Kees Christiaanse*, Joanna Jabłońska**

**The diversity and porosity in urban design – works by Kees Christiaanse**

This article is based on interviews with Kees Christiaanse conducted by Joanna Jabłońska in 2022.

**Introduction**

In a conversation with Joanna Jabłońska, Professor Kees Christiaanse states: *Traditionally, urban design is often considered by architects as an extension of architectural design and by planners as a kind of socio-geographic and infrastructural science. Thereby, architects usually learn how to design, while planners are insufficiently trained in this manner. Maybe my contribution is that I have reconciled these perspectives into one discipline, in which the term “urban design” is very important. It combines the intuitive and projective approach of architectural design and the scientific perspective of evidence-based research. Often, the intuitive side of designing is called romantic. But it is rather a pragmatic outcome of observation and experience. The creation of conditions, which stimulate social interaction and well-being, is based on experience and research [1]–[3].*

The aim of this article is to present the profile and work of Kees Christiaanse, a Dutch architect and urban planner. Particular emphasis is given to the designer’s views on urban development in the post-pandemic era, in which the key is sustainability on the one hand, and inclusivity and the stimulation of social interaction on the other. The main part of the paper is a discussion of the design and realisation of Hafen City in Hamburg, an iconic example of the adaptation of post-industrial sites.

**Kees Christiaanse curriculum vitae**

Kees Christiaanse is an architect and urban designer who worked in the Office of Metropolitan Architecture (OMA) in Rotterdam between 1980 and 1989, and from 1983 as a partner. Between 1993 and 1996 he served as an artistic director of the Dutch State Architect’s Office. In 1989 Kees Christiaanse became a founding partner of the KCAP – Rotterdam, Zürich, Shanghai – an international design firm, and he fulfils this function until today. In the years 1991–2003 he worked with the ASTOC Architects and Planners in Cologne.

His teaching career started in 1987 with the assistant position at TUDelft (until 1989). In 1991 Kees Christiaanse was a Guest Professor at Berlage Institute and between 1996 and 2003 a Professor of Architecture and Urban Design at TUBerlin. Following 15 years, he worked as a Professor of Architecture and Urban Design at ETH Zürich and from 2008 to 2018, as a Programme Leader at ETH Future Cities Laboratory Singapore (and Principal Investigator of the module “Urban Design Strategies and Resources”). From 2020 until today, Kees...
Christiaanse continues to be a Distinguished affiliated professor at TUMünchen. In 2009 he accepted the function of the International Architecture Biennale Rotterdam (IABR) curator.

Kees Christiaanse is an author of many architectural works, and selected examples are as follows: Housing block K25, The Hague (1989), Housing blocks on Java Island, Amsterdam (1998), Art Academy Rotterdam (1998), Holzhafen, offices and apartments in Hamburg, Germany 1996(?), The Red Apple, residential high-rise with offices, Rotterdam (2009), Starfish, an apartment tower in Hafen City Hamburg, 2021. He is also an urban designer, and here are selected works: Wijnhaven Island Rotterdam 1995, Masterplan for housing festival, Hague (1987), Urban plan for Lelystad South area of the Flevoland Vinex (1999), HafenCity in Hamburg (winning proposal – 1999), 2012 Summer Olympic Legacy Masterplan [4], [5], Masterplan for Jurong Lake District, Singapore’s new-highspeed railway station quarter (2015–2018) (Figs. 1–14). Professor is also a book author, of which examples are as listed: Situation KCAP [6], The Potato Collection [7], Textbook [3], The Grand Project [8], The City as Loft [9], Open City [10], Campus and the City [11], The Strip [12].

When asked about his inspirations, Christiaanse explains: I am both inspired by the different exponents of modernism, and by the more rich predecessors and later soft modernisms, like by Adolf Loos, Duiker, Schindler, Neutra. In urban design Henry Sauvage, August Perret, Berlage, Bruno Taut, Idefonso Cerda... I have too many idols. But I am especially inspired by people like Jane Jacobs, Patrick Geddes... [1], [2].

The pandemic

In Professor Kees Christiaanse’s work, social interaction constitutes a crucial pivot around which urban design revolves. The recent pandemic had quite some impact on human activities in urban spaces. The role of the home office became very important, which influenced how people moved around the city and related to their home environment. Since the pandemic flawed and people did not completely return to their offices and schools, the discourse of whether remote working and learning is efficient and should partly stay is running, also taking into account the psychological problems of lack of social encounter. We estimate that it will remain a constant element in modern working culture. At KCAP, his architecture firm, remote working is planned to be max. 20–30% of regular working hours. To summarize, remote working will require quality home-office and co-working spaces in residential neighbourhoods and parallel to that an increase in demand for local daily care amenities. On the other hand, it will change the size and organization of offices, schools and other institutions as focused places of encounter.

Another aspect is Internet shopping, which generates a fundamental change in the retail landscape. Large-scale storage and distribution hubs in peripheral sites create new centralities with outlet developments and entertainment. These complexes influence the position of city centres and make them look for a viable programmatic alternative.

Meanwhile, the Internet has a far-reaching impact on mobility systems. Innumerable apps allow access to a variety of bike-and car-sharing systems, public transport and other modes, which also offer multi-mode travel menus in order to get as fast to a destination as possible. For example, e-bikes bring more people on bicycles than before, especially in cities with intensely differentiated topography.

These developments can be evaluated as positive. However, they do not necessarily influence the physical urban neighbourhood in a significant way, while peripheral sites, industrial compounds and shopping centres may intensively transform by the impact of logistics and data centres. On the contrary, the well-known concept of the 15-minutes city has become more important through the pandemic, as people started to avoid public transportation and large centres, causing neighbourhood shops and amenities to flourish [1], [2]. The third aspect of the pandemic is the consolidation of suburbanization and the use of cars. While a part of people was able to enjoy already existing services in their area, others started to use individual transportation more often, avoiding personal contact with larger groups. The car experienced a renaissance. For the same reason, isolated houses in the suburbs suddenly became more popular. In the meantime, this phenomenon has been “corrected” by the energy prices and threatening shortage. Therefore, the trend towards more compact and dense neighbourhoods and adequate public transport services will hold on.

Today, social changes are often advancing faster than politics and legislation. Until 15 years ago, mobility was the territory of cities’ authorities, for example in constructing a new tram line. Nowadays there are multiple private and grassroots innovations in mobility systems, which complement the public offer. The same situation can be seen in the building regulations concerning sustainability and zero-emission. Sustainable technology for district energy systems and self-sufficiency are available, but legislation is lagging behind. In many countries, maybe except Switzerland and Singapore, civil servants are underpaid and tied up in bureaucracy, which causes a brain drain towards private enterprises. This in turn has a slowing effect on a dynamic and lean political decision-making and legislation culture [1], [2].

Professional title

Before the introduction of the EU legislation, in Switzerland and the Netherlands, the title “architect” was not protected, meaning everybody was allowed to make an architectural design and submit a building permit. On the other hand, there were effective control mechanisms. Every city had an aesthetic committee and urban design panels that evaluated design proposals. In contrast, in counties like Germany, Poland, England, France or Belgium, the title was always protected. An architect-in-spe needs to have a recognized diploma, 2 years of practice and pass an additional practical exam. Interestingly, the quality of architecture in the respective countries does not necessarily correspond with these requirements. The architecture produced in Switzerland and the Netherlands
belongs to the best in the world, while the urban design culture in these countries is by far superior to that in other countries, where planning is often mistaken for urban design. A rather liberal attitude towards the title of Architect with effective control mechanisms may therefore be a European model for the future [1], [2], a model where innovation and adaption to change are better integrated into legislation.

In one of the interviews [13], Kees Christiaanse called himself an ex-architect. Of course, he points out that this is an understatement. Historically, the urban design evolved from architecture, landscape architecture and civil engineering. The difference between planning and urban design is that in the latter the design part is essential, while planning is more a socio-geographic and scientific discipline. Also, the urban project is best learned across scales, beginning on the small form, developing towards larger scales and complexity, and taking the human dimensions as a point of departure. I was trained as an architect with a minor in urban design – Christiaanse mentions – I started to design housing projects, which in the Netherlands are relatively large scale; and soon turned into designing quarters and consequently more complex urban projects [1], [2]. Concerning titles and education, it would be recommendable that urban design education becomes a stronger focus and professional curriculum in architecture and planning education.

**Urban development**

During a long period, from the early planned cities in Greece and Rome till the 18th century, urbanisation was overseeable and rather compact, due to the slow speed of transport and limited production facilities. Also, the level of pollution, waste and emissions was limited due to the exclusive availability of organic material.

As soon as the industrial revolution started and machines, mass production, railways, and electricity appeared on the stage, urbanisation ran “out of control”. That moment was the real birth-moment of planning and urban design, accompanied by projects like Hausmann’s Paris, as urbanisation started to backfire against society. This process was reinforced by the commodification of the car and plastic materials after World War II, which caused massive suburbanization and sprawl, as well as masses of unprocessable waste and pollution. This was accompanied by the professionalization and political focus on planning in order to keep urbanization in control. It also showed the
need for central planning as a comprehensive framework for the organization of the territory. In liberal countries, where municipalities have substantial autonomy, there is quite some competition in attracting residents and companies to settle within their administrative boundaries. As a result, large portions of land with residential and industrial settlements are scattered across the territory without adequate coordination.

Initially, this did not happen in the Netherlands, where after World War II the government elaborated a spatial program for the whole country, in which the relationship between built and the non-built surface was investigated and fixed for different development scenarios. This policy, which was able to accommodate a growing population (already 12 million people in the 1960s) and its housing demand in a balanced way lasted until the end of the 1980s. This was also possible due to the modest size of the Netherlands and the transparent social democratic culture. In the 1990’s, however, a far-reaching liberalization took place, which abandoned central planning and provided individual municipalities with far-reaching planning autonomy. Today the Netherlands population amounts to over 17.2 million people [14], and the obvious damage of recent urban sprawl is currently sparking debate about the re-introduction of central planning.

A good example of a small country with an efficient planning culture is Switzerland with a population of over 8.7 million people [14], where each highly independent
canton (province) is obliged to create a comprehensive Cantonal Zoning Plan, which meticulously fixes the relation between built and unbuilt, agriculture, forest, industry, nature, etc. All municipalities within the canton are obliged to comply with the Cantonal Zoning Plan. Building zones are precisely administered, which allows for controlling the degree of densification and settlement. It is a very good planning instrument. It poses a contrast to planning conditions in countries like France or the USA, which are characterized by extensive sprawl of suburban development, alternated by industrial wastelands and neglected city centres, causing enormous mobility and sustainability problems.

In Paris, for instance, real estate is so expensive that the majority of its working population has to live out of town. Due to public transport insufficiency and toll-roads costs, they are forced to commute by car (often diesel) via provincial roads. This situation is very unsustainable and leads to further sprawl. It creates “a trap” for some residents, like seniors, who become economically and socially isolated [1], [2]. This trend caused the “yellow jacket” protest movement to organize roadblocks.

**HafenCity**

HafenCity is the redevelopment of the former free harbour in front of Hamburg’s city centre (Figs. 2–12). The competition for the project was won by Kees Christiaanse and ASTOC and the project became a world benchmark for waterfront re-development. It incorporates 157 ha of land and contains when finished around 2.5 million m² GFA of mixed-use development, with 39% offices, 35% residential units and 26% of social, commercial and cultural amenities [15]. Kees Christiaanse introduces: Firstly, the existing harbour basins provided an important ingredient for the public space structure. Secondly, we identified the most important connecting lines of the site with the surrounding context and the inner city. From this, we created a street pattern, with waterfront promenades, squares, and parks. Within this framework, we defined building blocks with urban design guidelines and block typologies. As HafenCity is so close to the city centre that
it will be a vital part of it, we concluded that the project should have a great degree of diversity and porosity in program, typologies and architectural expression in order to extend the centre’s richness. The street and public space patterns are rather logical and self-evident. The plot sizes are functional and economical. The diversity and grain of course also have a spatial and scale dimension [2]. The main strength of this development is the combination of a robust public space framework with key places in combination with the urban design guidelines, which allows for a great degree of flexibility without losing a strong conceptual vision. The HafenCity is an “archipelago” of districts of distinct character, which at the same time have a certain autonomy and are part of a larger organism [1], [2] (Figs. 2, 3).

Sustainability

The project is compact with compact building footprints, high-density and mixed-use. One central commercial district, the Überseequarter is complemented by some sub-centres. Daily care amenities and public transport are all within walking distance. It has a high-quality public transport system, consisting of a metro line, an urban train station and bus lines. In terms of soft mobility, it has its own car-and-bike-sharing system. In the course of its 20-year development, the car-parking norm was reduced by 50% compared to 2003. About 50% of indoor parking places must have a tube for electric chargers and a minimum of 10% are designated for car sharing. This reduction was introduced step by step by the Hafencity Corporation. In the initial stages of the project, a reduction in car traffic was already foreseen. Consequently, the reduction of parking spaces became a general policy. Gradually, this was accepted by the developing community in HafenCity, as it did not appear to be a big marketing problem. The most important factor is the excellent public transport connectivity with three metro stops and one S-Bahn station, supplemented with park-and-ride systems. Today, it is common sense in the HafenCity and begins to spread across other sites in the city [1], [2], [15] (Fig. 4).

During the 20-year development period, the circular and sustainable requirements have been drastically sharpened in terms of materials, grey energy, energy consumption and emissions. Today all new buildings have to be 0-emission. Hafencity developed its own environmental label “HafenCity Environment Label”, which clearly contributed to the development of the German-wide sustainability legislation. Rainwater management is a focus, as well as green roofs, solar panels and last but not least district heating. On the level of soft sustainability, buildings have a flexible ground floor to allow active street fronts and specific grade-level programs are projected to foster places of interaction and close-by amenities [1], [2].

The structural challenges

Flood protection was a challenge, as the main level of the whole site needed to be elevated by 3.5 m, putting existing buildings in a pit and creating a barrier to the city
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Centre. It was solved by leaving a 6 m wide quay zone on the original quay-level so that a stepped relation with the water was generated. The 3.5 m height difference incorporates parking garages under the buildings and gastronomy along the quays. A second challenge was the road-network planning legislation in the beginning, based on a high road capacity for peak digestion for car traffic. Some streets were dimensioned very wide. In the meantime, some wide streets may be narrowed in the future [1], [2] (Fig. 5).

Centre

No less challenging than the structure was HafenCity’s centre, the Überseequartier, which contains a shopping centre, cruise terminal, entertainment area, hotels, etc. The development consortium went bankrupt during the real estate crisis (2008) while the Überseequartier was already halfunder construction. The project consisted of an enhanced “centrality” with shops, hotels, gastronomy, a movie theatre, a cruise terminal, etc. Instead of gradually – block by block, like most of HafenCity, the Überseequartier was tendered as one comprehensive project, with a large basement system for parking, delivery and coaches for the cruise terminal. Nevertheless, the architectural and urban coherence and the porosity of the street pattern on the street level were kept upright [1], [2].

Fortunately, in 2008, while the implemented part of Überseequartier was already functioning and inhabited, a new consortium was found to redevelop the residual half of the project, the area on the waterfront. There were a couple of workshops to establish a new plan for the Überseequartier. Most of the blocks were planned as mixed-use, and the first and mezzanine levels were flexible for diverse functions. The complex has a very sophisticated 3-dimensional organization, by which the street pattern continues on grade level, while under and over it connecting routes between the commercial functions and the cruise terminal are guaranteed, without interfering.
The result of the new southern Überseequartier was in the end better than the design, which was abandoned in the real estate crisis.

Social issues

As already discussed, one of the significant aspects of the urban framework is to create conditions for social interaction on different levels. Usually, a sense of urbanity establishes itself over time and is hard to achieve in a plan from scratch (Fig. 6).

Within the urban design framework, functions can settle according to a certain mix, on the one hand following market demand, on the other hand, pre-programmed by HafenCity in order to arrive at the right initial balance. In HafenCity there are 39% offices, 35% residential functions and the rest is commercial, cultural and educational. Within the housing programme, about 30% is reserved for affordable housing (Fig. 7). An important share is reserved for the so-called building collectives, projects which are initiated and financed by their users. For example, there is a “Peninsula House”, where architects and designers live with their families, while their studios are integrated into the building; there is a musicians’ house, where people share soundproof rehearsal rooms and there is a “religious house”, where people live together with an integrated worship chapel and guest rooms. However, there are no stand-alone churches. In western and central Europe there is more need for new programmes for abandoned post-sacral buildings rather than for new ones. While converting sacral buildings into cultural programmes is publicly and architecturally acceptable, converting them into supermarkets or food corners is considered a de-sacralisation and disruption of historical substance. KCAP has realized two projects, where a former church with financial problems due to a reduced number of churchgoers and lack of maintenance, was demolished and replaced by a smaller church combined with housing. The housing revenues pay for the maintenance of the church. Such things happen more often, e.g. in Wrocław an old church with a monastery was turned into the Museum of Architecture [1], [2].

In order to safeguard the quality of the projects, a so-called “option tender” was introduced. A developing party, who wins a tender or competition, will get an option on the sale of the land. The sale is only executed after the developer hands in the building permit. In such a way, HafenCity will be sure that the project will definitely be constructed and the quality requirements met [1], [2].

Another aspect of contemporary urban planning is to avoid the growing disparity between the wealthy and the poor, as well as ethnic different people. Urban design is basically also about providing shelter and basic needs. A sustainable, compact city with sufficient mixed-use, good and affordable public transport and a proper urban density stimulate interaction and are beneficial for social, cultural and economic development [1], [2] (Figs. 8–11).

Selected other works

Parc de la Villette

The other project that the Professor is in favour of is Parc de la Villette project with OMA (1982, selected from almost 500 competitors) [16], [17], where the team defined principles that are used today. The elaborated area was a big park with a science museum, a music conservatory, gardens of a planetarium and other large-scale elements. The competition program was “thick as a telephone book”, but it was impossible to work with it. So the team decided to create program types with five large concentric plots for museums, theatres and other public functions distributed around the area. The next element was around 50 thematic gardens put into a space and form. Then there were repetitive spatial pieces (about 200) like kiosks, toilets, and bike-sharing stations, distributed mathematically on a plot. OMA created a digital-like system for those elements, yet at that time computers were not used. These programs’ distributions were superimposed on top of one another, and the result formed a complex plan – reminding construc-
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Fig. 14. The framework for the redevelopment of Lignite Mine in Most, Czechia
(source: courtesy of KCAP)

II. 14. Założenia ramowe renowacji kopalni brunatnego w miejscowości Most, Czechy
(źródło: dzięki uprzejmości KCAP)

tivist painting. For the Professor, it was a groundbreaking insight that for a large-scale urban project there cannot be too much detail but a strong public space framework, a powerful vision with features and qualities, with a degree of flexibility (Fig. 12). The idea is applied in the HafenCity.

The Ore mountains

Currently, in Czechia KCAP advises, together with the Czech firm ONPlan, a team which develops a redevelopment strategy and feasibility study for a large lignite mine at the foot of the Ore mountains along the German border. This includes a regional urban design and landscape vision, new development studies on former industrial sites, green energy transition concepts and stakeholder management. It is highly interesting and actual because it is about repairing a violated landscape into a responsible, climate-friendly human environment and an urgent contribution to the energy transition (Figs. 13, 14).

Conclusion

It is hard for an architect to work on urban-scale topics. The architect is used to working on a finite assignment within the constraints of his own good taste, while the urban designer is the coordinator of society’s collective “bad taste” – this is difficult to accept for many architects and it requires a different attitude. An urban designer must be aware that he is only a small cogwheel in the machine and needs a political and stakeholder-oriented mindset. Urban design is a small, but very important coordinating agent in the field of urbanization forces. Therefore it is commendable that master planning culture and education should be given more attention. The Master Planner or Urban Designer should remain the solid captain until the ship is in a safe haven, while politicians and civil servants are continuously exchanged during the planning process [1], [2].

Professor summarises the conversation with the following statement: At the same time, urban design is unbelievably interesting, because it requires working with unpredictable factors and the need to foresee transformation over time, without knowing what society will be like [2]. These words reflect his passion for urban design in which public spaces play a crucial role in building social interactions and providing a place for living, learning and meeting others. His philosophy of diversity and porosity allows these values to develop and harness thousands of factors that affect a final project. It is a background for developments like HafenCity, which is highly successful but most of all, so well received all by its residents.
Abstract

The diversity and porosity in urban design – works by Kees Christiaanse

Contemporary urban design deals with numerous challenges ranging from providing an interactive and sustainable living environment to addressing social disparities and disruptive conditions, like the post-Covid condition or the energy transition. Architectural and public space quality should focus primarily on fostering community-building and social interaction. Another challenge poses the inability of government bodies and building legislation to keep up with the expedited innovations in mobility systems and construction and material technology by the private sector. In the work of Kees Christiaanse and his office KCAP, through projects like the GWL-housing project in Amsterdam, HafenCity in Hamburg, the Olympic Legacy in London and Jurong Lake District in Singapore, these challenges were synthesized in an inclusive way. This article is based on talks with the architect and urbanist and reveals specific design and procedural approaches to equip the urban fabric for today’s and future users’ needs.

Key words: Kees Christiaanse, HafenCity, urban design, city planning

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