

Urban factories are Nina Rappaport's particular focus. Her opening chapter of Part Two offers an illuminating compressed history of factory architecture that extends to an exploration of 'neo-cottage' and 'hybrid' developments that promote flexible, collaborative spaces for small manufacturing firms and the possibility of living and working in close proximity. Subsequent chapters explore recent developments in factory design (Frank Barkow) and sustainable urban factories (Naomi Darling). Jonathan Bach and Stefan Al's study of informal production in Chinese urban villages shows how built environments can self-organize manufacturing production. Rappaport closes the section with a useful survey of emerging trends in 'Industry 4.0' technologies associated with digital fabrication and AI, and considers how these can catalyse new forms of collaborative working spaces.

For a long time, planning policy in North America and beyond has been promoting the removal of manufacturing from urban areas through restrictive and inflexible zoning regimes. Rappaport's opening chapter of Part Three, 'Industry as Infrastructure', advocates policies aimed at encouraging manufacturing back into the city, challenging policy makers to fundamentally reconsider the contribution manufacturing can make to the prosperity and sustainability of local urban economies. Subsequent chapters examine land-use regulation (Beth Bingham and John Shapiro), the challenges of accommodating manufacturing in mixed-use schemes (Jenifer Becker and Adam Friedman), federal government policy contexts (Laura Wolf-Powers) and the need for flexible and dynamic policy making that is responsive to the ongoing changes in manufacturing (Andrew Kimball).

Part Four by Robert N. Lane is titled 'Atlas' and serves as an extended summary of the collection's themes and case-studies. Urban morphologists will appreciate the comparison of figure-ground diagrams of industrial areas in eighteen cities and the sequences of maps showing land-use, block structure and street networks. Typological distinctions are made between industrial districts characterized as 'loft districts', 'manufacturing neighbourhoods' and 'urban industrial park', and between the 'hard', 'soft' and 'mixed' edges that separate industrial from non-industrial uses. The resulting design and governance recommendations, focused on integrating urban manufacturing into the life of the city, are clearly presented and grounded in the research presented in this volume.

The design of urban manufacturing is richly illustrated and, as the chapters are short, this gives it the feeling of a 'reader' for research students, academic teachers and interested professionals alike. Although its clarity of purpose is admirable for an edited collection, it does not have the same theoretical depth as Davis's *Working cities* in establishing the role of manufacturing in resilient urban ecologies. While the literature and methods of academic urban morphology and space syntax are not directly invoked, many of the design and policy challenges posed by Rappaport and Lane are clearly morphological and configurational in nature – not least the challenge of sharing public space with manufacturing industry. A new research agenda looks set to emerge in this area where much groundwork has now been laid, not least by this volume and that by Davis. Put together they effectively dismiss the millennial assumption that manufacturing activity sited in and around urban centres must necessarily detract from the vitality of the public realm, and that it signifies the urban past rather than the urban future.

References

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Urbanism – fundamentals and prospects
by *Han Meyer, MaartenJan Hoekstra and John Westrik*, Delft/Boom, Amsterdam, 2020, 511pp, ISBN 9789024425709

The concept of urbanism and its implications in the disciplinary and professional fields have been in focus for many publications since the word

'urbanization' was coined in the nineteenth century (Choay and Merlin, 1988, p. 853). This new book contributes to the field: it identifies the elements and tools of urbanism, interprets these elements in their historical-geographical contexts, explains the reasons behind aspects and specificities of the built form, and demonstrates by key examples how these elements and the rules which govern them are materialized.

The book is divided in four sections, each dealing with a central subject, element or task of urbanism, and embedded in the 'layer approach', which constitutes a thread through and skeleton of the book. The layer approach comprises five layers of the urban landscape, including the layer of occupation (land use), built space (buildings), public spaces (open spaces, green and blue), islands and plots (ground plan) and topography (territory). The four sections of the book relate to the design of the ground plan, the design of public space, building regulations, and the programme and utilization of the city. Each section is richly illustrated and concluded with an 'intermezzo', which gives examples of cities and buildings allowing a more in-depth understanding. The publication is essentially focused on urbanism in the Netherlands, with its relationship to water.

The first section, entitled 'The design of the urban ground plan', is devoted to a reading of the urban ground plan in its social, territorial, organizational and typological dimensions. The ground plan is, above all, a conceptualized social production, which seeks well-defined uses, objectives and meanings of the built form. This relation of people to their environment is interpreted in a succession of four periods which show changes and evolutions of great significance for urban and social development. The fourth and final period of this historical overview is perhaps the most important, since it takes us to the contemporary city of the post-war period, and the challenging task to reconnect with history and form the future. The visions and perspectives dealt with in this section, whether social, territorial or other, are interpreted in a close relationship to human, spatial and environmental conditions, which relate to the configuration of the typological and morphological aspects of the Dutch city.

The second section covers the design of public space, where two aspects are highlighted that play a central role in the configuration of public space in the Netherlands, 'spatial transition' and 'urban structures' (or systems). Spatial transition concerns the relationship of the private domain to

the public one, that of street (open space) to private space. Here, too, the geographical, topographical and usage conditions have led to very particular transitional configurations, which have also changed over time. A great variation can be found between the sharp separation between private and public, to a more sequential one, or a configuration where the two domains are confounded (as with the examples of the After War urban field and house in the park). The chapter on urban structures or systems is based on the three landscape layers presented in the first section (pp. 45–9) and which are here studied more deeply: green structures (design and layout of parks, gardens and alleys), blue structures (drainage works, distribution and water management), the structure of circulation and mobility (network typology and urban layout), and finally the systems of cabling, gas, sewers and water supply. These systems, which are normally buried several metres underground, are very sensitive to technical innovations, and have caused great changes in the past, especially in the design of public spaces. Both ever-faster technological developments and climate change will generate further change, which will enforce future radical transformations of the built environment.

The third section deals with 'building regulations', which again concerns the relationship between private and public space, but now the emphasis is on the elements and tools used to regulate it. The role and effect of regulations is demonstrated in the study and interpretation of the plot structure, density, transition private to public, and the visual aspects of the built form. We see for example that, through the Dutch Spatial Planning Act, local authorities can, through zoning plans, control land use and density. Furthermore, as it can be difficult to coordinate different legislation, policy and guidance, from 2010 the Dutch government has been aiming to bring what are now 26 different acts relating to the physical living environment together as a single Environment Planning Act (p. 342). This should lead to better coordination of agents and actions for better-quality urban development.

The final section of the book reflects on 'the programme and the use of the city' where diversity and sustainability are the leading themes. The objective is to contribute to a profession capable of dealing with the climatic, environmental, economic and cultural complexities of the city of tomorrow. This requires an approach that combines visions and programmes which are considered as incompatible, such as the local versus

regional dimension, robust and long-term versus flexible, or conservation versus change. Against such conflicting and fragmentating approaches, the book suggests a holistic approach based in the typological and morphological structures.

It is difficult in a short review to do full justice to a book of this scale and scope. It is of great relevance to a wide audience with interest in urbanism. It is strongly based on the practice of urbanism, with an academic and pedagogical emphasis. Despite its Netherlands focus, with its unusually strong relationship between built form and water, it is also valuable for other contexts.

Reference

Choay, F. and Merlin, P. (1988) *Dictionnaire de l'urbanisme et de l'aménagement* (Presses Universitaires de France, Paris).

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