Scarcity and Creativity in the Built Environment

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SCARCITY AND POST-SCARCITY

We find ourselves today in a paradoxical situation in a highly unevenly developed world. Since the middle of the twentieth century, if not earlier, it would have been perfectly possible to reorganize human society so that there was an abundance of good food and water, and a rewarding advanced industrial-ecological urban environment for the entire human population.

Tragically, today, the very possibility of a post-scarcity society seems to be slipping away, and is barely imaginable … but it is not gone yet. Technological progress has not led to liberation. Instead, many of us in afflu-ent societies find ourselves working constantly only to become poorer and free-time has proven to be the ultimate scarcity. Yet in other parts of the world, and also just a few streets away from us, fellow human beings are liv-ing under conditions of abject poverty.

At the same time, the threat of scarcity shadows our immediate future. It is estimated that there will be 10 billion extra humans added to the global population in the next decade. While we deal with the economic implications (which we could easily do on the basis of different global economic mod-els)[1], climate change and the apparent endgame of this phase of capitalism suggest the very real potential for chronic shortages in both advanced and developing countries.

CAPITALISM AND SCARCITY

Material scarcity, as the great anarchist philosopher Murray Bookchin once noted—drawing heavily upon the insights of Karl Marx—has been a feature of all human societies up to the present day:

> 'until very recently, human society has developed around the brute is-sues posed by unavoidable material scarcity and their subjective coun-terpart in denial, renunciation and guilt.'[2]

Forms of domination and inequality have structured social relations within almost all human societies. The struggle over resources created the pos-sibility, perhaps the necessity, for structures of power in societies, and in human selves. Bookchin again states that:

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'material society provided the historic rationale for the development of the patriarchal family, private property, class domination and the state; it nourished the great divisions that pitted town against country, mind against sensuousness, work against play, individual against society, and, finally, the individual against himself.'[3]

Bookchin shows that material scarcity forms two distinct modes of modern alienation: first as individual alienation within and from oneself, and from a lived and sensuous engagement with matter, and second, as our collective estrangement from social production and the non-human natures which provide the context of all human practice. He concludes:

'scarcity is more than a condition of scarce resources: the word, if it is to mean anything in human terms, must encompass the social relations and cultural apparatus that foster insecurity in the psyche.'[4]

Michel Foucault similarly notes the historical development of human subjectivity under changing modes of scarcity. He describes how in the mercantilist period of capitalism—which dominated in Europe from the start of 17th to the start of 18th century— a particular set of practices and apparatus were developed to deal with the threat of scarcity. These practices were replaced in the 18th century by the ideas of the physiocratic economists and the emergence of laissez-faire thinking: a different mode of dealing with the threat of material scarcity, and a different collective subjectivity.

Foucault describes how mercantile capitalism organized grain production around a system of price controls, prohibition on hoarding, limits on export and limits on the amount of land to be cultivated to prevent excessive abundance. These practices were implemented primarily to prevent scarcity which might cause political unrest in the cities and towns. He describes two general frameworks for thinking about the 'philosophical-political horizon' of scarcity as 'the juridicial-moral concept of evil human nature, of fallen nature, and the cosmological-political concept of fortune.'[5] However, the mercantilist system frequently failed, and the emerging physiocratic free marketers 'tried to arrive at an apparatus for … working within the reality of fluctuations between abundance/scarcity, dearness/cheapness … which is, I think, precisely an apparatus of security and no longer a juridicial-disciplinary system.'[6]

Writing in 1793 one of the physiocrats, Louis-Paul Abeille stated that so long as there is free circulation in markets then 'scarcity is a chimera.' Abbot Ferdinando Galiani furthermore stated that 'scarcity is, for three quarters of the cases, a malady of the imagination'.[7] As something that simultaneously afflicted an entire population (what Foucault calls the 'scarcity-scourge') scarcity had indeed largely become a chimera, although this is replaced by a structural necessity for part of the population to temporarily endure scarcity which remains the basis for much of the current capitalist apparatus. While mercantile law was based upon a set of prohibitions, price controls and a set of legal prohibitions or moral imperatives, under laissez-faire scarcity-capitalism Foucault finds the origins of a contemporary apparatus of security:

'the apparatus of security … "lets things happen." Not that everything is left alone, but laissez-faire is indispensable at a certain level: allowing prices to rise, allowing scarcity to develop, and letting people go hungry so as to prevent something else happening, namely the introduction of the general scourge of scarcity.'

For Foucault the modern laissez-faire system of dispersing scarcity through freer market mechanisms was more than just an advanced form of capitalist organization. It was a 'security apparatus' which constituted a new form of collective subjectivity—the atomized mass of 'population':

'a political subject, as a new collective subject absolutely foreign to the juridicial and political thought of earlier centuries is appearing here in its complexity, with its caesuras'[8]

Modern capitalism developed then, as a specific historical form based upon an ideology of laissez-faire. David Harvey states that 'scarcity is socially organized in order to permit the market to function,'[9] whilst Andy Merrifield has similarly observes that:

'The fundamental basis of a capitalist economy, of a society based on the profit motive, on exchange value and money relations, is scarcity—the active creation and perpetuation of scarcity.'[10]

For Bookchin however, under capitalism scarcity does not end. The laissez-faire approach to structuring a capitalist economy coincided with massive developments and transformations in science, technology and manufacturing. Modernity, for the first time in human history, created the material possibility of what Bookchin describes as a 'post-scarcity society', a condition where all of the essential necessities of a life are delivered with a minimum amount of human labor. If the need to labor under the threat of scarcity had historically lay at the heart of all forms of oppression, inequality and alienation, both in societies and within selves, then for Bookchin post-scarcity describes 'fundamentally more than a mere abundance of the means of life: it decidedly includes the kind of life these means support.'[11]. Writing in the early nineteen-seventies, he argues that:

'the industrial capitalism of Marx's time organised its commodity relations around a prevailing system of material scarcity; the state capitalism of our time organises its commodity relations around a prevailing system of material abundance. A century ago scarcity had to be endured, today it has to be enforced.'[12]

The condition today is arguably even more complex and contradictory. Conceptions of post-scarcity society continue to animate much of the political imaginary of both of the great liberation philosophies of modernity—anarchism and communism. Terry Eagleton has recently restated how Marx's greatest contribution to the then already existing idea of communism was to realise that it must have a material basis, and Bookchin agrees that:

'to have seen these material preconditions for human freedom, to have emphasized that freedom presupposes free time and the material abundance for abolishing free time as a social privilege, is the great

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contribution of Karl Marx to modern revolutionary theory.'[13]

But we also find an interesting post-scarcity discussion happening in more mainstream arenas. Philip Sadler, a contemporary business theorist, is optimistic, arguing that capitalism will necessarily pass through a wholesale and largely 'unforeseen' transformation in the coming decades due to falling costs of production, open-source intellectual property and collaborative working etc. Sadler argues that

> 'although the need for system change is widely accepted, there is little recognition of the need to adjust to post-scarcity conditions and to base policies and decisions on the principles of the economics of abundance rather than on the economics of scarcity'[14]

There are significant differences between anarcho-communist visions of a post-scarcity society, and more capitalist ideas of commodity abundance. Indeed, it is difficult to see how the contradictions of capitalism will not necessarily derail any possibility of a capitalist condition of post-scarcity. In fact, the prospect of post-scarcity is a spectre haunting capitalism. The overwhelming tendencies are for the marginal costs of production to fall, and for the rate of profit to fall. Capitalist organizations have to constantly struggle to find ways to make a profit out of production. This involves designing redundancy and failure into products, developing highly proprietary parts and systems so that commodities cannot be repaired, and the projection of a vast spectacular infrastructure of advertising and branding that both alienates and seduces us. All of these processes and many more serve to create imaginary scarcities, while real scarcities brought about by the waste of materials and the destruction of the ecosystems that provide resources. We are not just using up finite resources, we are also reducing the productive capacity of the living world. Indeed, Eagleton has argued that capitalism is gravitating towards ecological catastrophe as the best means of perpetuating itself. If Marx realized that the overcoming of scarcity was a precondition of most paths to communism, Eagleton speculates whether the emerging ecological crisis is a mechanism for historically precluding those possible futures.

Deep contradictions of the capitalist process are structuring scarcity in arguably even more profound ways. As already stated, the primary tendencies in production are for both costs and profits to fall. Yet as David Harvey has recently shown, the quantity of capital circulating in the global economy is greater than ever. Since production is increasingly unable to provide profitable investment opportunities, new avenues of speculative investment have been found. Property, land and housing are typical investment routes, but so are mineral and agricultural assets. Such investment strategies have been subject to, and have caused a series of asset and share price crashes and 'market failures' since the seventies. The kinds of assets that are being targeted by investment funds have widened further in recent years. Speculation on food commodities, an increasingly appealing investment opportunity, can cause significant scarcity and price inflation (although there are many other fundamentals that will be pushing up global food prices in the near and medium term, notably climate change)[15].

SCARCITY: REALITY AND IDEOLOGY

Scarcity then, is both a reality, and an ideology (in the classic Marxian sense of 'false consciousness'). Real 'scarcities' play real roles in the complex system that is global capitalism. There are real material and energy flows, which ultimately have a combination of geophysical and social foundations. At any one time there are limits to these flows—there are real scarcities.

In addition, the concept of scarcity is ideological. That is to say, it *naturalizes* (it makes obscure) the *social* component of the limits of these flows. Those in the system who own and manage these geophysical resource flows have a vested interest in maintaining scarcities. Scarcities, the control of resources, are real social power. In energy supply for example, big power companies are obstructive to local energy generation, and most supportive of inherently centralizing technologies such as nuclear and fossil fuels. Yet, as Murray Bookchin noted, a wind farm owned by a multi-national power corporation is not an alternative or ecological technology. Democratic social control is an essential component of ecological technology.

Scarcity works dialectically with abundance. The same system which produces scarcity also constructs 'abundance' as both a reality and an ideology. Most notably, the ideology of abundance promotes the false consciousness that we can extract as much as we want from the planet. The key ideological role is to obscure the real workings of the system—and to make it seem natural.

SCARCITY, DESIGN AND CREATIVITY

Scarcity then, is a profoundly complex and indeed problematic term, and is far from neutral or uncontested. We can use it cautiously, as a heuristic device, and as a means of grasping and responding to the complex contradictions of our socio-ecological condition. Using the concept of scarcity to rethink architectural and urban design is by no means straight-forward. Clearly, our intention is to confront what Harvey has described as 'the environmental question', defined as a problem with ecological, social, cultural and political dimensions. In this regard Harvey has off-handedly but brilliantly noted that 'if you think that you can solve the environmental question, of global warming and all that kind of stuff, without actually confronting the whole question of who determines the value structure ... then you have got to be kidding yourself.'

Scarcity bridges economic and ecological domains, and perhaps enables us to grasp something of this 'value structure'. It is often noted, ecology and economy share a common etymological root in the Greek *oikos*, meaning dwelling. Both economy and ecology are spatialized and temporalized in dwelling. Scarcity, universalized and naturalized in the field of economics, defines the contemporary *oikos*. A collective re-imagining of scarcity must necessarily entail a transformative re-imagining of economics and ecology.

So does anything interesting happen when we think about scarcity in the built environment? Of course, we can note all kinds of fascinating examples of situations where scarce resources have provoked creative responses— in the hands of professional designers and everyday practices and informal

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scenarios. It is useful to note that creative solutions emerge in response to one scarce variable, but it is typically necessary for other variables to have some 'slack' in the system. Indeed, as Gregory Bateson noted in his essay 'Restructuring the Ecology of a Great City', we should not be fooled into believing that efficiency and reduction are in any way sustainable solutions, as a highly efficient system has no scope for adaptation.[16]

Beyond that however, designed objects and built environments play important roles in maintaining ideological conceptions of scarcity: designed objects and environments often obscure their conditions of production, and also obscure the flows that they are a part of. There is then a second remit for design research into scarcity and creativity, which is what architectural historian Manfredo Tafuri referred to as 'ideological critique'—in this case of the hidden conceptualizations of scarcity in existing design practices. An ideological critique might look at different approaches and ask, in what ways are these design practices increasing false consciousness around the system of production? In what ways could they be revealing the networks and flows, or facilitating democratic 'local' control (and indeed ultimately 'global' control) of aspects of these systems?

Architectural, urban, planning and design research have had multiple moments of engagement with these issues: developing new forms of analysis of global flows and scarcities, developing all kinds of new so-called green technologies and systems (as well as revisiting many old technologies), and developing new forms of design practices that are more socially activist. Equally, mainstream architecture, urbanism and design practices are complicit in, and indeed primary vectors for, the very forces that are causing these conditions. In recent years the dominant discourse for exploring problems and solutions has worked around the concept of 'sustainability'. But, as has been widely observed, this concept is deeply problematic: sustaining what? A modified form of existing consumer capitalism and its uneven and profoundly unjust power relations? Too often this appears to be the real (if often unintended) agenda.

Scarcity, whether conceived as an actual limit on resources, or as a socially constructed condition of uneven social or global distribution of resources, has been largely absent as a critical concept in recent mainstream western architectural and design discourse. This is perhaps not surprising. The architectural profession is set up to serve the needs of the global rich. Yet, this situation is rich in possibilities for the design professions and design research. In 2003 the graphic designer Bruce Mau founded the Institute without Boundaries, based upon R Buckminster Fuller's call for a new kind of designer, a 'synthesis of artist, inventor, mechanic, objective economist, and evolutionary strategist'. Designers might solve problems using less resources, critically articulate the uneven allocation of resources, promote reduced consumption of resources and so on. Thinking through scarcity and design reconsiders how things are made, how they are distributed, how they are used, and what happens at the end of their use. We are compelled to design processes as much as objects, systems as much as brands.

CONCLUSION

Leading analysts of all the major resource domains—water, food, material resources and energy—tell us that our global industrial growth models, driven by largely unplanned and irrational financial market speculation, are taking human societies to the brink of a series of chronic shortages and insecurities. Some of these are determined by real natural limits of available mineral resources, ranging from metals (rare or otherwise) to oil—a condition often referred to as 'peak everything'. Other scarcities are based upon our problematic or socially uneven management of naturally produced resources such as water, timber and food (both livestock and agriculture). Many others are simply based upon the socially and geographically uneven development and allocation of these resources (and power), with a transfer of real metabolic value from the poor to the rich areas of the globe. In parallel to these metabolic inputs, industrial economies are also externalising—in a generally catastrophic manner—all kinds of waste sinks. Again this is characterised by an uneven development, typified by flows of waste from rich to poor regions. In all of these cases, existing systemic stresses are expected to transform and intensify in unpredictable ways as a result of climate change and ecosystem shifts.

But we must not forget that through these processes, capitalist scarcity also alienates us from a proper understanding of our relation to nature, and to the rest of the world. It turns the world into what Heidegger called a 'standing reserve'. There is a sense in which the very idea that *resources are running out* is itself a huge misunderstanding, a form of alienated thinking. Capital in this sense alienates us from a creative, sensuous and social grasp of our relationship to resources (or whatever word we should use): to matter and life.

We must not allow the current normative conception of scarcity to continue to dominate. It is thoroughly ideological, and hides the reality that *there is still the socio-political possibility of choosing post-scarcity*. A critique of the capitalist conception of scarcity involves a re-examination of both the concept of the commons, and the production-apparatus of contemporary subjectivity. Much work has been done in this area in different-though-interrelated ways, by for example Harvey, Hardt and Negri, and various associated *autonomia* fellow-travelers, to name but a few. Our task is to make a specifically spatial contribution to thinking and acting around these questions, as architecture, cities and urbanisms are always a mediation of modes of subjectivity constructed through relations of scarcity.

We find ourselves then, at the beginning of the twenty first century, in a paradoxical world. Our capacity to produce and meet all of our needs has never been greater, yet inequality and poverty abounds, and the methods by which we do produce all to often seems to diminish our long term wealth, and damage the web of life within which we exist. It is not at all clear that scarcity is ultimately any better a concept for trying to grasp the shear extent of the problems and opportunities contained within the 'environmental question' broadly conceived, than sustainability or any other recent term. Indeed, *our problem is precisely that we do not have a conceptual and critical language up to the job*. ◆

ENDNOTES

1. As Lyla Mehta notes in the conclusion to her edited collection of essays on scarcity, 'as the contributors to the volume repeatedly demonstrate, there is plenty of food, water and energy on this planet to meet the requirements of a population that demographers project will peak at just below 9 million.' in Lyla Mehta, *Limits to Scarcity—contesting the politics of allocation* (London: Earthscan, 2010), p.4.

2. Murray Bookchin, *Post-Scarcity Anarchism 2nd Ed* (Montreal: Black Rose Books, 1986), p.11.

3. Ibid.

4. Ibid.

5. Michel Foucault, *Security, Territory, Population: Lectures at the College de France 1977-78* (NY: Pallgrave Macmillan, 2007), p.30.

6. Ibid., p.37.

7. Louis-Paul Abeille and Abbot Ferdinando Galiani both cited in Foucault, ibid., p.52.

8. Ibid., p.42.

9. David Harvey, *Social Justice and the City* (Baltimore: Johns Hopkins University Press, 1973), p.114.

10. Andy Merrifield, *Magical Marxism: Subversive Politics and the Imagination* (London: Pluto, 2011), p.96.

11. Ibid., p.13.

12. Bookchin, ibid., p.102.

13. Ibid., p.102.

14. See Philip Sadler, *Sustainable Growth in a Post-Scarcity World* (Farnham: Gower, 2010), p.236.

15. John Beddington and Deborah Duanne in discussion on coming food price rises and scarcity on BBC Radio 4 Today programme 2.1.13

16. See on this Jon Goodbun, 'Flexibility and Ecological Planning: Gregory Bateson on Urbanism' in Jon Goodbun with Jeremy Till and Deljana Iossifova, *AD Scarcity: Architecture in an Age of Depleting Resources* (London: Wiley 2012), pp.52-55.