

One of the most useful concepts to illuminate historical relations between power and space that have obtained since the early modern, western, world is circulation. Circulation has been instrumental both in articulating power into space and in realizing power through space. As a concept, it helps us to map many of the spaces we tend to treat as ahistorical, apolitical, background conditions onto certain historically situated regimes of power. But also, a history of

circulation seems to persistently circle back to the human body. It often speaks both to how the body is idealized and universalized, and to how it divulges a topography of attributes that are taken as marks of greatness or made into sites of subjugation — emotion, physical difference and similarity, postures, choreographies, surfaces of desire and networks of pain. For this reason, a history of circulation may speak more than anything to the contemporary, a moment in which spaces, bodies and power seem endlessly entangled.

More precisely, over the span of this genealogy, we can see a progressive tendency in which the body 'becomes infrastructural' — a process bracketed by two principle moments: The first draws from the historical emergence of circulation and its subsequent role in constituting and reconstituting relations between space and power so bound up in the imaginaries of the so-called western world. While the body has for a long time appeared as a diagram of enclosures, balances, humors and hierarchies useful for constructing spatial and political imaginaries, the discovery of circulation in the seventeenth century offered a logic that, from this point onward, would dominate this model, assisting an increasingly infrastructural logic of power to take root. In other words, the body *becomes infrastructure* in its projected translation onto the world. The second meaning pertains to observations of contemporary develop-

ments in urbanism and the emergent technologies it has adopted. What I think we are seeing is a new conception of urban space that, for the first time, sees the body itself *as* infrastructure. In this sense, the *becoming-in-frastructural* of the body should be taken literally. So if, in the first instance,

we see the body as a model 'becoming infrastructural' by projecting itself outward into space, giving logic and order to it, in the second, we have exactly the reverse: it is the body that becomes the object of this logic in its contemporary expression.

The following is a sketch for a speculative genealogy that traces how changing ideas of circulation have pertained to changing ideas about the body, and how these in turn lend themselves to the inventions of various modes and technologies of space. To organize this genealogy, I propose the following four schematic moments: *body-circle*, *body of circulation*, *body in circulation*, *body as circulation*.

Thus, one discovery yields another and the circulation of wealth could suddenly reveal its centrality to power in the emerging modern state. Circulation, once understood as a political concept, would concretize in the unrolling of vast new programs of standardized roadways, tunnels and canals; in making productive and calculable the landscape and the resources it contains. In other words, circulation would be crucial to the invention of *territory*. In this, the body offers a paradigm through which geometries of infrastructure could be organized to both animate and valorize a new territorial power that the state would monopolize — one that became evermore indistinguishable from the control of circulation itself.

Across both configurations (*body-circle* and *body of circulation*), it is important to note that the body would serve as a *model* for the ordering of space and the techniques of power that animate it. By the late 18th century, however, a new representation of the body began to emerge that, by the 19th, would upend this tradition entirely. Yet again, though, this new regime would be built around another universalization of circulation.

BODY-CIRCLE: DIVINE UNIVERSE

We may start by looking at the body before circulation. For centuries and across cultures, a consistent, longstanding relation of microcosm to macrocosm held, revealing a sense of universal order inscribed onto the geometries and dispositions of the human body: the body was a replica of the universe. As such, the body could provide a model for the organization of kingdoms, states, cities and architecture. Advisors to kings and emperors often resorted to corporeal metaphors in which the movements of fluids could offer prognosis for possible 'ailments' that beset a kingdom, and so on — a phenomenon that Jacques Le Goff called 'political physiology.'

BODY IN CIRCULATION: THE URBAN

Partly because of advances in biology and epidemiology, and partly because of the demands to make bodies unevenly productive, a new visibility of the body revealed not its perfection, but rather its perpetual need for correction.

Through a new faith invested in technology, the body opens itself both *to* technology and *as* a technology itself. This dichotomy gave rise to a body likened to a machine and one interminably vulnerable. As a member of a species, visible through new biologically sanctioned attributes (race, ethnicity, gender, the site of reproduction, the vector of disease, etc), the body speaks as, on the one hand, an abstract, universal measure and, on the other, as an isolated, biologically and psychologically penetrable surface, constantly exposed to its own deviances and defects. Precisely in this gap we see a radically new mode of government install itself in response to this new topography of the human condition, inserting its

BODY OF CIRCULATION: TERRITORY

With William Harvey's *De Motu Cordis*, 'circulation' named not only the discovery that he had finally revealed to the scientific world; it also named a scientifically validated principle — a concept which itself could circulate.



techniques in the new instabilities seen to reside in the bodies that now 'freely' circulate throughout the state.

This new representational regime replaced divine metaphors for biological ones (organisms, organs, systems) as the tools that mediate the relation between body, space and governance. The systematic coherence that emerged over the course of the 19th and 20th centuries is unprecedented in part because it develops itself as a non-representational scheme — a form of power embedded in space (infrastructure/domesticity) that operates in and on life itself. The name for such a space-power for Spanish Engineer Ildefonso Cerdá was '*urbanización*,' a term he coined around 1861. We can see the urban as a kind of perfect spatial counterpart to life affirmed by its new biological visibility and capitalist vitality — a machine of machines that both appends the body and creates new relations of dependency — something captured in, for example, the way Cerdá inverts the calculation of density to the amount of '*urbe*' needed per body. For it to exist as such, human life seemed to require this new universal, bio-economic space to support it.

BODY AS CIRCULATION: ENVIRONMENT

Today, architects and urbanists are engaged in a new mode of urbanism aimed to address our present age of undifferentiated crisis, namely 'resilient urbanism'. It is an effort to redesign the city against the effects of climate change, sea level rise, extreme weather, and increasingly, 'terrorism.' Conceived as a program of both punctual and large-scale infrastructural design, resilient urbanism seeks to reimagine the interface between the urban/human world and the environment (typically the coast) so as to reduce the risks of living in a changing climate.

In this regime, infrastructure takes the environment as its object of modification. For such environmental infrastructures to work, they must be coordinated by vast arrays of ubiquitous sensing technologies and

algorithmic modes of data processing: it is 'smart city' urbanism reprogrammed for crisis management. In this move, resilient urbanism expands the quantity and types of data that it mines across the interface of human life and the environment.

What fundamentally marks a departure from the history of modern urbanism is the way in which resilient urbanism reimagines the body: The environment can only be taken as a site of intervention by, at the same time, suggesting a body ontologically internal to it, a body marked by its malleability and responsiveness to its environment across many scales. Its entangled, more-than-human relation to its environment thus opens the body up, revealing itself as a complex topography of micro-sites — an ecology of data points and bio-indicators that can be precisely measured and, in turn, taken as a site of urbanization itself. Bodies of resilient urbanism become ecologies of data whose 'natural' rhythms, habits, responses and desires collectively contribute to a vast new trove of quantified knowledge and the coming codes of algorithmic modes of control. No longer simply the subject of urban design, the body now doubles as its object — *as infrastructure* — making everyday life indistinguishable from its permanent technological modulation.

More and more projects today that address things like risk, climate change or uncertainty, seem to be concretizing a set of strategies of design that relate global and regional conditions of risk with techniques that operate directly on the body. We see countless projects which directly overlay infrastructures and bodies. In some cases, there is literally no distinction between bodies and infrastructure, just as there is increasingly less distinction between the everyday and emergency in the broader horizon of resilience. In this space, it is circulation (of data) that is instituted not to eliminate the possibility of crisis, but precisely to situate crisis as the condition of possibility for resilience — an urbanism that, at present, seems to be interested in building up a new knowledge through which to detect anomalous events of human life amidst a generalized state of emergency. With the adoption of smart, ubiquitous sensors, algorithmic administration of infrastructure, the circulation that comes to matter is that which maps the contours of a world in which endlessly complex and overlapping systems of social, logistical, climatic and environmental conditions shape an endlessly unfolding and unknown present.

Yet, today, just as we remind ourselves that bodies still matter asymmetrically — just as urban designers begin to recognize the ways urbanism has always contained a core of racism, imperialism and violence — the same liberal designers who seek to confront this history through mild campaigns of inclusive representation, are at the same time designing the disappearance of the body. The body of resilient, environmental imaginaries dematerializes. Its fleshy presence in space-time becomes only a means for its transcendence into a parallel 'quantified self' — a body dismembered into an endless record of body-effects. In so doing, the most well-intended designers of resilience very likely enable the same racist, imperialist diagrams to inhabit new algorithmic truth structures and disciplinary technologies that govern resilient urbanism.

The body-as-infrastructure, when collectively conceived, offers a real-time image perhaps no longer urban in nature, but rather *environmental*. Indeed, the body's becoming-infrastructural may be the other side of a process we might call the becoming-*environmental of the urban*. By situating resilience in a genealogy of circulation, what we may be seeing is a transposition of the power-space relation that sits at its core. If the nineteenth century's rise of the urban represented a rescaling of territory onto a colonial scaffold, prescribing new enclosures across multiple scales and spaces, perhaps the urban today is in the process of being appended, augmented and supplanted by a new technology of space whose centrality to questions of power and the bodies it administers requires further interrogation.

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