

Maps as Abstraction and Imaginative Space Representing Informal Urbanism

Christoph Lueder

Kingston University London, School of
Architecture and Landscape
Kingston-upon-Thames, UK
c.lueder@kingston.ac.uk

Keywords: Diagrams, informal
urbanism, Nolli map, Rossi map,
connectivity

ABSTRACT

Quotidian mobility and urban connectivity become explicit in diagrams of circulation patterns, narrative tracing of trajectories, or choreographic notation of kinetic routines. However, they are also powerfully implicit in architectural floor plans, which, extended to urban scale in the Rossi Plan of Zürich, conjure imaginative space for suppositional wanderings through the city. An ongoing research project by the author brings such imaginative capacities to bear on diagrammatic exploration of the communities of Divale Gaon (India), Ban Kruea (Thailand) and Jabal Al Natheef (Jordan), which inhabit matrixes of densely spaced houses sustaining both dynamic and plastic patterns of connectivity, and thus challenge the European syntax of public streets and civic squares.

Studies of informal settlements, non-regulatory urbanism and urban villages, insofar as they confide in maps and diagrams, are faced with a paradox. Their object of study has been constructed by inhabitants; rather than described by an architectural plan it

has been shaped by feedback, which is obtained continuously from the actions and experience of construction and inhabitation. However, its intrinsic logic, the protocols by which adjacent buildings or spaces engage to form a larger whole, cannot be fully grasped through experience and observation alone, but are understood by means of diagrammatic notation and map-making. Further, the ingenious processes of self-construction might productively intersect with the imaginative inhabitation of maps and diagrams.

This paper reports on a research project I pursued over the course of the last year, with my colleagues Alexandru Malaescu and Iulia Fratila at Kingston University London, in three collaborations with academic partners in Navi Mumbai (India), Bangkok (Thailand) and Amman (Jordan). We engaged communities living in “informal” settlements, that is, settlements that have come into existence outside formal planning procedures; planning regulations (largely) are not enforced. The three fieldwork episodes shared a common methodological framework, which drew on cartographic precedent, namely the Nolli map of Rome, the Rossi map of Zurich, and the Figure Ground maps popularised by Collage City. On this basis we explored connectivity through diagrammatic notation. These notations made visible dynamic as well as plastic constellations, as alleyways and streets were subject

to temporary rerouting as well as to permanent adaption.

No act of notation is neutral. Informed by the choices and methods of making, maps and diagrams are not transparent, but expose the cosmography of their makers as much as their subject matter. Hence the representational conventions we chose as references and points of departure demand double contextualization, firstly in terms of their historical origin, and secondly in terms of the new context applied to. I therefore provide a brief historical survey.

Few diagrams of cities integrate the explanation of complex urban structures with the evocation of spatial experience as effectively and seemingly effortlessly as the map of Rome that Giambattista Nolli surveyed and engraved in 1748. Due to the precision of the survey, maps based on Nolli’s mensuration remained in use by Roman municipal authorities until the 1970’s. The interpretative, rather than merely documentary agency of the map, however, only in 1968 was brought to the attention of architects and urbanists by Robert Venturi and Denise Scott Brown in their essay “A significance for A&P parking lots or learning from Las Vegas”, which explained that “Nolli’s map of the mid-18th century reveals the sensitive and complex connections between public and private space in Rome” (Venturi & Scott Brown, 1968, p. 40). In the new interpretation of the Nolli map, the Beaux-Arts concept of “poché”, which

denoted the rendering in fields of color of masonry that are sectioned in plan, became key. Venturi and Scott Brown explained their urban definition of *poché* as follows:

*“Private building is shown in gray hatching which is carved into by the public spaces, exterior and interior. These spaces, open or roofed, are shown in minute detail through darker *poché*. Interiors of churches read like piazzas and courtyards of palaces, yet a variety of qualities and scales is articulated”* (Venturi & Scott Brown, 1986, p. 40).

These observations, reiterated in 1972 in their book publication of *Learning from Las Vegas*, proved to be widely influential, and remain lodged in architects and urbanists' collective imagination, affiliated with Colin Rowe's subsequent elaboration, in *Collage City* (Rowe & Koetter, 1978), of a “contextualist” ethos that established Figure Ground maps as diagnostic tools, predicated on binary oppositions, such as solid versus void, private versus public, closed versus open, or stability versus indeterminacy. In the late 1960's and 70's, resurgent interest in the traditional European city extended beyond architects and urbanists. The French philosopher and sociologist Henri Lefebvre inferred a shared code in the epoch between the 16th and 19th century, that was “at once architectural, urbanistic and political, constituting a language common to country people and townspeople, to the authorities and to artists – a code which allowed space not only to be ‘read’ but also to be constructed” (1991, p. 7). Aldo Rossi, in his *L'architettura della città* of 1966,

identified a series of urban artifacts and morphologies which might exemplify such a code, amongst them a remarkable map by Domenico Fontana of the Santa Croce district in Florence (Rossi, 1966), which delineates as continuous ground floor plan the area surrounding the site of the former Roman amphitheater⁽¹⁾. Not only did this stunning map demonstrate the endurance of the amphitheater's diagrammatic footprint in the urban morphology; moreover, Fontana invited imaginative inhabitation in time and space, furnishing a substrate for what the Situationists later were to term “psycho-emotional” wanderings through the city. During his tenure at the ETH Zurich from 1972-74, Aldo Rossi, with assistants and students, drawing on the methodology devised by Saverio Muratori in his survey of Venice (Muratori, 1960), undertook a momentous project on the core of Zurich, which recorded the floor plan of every building, and established a template of representational conventions. Michael Alder, in his lifelong mapping project on the village of Soglio, also in Switzerland perpetuated these conventions (Alder & Giovanoli, 1997). Unlike architectural plans, which propose an authored project and instruct on its implementation, the Nolli map, Fontana's map of Santa Croce, the Muratori map of Venice, the Rossi map of Zurich, and Alder's plans of Soglio, allow collective space to be ‘read’ by planers as well as by civil society, thus fostering civic discourse, cultivating civic pride, and informing mutual decisions.

Reconsidered as a series, the Rossi map of Zurich, the Nolli map of Rome, and the Figure Ground maps of Colin Rowe's studio at Cornell University, constitute a catalogue of diagrammatic conventions,

their resolution incrementally decreasing from Rossi to Rowe, from “big data” to binary abstraction. Described in terms of representation, the Rossi map uses *poché* in its original Beaux-Arts definition, as the rendering of sectioned solids, i.e. walls, while the Nolli map relies on an extended definition of “habitable *poché*” (Rowe & Koetter, 1978) that serves to distinguish private from public; whereas Figure Ground maps reduce this spectrum and equate *poché* with enclosed volume. Described in terms of imaginative accessibility, the series discloses a rich tapestry of overlapping and contradictory phenomena, evocative of journeys through space and traces of time (Rossi Map), a guided tour of the city linking streets, squares and public interiors (Nolli Map), and finally, binary abstraction (Figure Ground maps).

While imaginative inhabitation of maps remains at best peripheral to most architectural discourses, the Situationist theorist and writer Guy Debord, in his 1955 “Introduction to a Critique of Urban Geography,” has suggested that the Paris Métro Map and two seaport paintings by Claude Lorrain both express “a new beauty (...) of situation” and “the particularly moving presentation, in both cases, of a sum of possibilities” (parag. 15). Debord may have appreciated “the way the drifting nets of track reminded him of psycho-emotional meanderings” (Sadler, 1999, p. 86). The subject of these imaginary journeys is a passenger, their route determined by ship or train.

Debord is better known for another mode of travel, the *dérive*, whose practitioners “let themselves be drawn by the attractions of the terrain and

the encounters they find there" (Debord, 1956). "The Naked City," a collage made from maps of Paris related by a series of red arrows, which Guy Debord and Asger Jorn published in 1957, offers some clues as to how *dérives* might be represented in maps. Debord and Jorn explained that "the arrows represent the slopes that naturally link the different unities of ambience;" they chose the term *plaques tournantes*, (literally: railway turntables), to denote the nodal points and changes of direction.

While "The Naked City" is constituted as a narrative rather than a tool of universal knowledge, its terminology reveals a certain ambiguity between description and prescription. Analogising their human subject to a locomotive, the *plaques tournantes* cite a mechanical metaphor that resonates with many notational systems recording human mobility. Unable to fully approximate the complex kinetic wayfaring repertoire of human subjects, mechanical models risk to oversimplify and prescribe what they purport to record. Indirect notation of mobility through its constraints, namely spatial separation (walls) versus connection (doors and apertures) in the Rossi and Noll maps might be more adept at inviting imaginative travel.

MAPPING URBAN VILLAGES IN NAVI MUMBAI, BANGKOK AND A REFUGEE CAMP IN AMMAN

Two issues emerge from this brief historical survey. First, the linkages between a particular representational convention, *poché*, and an associated process of urban morphogenesis which is capable of absorbing contradictions

between interior and exterior space, as well as between adjacent interiors. Second, the problematic of notating movement while avoiding its prescription, and of inviting imaginative journeys sustained by maps and diagrams, that can act as counterpoints to prescriptive planning.

Our research project explores both issues in the context of two urban villages and one informal settlement. Divale Gaon, an urban village inhabited by active fishermen and migrants to the city, in Navi Mumbai; Ban Krua, a community of Cham Muslims, originally silk weavers, in Bangkok; and Jabal Al Natheef, a Palestinian refugee camp in Amman, are situated in widely differing geographical and cultural contexts, but invite comparison in terms of several characteristics. All three territories, each in its own way, challenge the analytical instruments evolved in response to the European city. Located within a metropolitan agglomeration, all three are marginal to their host cities' transport networks, and rarely are visited by outsiders. None of the communities are fully accessible to motor vehicles; hence in each settlement many houses cannot be serviced by ambulances, police or fire trucks; other homes are beyond the reach even of smaller vehicles or motorbikes. Much traffic is pedestrian, routed through narrow alleyways and stairways. As a consequence of this, circulation patterns can become transient and networks plastic, as private buildings sever public paths and alternative connections open up elsewhere. In none of the settlements planning and building regulations are fully enforced, and reliable maps are not available. Finally, all settlements

have grown larger and denser over time; deprived of the option to expand externally, all three have reached a critical threshold of density. Our research methodology, and our examination to the specifics of each location, culture and community, cannot be presented in full; instead I will focus on analysis and representation of urban subdivision and pattern of connectivity.

The largely pedestrian and motorbike circulation system of Divale Gaon proved to be the most transient of the three settlements. It is organised along a clear hierarchy, with an orbital road accessible to four-wheeled vehicles, and a central spine accessible to pedestrians and bikes only. The next level of hierarchy is formed by links between spine and orbital road, which we observed to be stable in their location during the study period. Many houses are removed from these three primary levels of circulation; these are accessed through a fourth level of highly fluctuating links, taking advantage of the high degree of porosity between houses. We were not able to distinguish between public access and private yards, as inhabitants made their way around houses in seemingly random patterns and frequently through very narrow gaps between buildings. The location of verandas reveals the heterogeneous orientation of buildings, which are not fronting a collective street or alleyway, though entrances largely do face towards a shared path. Verandas and podiums raising houses from the ground are densely inhabited and used for various activities.

As Divale Gaon continues to be home to fishermen and their families, one of the

chief outdoor activities is the cleaning and preparation of fresh catches. Many activities occur on thresholds, thereby animating alleyways and inflecting circulation patterns. Rendered according to the conventions of the Nolli map, only a single public interior is revealed, the temple, which fronts a side alley rather than a public square. None of the thin walls hold *poché*; geometrical negotiation between neighbouring buildings always occurs through a gap and never through solid mass. However, narrowness of gaps and overall density transforms buildings from freestanding objects in space to continuous urban fabric. Insofar as the definition of *poché* might usefully be extended to engage mechanisms and (irregular) zones of geometric negotiation between primary, usually regular, volumes, interstitial space in Divale Gaon can be described as “open *poché*” or even as “public *poché*.”

Ban Krua is sited alongside Saen Saeb canal, and its historical circulation pattern therefore was clearly defined through a path alongside and alleyways perpendicular to the canal. However, the fact that houses are freestanding and none of them significantly exceeds its neighbours in size coincidentally implies a much more finely granulated, orthogonal matrix of theoretical linkages. In its present configuration, none of the narrow alleyways running perpendicular to the canal allow a clear line of sight along their entire length, as they are deflected by houses projecting into their trajectory; several alleyways are rerouted by metal gates installed by inhabitants, that usually are closed. Therefore, the circulation system is both plastic, in the sense of permanent rerouting triggered

by privatisation of gaps between buildings, and also elastic, in the sense that some gates are opened at certain times, allowing circulation to resume.


Our diagrams notate connectivity and circulation. Due to the tight spatial constraints within homes, alleyways are used for storage and for activities such as cooking, which further blurs the boundary between circulation and inhabitation. Here too, interstitial spaces might be described as “open *poché*,” but, perhaps more pertinently, Ban Krua encompasses a series of semi-public interiors, such as spaces of small vendors, silk weaving workshops open to visitors, and even one family’s living room, which opens up entirely to the alleyway and accommodates a washing machine that is rented out to neighbours. Our revised Nolli map represents the nuances of publicity and privacy in shades of grey.

The first refugees settled on Jabal Al Natheef in 1945, on what then was a hill at the perimeter of Amman, in those days a small town. During the rapid expansion of Amman, and subsequent waves of refugees, Jabal Al Natheef was left to grow inwards, as more, and more permanent houses were constructed. As perimeters of houses expanded and private space was transformed into courtyards enclosed by walls, the residual space left for circulation on the steep hillside became reduced to a bare minimum. Here too, houses sometimes are constructed on public alleyways, forcing rerouting and spawning new links elsewhere, as well as *cul-de-sac* patterns. Alleyways usually run at a 45° angle to the hillside slope, thereby minimising incline, but nevertheless

remained difficult to navigate. When the authorities installed steps and stairways throughout this steep part of the camp, it had the effect of ossifying a previously more dynamic connectivity pattern, as gaps between houses not equipped with stairs naturally fell into disuse. Jabal Al Natheef sharply contrasts with the previous two communities, inasmuch as blank walls with few openings face alleyways and stairways. Inhabitation of doorsteps and thresholds occurs much less frequently, as private courtyards and rooftops constitute a much more important locus of dwelling, particularly for women not allowed outside unaccompanied. Alleyways and stairways diminish to minimal corridors; geometrical irregularity is absorbed in buildings and courtyards that are entirely private. Therefore, interstitial spaces do not qualify as “open *poché*.”

By sharing our maps, embedded in a comprehensive survey, with the communities and their leaders, we hope to support the communities in asserting and arguing for their collective interests. Ban Krua is threatened by expansion of urban infrastructure (a proposed highway ramp bisecting its territory); Divale Gaon, by economic development and occupational shifts (displacement of fishery); and Jabal Al Natheef, by political and social instability (consecutive waves of refugees). In all three scenarios, the absence of cadastral maps and scarcity of documentation has been inhibiting political representation. The Rossi and Nolli maps, as well as the connectivity diagrams are architectural abstractions, which, as Anthony Vidler has noted, “demand a certain experience of the viewer, one trained to imagine the

characteristics and qualities of the spaces represented by these enigmatic lines, as well as interpret them in their context of a long spatial culture" (Vidler, 2000, p. 7).

Vidler inferred that such architectural abstractions "carry little weight as popular representations" and points to Henri Lefebvre's concordant objections against the "abstract space" of architects and planners (2000, p. 8). Lefebvre's critique was directed at Modernist architects' literal translations of architectural abstractions into built form. However, our mapping project operates on an antithetical vector, as it translates lived space into conceived space, experience into abstraction, and hence assists in overcoming their divide. Through mapping, the distinctive notions of the informal, or kinetic city, such as its adaptive dynamic and plastic circulation patterns, can enter professional and political discourses and innovations can infiltrate the planning protocols of the formal, or static, city. Conversely, maps and architectural abstractions confer credibility and legibility on the informal, thereby negotiating the rift between static and kinetic city. 

REFERENCES

- ALDER, M., & GIOVANOLI, D. (1997). *Soglio: Settlements and Buildings*. Basel: Birkhäuser.
- DEBORD, G. (1955, September). Introduction to a Critique of Urban Geography. *Les Lèvres Nues*(6). Retrieved from <http://www.cddc.vt.edu/sionline/presitu/geography.html>
- DEBORD, G. (1956, November). Theory of the Dérive. *Les Lèvres Nues*(9). Retrieved from <http://www.cddc.vt.edu/sionline/si/theory.html>
- LEFEBVRE, H. (1991). *The Production of Space*. (D. Nicholson-Smith, Trans.) Oxford: Blackwell.
- MURATORI, S. (1960). *Studi per una operante storia urbana di Venezia*. Rome: Istituto poligrafico dello Stato, Libreria dello Stato.
- ROSSI, A. (1966). *L'architettura della città*. Padova: Marsilio.
- ROSSI, A., & CANTONI, S., & EIDGENÖSSISCHE TECHNISCHE HOCHSCHULE ZÜRICH, ABTEILUNG FÜR ARCHITEKTUR. (1980). *Zurigo Kartenmaterial Rilievo Del Piano Terreno Entro Il Perimetro Delle Mura Barocche Anno 1973*. Zurich: ETH.
- ROWE, C., & KOETTER, F. (1978). *Collage City*. Cambridge, MA: MIT Press (Manuscript in circulation since 1973).
- SADLER, S. (1999). *The Situationist City*. Cambridge MA: MIT Press.
- VENTURI, R., & SCOTT BROWN, D. (1968). A Significance for A&P Parking Lots or Learning from Las Vegas. *The Architectural Forum*, 128(2).
- VIDLER, A. (2000). Diagrams of Diagrams: Architectural Abstraction and Modern Representation. *Representations*(72), 1-20.

NOTES

- (1) The map of the Santa Croce district is from a collection of engravings published by Rutger Christoffel Alberts (The Hague, 1724); it first appeared in Domenico Fontana, *Libro Secondo in cui si ragiona di alcune fabbriche fatte in Roma et in Napoli dal Cavaliere Domenico Fontana* (Naples, 1603, Racolta Bertarelli).