A visual history of the future

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Foreword

The Future of Cities project is informed by working papers that are commissioned by the Lead Expert Group and written by authors from academia and industry.

These papers highlight the key challenges and opportunities facing cities in the UK out to 2065. The Expert Group will draw upon this evidence base to develop project outputs that will be published in 2014 and 2015.

These outputs will aim to inform near-term policy making in both local and central government, which achieves desirable long-term outcomes for UK cities.

Professor Sir Alan Wilson

Executive summary

This paper is concerned with how future cities have been visualised, what these projections sought to communicate and why.

The paper is organised into eight sections. Each of the first seven sections is highly illustrated by relevant visualisations to capture the main ways in which the thematic content is evident within future cities. We present a brief summary at the end of each section to understand the key issues.

> • First, we describe the relevance and power of imagined cities and urban visions throughout popular culture, a multi-disciplinary discourse, along with an explanation of the methods used.

> • Second, we examine the role of different media and its influence upon the way in which ideas are communicated and also translated, including, but not limited to: diagrams, drawings, films, graphic novels, literature, paintings, and photomontages.

> • Third, we interrogate the 'groundedness' of visualisations of future cities and whether they relate to a specific context or a more general set of conditions.

> • Fourth, we identify the role of technological speculation in future city scenarios including: infrastructure, mobility, sustainability, built form, density and scale.

> • Fifth, we examine the variations in socio-spatial relationships that occur across different visualisations of cities, identifying the lived experience and inhabitation of the projected environments.

> • Sixth, we consider the relationship of data, ubiquitous computing and digital technologies in contemporary visualisations of cities.

> • Seventh, we establish the overarching themes that appear derived from visualisations of British cities and their legacy.

In conclusion, we establish a synthesis of the prevalent patterns within and across legacies, and the diversity of visualisations, to draw together our findings in relation to overarching narratives and themes for how urban life has been envisaged and projected for the period under scrutiny.

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Introduction

This paper is concerned with how future cities have been visualised, what they sought to communicate and why. The aim is to identify and understand the dominant paradigms that have been portrayed in these visualisations.

The paper is an evidence based analysis of visual futures. The timeframe that this paper examines is a period spanning just over the last one hundred years i.e. from the start of the twentieth century to the early twenty-first century. The images contained within this paper all tell a story. More specifically, whilst they all have relevance to the context of urban representation or future scenarios, they are also culturally and socially important as they are reflecting points of time historically, thus reflecting cultural attitudes. In addition, the visual content of the paper facilitates connections with ideas or theories of architecture and urban design to be drawn out thematically and with respect to time.

This is important since such analysis can lead to a more future-orientated summary. By giving insight on which typologies have had the most influence on UK cities, it is possible to provide an evidence-based, future-orientated discussion on the possible legacy of the latest visualisations so we may understand where we are headed.

This introductory section sets out the purpose of the report and the methodology developed to examine the materials under review. Cities have long been the subject of imaginative projections and aspirations for better futures (Hall, 1988). Often described as the nexus for economy, enlightenment, democracy and freedom, cities have been inscribed with a transformative power for individuals, communities and society. Indeed, these very positive aspects have also been contrasted through visions wherein cities are portrayed as hellish places full of fear, despair and imminent or post-apocalyptic situations.

We therefore begin by briefly considering what a 'city of vision' is. There have been attempts by a significant number and diverse range of artists, architects, and visual designers from various fields, to imagine cities differently (Fishman, 1982; Bingham, 2013). Inherent to the majority of the visualisations surveyed is an endeavour to illustrate a change, i.e. a vision, to the contemporary spaces and lifestyles, distinct from the period of their production. The extent of this shift is evident along a spectrum of potentialities: from radical transformation of the present day to subtler and more nuanced versions of prevalent city conditions.

One of the key aspects of visualisations of futurity is their duality; they are both allusive and elusive. They typically seek to suggest how people may live, work, and move whilst never being able to be fully translated into built conditions. Even in those projects where the design was subsequently constructed in reality the subtleties and joie de vivre are lost.

A primary obstacle when conducting a survey of the existing and increasing body of material is the large number of different visualisations across a range of media. Therefore, a key task from the outset was to identify suitable categories of future cities

to establish taxonomy, albeit flexible rather than absolute, of different types. This naturally led to discussions as to what material should be included. In addition, it was important that comparative understanding could be evidenced throughout the paper by effective graphical means (Work AC, 2009). Mainstream visualisations of future cities are those known to have had considerable impact on the architecture, planning and construction of cities.

However, as well as these, careful consideration has also been given to avant-garde works that may be more marginal but no less influential (Pinder, 2005). Although many of these visualisations were never built and remained imaginary or the backdrop for a fictional narrative, this does not mean they are unworthy of attention (Jameson, 2007; Bassett et al., 2013). Their significance extends in other ways through their questioning of reality, reshaping our spatial conceptions or providing expressions of alternatives.

The power of visualisations of future cities and their ability to capture and remain in our imagination through mainstream media cannot be overestimated (Alison et al., 2007; Goodman, 2008). The echoes of such images and their ideas continue to resonate throughout history. Visualisations of future cities contribute to our social imaginary, i.e. 'the creative and symbolic dimension of the social world, the dimension through which human beings create their ways of living together and their ways of representing their collective life' (Thompson, 1984: p.6). In addition, reexamining the projections made for the future from a historical perspective can provide new insights and greater understanding of the developments and patterns that shape the present and, in turn, their implications for our future (Barbrook, 2007).

The visualisations of future cities collated in this paper were all driven by a strong impulse to transform our relationship with urban space (Mansfield, 1990; Eaton, 2002). They challenged the prevailing conditions and problems of cities of the time and sought to produce spaces conducive to different ways of living. By identifying the key factors of future city visualisations that have proved most significant and influential, it is proposed that this analysis will also establish which elements have retained a pervasive presence across different media and over time. It is therefore intended that the visions addressed in this paper will provide an important resource for catalysing and rethinking the potential of perspectives on future cities more widely.

Key to understanding the content of this paper is an emphasis on the power and agency of the images themselves (Gell, 1998; Corner, 1999; Ingold, 2007). In the projected image ideas, hopes and critique are loaded within it (Cook, 2008). The image has an agency; it carries and projects these embedded thoughts. The agency of the image sometimes has urgency reacting from present conditions.

Futurological city images are sometimes bound up from the experience of the city, or part of a wider process in which the image reduces other sensory fields, sounds, narratives, materiality and time based approaches. The images may belong to a wider chain of reaction, as part of an extended design response, social or cultural force.

Some of the image selections within this paper have been extracted from these larger documents to establish the taxonomy. An important point to realise is that these city images were not intended as passive creations, but are inextricably bound to

conceptual city thought. The images project but they also reflect, they represent wider perceptions, they feedback and also function as critical devices for the evaluation of city form.

That many of us are familiar with visualisations of future cities from mainstream media, popular culture and other less well known examples is an important factor since we are all able to read such images, even if we may have different interpretations of them (Bruno, 2002). Such images are also enduring both in the collective imagination and wider cultural context of society. This latter point returns us to the taxonomy to appreciate a holistic sense of the paper's content.

We classified the materials surveyed to identify primary elements and then recorded these individually. This was a dual process: on the one hand we organised the visualisations in relation to categories and the mode in which they have been produced, with attendant subsets of image content and production from a technical perspective; whilst on the other hand we analysed the depictions for their thematic content and which dominant elements of urban or rural life they portrayed.

Once we had collated this information, we then examined potential clusters and groupings of visualisations through shared or overlapping characteristics, image construction, and details. The results of this process are shown in the concluding section, which enables the reader to understand the nature of different visualisations of future cities in relation to one another and between the twenty-eight categories of city established through this paper. This summative graphic presents evidence of future city visions in a UK context.

These categories have also been arranged in relation to a linear timeframe as part of our synthesis in the conclusion so that the different themes can be appreciated from a conventional historical perspective. This enables six visual dominant paradigms to be understood as flows throughout the time period examined, illustrating connectivity and reoccurrence, where applicable, that will be introduced throughout the paper and discussed further in the conclusion. Such work is pressing as such a visual history gathers significant evidence for projections and conceptual thought of UK cities in the future yet no survey of this scope has been conducted to date.

1. Cities of vision

Perhaps one of the most enduring images of a new vision for urban form is the Garden City. When Ebenezer Howard began work on Garden Cities (1898 reissued in 1902 (Figure 1)) inspired by the novels of Edward Bellamy (Bellamy, 1888) and Henry George (George, 1879), Howard projected a concentric moralistic urban form that contained various zones of activity intersected with green routes which filtered into the New Town Movement begun after the Second World War (Buder, 1990; Hardy, 2011). The legacy of this diagram could arguably be seen in the division of town functionality of Welwyn Garden City or the extensive green infrastructure of Harlow New Town, its former water gardens, splash parks and recreational space.

The legacy of Howard required adjustments to planning concepts and thus in a developing visual history. The image reflected the urgency for new conceptualisations of the city with rapid industrialism and consumerism in the UK. This can be seen in Geoffrey Jellicoe's Motopia (Jellicoe, 1963) (Figure 2) with the increasing ownership of motor vehicles and the expansion of London, Jellicoe suggested a separation of transport through elevated auto ramps. Similarly with Howard the Divided City and zoning of the multitude of urban functions seemed like a viable solution to economic, environmental and social issues of cities of the time. This visualisation reflected serious transport planning concerns with the onset of the motorcar, and featured in Colin Buchanan's influential Traffic in Towns report for the Ministry of Transport (1963) (Figure 3).

In comparison to the Divided City of conditional planning the work of Archigram (Figure 4) sought a fluidity of adaptable and reconfigurable urban structures for Cluster Cities in the work of Peter Cook and Movable Cities in the work of Ron Heron's Walking City. These projected visions focused on the animation of the city, through mobile architectures mimicking the complexity of human relations in urban areas. These visions developed ideas of the responsive environment, which was also addressed in the Mechanical City of Hans Hollien in which an aircraft carrier city is placed in situ to a pastoral landscape (Figure 5). The DIY City, of temporary mobile architecture emerges in the work of Jean-Paul Jungmann and the UTOPIA Group through floating inflatables to which a wider populace could easily utilise given instruction (Figure 6) (Busbea, 2007).

These developments signified a new experimental architectural and urban approach projected as successional to mechanistic UK planning, reactive structures responding to the needs of the cities populace.

To an extent such work responded against the emerging social failures of utopian modernist architecture which dominated the early 20th century European city form through CIAM (International Congresses of Modern Architecture) (Mumford, 2000; Gideon, 2009). Yona Friedmann founded GEAM (Groupe d'étude d'architecture mobile) as a response to CIAM. Constant Nieuwenhuys presented the idea of a Continuous City (Figure 10), an architectural framework to which inhabitants sculpt space to their own accord and will (Knabb, 2007).

In comparison in the work of Speer's Germania, a Spectacle City (Figure 11) of monuments is dedicated to governmental power and identity. The architecture of Nazi Germany is at odds to the aforementioned examples of participatory and unitary visualisations a more politically focused urban vision (Krier et al., 2013).

Architecturally led city solutions became enhanced through the development of a participatory discourse. The idea of the engagement of people in construction of the built environment through a manual for DIY architecture rests on a wider unitary theory of participation. Developing from the influential work of Buckminster Fuller, Operating Manual for Spaceship Earth (Fuller, 2008), in which Buckminster Fuller views the Earth as a spaceship of finite resources to which careful cultivation is required repeats in the architectural visualisations of airborne biospheres of Tomás Saraceno (Figure 8) and Studio Linfors (Figure 9) both Sky Cities and Space Cities.

Utopian Unitary theories repeat with a European context in the work of OMA in Eneropa, (Figure 11) a European wide energy grid which owes much to Buckminster Fuller's World Game (1961) (Figure 12) a political-social-resource scenario game in which participants solve global issues and instability through participation. Arguably Influenced by Buckminster Fuller's Dymaxion Map, OMA visualise connected cities sharing scarce energy of tidal, wind, solar, geothermal and biomass resources, a Continuous City. The unitary themes have appeared in digital form through UK open data calls and the Environment Agency's remote sensing projects allowing flood assessment and risk scenario planning to name one example (Figure 72).

1.1 Summary

This first section has introduced just a small cross-section of the types of visualisations of future cities from the period under study from carefully prescriptive city forms to wider participatory and experimental urban visions. The variety of format, media, scales and level of detail therein begins to underline the extent of the paper's research and the need to be able to identify meaningful trajectories and relationships between the multitude of archive materials and contemporary examples.

However, whichever way the materials are organised in relation to their content, it becomes apparent that the future cities visions do not conveniently fit into discrete movements or episodes over time (Thomsen, 1994). Part of the reason for this is connected to the manner in which specific visualisations of future cities resonate over time through different channels of culture (Highmore, 2005) and are only partially reflective of greater concerns, attitudes and ideas concurrent in general society relative to their production.

This naturally leads us toward the next section, where we will consider the various media employed to create visions of future cities.
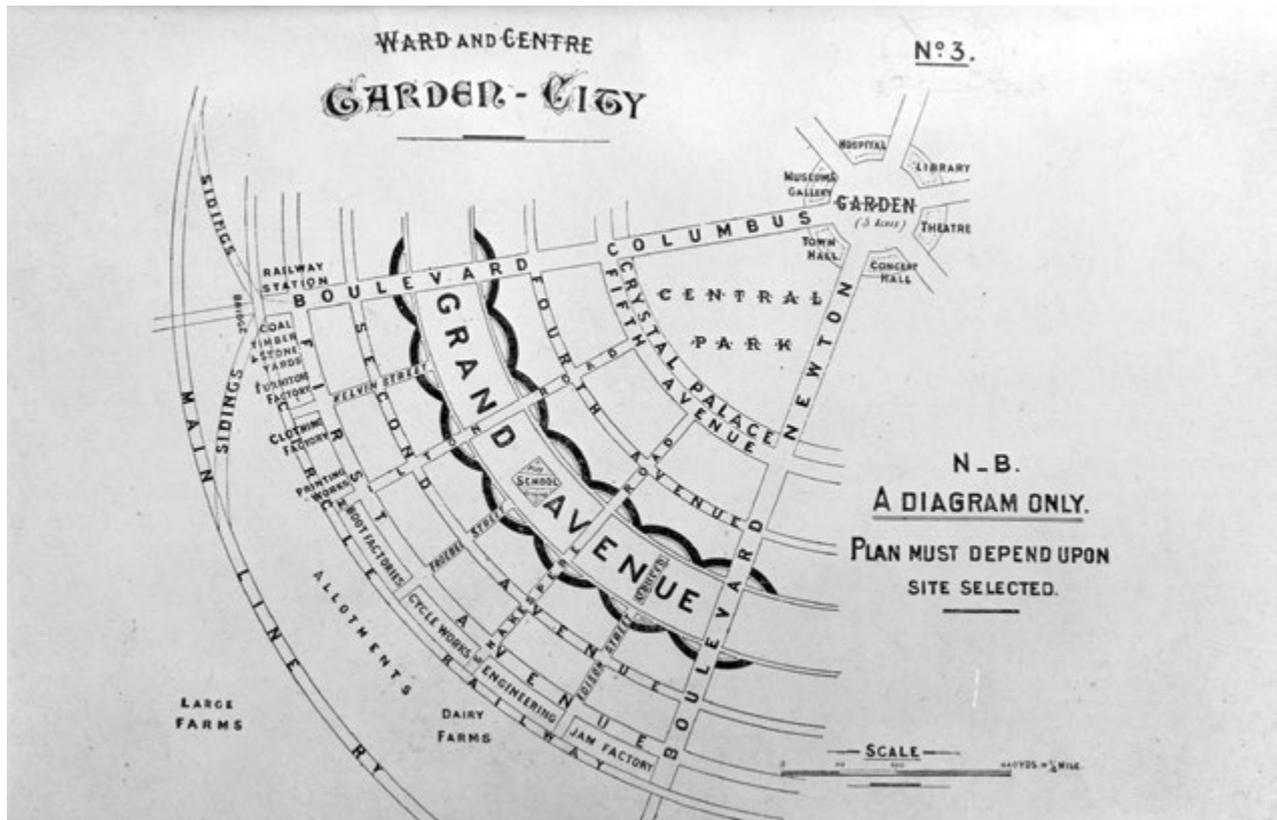
GARDEN CITY

Figure 1: Ebeneezer Howard, 'Ward and centre garden city diagram', 1902, Extract from Garden cities of to-morrow (London, 1902), 2nd ed., diagram 3 after p. 22. RIBA Library Photographs Collection.

Howard sought to combine the best characteristics of city and country life with this comprehensive social vision for a hybrid landscape. Various permutations of this approach were attempted during the first wave of New Town construction between 1946 and 1960 although its principles have continued to endure, through periods of both championing and criticism, across a number of developments both in the UK and North America. Landscape Urbanism reforms notions of landscape as the medium in which the city is represented and constructed (Waldeim, 2006). Emerging from critique of modernist architecture and planning, building from the critique of Charles Jencks for a practice engaging in ecological and urban processes over time. Landscape Urbanism is a landscaping of in-between void and disenfranchised areas within American cities to have the 'ecology' restored to these voids through native seeding, an "interstitial design discipline, operating in the spaces between buildings, infrastructural systems, and natural ecologies. These were 'unseen,' residual terrain vagues" (Shane, 2004, p. 4). An example is the current Fresh Kills, landfill to park project which runs for thirty years in Staten Island, New York, by Field Operations (2003 onwards). Contrasting approaches that sought clear divide between urban and rural conditions along with high density housing were a fertile trajectory for architects and planners, for example: Le Corbusier's Ville Radieuse (1924) (Figure 17) and Paul & Percival Goodman's Communitas 1 (1947).
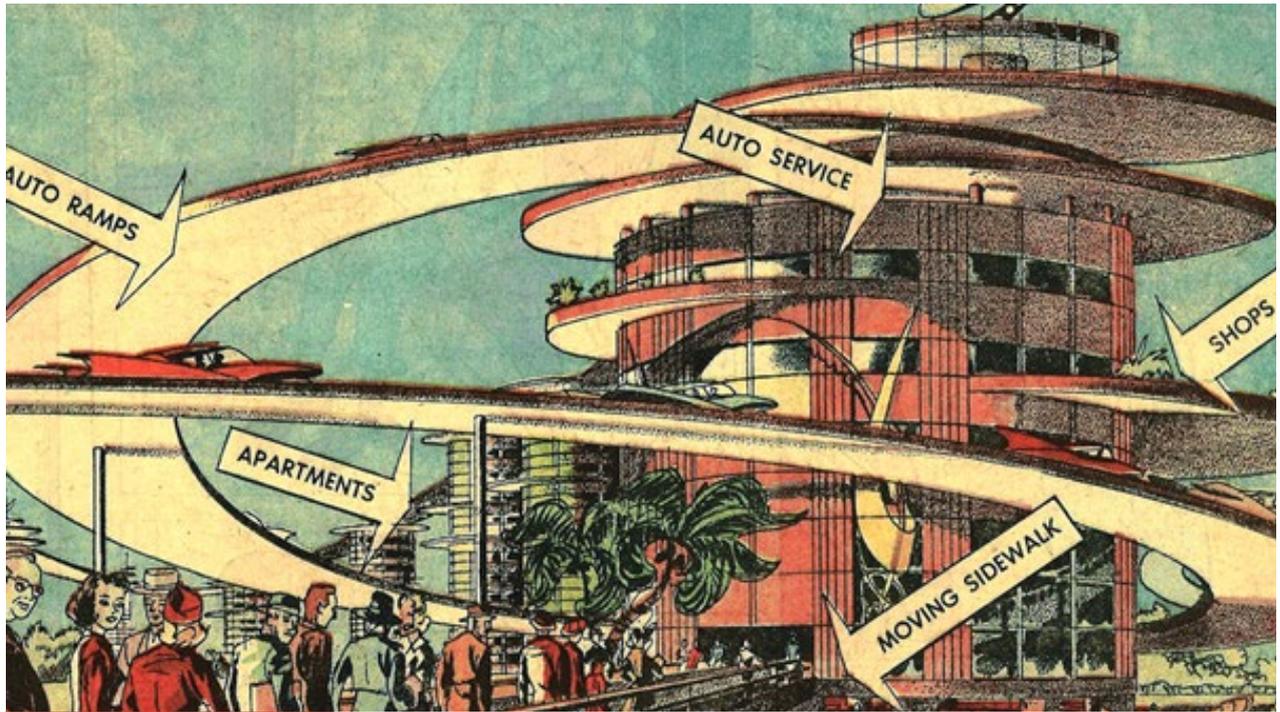
DIVIDED CITY

Figure 2: Geoffrey Jellicoe, Motopia, A Study in the Evolution of Urban Landscape, 1961. Illustrated in 1960 by Arthur Radebaugh for 'Closer Than We Think'. © Tribune Content Agency, LLC. All Rights Reserved. Reprinted with permission.

Arthur Radebaugh featured Jellicoe's ideas in a syndicated comic strip 'Closer Than We Think'. Jellicoe proposed a separation of transport creating a layered city of elevated streets for the suburbs of London. The idea of the divided city of infrastructure repeats itself in Henard (1911) Figure 16, Corbett (1913), Mujica (1930) Figure 15 and OMA (2009) Figure 11 amongst many others.
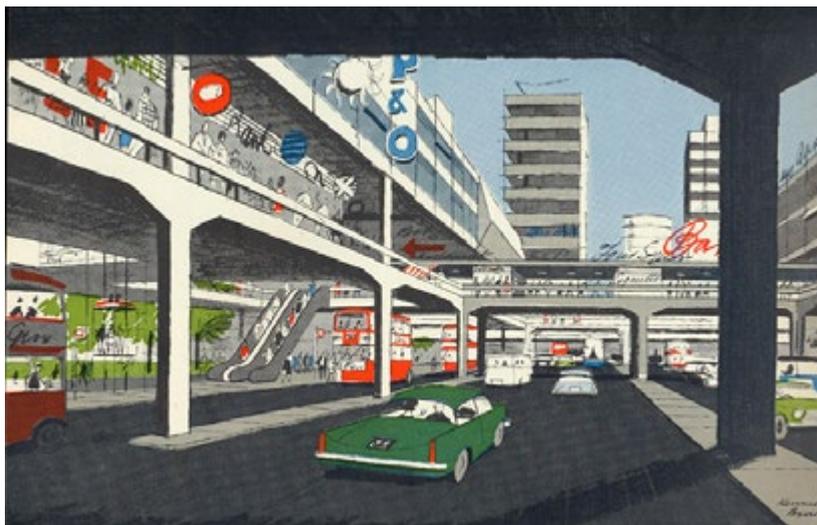
MOVING CITY

Figure 3: Colin Buchanan, Illustration from Traffic in Towns, Ministry of Transport, 1963. © Department for Transport 2014.

Buchanan devised a series of steps to mitigate against rising traffic and motorcar use and ownership in the United Kingdom. The report (Crowther & Buchanan, 1963) brought together several principles for transport networks including elevated separated traffic, pedestrian routes and 'environmental' areas (traffic calming and speed ramps) (SKM, 2013).
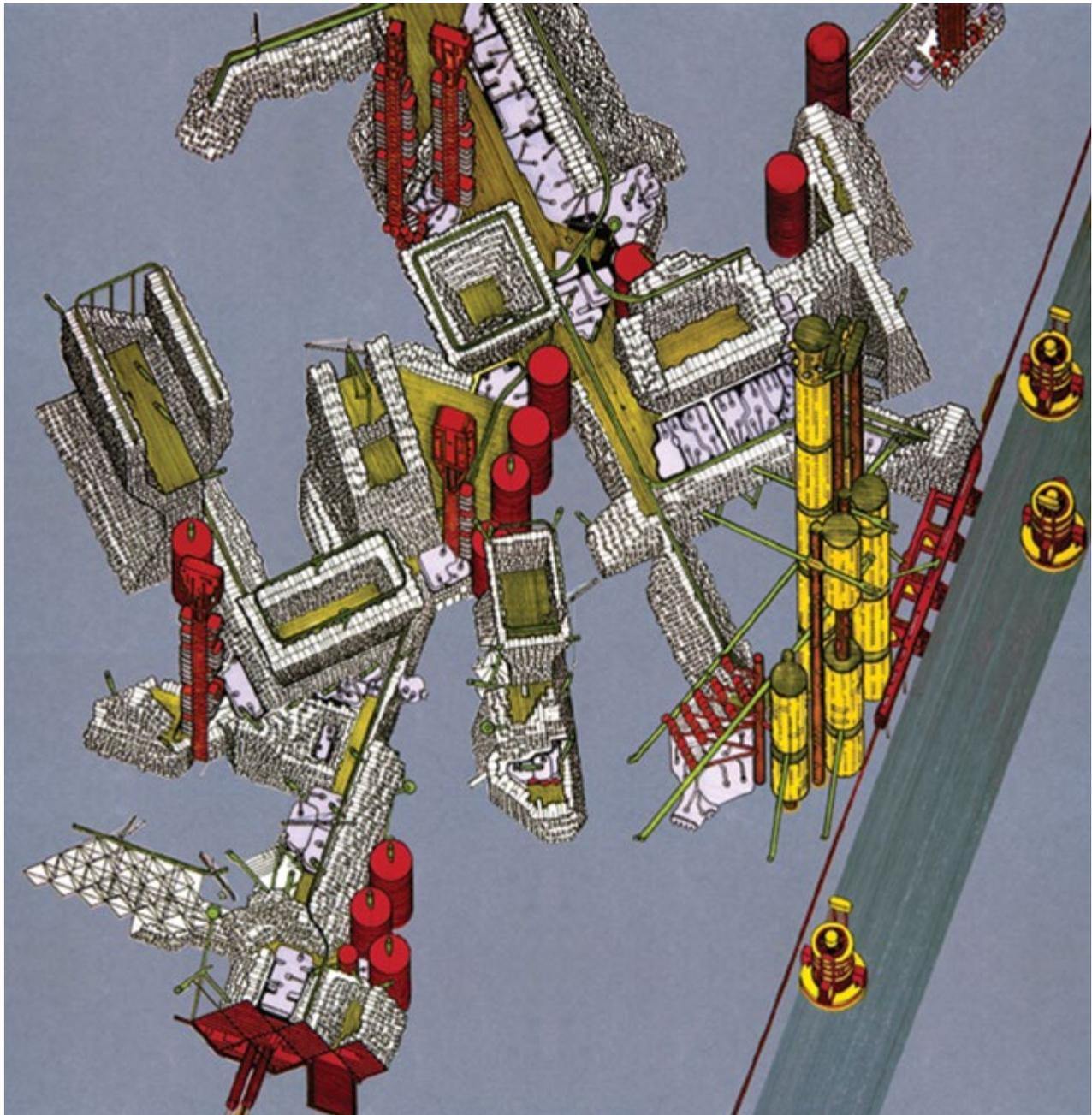
CLUSTER CITY

Figure 4: Peter Cook (Archigram), Plug-in City, Overhead View, (Axonometric) 1964. Image supplied by the Archigram Archives © 2014.

Peter Cook's proposal is a network of configurable clusters and replaceable units supplementing the city. Plug-In City, Taking the premise of Yona Freidman's Ville Spatiale (1958) (Figure 49) to a Pop Art conclusion, the project consisted of a megastructure