RSA Design & Society. *Architecture, Improvisation and the Energy of Place* by Nabeel Hamdi accompanied by the RSA and Architecture Foundation's call for ideas, *The Resourceful Architect.* A few years back, I was in conversation with a group of young aspiring architects about their designs for improving housing conditions in one of those ubiquitous slums in India. The brief was open and straightforward: their interventions would need to make a measureable difference to lives and livelihoods – affordable, equitable and efficient.

In response this particular group had devised a clever flat-pack pre-fabricated, timber frame house; factory-made, easy to transport to anywhere and simple to erect. In a conventional way, they had assumed their client to be some private developer, in partnership with the government housing authority who would provide subsidy and regulate land as a part of their up-grading initiavites. Their market surveys had suggested a number of standard housing types as starter homes, which could be modified over time. The whole would come with a well illustrated manual for families and collectives to self-build, with examples of how standard components could be combined in a variety of ways to meet individual preferences, and how further components could be ordered should families need to extend.

Their proposal seemed perfectly reasonable and more, very current: the state, the market and civil society groups getting together to solve housing problems – all part of good governance; a corporate social responsibility role for the private sector combined with a good business model which would give access to markets; new housing for families which they would help build, reducing costs and mobilising labour; slums progressively eradicated; and for the architects making the proposal, they would do what they know how to do best: design houses for a single client body with all the technical and logistic processes to put them up easily, cheaply and quickly.

Foreword

Two years ago I went to a roundtable organised by the Architecture Foundation about the future of practice. I heard three things that stuck in my head. Firstly, that architecture is like training for the priesthood; secondly that there are woefully few architects employed at large in generalist jobs; thirdly that we are graduating thousands of architects in a recession with slender hope of a job in architecture. All this seemed to add up to a situation in which architects are going to have to use all their resourcefulness and show what else – apart from designing buildings – they're good at by professional training or disposition.

Although the financial crisis was the trigger for this project, we quickly detected a deeper anxiety about the future of the profession of architecture. This occasioned the call for ideas, entitled *The Resourceful Architect*, which we issued with the Architecture Foundation in February 2011. The text of that call, and the shortlisted entries, are contained in this publication alongside the main essay. We have been grateful for the support of the Architecture Foundation and its Director, Sarah Ichioka, throughout the project.

The Resourceful Architect competition was generously sponsored by Austin-Smith: Lord and Land Securities, whom we thank for showing their support for the project – this enquiry into the future of the profession – in such a very practical way. We are particularly grateful for the vigorous involvement of Jennifer Dixon, a partner at Austin-Smith: Lord.

RSA Design & Society investigates the hypothesis that learning to design helps people to become more resourceful and self-reliant; and it asks whether people can be helped to be more ingenious. These questions are occasioned by acute interest from the world of social and political policy in the nature and function of 'productive', resourceful and self-reliant communities. Design is often invoked as an important tool of productive communities, but the rhetoric around the use of design obscures the identity of the designer as professional or amateur (ie who is actually performing the act of design) and furthermore what the act of design actually is (when, for example, design is increasingly applied to services as much as products or goods).

We were delighted that Nabeel Hamdi agreed not only to chair our juries for the competition, but also to write us the essay which constitutes the greater part of this pamphlet and gives insight into both these questions.

Emily Campbell
September 2011

I wouldn't start from here if I were you: the context of assumptions

My critique at the time was similar to that levelled recently by Echanove and Srivastava, reported in the New York Times, at the initiative to design a $300 house, which the designers argued, would "improve the lives of millions of urban poor around the world."[1] There would, I said, be little or no participation from families or user experts beyond their labour; the pre-fabricated house, with its standard plan types was a simplistic response to a complex network of social and economic alliances that characterise informal settlements; that the prefab in its mode of production would undermine the assets, livelihoods and resourcefulness of all the carpenters, informal hardware stores, plumbers, masons, component manufacturers, recycling entrepreneurs who proliferate in informal settlements and who, we have now learned, are integral, not marginal to the wider economy; that the ways in which people who earn around a dollar a day save, invest and adapt their houses, was misunderstood or worse ignored; and that new construction, given existing densities, would promote "… the clearance and demolition of well-established neighbourhoods to make room for it all,"[2] resulting often in eviction and relocation in which the architects would be complicit.

Importantly, the architect's proposal, whatever its merits, was grounded on assumptions about purpose and professional responsibility no longer valid today given the challenges we face. What we need are new assumptions to guide the way we think, do and organise and which unlock a greater and new kind of resourcefulness with which to tackle some of the big issues more strategically: climate change, the greater social economic and environmental complexities of cities, humanitarian crisis induced by man made or natural disasters, poverty, inequality.

First, the prefab house had relegated participation to self-help, denying therefore the opportunity to mobilise the resourcefulness of others, other than their labour. Participation is the qualitative means of accessing and accumulating assets, tangible and intangible; ensuring strategic value to practical work; engaging community in community-led planning; capturing expert knowledge from those who do not normally have a voice in planning; making partnerships – all of which is central to good governance. Their gesture in this respect was at best benevolent to their users, at worst token or even manipulative.

Second, the prefab house in its assumptions about means and ends had failed to reconcile a basic truth. You do not solve housing problems by just building houses; in the same way you cannot effectively deal with health by just building hospitals and clinics, or education by building schools. Bad housing is a symptom, not the primary cause of deeper problems – of insecurity, unemployment, social exclusion, inappropriate land tenure, lack of social ownership, poverty – all of which are quickly dismissed as beyond the boundaries of architecture. Or are they? The architects, typically, had turned the complex process of housing into things they could design. People became the objects rather than subjects of design.

1. *Hands off our Houses* by Matias Echanove and Rahul Srivastava – New York Times: the Opinion pages, June 1 2011
2. Ibid 1

Third, the proposal had assumed that what housing is, is more important than what it does.[3] If architecture is to contribute to sustainable human and economic development, then the value of projects and programmes must be measured in their ability to generate income and employment, to inhibit environmental degradation, to improve health and build all kinds of tangible or intangible assets – including the social, political, aspirational, physical and financial.

The resourceful architect

Refreshingly, many of the best entries in the RSA and Architecture Foundation's *Resourceful Architect* call for ideas set out to challenge all three assumptions. They challenged conventional perceptions of the value of design, explored the contribution that architects can make beyond the conventions of their discipline and sought new partners with whom to work. The competition set out to provoke new ideas for the future use of architecture by stressing three main criteria: it sought ideas for more strategic, more socially-engaging and more ingenious practice – generating more worth and wider scope for employment.

The premise of the competition was that, although constrained by self-imposed definitions of what architects should and can do and by the conventions of their education, architects have the potential to make a more profound contribution to some of the big issues outlined above. That is, they have a special capacity to demonstrate and facilitate resourcefulness. My own premise is two fold: first that resourcefulness is grounded on human capability at all levels, unconfined by scientific, economic or other expert routines. Second, and for architects in particular, being resourceful means being strategic. To be strategic entails at least the following: crossing boundaries and breaking down barriers in order to explore new opportunities for engagement and new partnerships; dealing with the primary causes of issues and problems and not just symptoms, including building assets within community, both tangible and tangible; and rethinking the process of design and planning itself in order to encourage more improvisation, unlock local resources and ensure a better fit both now and over time between the collective demands of community and the needs and aspirations of individuals.

Being strategic involves crossing boundaries between levels of organisation, between disciplines, between knowledge and know-how. These boundaries define local, urban, national, regional and even global organisations, and must be crossed to invoke new forms of partnership uninhibited by the conventions of either/or: top-down/bottom-up, public/private, formal/informal, small/large scale, insiders/outsiders, good guys/bad guys. Crossing these boundaries will involve a multiplicity of sometimes unlikely alliances between client groups (government authorities, NGO's, youth orchestras, sports teams, local traders, ethnic minorities) whose vested interests and priorities will need to be converged and whose power and authority often mediated in the interests of equity and efficiency.

3. John Turner said "What matters in housing is what it does for people, rather than what it is…" Turner F.C. 1976 *Housing by People: Towards Autonomy in Building Environments.* London. Marion Boyers

In India, for example, schools often feature on the frontline of awareness-raising about earthquake risk. Architects working with the NGO Seeds have designed technical features that make buildings safe, and children's manuals for raising risk awareness and conducting risk assessment in a school. Children continue their risk assessments at home and in the community, breaking down barriers between school and community and between fieldwork and class work. Community groups, teachers and children have been involved as partners; not just as users informing school design but also as agents of change in risk reduction and community-building.

Partnerships bring together people and organisations often of unequal power, because each recognises that the other has resources, which are essential to meeting their common goal. Architects can facilitate this process and engineer consensus between levels in building new alliances for the design and governance of the built environment and using all kinds of participatory tools – asset and harvest mapping, gaming for consensus building, amongst others.

To mobilise resources also demands more conventionally crossing boundaries between disciplines and exploring relationships with professional and other expert groups who may not be obvious partners to an architectural project. Architects do consult diverse bodies of expertise in their daily work, including users. Interdisciplinary work, however, is not just about consulting others, but more about redrawing the boundaries of expectation of each discipline. It is about expanding the design coalition to ensure greater value and relevance to architectural work, which for some is still seen to threaten architectural excellence.

In all cases we need to find ways of crossing boundaries between knowledge and know-how. Whilst the distinction is important in understanding different roles, it is unproductive in today's converging and increasingly specialised world to perceive thinking and doing as discreet processes. It disregards the knowledge implicit in every day action. The result is an ever-widening gap in status and routine between those who think and those who do, between theory and practice.

Knowledge is the acquisition of principles, based on experience, which shape our universe of understanding: it demands progressively drawing principles from practice in order to inform action. Know-how is the accumulated skills, practical wisdoms and intuition one needs to solve problems, and is the foundation of our ability to improvise in the face of uncertainty and chance which one is bound to encounter in practice. Good practice (unlike best practice) is the application of knowledge or principles modified to fit locally specific circumstances, using the resources of local crafts people, artists, builders who have the know-how to solve practical problems. Good practice is both practical and strategic in its objectives, combining both knowledge and know-how. It is intensely participatory, enabling us to deal with some of the primary causes of problems and issues we face.

Water, for example, features regularly in slum improvement programmes in which I have been involved over the years, as an element mostly associated with engineering and health rather than architecture. For me, however, water is a key element when building an architecture of opportunity to improve lives and livelihoods. The practical agenda is straightforward: pipe sizes; distances between standpipes, location, quality, and quantity. The ultimate practical purpose of water is health and sanitation. The strategic opportunities are, however, multiple: moderating gender relations through the empowerment of women who mostly manage water, social ownership and placemaking, partnership opportunities, federating water trusts and exploring partnerships with local authorities, enterprise, skills and capacity building for maintenance, book-keeping, quality assurance. The strategic objectives when considering these opportunities include security, maintenance, livelihoods and good governance – all of which are in any case primary causes of poor supply and quality. Whilst the practical agenda is about delivering water, the strategic agenda helps build all kinds of tangible and intangible assets to resist the shocks and stresses of daily life – it builds and sustains livelihoods. And it can help to remove or moderate discrimination, encouraging enterprise among vulnerable groups giving them status and wider access to essential resources.

Crossing boundaries between levels of organisation and between disciplines, exploring new kinds of partnership vertically between levels and horizontally within levels, facilitating negotiation through participatory work, mobilising resources across boundaries, bridging the gap between knowledge and know-how, breaking down barriers which inhibit others to access resources and build assets - all of these demand of architects that they deploy their skills in ways that deal with some of the primary causes of issues and problems. This puts architects in a very different relationship to people, to things, to place and to the environment. It demands rethinking the process of design and planning itself in order to unlock all the resources we need to tackle the challenges we face today.

Ask any architect, urban designer or planner how they would start to go about preparing their designs and how they would proceed. Most, I suspect, would follow the well-tried and logical routine of survey, analyse, plan, and then implement. At the start of their plan-ning or design, data would be gathered, people would be consulted and opinions registered, all of which would be rigorously analysed. The analysis would no doubt describe average family needs, traffic and car parking considerations, business opportunities and resources, stake-holder interests and priorities, and risk. A plan would be drawn up which in its ambition "to solve the housing crisis" or the like, will be comprehensive in its approach, leaving little to chance, with conven-tions of efficiency based on logical framework analysis: "an over arching plan that links various means to a given end against which measureable outcomes can be evaluated." [4]

The Resourceful Architect call for ideas

Invent a new field in which architects can uniquely contribute: a service, business or project that uses and extends the reach of the architect's fundamental skills but is not based on being paid to design buildings in traditional ways. Make it clear what aspects of training and experience in architecture come into play with your ideas and how they meet the needs of society today.

The *Resourceful Architect* call for ideas arises not simply from the current economic crisis, but from the changing context for architecture. Features of this context include continuous developments in technology, increasing urban complexity, evolving procurement processes, financial systems and failures, value engineering and a growing expectation that design should be collaborative and participatory. This context obscures not only the professional modes of practice established in the last century, but also the essential and primitive functions of architecture. In addition to contextual shifts, the building and construction industries continue to struggle through a global recession that makes it brutally hard to survive as an architect. RIBA's September 2010 Future Trends Survey predicts a further decline in architects' workloads, and students of architecture will continue to graduate with limited immediate prospects of employment as architects.

This situation creates a pressing need for architects to re-examine their education, their skills and their employment prospects. Like everyone else, architects must figure out how to be ingenious in the face of limited resources – how to make themselves useful in a rapidly changing and urbanising world where money is tight. The current situation requires architects everywhere to look more strategically at their field; to determine not only new approaches and techniques, but the bigger picture. John Turner famously asked, "I know what a house is, but what does it *do*?" As well as designing buildings, what is it that architects do?

The current economic crisis has drawn attention to an endemic feature of architectural training: to demand single-mindedness and to prepare for a singular career. For the most part, architects in training expect to become professional architects and are trained to design and/or retrofit buildings. *The Resourceful Architect* asks how architectural skills could be re-deployed in the immediate term and how, in the longer term, architectural education can evolve to teach transferable skills that will obtain in spite of changes in the economy and workforce needs.

Architecture in the most conventional and traditional sense is in decline. Despite the general public's increased engagement with it in recent decades, the practice of architecture has experienced deep structural changes. The remit has fundamentally shifted as architects have voluntarily and involuntarily relinquished many domains that used to be theirs; such as construction and contract management, landscape design, and specialist aspects of building like interior decoration and security. In the interest of preserving their autonomy over design, many architects have lost their ability to become facilitators of the holistic building process.

The Resourceful Architect recognises that there are architects reclaiming these domains, and proposing radical new uses for architecture when construction slows down. The project will gather and celebrate the most inventive ideas, and offer them for scrutiny to a wide professional and public audience.

72 hour Urban Action
Kerem Halbrecht and Gilly Karjevsky
of 72 Hour Urban Action, in collaboration
with Alison Killing of Killing Architects
   A real-time architecture competition
defined by an extreme deadline, tight
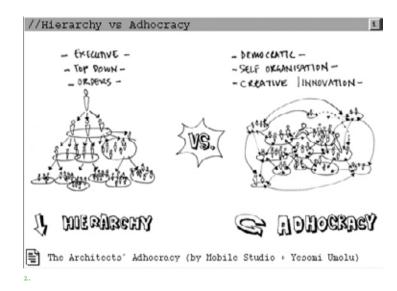budget and limited space to resolve
local needs.

Pavement for Las Lomas
Bara Safarova, London Metropolitan
University
   A DIY instruction manual for making
and installing paving slabs for the deprived
community of Colonias in Texas.

THE CITY AS A POOL OF RESOURCES

human resources
ethnicities/activities

physical resources
the built
the unbuilt:
rooftop/ unbuilt unit/ arcade
sidewalk/ street/-
pedestrian street/ square

natural resources
natural ventilation (smells)/ sunlight/
fauna/ floral/ microclimate

1.

//Hierarchy vs Adhocracy

– EXECUTIVE –
– TOP DOWN –
– ORDERS –

– DEMOCRATIC –
– SELF ORGANISATION –
– CREATIVE | INNOVATION –

VS.

↓ HIERARCHY

↻ ADHOCRACY

The Architects' Adhocracy (by Mobile Studio + Yesomi Umolu)

2.

1. *School of Architecture for All (SARCHA)*
Led by Maria Theodorou, Athens
A network of associates re-thinking the relation between architecture and economics by viewing the city as a pool of resources requiring administration.

2. *The Architects' Adhocracy*
Mobile Studio and Yesomi Umolu, London
A consortium investigating how much architectural and spatial agency can be achieved for a budget of £40 and within 40 minutes of ideation time.
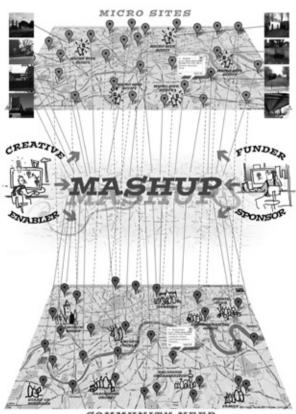
The Redundant Architects'
*Recreation Association (*RARA*)*
East London Design Bureau
   A flexible and affordable shared
workspace for out-of-work architects
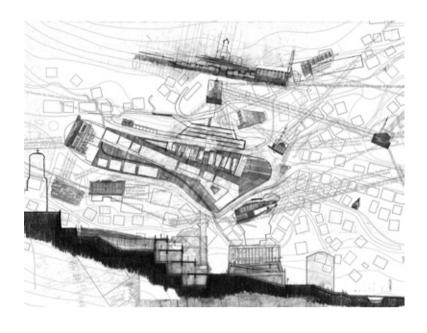to experiment and fabricate.

MICRO SITES
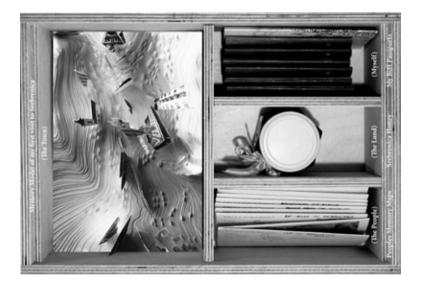

CREATIVE ENABLER

MASHUP

FUNDER SPONSOR

COMMUNITY NEED

Mashup
Richard Brearley and Uli Kraeling,
Sidell Gibson Architects, London
     An electronic microsite connecting
social and personal needs with derelict
pockets of land and buildings in London.

Space for Exchange:
A Sustainable Return to Srebrenica
Vernes Causevic, London Metropolitan
University
    A programme to renew and rebrand
war-torn Srebrenica into a sustainable
regional centre for vocational education.

Note on the competition

The Resourceful Architect, an open call for ideas about the future uses of architecture, was issued by the RSA and Architecture Foundation in February 2011, and sponsored jointly by Austin-Smith: Lord and Land Securities.

The ambition of *The Resourceful Architect* was to prompt and give exposure to new ideas for the future uses of architecture in the changing context of professional practice. Submissions were expected to be diverse in form and character, and to express critical thinking about potential new directions for contemporary architectural practice. The project recognised that many architects now operate in radically different circumstances from those for which they were trained; and that the economic downturn might offer architects an opportunity to re-cast themselves in a new social role within a distributed, local economy.

The idea for this project was developed by the RSA out of issues raised in a series of roundtable conversations, *And Now What? Rethinking Spatial Practice,* convened by The Architecture Foundation in collaboration with Architecture 00:// in April 2009.

The call recognised and sought to give exposure to the resourceful forward thinking many architects have shown, and are continuing to show, in the prevailing climate of financial constraint, emphatic localism and reflexive critique. Proposals could be entirely new and prompted by the call, or they might be already in development; they might also be completed but under-exposed.

A shortlist of ideas, established by a jury of experts convened by the RSA and Architecture Foundation, was presented at a public 'Day of Ideas' in the RSA's historic Great Room auditorium in May 2011. The Day of Ideas was conceived as an opportunity for 6-12 architects, students of architecture and multidisciplinary teams to showcase their ideas to a jury of high-profile international critics who would appraise the proposals live before an audience of potential collaborators, patrons and clients, including members of the RSA's 27,000-strong fellowship, achievers from every field with a keen interest in progress and change at a local level. A cash prize was offered for the best idea.

The shortlisting judges were Lewis Biggs, Edwin Heathcote, Sara Ichioka, Emily Campbell, Christine Murray and Jennifer Dixon. The Day of Ideas panel of judges were Peter Bishop, David Partridge, Fernando de Mello Franco and Sophie Haworth. Both juries were chaired by Nabeel Hamdi. All the judges were briefed to look for resourcefulness, and specifically to consider.

Ingenuity
How have you released architecture from conventional professional and economic bounds?

Insight
Whom does your project benefit? What, if any, are the political implications of the idea?

Collaboration
Who have you communicated with in developing this project and who owns the idea?

Practicality
What is the geographical area of application of the idea? What range of resources will need to be managed and how will they be managed?

Strategic thinking
What is the wider agenda of your intervention and how does it engage with today's big issues? How will you communicate it to the right people?

The seven ideas shortlisted in the competition are displayed on pages 10 – 16 of this publication; and an edited film of the Day of Ideas is available to view at www.theRSA/Projects/Design/the-resourcefularchitect/. The prize was split between RARA, Bara Sarafova and Vernes Causevic, with RARA recognised as the overall winner.

The survey itself is likely to have been selective, the criteria for analysis reflecting corporate interests and decided mostly by the stakeholders with the most power and money; the plan leaving little or no uncertainty about means nor ends. Later, if money, time and/or political will do not run out, the plan is implemented equally comprehensively, all at once or not at all, because conventional planning is "the only band of knowledge purported to be some kind of science which regards a plan as fulfilled when it is merely completed."[5]

In the years it can take to get to implementation, circumstances will often have changed, the data will have become out of date and so the cycle will be repeated: more survey, more analysis, more planning. And if by that time one had run out of time for more survey, then the issues and problems are reshuffled to fit the plan; not the plan the issues.

Unlocking the resourcefulness of place, as many of the *Resourceful Architect* competition entries illustrate, demands that we challenge this linear model of efficiency and reverse the cycle of planning. It demands we work backwards: profile the problems, opportunities and aspirations; sort out goals and priorities; explore options and the trade-offs between options; then get something going, an action plan – a small practical intervention, a catalyst that would serve as an agent for change, driven by the following question: what is the least we need to do to get things going? The catalyst serves as a first step to a larger, longer term, more strategic plan progressively informed in action and adjusted by the actions and decisions of people and local organisations on the ground. Any subsequent surveys will be designed to build a better understanding of the primary causes of problems on the basis of which more strategic interventions can be decided. In this way, practical and strategic work run in parallel.

This 'reverse' planning cycle is not a call to get governments off the hook. Nor for removing planning controls in order to give the market free reign to turn the city into private enclaves – well-reported in Anna Minton's book *Ground Control*. Rather, it follows a call from the authors of "Non Plan" and "Urban Catalyst" and those promoting "Unplanned Urbanism" – "… to think of planning as a process that occurs over time and to think not only in terms of desired end results, but rather development steps … which might unfold in several directions where the end result is never defined."[6]

The coherence of the plan in other words is improvised and emerges incrementally in response to problems, opportunities and sometimes competing aspirations. Its rational and order is induced partly by design and partly by the progressive and seemingly ad hoc spontaneity of decisions in response to needs and priorities which typically appear and change in a fairly random fashion and often not according to predictable patterns.

In one township upgrading project, for example, in post-apartheid South Africa, our community action plan had identified the need for improving transportation to get elderly and disabled people more easily to local clinics. Various options were first considered and the

5. Minton, Anna 2009. *Ground Control*. London. Penguin Books.
6. Ibid 5

trade-offs in terms of money, time and capacity analysed. An informal bus service employing local people was chosen as the means of transport – potentially also a catalyst for improving accessibility to local services and facilities for township residents more broadly. It was a practical intervention with immediate impact. Our strategic plan was to break down barriers between ethnic groups and begin the long return process of rebuilding community. The strategic plan was then analysed in terms of the resources and capacities needed in order for it to be progressively implemented and sustained, and in terms of the likely constraints to its success. The subsequent more detailed survey focused on building a more comprehensive understanding of the complexities and root causes of social and economic segregation, on the basis of which longer-term, more strategic interventions for integration were considered – in schools, in sport, in new partnerships in managing services, in spatial layout, for example.

Design and improvisation

It becomes necessary to view design and improvisation as complementary rather than conflicting processes; both essential to the order and life of place and the livelihoods of people. Together they reflect the need in society for both social coherence and positive freedoms.

Improvisation follows the principles explored recently by Scott Burnham in his essay "*Finding the Truth in Systems: in Praise of Design-Hacking.*"[7] In summary,

> "*hacking represents reciprocity between the user and the designer. While it complicates authorship and challenges the designer's instinct for control, hacking also breaks down barriers between design and people and yields significant benefits in the process … creates new engagements between the product and the consumer … mediates relevance and necessity in design … creates abundance from limited resources.*"

Richard Sennett calls improvisation the 'user's art'; Jamie Young refers to the 'frugality' of good improvisation.[8]

The question, however, throughout history as now, is how much order by design there should be, recognising that too much order gets in the way of individual freedom and reverts to determinism. Not enough can lead to chaos, even conflict. This shifting relationship between the order of design and the disorder of improvisation, and the continuous need to craft and constantly adjust the balance between freedom and order, public life and private life individual autonomy and collective good, between self and other, has concerned architects, planners, economists and many others.[9] Managing the shifting relationship is central in insuring design as the means with which to exercise our collective responsibility but without authoritarian control. It corresponds to the need articulated by Ivan Illich for working within natural scales and limits to achieve what he called a 'convivial' situation.

7. Burnham, Scott *Finding the Truth in Systems: In Praise of Design-Hacking.* RSA Design and Society series. October 2009

8. see: Sennett, Richard 2008. *The Craftsman.* London. Allen Lane. And: Young, Jamie. 2011 *How to be Ingenious.* London. RSA Projects

9. Fritz Schumacher, the economist, for example, talked about the need for both freedom and order. Ebenezer Howard in 1898 talked of "dispensing the minimum of organisation which would secure the benefits of planning while leaving to individuals the greatest possible control over their own lives." Christopher Alexander in his Pattern Language refers to the need for shared principles to create order, while recognising equal need for personal choice and individual freedom of interpretation. See also: Matthew Taylor (RSA 21st Century Enlightenment – June 2010) quoting Sue Gerhard "our peculiarly developed social sense involves a constant interplay between self and other…"

"Once these limits are recognised," he says, "it becomes possible to articulate the triadic relationship between persons, tools and a new collectivity. Such a society in which modern technologies serve politically inter-related individuals rather than managers, I will call convivial."[10]

It should by now be obvious that design, in the context that I have set out and as explored in some of the competition entries, is resourceful when it liberates and mobilises the resourcefulness and ingenuity of others. Resourceful design cultivates choice and maximises opportunities for discovery in which all participate. It mediates power relations and releases the energy of place by encouraging improvisation in its search for order. Resourceful design does not necessarily produce an architecture that makes it dominant impact through buildings; nor does it produce the conventional master plan with its colourful designation of functions.

Resourceful architecture does not assume a monopoly of knowledge and understanding by experts over others, and it enables people to stamp their own identity on place rather than relegating them to the role of caretaker of others' identity.[11] As John Habraken observed, the plan to which resourceful designers contribute with its rules, opportunities, constraints, culture and people serves legibly as a chessboard might to a chess player: "Our freedom is in choosing the next move; our skill is in choosing what leads us in the general direction we must take to satisfy a demand for a strategy. Our knowledge and expertise lie in being able to find (and cultivate) many alternative moves."[12]

Educating the resourceful architect

How then should we prepare our young professionals to be both rigorous in their architecture and relevant to the challenges and issues we face in a globalised world? How might we cultivate resourcefulness more centrally in design education?

In 1991 I wrote a piece for the *Architects' Journal* in which I tried to set out a dilemma we faced in education and which I believe we still face today.[13] Architects who want to work with the kinds of social and economic issues which dominate a rapidly urbanising world are torn, I suggested, between two seemingly irreconcilable objectives. On the one hand, a social commitment to improve the lives of people living in the slums, informal settlements or inner city sink estates of anywhere, and a desire to contribute something tangible and immediately useful. On the other hand a commitment to careers and to their status as architects. The result of this tension is that even the most conscientious find them paralysed by either guilt or ambition. Those who work in poor urban settings and with some of the big issues we face today find themselves often without their architecture; and those who chase careers working mostly with individual or corporate clients find themselves without political reason or social relevance.

These polarities exist still today in many schools of architecture. You can find them in architectural critique. You can find them in the endless debate about the legitimate boundaries of architecture which

10. Illich, Ivan 1973. *Tools for Conviviality.* London. Calder and Boyars Ltd

11. For more detailed examples of resourceful design see: Hamdi, Nabeel 2010 *Placemakers Guide to Building Community.* Part 2 "Placemaking and the Architecture of Opportunity." London: Earthscan, and: Hamdi, Nabeel 1990 *Housing Without Houses* Part 2 "The Practice of Theory: Enablement and the Indeterminacy of Design" Rugby, Practical Action Publications.

12. Habraken, John N. 1983 *The Control of Complexity.* Places 4(2): p.3-18

13. Nabeel Hamdi. *Putting the World to Rights.* The Architects Journal. 2. Oct.1991

one can choose to engage and get bogged down in or, like myself, to ignore. You can find them still in the ambitions of our professional bodies that reward the kind of studio work, which promotes the one off, the spectacular, the unfamiliar, and the original (the ordinary is often frowned upon!) You can find them in the RSA and Architecture Foundation's call for ideas.

Students are still taught today in a climate largely dominated by single, autonomous clients (of whom there are relatively few) who are on your side, speak your language, who have the money, the land, and who are assumed to have all the resources you need (although often they do not). They are taught in a context where information is abundant and readily available, where they are largely in control of the design and building process (which in professional practice often they will not be) and where uncertainty is considered a threat and a sign of weakness rather than a condition of practice. These schools breed disappointment, because few students get the jobs to which they were taught to aspire, and most, for a considerable part of their careers, wind up working well below their levels of talent and training.

How then should we move forward? Four things to think about: first we need a greater diversity of settings in which our students can explore not just their skills and talent, but also their potential worth. For example: post-conflict or post-disaster reconstruction; the slums of inner cities where resources are severely limited; situations that are politically authoritarian or where current conventions of participatory or other democratic decision-making is impossible; settings where natural disasters are endemic and not one-off; amd generally settings in which conventional wisdom with respect to design, technologies, materials no longer applies. In all such settings students will be encouraged to find and then break down barriers to trigger their resourcefulness. That is, in all cases where the conventions of "client" are fundamentally challenged.

This then is the second area of exploration. Working with a multiplicityof client bodies and organisational levels, some of which will be competing for authority and status, while others may be in open conflict with each other. How to converge interests, negotiate priorities and resolve conflict in order to build consensus in preparing a brief should be the start to any studio project – using role-play, gaming, or any of the other consensus-building techniques. How do we reconcile the moral obligation to serve those who may not have a voice in the governance of place with the needs of our funding clients? Are we prepared to be complicit in the displacement of hundreds of thousands of people in the interests of an opportunity to design iconic buildings or Olympic stadia?

Third, studio work needs constantly to challenge students with the 'so what?' question in response to their practical and creative design work to ensure that the strategic agenda is integrally considered – the primary causes of issues and problems whose symptoms may well include run-down neighbourhoods, poor housing or uncared for public

open spaces. Students need the time to consider the bigger world in which their practice is bound to fit, to consider bigger issues which their interventions may disturb, and which cannot any longer be disposed of easily as someone else's problem.

Finally, and as a result, we need not only to acquire the skills and competencies to work effectively and more resourcefully but also to reinvent ourselves professionally. The four inter related sets of responsibility with which I confront my students I call my PEAS principles – providing, enabling, adapting, sustaining.[14]

With any intervention we inevitably start with providing. Depending on circumstances this will range from complete buildings to their parts, from technical know-how to organisational capacity building or micro finance. How much we provide, and what, will depend on how much we can enable others – local organisations and enterprises, community groups, individual families – to provide for themselves, reducing dependency and promoting ownership.

Secondly design must enable. Political enablement is about voice and democratising decision-making; market enablement seeks to find ways to invoke both formal and informal private sector participation in project work; community enablement is about capacities and asset-building.

The third responsibility is to facilitate change, adaptation, and improvisation. Change is integral to ensuring a good fit between people and place over time. The question is then how to make places fit for change and to ensure that they are both functional and convivial. Once again we will need to review how what we have provided will enable progressive adaptations, and then consider what additional tools, capacities, techniques, design considerations we will need.

Finally, how will it all be sustained? What kind of organisations, money or sense of belonging will ensure continuity? What tangible or intangible assets will need to be accumulated? Sustaining programmes in pursuit of aspirations is the final check on the adequacy of our initial interventions as providers and enablers; that is, whether the capacity for change and opportunities for improvisation built into our designs will give the kind of continuity so evident in any vernacular environment.

Which brings us full circle to where we started. Without re-thinking the settings for studio work, the constituency of our client groups or the problems both practical and strategic – without re-thinking what it takes in professional process and responsibility to be resourceful – we will continue to adopt the kind of simplistic response to complex problems exemplified in the well-intentioned but poorly-considered pre-fabricated house.

14. I have written the PEAS method up fully in my book: *The Placemakers Guide to Building Community,* Ch.8. Earthscan 2010

The RSA is an enlightenment organisation committed to finding innovative practical solutions to today's social challenges. Through its ideas, research and 27,500-strong Fellowship it seeks to understand and enhance human capability so we can close the gap between today's reality and people's hopes for a better world.

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