Co-Designing the Driver's Seat: A Call for an 'Open' Approach to Drawing Production in Spatial Design Practice

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Abstract

> The question of what the architect is actually doing … raises questions about authorship. Is the architect a creative author with the will to produce a specific work, or do the conditions imposed on him inevitably result in something interchangeable, something that could as easily have been produced by someone one else? (Reidijk, 2010, p20)

This inherent contravention of authorship, summarised in the prologue of Reidijk's collection of writings in Architecture as Craft, brings to light a crucial aspect of the built environment's process of production; rarely is a building or a space solely brought together through an individual's vision and efforts. As a rule, the built spaces occupied by society are the result of multiple forms of agency and ownership working together at different levels.

While this co-productive nature of built space is well established through Open Building discourse, the nature of the design communication artefacts to which are trusted to carry the idea to be understood through remain largely 'closed' within the disciplinary boundaries of the designer and select group of building professionals. Nowhere is this closure more evidently seen than in technical output produced and commoditised by large scale design practices, such as urban and city design in South Africa.

The author firmly stands by the belief that in order to allow for the true co-production of the South Africa built environment to take place equitably and efficiently, spatial design practitioners need to develop more 'open' approaches to the practice in the built environment – in particular to allow the design communication artefacts of their discipline to be co-owned and co-produced in the face of a rapidly urbanising world.

In 2015 the author of this paper assisted in the running of UJ_UNIT2; a design-led architectural research unit housed in the master's programme at the University Of Johannesburg (UJ). The research unit embarked on an exploration of new forms of design and building exposing the nature of agency through the levels that make up the South African built environment. This experience, combined with the author's personal work in providing socio-technical support to the grass-roots international organisation Slum/Shack Dwellers International, provide the experiential reference to support the above stated belief.

This paper will examine two projects conducted through the author's own teaching and design practice that attempted to change the manner in which designer's see and control design communication artefacts. A summary of these experiences will then be outlined through a call for design practitioners to develop their own means of sharing control not only in the spatial drawing artefact, but in the design itself. This is done with the hope of supporting a growing national movement that seeks to responsibly relinquish power through design in the aim of achieving social and spatial justice in South Africa.

A Call For Co-Productive Praxis

According to macro-economists Thomas Malone, the world is experiencing a global market economy shift towards a *networked economic system* (Malone, 2014, [O]); a point in history

that the author believes global professionals should proactively be taking on the challenge of *co-production* in as a means of practice. Recognising the need for co-production in city building practice is crucial as the current patterns of space-making are increasingly taking place outside the professional realm – an inevitability the author believes spatial design practitioners need not fight, but embrace.

This sentiment, supported by Nabeel Hamdi, suggests that spatial design practitioners should engage with the "creative and adaptive mess of informality" rather work within the existing systems in order to support resilient and sustainable change. (Hamdi, 2010, p.78) Co-production in its true form goes beyond simplistic ideas of participation or capacitation and recognises the complex values held by stakeholders in not just producing spatial change, but taking ownership and transforming the built environment from within. Described by Boyle and Harris as "delivering public services in an equal and reciprocal relationship between professionals, people using services, their families and their neighbours. Where activities are co-produced in this way, both services and neighbourhoods become far more effective agents of change."

Although the focus of this paper is on the formative qualitative research process, it is still This call for co-production in spatial design practice has a critical position in South Africa in light of the most recent student protest where the call for power distribution requested by the student protest leaders echoes an ongoing call from a majority of South African's who do not feel the injustices of the past have been equitably addressed in the post-1994 society. The challenge of power-distribution remains the critical aspect of South Africa in the fledgling post-apartheid democracy.

THE POWER OF THE DESIGN COMMUNICATION ARTEFACT

Globally only 10% of structures are built by professionals (Smith, 2011, p.24). Within the South African context this figure sits even lower where a large majority of structures produced have no professional involvement, let alone control from any local authorities.

Professionals work largely through established technical drawing practices governed by construction industry standards such as the American Institute for Architecture (AIA) and the International Standardisation Organisation (ISO). These bodies set governed standards and protocols and are regulated by the industry related entities of the built environment professional spectrum. When forced to engage with the various publics they intend to ultimately serve, the need to communicate effectively is not considered as it is proposed that a 'professional' must interpret these standards and thus protect the profession.

> Architecture's engagement with visual documentation has always been in close proximity with the developments in technology and arts, and in turn it has been problematic but productive as well. Problematic in terms of appropriating different means of expression and yet to stay with a notational structure that can be communicated among the professionals of the discipline and the practice. (Reidijk [Alkan], 2010, p129)

The regulatory bodies who govern this control as well as the built environment's professional disciplines have done very little to transform their constituency towards this reality and even less effort has been made to adjust the nature of professional design practice to find ways to support the emerging South African society. (O'Toole, 2014, [O]) Rather these entities have focussed their efforts on policing the boundaries of the discipline in relation to the other professions, securing their stake in the capital available to 'build'. In particular, this is seen when the formal systems of building are outpaced by 'informal' forms of delivery. The reaction forces the regulatory bodies hold tighter to their position through the control of these drawing

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artefacts and ultimately distance themselves from being accessible to the majority who use and produce public space.

This protection of these boundaries manifests acutely around the control in authorship of their discipline specific design communication artefacts that have become legal documents in the building industry and the allocation of responsibility through this means. These legal documents have become the measure of the one's professional discourse in relation to other professionals and within tertiary education institutes still stand as the core means of evaluation. Awan et al make strong mention of this in the seminal text, *Spatial Agency: Other Ways of Doing Architecture*:

> The specialist knowledge of the architectural discipline is guarded as if it preserve a form of objectivity, on which professional credibility might be founded. Architectural language is the gatekeeper to that knowledge is extremely codified, from the technical vocabulary of the profession, through to the jargon of academia and trade magazines. (Awan et al, 2011, p.60)

With such a weight attached to these elements of the discipline these design communication artefacts, their articulation and the importance of their means of their production and dissemination remain largely undefined. This is particularly true for schools of architecture, where the academic institutions are constantly undergoing a critical self-reflection (Awan et al, 2011, p. 63) of what constitutes architecture and how this is represented this fluid understanding through student work.

The ambiguity around the objectively measurable values of the design communication artefacts is not necessarily negative, as it allows for the space to include the teaching of crucial 'soft skills' and methods of co-production within the academy. This perpetual self-criticality allowed for in architectural practice and training places spatial design practitioners in an optimal position to constantly adapt their methods of practice. A flexibility that according to Harold Jarche is essential for the journey towards embracing the network economy, "…we have to be prepared for perpetual Beta. What worked yesterday may not work today. No one has the definitive answer any more but we can use the intelligence of our networks to make sense together…." (Jarche, 2016, [O])

THE LIMITS OF PRODUCT VERSUS PROCESS IN ARCHITECTURAL PRACTICE AND TEACHING

"The teacher delivers architectural knowledge that remains in a safe and defined realm, so the students, kept within the boundaries, emerge…as absolute and non-negotiable experts in a certain formation of architecture" (Awan et al, 2011, p. 60)

In South African architectural design education lectures arrange hypothetical scenarios for student's to test and develop their skills and experiences through a synthesised series of observations, thoughts and ideas which are evaluated through a series of drawings, models and artefacts which should reflect a student's level of work ethic, design skill and insight into the topics outlined by the course conveners within a larger curriculum as outlined by the institution.

The system is meant to prepare students for the working world where they will often be given a very simple brief instruction and will have to employ their own position and perspective to determine a means of action towards a built output. Both of these processes focus on a series of outputs at determined points which are either evaluated or remunerated for by the client or the lecturer.

While this system is very effective in preparing and managing the remuneration for design professionals it places the value of the process solely on the artefacts produced and through

evaluation or payment put places ownership of this artefact on those who wield educational or capital power while not recognising or allowing the importance of process to be embodied in this artefact. This process in its structure only allows for one author to control and receive validation for this process and makes shared ownership and shared user ship limited due to the nature of the output focus. It places the designer as a key person in this process, without allowing said designer to recognise this position of power or distribute it. In doing so it re-enforces its power by only speaking other professional or an 'educated' viewer.

Within regards to large scale spatial design projects, particularly at the urban design scale the lead time towards implementation takes place over a much longer time period that often seeing different forms of ownership and governance involved. (Awan et al, 2011, p. 62) These larger scale projects also include a much larger user group of more often than not contrasting social, cultural and educational backgrounds. The spatial and technical design communication artefacts employed in these projects rarely consider the importance of being understood and re-in force power structures largely through their production and consultation.

Even participation processes (often offered at face value) mandated by governance structures only require the presentation of these artefacts at a form of public meeting, and not really an integration of what these spaces and the implications of them to communicated effectively.

Figure 1. 1:1 students attempting public 'consultation'. Copyright 2010 by Jhono Bennett. Reprinted with permission.

> How does the architect act in his studio? How are designs produced, and what instruments are used for this? What are the respective roles of the model and the drawing? Now that the computer enables the architect to manage all the design data within a single integrated drawing system, do models and drawings still serve any purpose? (Reidijk, 2010, p19)

OPENING UP THE ARTEFACT

The premise of Open Building recognises this dynamism of the built environment and places the designer in a position of facilitating many options for users over a long period of time through various levels of control in an intervention. (Habraken, 2008, p. 78) This approach offers a manner in which to understand and engage with the built environment. While this understanding of the built environment allows for practitioners to engage more effectively with it, the approach still employs traditional means of design communication that keeps much of the control of the 'open' system in the hands of the professional.

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Figure 2. 1:1 students exploring alternative artefacts for design communication. Copyright 2012 by Jhono Bennett. Reprinted with permission.

Somehow South African designers need to find a way to allow the energy and recognition for the co-production of these artefacts to be built into the nature of their valuation and their communication. The training of those who produce this work has to find a way to encompass this into the methodological means of communication and production. Potentially new forms of artefacts need to be considered to allow this to take place, perhaps in new digital media, BIM and open source platforms of information sharing.

Perhaps through considering how these artefacts can be shared, considered as the design process as well as be communicated. Designers can consider how this can start allow multiple people to own such information and thus distribute the power associated to such artefacts in the built environment and public spaces.

UJ_UNIT 2: AN INVESTIGATION INTO DESIGN LED PRAXIS

"Unit 2 is based on the understanding that the Built Environment comes into existence and transforms as a social/physical ecosystem in which neighbourhoods and buildings are never finished, but rather transform part by part." (www.uj-unit2.co.za, 2016, [O])

UJ_Unit 2 was part of the first iteration of the University of Johannesburg's new Graduate Programme in Architecture (GPA) within Institute's Faculty of Art, Design and Architecture (FADA). The unit was set up under a design-led research structure, which allowed the unit leader's to determine a two year-long programme of design projects and selective academic and experiential inputs that would curate a very specialist approach to the themes and topics of the unit within the GPA. Unit 2 was one of three units in the first iteration of the school's development of the Unit System Africa, which through the GPA seeks to develop unit style design-research led teaching in Africa.

> The premise of UJ Unit 2 recognises the fluid nature of South Africa's shared built space, and embraces this notion through the principles of Open Building as outlined by Dr. Amira Osman Open Building' as a concept resonates strongly with present-day South African concerns in the post-Apartheid era. The principles contained in Open Building thinking can be linked to some of the principles contained in the National Development Plan, Vision 2030, the newly launched (and perhaps wrongly termed) Master Spatial Plan, as well as a number of city level visions, such as the "corridors of freedom" in Johannesburg. Issues of participation, social integration, mixed use, mixed income, accessibility, choice and affordability are all principles that can be better facilitated and achieved through the use of an "open" approach to design and delivery in the built environment (Toffa & Osman; 2015)

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Figure 3. UJ_Unit 2 students working in the field. Copyright 2015 by Jhono Bennett. Reprinted with permission.

The unit set out to embrace the complexity of spatial agency in urban Johannesburg and explore the nature of what is deemed 'architecture' to be in relation to the city, its people and its infrastructure. The unit leadership encouraged the students to develop their own unique ways of designing through critically including finance, implementation, management and maintenance through design thinking. Essentially UJ_Unit 2 regarded the social capital in the built environment as fundamental, and sought to capitalise on the systemic relationship society holds with the built environment. As Toffa, a Unit 2 co-leader, stated, "*The unit allowed the built environment to functions as a 'mediator' and 'interface' between individual and collective needs*." (Toffa & Osman, 2015)

The proposed curriculum sought to immerse the students into complex urban conditions through the multiple lenses of agency in architectural design and equip them with tools and lessons in order to determine a systemic, open and architectural set of responses to the conditions they observed. The projects set out by the unit leadership exposed both the student's and the staff to the shortcomings of architectural discourse and representation is currently accepted it in South Africa.

The simultaneous challenge of introducing a new school of thought and practice to students and staff, building a new staff student body and the inherent difficulty in masters level architectural education proved to more daunting than the unit leadership expected. Of the projects conducted through the year the most insightful in within regard to the unit's aims proved to be a multi-disciplinary project conducted between the Industrial Design, Multi-Media and Graphic Design departments of FADA.

Figure 4. UJ_Unit 2 students exploring their context through design research. Copyright 2015 by Jhono Bennett. Reprinted with permission.

This project put the UJ_Unit 2 students into mixed groups with undergraduate students of the other disciplines and split them across two sites of social development being conducted by the

University of Johannesburg's community development department. The students were tasked with identifying a particular social issue and using their various design skills proposes a strategy to address it.

Staff provided some key inputs, and guided groups through the 6 week project with very mixed results. As a whole the students could only engage in a limited fashion to the depth of issues faced by the stakeholders, and moved quickly to their disciplinary tools to 'fix' the issues seen without engaging systematically with the problems. Although what the architecture students brought to the groups, due to their postgraduate status and training, was a more holistic view on how to combine different skills and perspective, the multi-media students were more equipped to translate complex ideas into simpler ones and communicate this to the stakeholder groups.

Figure 5. Joint FADA Community project. Copyright 2015 by Jhono Bennett. Reprinted with permission.

This exercise revealed how the students, when working with other design disciplines, held a deep spatial understanding the non-professional disciplines were freer to communicate effectively to the beneficiaries of the project. The architectural communication tools were not sufficient to capture the complexity of urban Johannesburg, and re-enforced the disjuncture between professional and 'non-professional' in grass roots projects conducted during the year.

The unit leaders recognised that in order to engage with the complexity of understanding and proposing spatial interventions in fluid urban environments, a design communication language needs to be first developed that allows students to clearly articulate the nature of the complexity they are engaged with as well as the strategy they propose. Simultaneously, these artefacts need to recognise agency, and communicate this effectively to the very stakeholder it represents as well as a peer group.

Only once this was done effectively could students then articulate an effective design response to this system, and again the nature of this representation should engage with the manner in which the observations were documented and articled. But when the measure lies in the softer social and systemic elements that do not translate easily nor is there any form of spatial standard as to how to depict that in the current form of training. This proved to be a very difficult task for the students to grasp as well as the staff to facilitate.

Attempts were made to include other staff from parallel disciplines as well as in put of key readings and precedents from similar schools or spatial practitioners, but students seemed to begin developing their own unique version for this near the end of the year with surprising results. One of which emerged strongly was the idea using narrative became a strong tool to tie together the systemic complexity faced by the students.

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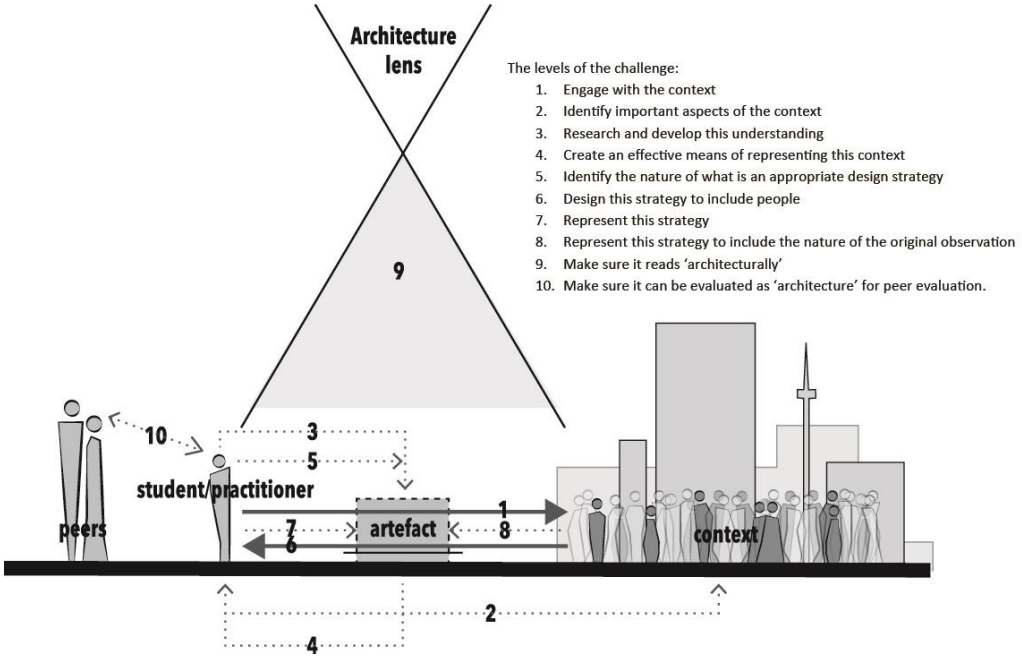

Figure 6. The challenge faced by students in representing complexity and allowing for co-production. Copyright 2015 by Jhono Bennett. Reprinted with permission.

THE BLUE FILE: A DESIGN COMMUNICATION ARTEFACT IN PRAXIS

The author began working with the South African Shack Dweller's International Alliance (SASDI) in 2012 as technical support to the organisation's Community Based Organisation's (CBO); the Informal Settlement Network (ISN) and the Federation of the Urban Poor (FEDUP). The SASDI is the local alliance affiliated to Shack/Slum Dweller's international (SDI) who are a global alliance of grassroots organisations who share rituals and values around community mobilisation to lobby for the right's and needs of the what they term the global poor. (www.sdinet.org, 2016, [O])

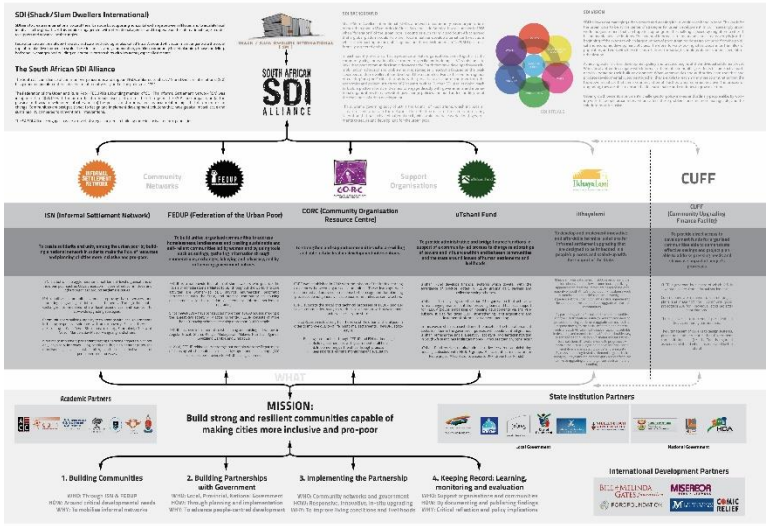

Figure 7. SDI Organogram. Copyright 2010 by Jhono Bennett. Reprinted with permission.

The author's role at the SASDI's office was to support the various CBO's technically in their regional efforts to attain development in the form of access to city services and ultimately

housing through the national entities of South Africa. This job had the author working with a local informal settlement residential groups and understands the specific technical needs that each group required; often identified tactically by residents and the CBO to garner a stronger position in advocating for development from larger government bodies.

While the author was originally tasked to assist residents in designing their homes and possibly some shared facilities, the job quickly led to project management and information co-ordination than anything else. Basic data sets were not available, or lost, that would allow for more tactical development choices at a larger scale. This lack of information often led to the duplication of research or analysis work or weakened the perceived position of the residents in their negations with government. More so the mis-cordination of information wasted resources that could have been used to address more pressing needs at both the local and large scale of the CBO's.

Figure 8. Blue File in action. Copyright 2013 by Jhono Bennett. Reprinted with permission.

The experience exposed the need for technical support included a deeper understanding of social and systemic aspects and these the collective termed a *socio-technical* design began to emerge. Once a larger project structure was established for the organisation, the collective began collecting and arranging the information available for each project into four broad categories. This was done to create an information set that was robust and easy to categorise for non-professionals and allowed for an easy communication to local government entities who were often the gate keepers for access to higher level support from the government.

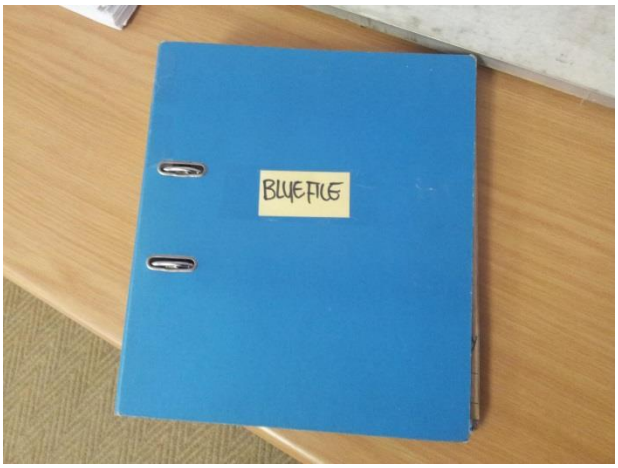

Figure 9. Example of Blue File in physical form. Copyright 2013 by Jhono Bennett. Reprinted with permission.

The approach to arranging information stemmed from a technique developed by the author as a student after forming the student entity of 1:1 with his peers - this entity was later formed

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into a fully-fledged non-profit entity; 1to1 – Agency of Engagement, currently run by the author. The system was termed *The Blue File*, and its purpose was to create an information system that quickly, clearly and powerfully explained what each settlement required in the short, medium and long term while allowing residents to add and edit information as it grew.

This device had both a physical life as well as a digital presence and proved to be one of the more powerful devices in assisting the alliance in its aims. This was a crude tool, and after the national alliance began its own programme of data collection they have now refined it into a much more advanced system used today.

The system ideally should have allowed users to add, remove and edit as they saw fit and strengthen their position. The collective still use this system for their various practices, and have evolved it into what they now term the 'cheat sheet': a method of drawing production and packaging that allows a presentation to also be a tool for co-production and critical feedback.

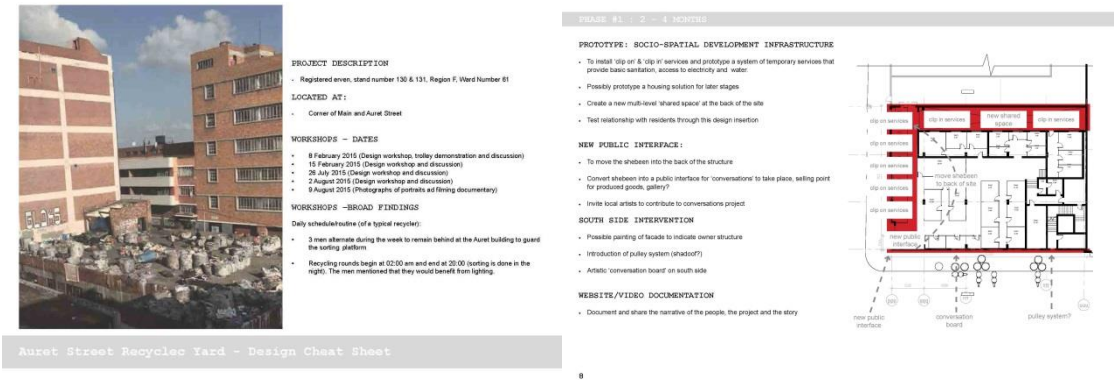

Figure 10. Cheat sheet example. Copyright 2015 by Jhono Bennett and Counterspace. Reprinted with permission.

AN 'OPEN' APPROACH FOR DESIGN COMMUNICATION ARTEFACTS

Teaching at the University of Johannesburg has allowed for the author and colleagues to proposition this approach and co-develop ideas and positions on how to approach this challenge. While the work conducted in the development sector has shown a dire need for such design communication artefacts to support a rapidly urbanising and re-developing South Africa. Of the options available to us today, none are more powerful than human behavioural systems that are far more resilient and robust than any of the technical systems:

> Currently, we make cities into closed systems. To make them better, we should make them into open systems. We need to applying ideas about open systems currently animating the sciences to animate our understanding of the city. More, in an open city, whatever virtues of efficiency, safety, or sociability people achieve, they achieve by virtue of their own agency. (Sennett, R, 2013, [O])

As an architect, the author recognises that architecture as a discipline is limited in its own agency to effect large scale spatial change, but it remains one of the few disciplines that cross such a variety of levels of agency and complexity in its practice and training that it reliably produces highly skilled spatial design practitioners able to embrace the challenge of facilitating co-production of the built environment. (Awan et al, 2011,p.70).

This does not mean that architects will lead this challenge, but as a profession are placed in an optimum position to affect meaningful change in the challenging of developing co-productive spatial design practice. Of these challenges, a critical aspect still lies developing an appropriate

means or manner of design communication that will bridge the gaps between 'beneficiary', designer and 'decision maker'.

Figure 11. Alternative forms of design communication exercised by Author. Copyright 2013 by 1:1 – Agency of Engagement (left) and Jhono Bennett (right). Reprinted with permission.

The practice should speak at multiple levels in both its process and product to convey basic technical and spatial information while being able to be understood by non-spatial disciplines. This approach should actively seek to distribute the power held by capital and design in attempting to control all aspects of the production of the built environment. It may require designers need to abandon drawing as the sole legal means of design communication and engage developing digital interfaces that allow for multiple authors and owners. Conversely this abandonment of could lead us to low tech strategies that employ model and diorama as the means of spatial communication.

It is important is that these artefacts of communication need to tactically share and distribute the power held by the designer to those that will benefit. While this may not be a singular device, this should be underpinned by an ethical and systemic approach to social development that recognises the danger in an individual holding too much power and actively seeks to distribute this power.

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