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Critical Mass and the Crisis of New Urbanism

1 J. B. S. Haldane 1927, Possible Worlds, Published in The Faber Book of Science, edited by John Carey, Faber and Faber, London 1995
2 By 1900 global population reached an astounding number of 1.6 billion - already more than the cumulative census throughout this planet's history - and is expected to increase to 6.1 billion by the year 2000, and projected to reach 12 billion in the 22nd century.
3 Lederman L. M. and D. N. Schramm, From Quarks to the Cosmos, New York 1989
4 The People's Republic of China's official policy to relocate 37 % of its population - over 400 million people from farms and villages to the cities in the next 40 years, is molded on the urbanization of Korea after the 1951 war, a strategy that moved 8 million people into Seoul for inexpensive labor.
5 Quoted in Robert Morris, Notes on Sculpture 2, Published in Art Forum, vol. 5, no. 2, October 1966 p. 20-3
6 Aldo van Eyck, Right-size, Published in Forum 3 1962

Seventy years ago English scientist J. B. S. Haldane demonstrated the impossible existence of the 60-foot-high giants in John Bunyan's novel Pilgrim's Progress, by deducing that the linear growth of their bones' cross sections could not have withstood their weight caused by the parabolic increase of their mass. Haldane thus concluded that for every type of animal exists an optimum size, inferring that a large change in size inevitably carries with it a change of form.[1]

Urbanistically, the disproportionate progression between parabolic growth of size and linear adaptation of form in cities has reached a schizophrenic state of uncertainty. London for instance, became the first super city in the world by increasing its size five times in the decade between 1860-70; now more than a century later, global population has almost quadrupled towards the new millennium.[2] With the speed of urban growth three times that of worldwide populations, the threshold of critical mass – the boundary when an urban model entails a new state as it reaches its optimum size – is near a point of transgression. In astrophysics, when the transgression of such a limit occurs in the substance of stars, an explosion occurs and mass is transformed into a dynamic state of energy. The resulting nebula – a purgatorial state of cosmic bodies – could either solidify back into a star or reach a point of extreme density where even light cannot escape its gravitational pull, congealing to form a black hole.[3] When an urban agglomeration, however, reaches beyond its maximum capacity, instead of undergoing a metamorphosis, its excess is commonly transplanted into the urban periphery.

In as much as the dispersed model of horizontal development typical in North America has presumed a certain uncontested global ubiquity in urban peripheries, like a nebula, it too is suspended in a dynamic state of flux. For urban critical mass is an unstable condition – one which can no longer be governed by plans but instead needs to be redefined by physical forces. As in the case of the rapid industrialization and urbanization in the Pacific Asian region, countries like China are planning to build peripheral agglomerations from 700,000 to 15 million inhabitants,[4] where enormous nebulae emulate the 'black hole effect' – reaching their critical mass at an unprecedented velocity. At a moment when such urban fringes are emerging in settlement patterns and speeds unseen before, the transgression of critical mass, like Bunyan's giants, necessitates the conception of new urban forms to accommodate the proliferation of population expansion and densification.

Q. Why didn't you make it larger so that it would loom over the observer?
A. I was not making a monument.
Q. Then why didn't you make it smaller so that the observer could see over the top?
A. I was not making an object.

Tony Smith's replies to questions about his six-foot steel cube[5]

Since the 19th century, the duty of reconciling the differences between form and mass has been bestowed upon urban design, when the anxiety towards the turmoils of urban life found its Arcadian rescue in the discipline of planning. In the later half of the 20th century, after a period of euphoric modernist optimism, the debates of mass and urban densification were directed toward social and technological preoccupations, where attempts were made to reexamine the unfulfilled modernist promises of quantity.

On the one hand, there was Team X's humanistic preoccupation with the 'right effect of size,'[6] encapsulated by idiomatic theorems from Aldo van Eyck's *'reciprocal phenomena of house and city'* to Louis Kahn's *'the plan of a city is no more complex than the plan of a house'* – metaphors that emphasize the essentials which transcend the contingencies of scale. It propagated conjectures intending to either heal lacerated urban configurations (inflicted either by the bombs of war or the bombs of Modernism) with prosthetic limbs, or inhabit open spaces with diagrammatic models adopted from primitive villages.

On the other side, the obsession with the 'mega size' was evident in the discourses of Cedric Price's prioritization of infrastructures and the Japanese Metabolists' predilection for superstructures, where heroic speculations match the scale of the modern city. It advocated adaptable schemes such as multi-purpose interventions and super-monuments which occupied a middle ground between architecture and town planning.

Now whether adopting preventive or adaptive measures towards the encroachment of maximum capacity, the models propagated by these ostensible tendencies are problematic, in the sense that they have been unable to satisfactorily accommodate the demands of demographic saturation nor fulfill the promises of their apologists. For while the modern villages confounded sociology and communal life with the impetus of human collectivity, the megastructures mistook architectural and technical

Illustration: 2A. Hong Kong Airport: Andreas Gursky, 1994

7 See Peter Calthorpe, The Next American Metropolis, 1993, and Peter Katz, The New Urbanism: Toward an Architecture of Community, 1994
8 As summarized in Rem Koolhaas' manifesto on Bigness , S,M,L,XL, 010 Publishers, Rotterdam 1995
9 Hong Kong has a population of 16.3 million in 1997, with a density of 5772 per sq km
10 Such is the case in the peripheral city of Sha Tin
11 Neil Postman, Amusing Ourselves to Death, Public Discourse in the Age of Show Business, Viking Penguin Ltd, New York 1985

feasibility for political and fiscal possibility. Nevertheless, more than three decades later, urbanistic discourse would again return to these terrain. Stemming from the different predilections toward mass, evolved two opposite, but not mutually exclusive bodies of thought that have recently laid claim to the appellation of "New Urbanism"; two dispositions whose immanent motivations are worth scrutiny.

The first, epitomized by Leon Krier, Duany and Plater-Zyberk's vernacular New Urbanism,[7] promotes a certain ideology of community by building upon a rhetoric of 'place' based consciousness. Underlying its attempt to transform large cities into interconnected tapestries of 'urban villages' (i.e. Celebration, Florida) is the accusation that the increase of urban mass is contradictory to the inertia of coherence, vibrancy, or stability – terms commonly held under the umbrella of *desirability*. Inherent within this self-imposed obligation of a guardian for deindustrialization, is the supposition of *community* as an *a priori* normative, which urban design optimistically attempts to regain.

The second, propagated by Daniel Libeskind and Bernhard Tschumi's global New Urbanism, instigates strategies from transposing intimately-scaled programs with enormous spatial models of infrastructural systems (Tschumi's Bridge-City in Lausanne), to moderating future building areas by simultaneously delineating formal and functional ideals (Libeskind's Landsberger Allee/Rhinstrasse). It is predicated on the contingency of activities and events in the making of the new collective as means to subvert and modify the impingement of mass. By suggesting that sheer size contains the possibility of liberating architecture from its autonomous role, compositional rhetoric, and formal discourse,[8] urban design takes on the role of a progressive mechanism of emancipation – undermining the canonical grounds stagnant within modern architectural debate.

Indeed, if one set aside their differences in stylistic and formal predilections, both New Urbanism's desire to conciliate keeps this thinking within the confines of strategic planning. Whether opting for scale of the humanized or the mega-sized, resurrecting late 19th century urbanism or recapturing the lost grounds of modernism, New Urbanism 1 valorizes pattern book formalism, while New Urbanism 2 favors the strategic implementation of incidental happenstance. The former mediates between the projects of modernity and history, the later bridges the dialectical opposites between economic speculation of American development and an ideological critique of European theory.

An underlying question however remains – is this act of conciliation conductive to or generative of practice? Does it open up crevices in the urbanistic edifice out of which new collective habitations might emerge? Furthermore, could this restructuring of urban space in relational terms of mass, form and density, disclose new ways to practice urbanism as a model of transformation which emerges from *within* – like that of a cosmic nebula?

While Modern architecture began as a critique of vernacular architecture, urbanism faces the paradoxical condition in today's periphery, where modern architecture *is* vernacular architecture. With extreme urban conditions being too complex to be encompassed by any single trajectory, the imminent urgency for the critical institution of urban theory seems not to lie in the petty demarcation of parameters nor in the obsessive predilection for dialectical opposites, but in embracing the tensions, transformations, and transgressions surrounding the dynamic state of critical mass and its demand for an immediate accommodation.

Instead of the sublime and beautiful, the near, the low, the common, was
explored and poeticized. That which had been negligently trodden under foot
by those who were harnessing and provisioning themselves for long journeys
into far countries, is suddenly found to be richer than all foreign parts ... It is
a great stride. It is a sign – is it not? – of new vigor when the extremities are
made active, when currents of warm life run into the hands and the feet.

Ralph Waldo Emerson "The American Scholar"

When urban typologies expand beyond the taxonomies of center and
edges, when a more dynamic sense of order is needed to address the in-
evitable transgression of critical mass, the question at hand is not about
what shape or form would such a mass become, but if critical mass, like a
nebula, necessitates a certain denseness to engender a new model? If so,
how does one conceive the emerging model of compactness, not as a ro-
mantic exaltation of congestion, but as an operative/generative condition?
In other words, bigness assured, is there enough critical density to support
the size?

Consider for a moment, the urban reality of Hong Kong – a city of
rampant capitalism and growing homogenization evolved among the con-
straints of its mountainous topography. With a total land area one fiftieth
the size of Switzerland yet with an almost equivalent population,[9] its con-
structed environment epitomizes the dense black-hole-type of urba-
nization that is taking place in the Pacific Asian region.

Different from the monocentric city model of the industrial revolution,
where employment activities were grouped at a center ringed by residen-
tial developments of decreasing density; or from the dispersed American
model, where several centers are surrounded by a quilt of suburban
development; a distinctive characteristic of Hong Kong's peripheral
development is large and dense urban concentrations are being linked by
transportation networks across a field that is relatively vacant,[10] where the
condition of sprawl takes on an unapologetic urban form. There, urban
mass exist as figures without any textual middle ground, spawning
conglomerations which form new monuments in the periphery.

An *objet trouvé* of New Urbanism 2, Hong Kong's apparently unplan-
ned, unguided accumulation of skyscrapers intertwined with infrastructu-
res, reflects a city born from an underregulated approach to development,
a verticality that just happened as a result of economic darwinism within
a limited physical envelope. But after a hundred years of colonialism,
Hong Kong's seeming immunity to the encroachment of planning is at the
moment being invaded by another trajectory in its housing sector which
comprises the majority of the cityscape. With the world's highest real
estate value evolved new regulations – sterilities of symmetries, of public
space, of order - dictating the shape and the need to decentralize; ruth-
lessly attacking the city's idiosyncrasies with another form of colonialism
in the guise of a utopian antidote against capitalistic speculation, with a
normative simplicity offered by the protective mechanisms of New
Urbanism 1.

Regardless of how congenial the proposals offered by New Urbanism 1
seem to be, their objectives presume a rear guard position by striving
toward an underlying sameness of size which van Eyck and Kahn's meta-
phors searched for. Their reluctance to accept the urban complexity stem-
ming from the increase of mass, bears the danger of what Marshall
McLuhan termed 'the rearview mirror syndrome':[11] the assumption that a
new medium is merely an extension or amplification of an older one; that

an automobile is only a fast horse, or an electric light a powerful candle, or a city a big village. To make such a presumption on the grounds of humanistic or social appeal not only misconstrues how critical mass re-defines the meaning of urbanistic discourse but under the guise of bene-volent intentions such as familiarity or comfort, imposes upon urbanity repugnant custodian desires in a feudalistic sense of status quo.

Although a communitarian approach might be plausible in "completed" edifices as Berlin or Venice, in the peripheral entities such as those in Hong Kong, where there is no texture and hence no contextualism; the promises of historical continuity, tradition, identity, and collective memory reflect a questionable disposition of recapturing a 'former' urba-nity that, because it never was, can never be.

Conversely, the sensibility of New Urbanism 2 occupies a more reali-stic position by striving towards the discontinuities and discrepancies that grow out of increased size. Skeptical of the search for a formal resolution, it focuses on the size and speed that the new urbanity would encompass. Its ability to reckon the 'primitive' American and Asian conditions as unconsciously built modernity, and its willingness to acknowledge the ironic reality that developers were responsible for the most avant–garde architectural inventions in the later half of the century; propels New Urbanism 2 to assimilate and integrate modernist tenets of quantity and density.

By adopting a more adaptive position towards contemporary cities, this urbanism attempts to move the work out of the cultural confines of the institution towards a more directly critical relation to the modern world, playing the Trojan Horse to find opportunities within the power structures, rather than methodically challenging the effects of economic evolution.

Given its apparent probable stance, however, there is also room for skepticism in this willful embracement of disjunctive urban conditions. Indicative in the projects credited with the advancement of this urbanism, such as Coop Himmelblau's Melun Senart or OMA's Euralille, is the risk of instrumentalization – of caricaturing chaos, bearing the danger of cele-brating complexity as another form of contexualism. This predicament bears uncanny similarity to what Freud describes as the transference from the 'pleasure principle' to the 'reality principle' in the process of surmoun-ting the Oedipus complex: the state of which the boy, in fear of castration as a punishment for his incestuous desire, represses the pleasure principle and identifies with his father through the underpinnings of the reality principle.

Urban design, in fear of another kind of castration – of being obsolete among the culture of the masses – realizes the futility of systematic opposition against the chaos of market-oriented commerce, and adopts the patriarchal guises of the developer and the politician as symbolic roles of manhood that the infantile urbanist desires to become.

The black square determined the economy which I introduce as the fifth dimension in art. The economic question has become my main watchtower from which I survey all creations of the world of objects.

3

Kasimir Malevich "Suprematism"

If planning is an art of accommodation, then certain questions about the political interest of economy, questions about the value-producing mechanisms of urbanism, should be decisive for this current investigation of urban mass. Why does urban planning's predilection for spatial order preclude the description of political dispositions beyond ideological generalizations? Why is economy – what Malevich introduced as the fifth dimension in art – conspicuously left out of the formula of spatial form? Analogue architecture for instance, a regionalist parallel to New Urbanism 1, by definition stems from the desire to be similar. Besides the questions of to what this urbanism is designed to be similar to, or, if the notion of community could rescue cities from "placelessness," is the degree of responsibility that social dissolution and materialism have for this "placelessness" that characterized many peripheral cities in the first place?

Even if the more probative issues of capitalism and marxism are set aside, theoretical investigations of urban mass should at least advance these questions but seldom do. Perhaps the reasons for the unspoken relation between economy and mass may be impossible to fathom conclusively, but a few speculations could be suggestive.

First, inherent in any utopian scheme is the suppression of commerce. To undertake the issue of economic motivation is to confront a debate that poses a dispute between disciplines. Secondly, edifices of economic darwinism such as shopping malls operate at the frontiers of programmatics which register the advances of our time. They undermine the formal order that underpins institutional urbanism and render the impotence
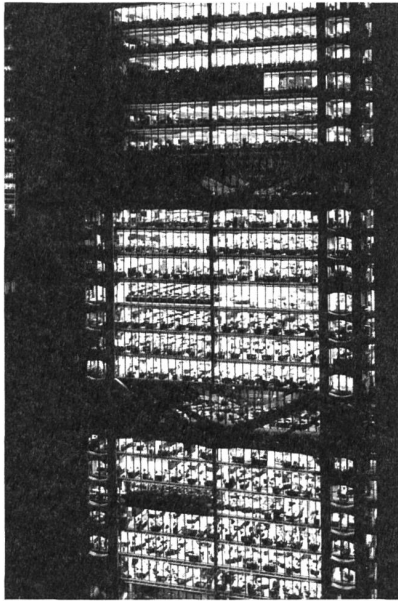
Illustration: 2B Hong Kong Shanghai Bank: Andreas Gursky, 1994, 220x170cm

of urban planning by diminishing its boundaries to practices outside the discipline. Finally, economic structures, such as real estate, confront the discipline of planning with its own rules and vigor. In doing so, it exposes the anachronistic agendas that subscribe to traditional values. In short, economic models subvert the foundations of prevailing judgment which determine urban design models.

This cultural conflict between the ideology of planning and the reality of commerce – between the condition of the heroic urbanists and the spectacle of the sell-out developer – discloses the critical establishment's hesitation to propitiate between strategic planning and tactful implementation of policy. Consequently, the rationalist disposition's persistence to argue in quantitative measures actually serves to insure that mercantile policies monopolize the shaping of urban mass; leaving the institutional belief of urban design as a critical practice in a free trade democracy shifting on very unstable grounds.

Because of the economy's provisional relationship with mass, because of the imbalance between the supply of urban models and the demand of volume, and most importantly, because of the impossibility for planning to reach a level of disengagement from power; urbanism as a critical practice, is spreading like an epidemic instead of becoming the remediable cure that it was intended to be. It desperately calls for an imperative attitude of compliance to succeed an ineffective attitude of reaction in order to confront the urban realities of size and density. For although economic desires always triumph over planning and capital accumulation always drives urbanism, they can never control every gradation of urbanization.

When contextualism's unrealistic antagonism against the power structure of commerce has reached a point of diminishing returns, and the nightmares of tabula rasa – aimed at an absolute resolution of the problem in a grand scale – are still vibrant (i.e. French Villes Nouvelles), it is crucial to differentiate the particularities of critical mass as a generative model in urban design. The dynamic model presented by Hong Kong, where the self-regulating condition of density cannot be imposed upon by the system from without, offers an urban/economic template worth considering. For unlike New Urbanism 2, critical mass in Hong Kong does not operate from *a priori* planning but from a strategic implosion from within; instead of methodically unfolding out to the periphery, it is a deliberate act of densification which operates within the overlapping margins of economic contingencies. While the notion of planning is based on a hegemonic formal system (i.e. Jeffersonian grid) and proceeds by obsessive involvement with the entropic exhaustion of that system; the unconsciously built model of Hong Kong predicates a condition (i.e. density moderated by economics), and proceeds to search for the accidents and heterogeneities the condition itself can engender.

The new phenomenon of black holes – urban densifications where critical mass finds its physicality, where differential urban cultures and economy overlap, dissolve, and coagulate – entails the evocation of Malevich's dictum as well as Le Corbusier's aphorism that *"life always triumphs,"* serving as reminders to the heroic urbanists, who mediates between urban empowerment and the fear of its loss, to speculate beyond the parameters of planning, and in doing so reshape the frame of thinking to engage the concept of critical mass.