-optable by anyone, at any time, for

anything. 10% has no curatorial agenda, no outreach programme, no educational officer. The 10% can be used for as long as it remains occupied. There will be no spatial standard beyond building control, and the natural variation created by the differences in building projects will create a wildly varied, strange and unpredictable set of space densely interwoven with the whole built environment.

Buying Time

Once the Buying Space scheme is up and running, we propose that the Arts Council move to buying time. Rather than buying the time of a small number of individual to produce Culture, and another set of individuals to persuade other individuals to appreciate / engage with the culture produced in their spare time, we propose that that Arts Council develop a strategy that will buy slack time for everyone, for each to use as they wish, whether through Universal Basic Income, shortening of the working week or maximum working hours directive. It may additionally be necessary to reduce economic activity during "Slack Time" but we leave that for more detailed development.

HOWARTH TOMPKINS   Useful Hinterlands

1778

1674

2017

1791

A

B

C

D

Funding / Planning Typology: Section 106 Funding for cultural space at 1 Tower Bridge
A. Plan area of cultural space proposed by local authority; B. Section of cultural space proposed by local authority; C. Plan area
of cultural space required by cultural client; D. Section of cultural space proposed by local authority

Funding/Planning Typology
Development of Theatre Royal Drury Lane of 300 years into a city block

Current Provision

Current planning policy obligations, also known as Section 106 agreements, require developers to make a contribution to the local community and reduce the impact of the development on the local area and community. These private agreements between a developer and local planning authority ensure that both funds and useable space are made available within large development projects to provide cultural infrastructure, predominantly social housing and infrastructure, but sometimes cultural buildings such as affordable studios, workshops, galleries and rehearsal spaces.

Whilst culture is one of the core principles of the NPPF, there is a current disconnect between developers and local cultural organisations and individuals. Cultural policy within a borough can act as a key broker in development between multiple parties.

Planning Typology

Haworth Tompkins have been working with The London Theatre Company on a new theatre at 1 Tower Bridge. The theatre was made possible by a Section 106 agreement between the housing developer and local authority. Originally the whole plot at ground level was given over to 'cultural space' however, even near to completion of the development, no cultural organisation user had been found, disputed the high-profile aspect of the spaces, (figure 5 and 6), with a public face on three sides amongst an animated part of London. However, the valuable external facing spaces of the plot were not deemed useful / affordable for a cultural organisation whose skill requirements and methods were better placed within the centralised heart of the block, or 'hinterland spaces'. Whilst developers and planners may assume that an arts organisation could animate street fronts with their 'creativity', in reality the use of their spaces are often apparently inactive for long periods and require privacy for work in progress. Economically they also of course need cheap space.

Instead the peripheral street frontage space was,

through negotiation between the theatre, developer and local authority, handed back to the developer to make better use of this prime commercial space (figure 7 and 8). By wrapping the cultural core at ground floor for retail and restaurant use, the extra commercial income and reduced footprint was then able to make the theatre commercially viable. This strategy utilises the deep floor plan of an urban block for more protected cultural use and allows the building frontage to be occupied by programmes benefit more open to being viewed.

This case study demonstrates the adaptability of cultural clients within awkward plots. The spatial qualities required for cultural praxis are open but these hinterland spaces, often with no natural light and limited access are of little value to the developer. Thus, this strategy enabled The London Theatre Company to efficiently utilise this commercially 'low quality' space as a new theatre as well as optimising the use of the site.

Spatial Typology

Creative instability is valued and these hinterlands and awkward leftover spaces create friction and tension for creative output out of necessity and are often more useful spaces for theatres, performance and recording. Theatre Royal Drury Lane, successfully carved its way into a city block with two passage entrances either side which developed over the following centuries into an entire city block (figures 1 to 4). Carving out of an urban block with an economy of public face is sufficient for successful cultural adaptation and use, and suggests that multiple sites could be propagated in such ways across London.

Partnering

Can new city-making laws ensure the user and creator have a more direct link early on? Small capital grants directed to individuals and smaller groups could link developers, local authorities, planners and individual skills networks. This will bring production back into communities and enable co-production models that support new creative projects.

DSDHA

Culture in Infrastructural Space

A. Producing culture on the bus; B. Play culture in a gaming arena; C. Performance & watching informal theatre; D. Production and maker spaces; E. Night time culture in the Underground; F. Orchestra performance & making music; G. Consuming culture on Crossrail; H. Dance rehearsal & Art class

Mess:
Spatial Strategies for London's Cultural Infrastructure
New Cultural Infrastructure Manifesto

Focussing on the theme of Cultural Infrastructure, the practice DSDHA has led Metabolic City: one of the London School of Architecture (LSA) 2017 Design Think Tanks. Working collaboratively with the students we have addressed some of the issues raised by the Mayor's Cultural Infrastructure strategy and devised a spatial strategy to "sustain London's future as a cultural capital."

London's cumulative cultural offer is stunning, from the high-arts in old and new iconic architectures, to pop culture and vibrant street life. All these venues and, just as importantly, their smaller interstitial spaces, represent a complex meshing together of the city's DNA: the urban and cultural planning that underscores innovation, business success, and wellbeing, making our metropolis appealing to tourists, students, and future workforce.

Today, however, London's cultural ecology is under threat from a number of different forces. These range from sanitisation, which is turning our public spaces into hyper-regulated environments that are hostile to informal creativity and spontaneous gathering; to the incessant rise in property value, which is pricing out workspaces and homes for the creative community and the city's makers; through to the growing phenomenon of privatisation of cultural spaces and collections, resulting in a growing number of private museums – often set up as alternatives to paying taxes – proliferating in our cities, alongside tax exemption schemes like CETI (covertly keeping public collections within private walls) and the so-called 'Freeports' of culture'. These are extra-state, armoured storage facilities, built in the proximity of airports, where high-end collectors can store and trade their artworks without having to pay taxes.

All this while, under the effect of ubiquitous networked technology and rising mobility, consumption and access to culture are radically changing. As we travel more and more and for longer, the "journey" –

the time spent between our destinations – becomes a significant part of our everyday urban experience, one that blurs the boundaries between work and leisure, favouring a more informal approach to culture, which can now be enjoyed "on the go". Yet the "journey" remains a largely overlooked area when it comes to urban cultural planning, whilst offering potential sites for future cultural infrastructure to be safeguarded.

Working with our students from the LSA (Louie Austen, Charlotte Hurley, Molly Judge, Lloyd Martin and Sheenwar Siti), we have devised MESS (MEtabolic city Spatial Strategies). This is a city-wide spatial strategy that operates between mobility, infrastructure and public space and that ingeniously tweaks planning policies and taxation schemes to ensure that future investment in cultural infrastructure is not left in the hands of the private sector and directed solely towards totemic containers for the high-arts. MESS sustains the evolution of cultural participation and production away from formal institutions and towards a more granular and dispersed array of hybrid activities. MESS's spatial framework of small- and medium-scaled flexible spaces (ideal for studios, workshops, and rehearsal) "stitches" between transport infrastructure, new private developments, and public space, to favour a more permissive and playful environment that preserves London's cultural vibrancy as well as its economical and social wellbeing, offering all forms of art in transit.

Mobility and Culture

We propose to exploit the opportunities generated by transport infrastructure developments, during "the journey" itself, by distributing new cultural spaces along the length of Crossrail, near its many stations to serve a wider demographic and bring benefit to Londoners' daily lives. For this purpose we have studied the typical day in the life of a Londoner. We have analysed how technology, mobility and daily activities (such as sleeping, eating, playing, eating, working etc.) overlap in the routine of an adult and a child respectively, and where in these cycles cultural production, participation and enjoinment tend to insert themselves. The journeys we make are active

sites for cultural investment not just the destinations we travel to and from.

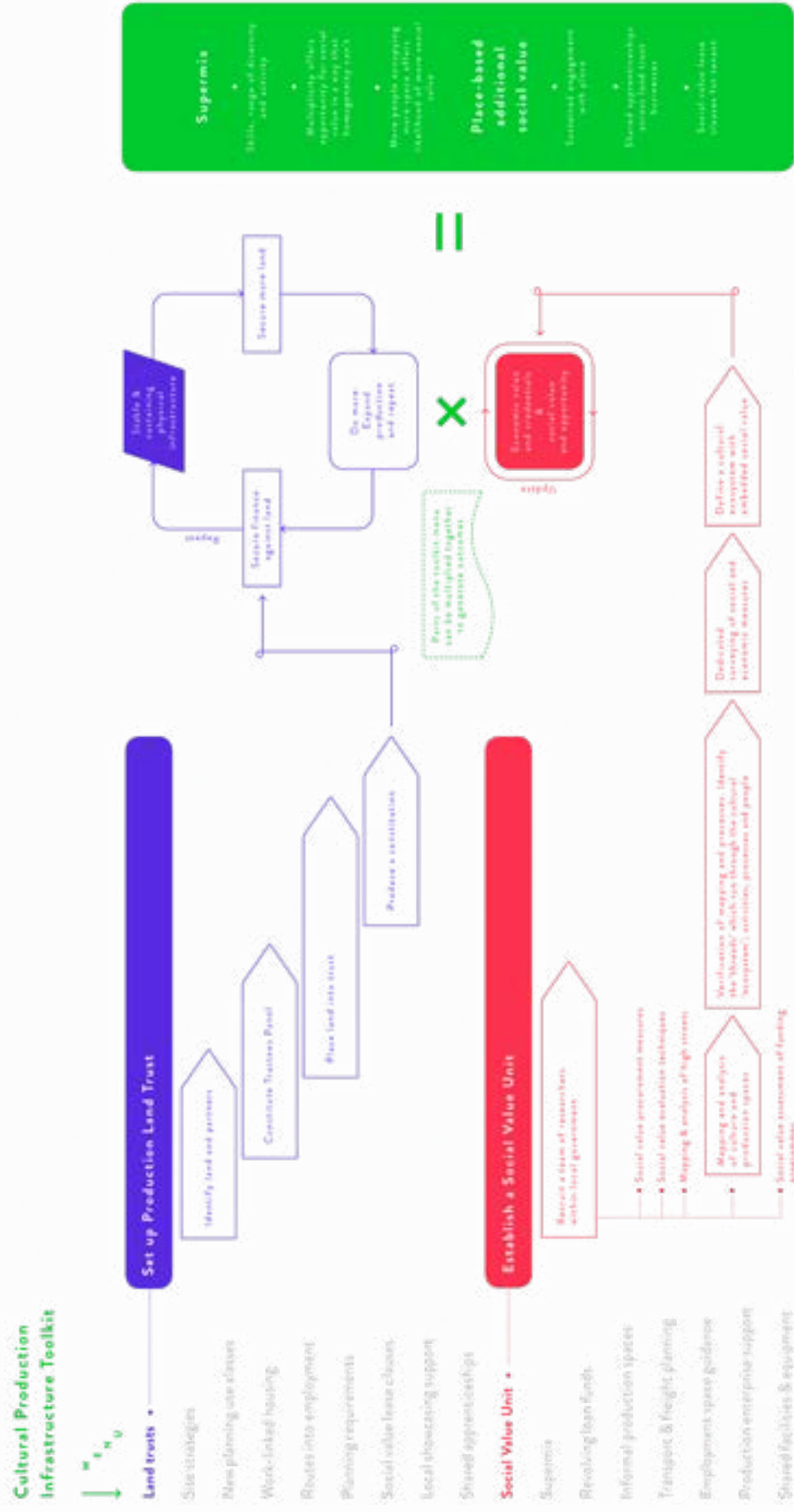*Create Permissive Places for Production, Participation and Play*

Our proposal favours the proliferation of extra-small, small and medium sized flexible spaces, ideal for studios, workshops and rehearsal spaces, close to transport, this would support local talent and mitigate the incessant expansion of residential space as well as Large and Extra Large containers for the high-arts at the expense of London's common creative ground.

Reform Existing Funding Models

We propose to allocate a fixed percentage of both Local Authority and Community Infrastructure Levy (CIL) – a planning charge that local authorities can impose on large developments– to support the economic and cultural wellbeing of an area. This levy would fund the provision of new spaces on sites that sit between the forthcoming Crossrail stations and their adjacent speculative developments, as well as further afield within local neighbourhoods. We have tested this proposal on two sites touched by Crossrail: Whitechapel and Heathrow Airport, revealing the huge potential these have to re-provide lost creative space.

Make Mess

Our proposed cultural infrastructure network, will utilise the 'shit space' of development (the less valuable floor space of new buildings, such as the underground or overshadowed areas, or the noisy space in the proximity of an airport or railway line) to make room for messy creative activities in our city. Borrowing the model of Shared Economy – essentially connecting and making the most of underused resources – less valuable venues will be programmed into new buildings, transport infrastructure itself, and public spaces, to maximise their use and create more permissive spatial framework, where variety, hybridity and serendipitous discoveries can unlock the potential for creativity and play in the city.

Organisational Infrastructure Toolkit
Oliver Goodhall, Melissa Meyer & Mark Flynn

While 'cultural infrastructure' might immediately bring to mind spaces of performance and display – theatres, galleries, screens – it is the 'back-of-house' infrastructure of production– warehouses, logistics services, yards – that this proposal is concerned with.

Theatrum Mundi's research considers three (overlapping) 'fields of practice': performance, making and the virtual. Within each of these fields, consideration is given to the process of creation as well as the display and/or consumption of these practices. Performance is tested and refined through rehearsal. Making finds its presentation in display. And virtual production creates cultural forms which can be consumed via a type of screen.

This proposal engages with a particular slice of the wider question of how to design cultural infrastructure into the city: how can we support and sustain infrastructure for cultural production in the city? In particular, given the current ambitions of local and city government to deliver cultural infrastructure strategies and projects, how might these be best approached and realised?

London's spaces of cultural consumption and display are dependent on sites and networks of 'back-of-house' production across industrial warehouses, converted sheds, design studios, storage spaces and London's rails and roads. These pre-display, pre-consumption stages of cultural infrastructure are under particular strain in London given current housing, land value and congestion pressures. Production infrastructure – tucked away sheds, fleets of vans, hard-to-access yardspaces – is often more hidden than the display infrastructure that presents 'culture' in the city.

We are concerned with how to better understand, deliver and support production infrastructure, and how to deliver excess of social value possibilities in activities and spaces across the city.
Social value, a much-used but loosely defined term, engages in a set of value system beyond purely economic or public value. The term implies a concern for collective well-being in addition to individual well-being. In policy terms, social value can be understood to incorporate economic, social and environmental value. Engaging with questions of social value around cultural infrastructure moves beyond a focus on Gross-Value-Added and economic contribution, to consider and capture the benefits that production infrastructure can offer across social and environmental concerns as well.

Our Cultural Production Infrastructure Toolkit suggests a range of interventions and actions which can work to affect production infrastructure directly. The tools themselves should be developed and delivered in response to local character and capacities. Mapping, verifying and recording existing and proposed production infrastructure should be the first step in any process which seeks to engage with questions of infrastructure interventions. With this specificity in mind, our proposal presents a range of tools to engage with as appropriate across different sites of cultural production. This toolkit can be used by a range of actors: local authorities, land-owners, industrial tenants, planning teams, city-level government and individual businesses.

Each of these tools is made up of temporal and organisational conditions particular to the intelligence accrued in baseline mapping. This intelligence then informs the creation of a selection of tools which operate in combination to set out a 'roadmap' for supporting and delivering production infrastructures.

In particular, this proposal expands upon the processes and impacts of two key concepts from this menu: social value and land trusts. Establishing a social value unit within local government structures works to deliver re-valuing of production infrastructure which encapsulates impacts and possibilities beyond pound signs, while a production land trust works to deliver stable and sustaining physical infrastructure, in place of common conditions of precariousness. Once this 'roadmap' is in progress, this proposal goes a step further: considering how tools, might deliver additionality – of space, of social value, of skills related to production.

Conclusion

Strategies for designing cultural infrastructure

Up until now, cultural strategies have been tied up with place-making, aiming at creating a situation in which a neighbourhood or particular urban space can be experienced as 'cultural' by visitors. We might think of this as a performative approach, in which the product is the starting point, and is immediately put on show to advertise the creativeness of the city. Infrastructures, on the other hand, are enablers, but do not necessarily dictate how and when they will be used. For example, a neighbourhood is provided with a new bus route so that it *becomes* more accessible, not so that it can be perceived as accessible. Bus routes are instrumental rather than performative or symbolic infrastructures. Major pieces of public-facing infrastructure for cultural display, such as the Guggenheim Bilbao, were planned as expressly symbolic, aiming to change the perception of a place, and in cases such as Bilbao were so effective in doing so that they had the instrumental effect of transforming the economy of the city. As a result of its success, this approach has been emulated widely in urban planning, leading to strategies that attempt to build the products of culture into places without little attentions to the conditions that sustain the productive activities that create them. This has long been observed: Malcolm Miles, in his 2004 analysis of the notion of urban quarters, highlights a "business turn" in arts provision, with a focus on providing for cultural consumption rather than production, within a "cultural ambience".[64] By definition, such an ambience requires either the dominance of display spaces, or for production to be made visible through the design of studio spaces open to the public realm. According to Miles, the mobilising of cultural display in this way has been successful in many cases in attracting investment through the relocation of large businesses to urban quarters newly branded as cultural, such as in Gateshead [65] and Glasgow [66], but sometimes at the expense of local cultures themselves. In this model, it is essential for planning bodies to have a significant level of control over the *type* of culture created, given its requirement to contribute to a coherent place brand. Where large galleries are created, for example, to spark urban regeneration, it is not only the space but the broad programme of that space that is conceived of. These galleries are what Easterling, in her analysis of the power of infrastructure space, describes as *object forms*.[67] They are finished products that are intended to constitute and house the visible results of the capacity that cities have for cultural expression. The architectural propositions from *DSDHA*, and *Haworth Tompkins*

are better defined via Easterling's term *active forms*. Rather than specific outcomes, active forms are ways of making space that could play out across the development of the city to increase its capacity. Easterling's descriptions of these forms help understand how the propositions in this report might be implemented. *Haworth Tompkins* design demonstrating the potential for cultural use of the "hinterlands" behind and between buildings, for example, is what Easterling would call a "multiplier", a technology or type of space that "propagates" across the urban landscape, changing its genetics. In her example, the lift created the possibility for skyscrapers, sending the city upwards, while the car multiplied its horizontal extension. Architectural techniques that allow for the hinterlands already existing within many buildings to become homes for activities that do not need to be visible from the street could lead to a multiplication of viable spaces for these activities without the necessity for the aesthetic reconfiguration of of the public realm that so often accompanies the provision of cultural objects. This means or ability to support culture is what Easterling describes as a *disposition* of infrastructural space or conditions: their tendency to lead to rather than determining of certain outcomes. Changing the character of key elements within a network of infrastructure can have a greater impact on this disposition, with a lower investment, than an attempt to control the behaviour of its every part. This approach is illustrated in *DSDHA's* Metabolic city Spatial Strategy (MESS). As well as proposing multipliers in the form of spatial typologies that could propagate across London's transport network, it aims for an intensified mobility of culture through its use of interchanges within that network. If, as argued by Easterling, it is the character of nodes that give a network its disposition - just as a road network can only move as smoothly as its junctions allow - then perhaps a repositioning of these interchanges as cultural infrastructures could allow for more of the time and space consumed by travel to become culturally productive.

The making of infrastructural conditions, as illustrated in these design propositions, suggests a different role for planning authorities within cultural development, and a different definition of value. Rather than attempting to shape the specific functions that units of urban space have and the type of cultural activity that should fill them, an infrastructural approach has the opportunity to create favourable conditions for a wide range of productive activities without needing to envision exactly what form those

[64]
(Miles in Bell and Jayne, 2004)

[65]
(Bailey et al., 2004)

[66]
(Seo, 2002)

[67]
(Easterling, 2016, pp. 71-94)

Rather than attempting to shape the specific functions that units of urban space have and the type of cultural activity that should fill them, an infrastructural approach has the opportunity to create favourable conditions for a wide range of productive activities without needing to envision exactly what form those activities might take.

activities might take. When the task for planning authorities is to create conditions for productive activities, the value is placed on the activity itself rather than on its products. Of course, many such activities may be forms of skilled labour, which are of course highly valuable in diversifying the economic opportunities available within cities. They may, though, not be economically productive but rather leisure, craft, or experimental processes. In *The Craftsman*, Richard Sennett argues for the ability of shared involvement in forms of production to stimulate social bonding that strengthens public life beyond intimate communities of friends and family.[68] In other words, that involvement in production, whatever its outcomes are and whether or not they become visible in urban spaces in the model of the cultural quarter, has educational, associational, and psychological value in its own right. The organisational design by *We Made That* proposes a system for capturing these kinds of value, broadly termed as "social" value. Limiters of possibilities for artists, such as expensive leases, are re-written to include "social value clauses". Funding programmes are assessed on a wider basis than economic development, meaning social value can indirectly be re-invested back into the physical infrastructure itself. These definitions of value, and the way they are translated into one another, constitute what Easterling would describe as the "wiring" of an organisation that produces spatial conditions. By altering them, they argue, we could rewire development processes in terms of financing and ownership in order to create the potential for different spatial dispositions before material design is even considered. *Assemble's* hypothetical policy for 10% redundancy is another immaterial form that would play out in different approaches to city-making, but acting more like what Easterling describes as a "governor", or a protocol for growth. As new space is added to the city, a direct relationship is created between the determined spaces designed for housing and offices, for example, and indeterminate, "redundant" additions that can be made to buildings in a multitude of ways illustrated by their sketches. This kind of spatial software, establishing a relationship between types of space but not determining their form, allows for a distribution of capacity across the city.
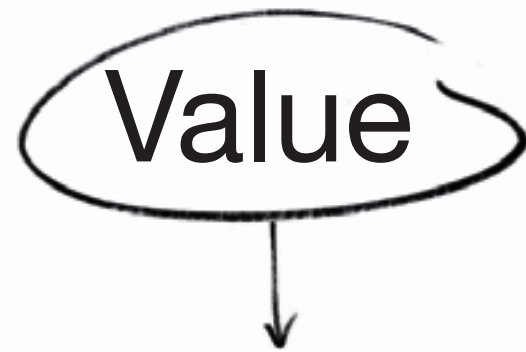
These design propositions provide a compelling set of courses of action that could lead to much greater capacity for cultural production in cities. Each practice, unprompted, arrived at an approach to making infrastructure rather than a set spatial form. Taken together, these approaches act as a compelling argument for shifting the emphasis in governance from the building of cultural objects to the deployment of a set of softwares - whether in planning law, organisational structure, or through the design of typologies - that enable others to make objects contingent on their own needs. In the words of Easterling, whose definitions for infrastructural space neatly chime with these designs, it changes the emphasis from "knowing that" - when knowledge is frozen into object form - to "knowing how" - when skill is encoded in a set of active processes that make solutions embedded in their context. This shift in emphasis can be read in two ways, both of which, we would argue, are fundamental in equipping cities with infrastructure that will guarantee the sustainability of their cultural expression. Firstly, from providing a masterplan, whether urban or architectural in scale, that determines how and where infrastructure should be implemented and what its function should be, to providing a set of softwares or tools that could enable its creation. Secondly, from the placing of value, whether social or economic, in the objects and spaces of the display of culture, to the placing of value in the settings and processes within which people find common ground through its production.

[68]
(Sennett, 2008)

Chapter 3

A language for Cultural Infrastructure

Value

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Labour & Craft

Designing for Appreciation

By definition, infrastructure is meant to remain invisible. Or that is, even when highly present, like roads which are visible everywhere, infrastructural systems are meant to enable, rather than be seen necessarily as a thing in and of themselves. Roads are not roads, they are connections. Electricity isn't powerstation and cables, they are moving image, heat, or sound. Or rather roads are roads, and electricity is powerstations, but as infrastructure they are their effect. So how do we consider the question of value in cultural infrastructure, if the materiality of the infrastructure itself is not the final location of its effect? We value connection, mobility, flow, circulation, access - so we build roads, public transit networks, traffic regulations, etc. Or we build broadband cables and underwater oceanic networks, and mammoth cloud storage servers and telecommunication satellites. And so, what is the *value* of cultural production - and therefore, for what purpose do we build its infrastructure? First, an acknowledgement that providing infrastructure for culture entails conceiving that artistic production has some kind of *value*. Value as a concept is difficult to quantify in economic, social, political, ethical means, but equally points to other potential meanings. The kind of value being designed for may depend on whether artistic production is seen primarily as a kind of *labour,* and therefore its infrastructures becomes a set of material and eco-systemic conditions to enable labour of various kinds - labour that we might imagine transforming itself into cultural commodities of various forms - including the labour itself. The other edge of labour's coin is *craft* and the tension arises whether the artist as craftsperson or as part of a labour force. In some theories, craft is defined as labour without intentionally entering that labour into market, where labour might suggest a direct engagement with market. Craft as labour for labour's sake - though this definition fails to register the multiplicity of identities embodied in people who work across the practices with which this report engages. What does it mean, for example, to think the tension between professionalisation or regulation and personal practice or a narrative of experiential based work. If we can recognise the effect (value?) of culture, then moving backwards, how do can we think about designing an infrastructure for that?

Value lies at the core of the three concepts that follow below: stability, determinacy and visibility. In some ways, understanding how we conceive of cultural work (as labour and craft), and how that work is valued, suggests something spatialised about that work that can be found in the tensions between temporary and permanent, found and made, or the public and private. The tension between labour and craft might be rearticulated as a question about the location of value. That is to say, is value found in the process or the product. Traditional understandings of labour position it as a quality of the body or bodies doing the labour - somehow separate from the labour those bodies are doing. The minimum wage, for example, sets an economic relationship between bodies and labour time that set a minimum values for labour time regardless of the vastly different kinds of labour that body in time might be doing. Labour time in neoliberal wage-based economies becomes separated in value from the materials or processes of making, and differentials from the baseline minimum values often, but not always, set by state entities arises at

times through differing values of the product of that labour. Although this too always isn't the case - one garment factory might be making clothes for a cheap high-street brand, and an upmarket one, using the same value of labour. In cultural work, value sites itself, often, in both the process and the product; and yet the marketisation of, for example, the art market, places the economic price point squarely on a commodified package, even if that package is a processural one.

Taking this a step further, a discussion raised in the *Infrastructures of Making* workshop was around the question of unionisation. That is, could artists, in that case, unionise their labour - both in an effort to set a baseline minimum standard, but also to make visible in ways the full time of labour (manual, intellectual, emotional, aesthetic, intimate, psychological, and so on) that enters into any given piece. In some ways this entering into traditional understandings of labour work as a means to demonstrate the under-valuation of the majority of cultural work that takes place, to highlight the real precarity of labour in these practices. In other ways, it can be read as some to quantify unquantifiable modes of labouring, negotiating, parsing, and assembling energies, concepts, social relationships, networks, materials, time, histories and futures to the shared process of making itself. Bringing that into a language of understandable value can be read as an attempt to colonise artistic practice into the regiment of neoliberal management as the only viable form of visible, legitimate presence.

As an alternative to either/or arguments on standing out of, or in, contemporary economic modes of labour or craft, we propose *designing for appreciation*. Appreciation as a concept lands the double meaning of finding value in something, and having that value grow. To appreciate something does not entail liking it outright, or even agreeing with it. Within the concept of appreciating is the space for multiple lines of agreement and disagreement. We might appreciate the concept behind a work of art, but not how it was put in practice. We might appreciate the calibre of movement in a performance piece, but not the score. Alternatively you might appreciate the entire assemblage of pieces and processes that make up a work. At the same time, like the ability of craft to make visible the labour, in the making visible of process, appreciation enables the possibility of growth, or if not growth which might contribute to narratives of neoliberal expansion, than it enables the possibility of memory and history, of of an accumulative relationship to bodies, their movement labour, and the negotiations with material, time, other bodies, text and image, that makes up so much of the cultural work in the city. What ways can the spatial and urban imaginaries of architects and planners work with the concept of appreciation that refuses to reduce the work of artists to either labour or craft?

(Stability)

Temporary & Permanent

Designing for Dwelling

One of the overarching narratives about creative labour is its precarity. And yet a common anecdote persists that precarity enables or heightens, or even forces, creativity. This paradox epitomises sentiment and lived experience around the question of stability. In financialised cities like London, where living and renting space is a difficult condition for most working people, new modes of taking space have emerged. From the decade old 'pop-ups', to the more established and developer friendly concept of 'meanwhile use' (the idea that unused, or underused, land or buildings awaiting the profitability of development can be temporarily and legally leased out), point to a central concern within the social and political context of making artistic work, but equally to methods and modes of making work itself. In sum, the question arises about the economic, social and creative value of locational stability versus the flexibility of being peripatetic. How this balance plays out across the three domains of creative labour considered here (performance, making and virtual), demonstrates a spectrum of effects from the temporary to the permanent that deflects simple conflation of either as a priori beneficial to all creative work. In short, our discussions yielded a richer understanding of dwelling as a condition that exists across the temporal spectrum, but one whose sense is necessary for stability.

Makers, as we have defined them in this report, tend to be housed in what are often described as "colonies" of studio spaces. Whether that colony be housed within one building, or operating as an agglomerative effect within an urban area, colonies can be relatively, stable forms of inhabitation. Within London there is substantial evidence that these spaces are threatened with closure, and in some ways, because of their architectural or formal properties of perceived permanence (these are buildings to a large extent), their absence or threat of absence is marked in urban space. We 'see' or 'notice,' to some extent at least, these threats. In *Infrastructures of Performance*, we found that there is no comparable model for performers, who tend not to have permanent and full-time access to a production space and therefore do not dwell in their production spaces over time. Some maker studio providers disallow use for music or sounds production beyond headphone production because it disrupts other modes of work. Performers are guests in rather than residents of infrastructures for production. In a similar way, in *Infrastructures of the Virtual,* many contributors raised the notion that writing, for example, often takes place within a permanent sense of temporary inhabitation. While there may be some institutional spaces like large libraries, or research universities, that offer certain people more stability, access is not always equitable, and even within these spaces, hot-desking and temporary use are the rule rather than the exception. One effect of the mobile nature of performance writing, for example, is that spaces for these are harder to argue for politically, because their urban materiality and effect is less visible. In both, we raised the question what would a performers' colony or a writers' colony look like? What would it mean to design for a kind of temporary permanence that could be productive for the temporary nature of rehearsal and performance, while parsing the real value of a permanent home? How could adaptive reuse of spaces like the excess of office space across London be reimagined and offered

as agglomerative spaces for making writing, using the time of writing (a poem, a novel, a screenplay, journalism, criticism, critical theory, or digital fiction, and on and on)? What would it mean to design for dwelling when designing for temporary practices?

Not having a permanent space for creative labour comes with a range of issues: lack of personal archive, or having to host that archive in domestic spaces; a lack of informal encounters or structures for working alongside other performers without pressure to co-create; constant need to work in and against a blank space, or temporary location, without stimuli. Beyond a personal archive, temporary activity sometimes can be difficult to register in a public archive, or audience memory. This leads to the question of permanent space and legitimate, or legitimised value of labour. Having a studio, for many people, was synonymous with being an artist or creator. Losing that space, while not necessarily ending their practice materially, conditioned it psycho-socially. Places for making cannot simply be considered empty containers filled with action or labour, but internal to the processes, and practices of the identity of a maker or performer themselves. At the same time, the pragmatics of owning, renting, or sharing a permanent space for work opens the question of institutionalisation. This was discussed as the pressure to become institutionalised in order to become stable, but not necessarily because it was important for art or cultural production.

What do we imagine, then, stability to be? And what are the opportunities for designing for dwelling as a central necessity for any discussion about cultural infrastructure? The inverse of stability isn't 'temporary', nor is a synonym of stability 'permanent'. A discussion about stability is not one that encourages predictability, certainty or modes of institutionalisation - all of which in terms of economic, housing and structural conditions might matter significantly, but can register as antonyms of experimentation. Nor is stability a call for ideas of balance or equilibrium within practices that work at times through the instability of extreme consolidations of time, energy and focus. Instead, we argue that a distributed stability persists through social infrastructures and relationships as well as networks of infrastructure both within and between spaces of production. In other words, designing for dwelling is not simply an architectural question, but an urban one.

Determinacy

Labour & Made

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Desiging for Unintended

How much can and should cultural infrastructures be determined? The excess capacity left over in post-industrial cities, in the form of empty space and lack of opportunities, has been credited with supporting a flourishing in forms of cultural expression. Often, the very fact that such buildings were not determined for this kind of use is seen to be the key to their success, echoing the Jane Jacobs adage that 'new ideas must use old buildings'. This poses a problem for those trying to replicate this success: how do you consciously designed what what is not intended? Is it a logical fallacy to design a cultural infrastructure unintended for culture? Is there even such value in the indeterminate? To understand how to approach determinacy, it is necessary to expand on its potential definitions.

What matters for infrastructure is perhaps not whether or not it is determined, but who by. It was suggested in *Infrastructures of the Virtual* that communities of practice could form in unlikely locations simply by staking a claim for a certain activity in a space - by 'planting a flag'. For example, the micro libraries movement creates the possibility for sharing and distributing written culture by claiming that a telephone or post box is a library. By using agreed-upon, recognisable language to determine a spatial form as a particular kind of cultural infrastructure, can it take on a new use? What is important here is *self-determination*: the ability of users of an infrastructure to determine its use is at odds with attempts to fix that determination at the stage of planning or design. This tension is of course a highly political one. Centralised determination can be used by municipalities to ensure that there is a balance of spatial needs met in the city, but it can also be used to design out the possibility of certain activities that challenge values of control or economic gain. In the last decades, the centres of artistic production in London have moved geographically as artists look to escape the orbit of planning, to parts of the city where determination has not yet been made because they have not performed themselves as sufficiently creative to attract the capital that necessitates that planning, to places where self-determination is still possible. As developmental pressures grow, and councils are required to think more strategically to manage them, the volume of indeterminate space is reduced. Though moves are being made to protect certain infrastructures through designation for creative use, this even constitutes an external determination that fixes an idea of how they must be used.

So if the potential to *find* the conditions for self-determination are decreasing, can they be *made*? The word 'made' is important here: whereas design implies the intentional creation of forms to fulfil certain functions, *making* something happen suggests the possibility of precipitating its occurrence by other means. In other words, it is not possible to design the unintended but it might be possible to make space be produced that is not intended for anything particular and can therefore be self-determined, through the kind of growth protocol proposed by *Assemble*. This, though, leaves open the question of lack of design. Certain kinds of cultural production call for specialist equipment and space: it was argued in *Infrastructures for Performance* that the deep care applied to the design of Siobhan Davies Studios, creating detailed and intimate space as well as the

necessary sprung floors for dance rehearsal, was part of its success in nurturing new work. There is perhaps a danger in romanticising unintended space and its value for the arts. Often such spaces are highly unfit for purpose. Work developed in the contingency of a specific and unusual space becomes static, in that it can only be performed in that space. A global network of purpose-built spaces along standard models allows for an international distribution of cultural work: locally-produced work can travel, but importantly other forms of work developed in similar infrastructures elsewhere can be brought here. There should also be care that the historical move into unintended space as a reaction against the centrality and rigidity of purpose-built infrastructure is not used as a premise for the defunding of such infrastructure, and the removal of choice in this regard.

Working in unintended space is particularly an experience for those without specified production spaces they can dwell in: both performers and virtual producers. In this case, the home becomes an important infrastructure for cultural production, bringing with it material and social conditions that affect both the kind of work produced, and the value of that work. Dancers moving into more individual practice, which requires a different way of working to re-combine it into group performance. In music it gives us the 'bedroom producer', whose mode of making work is limited by room sizes and For knowledge workers it becomes an issue of delineating work and non-work time and therefore valuing and monetising that time, as argued in *Infrastructures of the Virtual*. So the lack of intended production spaces and the decreasing availability of unintended ones pushes artists into the home rather than out of the city, and the isolated and devalued working practices that can entail.

Nonetheless, artists speak of a 'creative friction' in working with infrastructures that do not make obvious what their use should be, and the possibility for self-determination is a political value that creates space for the growth of new forms of social organisation. Those making cultural infrastructure should think carefully about what the act of design allows for, and what it constrains, and what kind of determination they are giving rise to.

Visibility

Public & Private

Designing for Attention

Is visibility a challenge to the processes of cultural production: rehearsal, writing, making, and so on? If so, how can it be protected from public view without losing sight of its importance? What is the right relationship between these processes and the public realm?

To think about the way approaches to infrastructure make cultural production visible in different ways, we need to expand the definition of the public. The most evident aspect of the public for the question of cultural infrastructure is the street, understood as the sum of shared open spaces between buildings. Any space for cultural production - an artist's studio, a rehearsal room, or a co-working space - needs some kind of close spatial relationship to the street in order to be accessible to its users. But what should its aesthetic relationship to the street be? In *Infrastructures of Making*, artists argued about the danger of transparency, describing studios that used glass frontages to the street to make the interior of their workspaces visible. This complete visibility creates intense emotional pressures, where vulnerable, difficult processes of trial and error in the development of new work are turned into performances for passers-by. For performers, the visibility of production is a contradiction in terms. There is no ontological difference between an observed rehearsal and a performance, as in performance the act of production is a repetition of the product itself. So rehearsal spaces with transparency are arguably not production spaces at all, but ones of constant display.

Clearly then, such processes require privacy. Does that mean, though, that the presence of artists' workspaces themselves should also be invisible? SPACE Studios, the location of *Infrastructures of Making*, announces its presence with signage facing the street, as if to say "artists are here". In doing so, it creates the possibility for a public interface, with gallery spaces at the entrance to the building that create a setting for residents and passers-by to develop a relationship to what is happening inside the building, without the threat of unwanted exposure. Clearly these interfaces are essential - most artists make work so that it can eventually be seen, and though our focus in this research has been on spaces for production, their presence is generated partly by the availability of opportunities for display. However, it is up for question whether artistic production should be judged by *public values*. This points to another, more complex definition of the public that is equally important for the way culture inhabits infrastructural space. If the public is the realm of shared (or contested) cultures, ideas, values and so on, how do infrastructural conditions shape the way that cultural products are expected to be visible within that realm? Even if production is given a private space for vulnerable work, it is expected to perform within this public realm by visibly contributing certain types of value. If return on investment calculations for infrastructure are expanded to include social values, this is still based on the idea that the fundamental role of art is to create value for the public realm. This assumption, though it may be valid, is important to pay attention to, as it becomes built economically and spatially to many systems of provision for artistic production. Sometimes that happens consciously, such as in cases where artists are required to contribute their time, skills, or artworks to local communi-

ties in return for affordable rents from public sector or charity landlords. In other cases, it is implicitly required, such as when a developer supports the presence of artists so that their very bodily presence can contribute to an ambience of creativity in the public realm, intended to attract property buyers. Though their intentions are different, both these demands require certainty in advance that artists and their products will be able to meet those demands, reducing the possibilities for processes whose outcomes are unknown or artists without the confidence or desire to involve publics in their work.

So whether through direct line of sight from the street, or the contribution of aesthetic, social, and economic value to the public realm, the demands of public visibility can equally be a pressure and an opportunity for cultural work. Our provocation would be to call for an approach to the organisational and material design of cultural infrastructures that allows space for vulnerability by alleviating all forms of visibility and placing trust in the inherent value of processes themselves. Up until now the drive for publicness has led to an obsession in design with openness, transparency, and shared space. We would call for greater use of boundaries in infrastructural design order to create focused settings in which uncertainty and vulnerability can become valuable parts of an experimental process.

Infrastructure after the Creative City

This research project set out to ask "can we design the conditions for culture?" Leading this report with that same question highlights the key argument we wish to make: that there is not a specific type of space that will guarantee the viability of cultural activities in the city, but rather a whole complex of infrastructural conditions with different relationships to what could be considered design. Together with those that have contributed to this research, we arrived at several provocations for architects, planners, developers, city governments, and institutional leaders. To pay attention to the detailed ways that material, immaterial, and ecological factors in those designs shape the possibilities for different modes of production to expand the language used to discuss these implications. To think about whether they are designing object or active forms of space, and for the objects of culture or the active processes by which it is made. To ask what aspects of cultural infrastructure cannot be designed and require other approaches. To expand the language with which they discuss the implications of the approaches they choose. Hopefully in doing so, those responsible for creating the infrastructural conditions that underpin our possibilities for everyday action can get past the need to determine what culture *looks* like as an aspect of urban space. The creativity of cities is regularly judged by this appearance, constituted by multiple ways in which cultural forms are displayed in public: from the visibility of artworks of all kinds to certain forms of landmark cultural architecture and even expectations around the appearance of artists' bodies themselves. Predicating evaluation of creativity on these visible forms requires the centralisation, within funding bodies and governments asked to prove the success of their investments, of the right to define cultural products. Predicating it on the less visible ways that the city makes all kinds of creativity possible, without needing to know how or where that creativity will be displayed, requires a rewiring of the bodies that provide infrastructure, and a change in their systems of language and value. Clearly, this is not an easy change to make, but we hope this report can act as a basis for Theatrum Mundi to continue to provoke public debate about what it means to make cultural infrastructure.

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(Titles at time of research)

Making Cultural Infrastructure:
can we design the conditions for culture?

John Bingham-Hall and Adam Kaasa

From its inception in 2011, Theatrum Mundi has been
concerned with the spaces of and for artistic and cultur-
al production in the city. A core question at the heart of
Theatrum Mundi's research agenda is what is the relationship
between the production of and the display of urban culture.
From workshops on 'Social Movement' and 'Architecture and
Music', to debates like 'Can the Temporary leave a Trace'
and 'Designing for Learning', to event series on libraries,
commons and public spaces, and expert roundtables com-
paring London's Olympicopolis to Hamburg's Oberhafen
and Gangeviertel, Theatrum Mundi addresses conceptual
and pragmatic concerns bridging academic inquiry, artistic
practice, and architectural and urban contingency. In its fifth
year, Theatrum Mundi assembled 60 thought leaders across
London's urban cultural fabric to address the following
question: What is the infrastructure for culture, and can it be
designed into the city?