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Evelien van Es [Guest Editor]

ISSUE 3

Van den Broek & Bakema

Vigorous protagonists of a functionalist architecture at the TH Delft



Inaugural Speeches in the Built Environment:
Global and Contextualised



Van den Broek & Bakema

TU Delft Open 2018



Van den Broek & Bakema. Vigorous protagonists of a functionalist architecture at the TH Delft

Inaugural Speeches in the Built Environment:
Global and Contextualised

**Inaugural Speeches in the Built Environment:
Global and Contextualised**

Series Editors: Herman van Bergeijk and Carola Hein
[Chair History of Architecture and Urban Planning, TU Delft]

ISSUE 3

Van den Broek & Bakema.

Vigorous protagonists of a functionalist architecture at the TU Delft

Guest Editor: Evelien van Es

Design: Sirene Ontwerpers

This small booklet contains the inaugural speeches of J.H. van den Broek and J.B. Bakema given on the occasion of their appointment as professors at the Technical College of Delft. The speeches provide novel insights into their respective teaching programs, and into the dynamics of their time. An analytical reflection of their work is given by architectural historian Evelien van Es.

The translation of the text of Bakema by Robyn de Jong-Dalziel was first published in Dirk van den Heuvel (ed.), Jaap Bakema and the Open Society, published by Archis, Amsterdam 2018. The curators of this volume have yet preferred to alter the title. The translation of the text of Van den Broek was made by Gerard van den Hooff. The text of Van Es has been edited in English by Hannah Mason.

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Inaugural Speeches in the Built Environment: Global and Contextualized

Inaugural speeches have long been unique moments in the careers of academics in many countries: As an important moment in the career they offer a moment to pause, to reflect, and to envision new approaches. Planners and architects in particular have used such speeches to tie together insights into design work and education and to offer a programmatic view on their own operating within the academic community. Prepared with great care for a university and general audience, inaugural lectures also offer later researchers insight into the thoughts of these scholars at a specific moment in time. Material gathered for and notes written on the occasion of these lectures can help such researchers understand the work habits and thought processes of their authors, perhaps even their relationships with colleagues and students. This series offers inaugural lectures - translated into English and contextualized with scholarly introductions - to unlock information for comparative research and set the stage for new investigations. For example, scholars can use these works to explore educational activities in the built environment or to study the dissemination of planning and design ideas. The series continues with inaugural words by two professors from the Polytechnic in Delft (today TU Delft) who were highly influential in the Netherlands and beyond: J.H. van den Broek and J.B. Bakema. They radically changed the course of architectural teaching in the postwar period and set up a new curriculum.

Herman van Bergeijk and Carola Hein

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FIG. 1 Van den Broek and Bakema with a model of the School of Civil Engineering.

Evelien van Es

Van den Broek and Bakema. Vigorous protagonists of a functionalist architecture at the TH Delft

Introduction

Though unlike in personality, functionalist architects Johannes Hendrik (Jo) van den Broek (1898-1978) and Jacob Berend (Jaap) Bakema (1914-1981) were inextricably bound up with each other both as partners in their Rotterdam office, Van den Broek and Bakema Architects, and as professors at the Technical College of Delft. [Fig. 1] Each represents a type of Dutch functionalism. Van den Broek was one of the founders of Nieuwe Bouwen, the modernist movement in Dutch architecture and construction after 1930; Bakema was among the enthusiastic architects of the post-war period moving modernist architecture in a new direction. Van den Broek and Bakema were two outstanding and outspoken characters, invariably typified in architectural historical literature as opposites: the analyst and the idealist, the pragmatist and the philosopher, the schoolmaster and the priest.

Van den Broek and Bakema Architects was a key player in the post-war reconstruction of the Netherlands. Despite the sheer size of the task and the shortage of manpower and building materials, the Netherlands had quickly mounted a large-scale operation to rebuild bombed areas with industrially manufactured mass housing and a new cityscape. Van den Broek and Bakema Architects was known for its large-scale building projects, its problem-solving ability, and it generated new ideas about architecture, urbanism, and society. After the war, both architects were appointed extraordinary professors at the Technical College of Delft; Van den Broek from 1947 until 1964 and Bakema from 1964 until his death in 1981. Each left his mark on both architectural education and the atmosphere of the Department of Architecture.

Because of the grand scale of construction in the first decades after the war, Van den Broek and Bakema asked themselves what the architect's role and responsibility were in an increasingly technology-dominated society. It is not surprising that this question was the main theme in their teaching and in their inaugural speeches. Van den Broek gave his inaugural speech in 1948; Bakema in 1964. These two dates mark more or less the start and the completion of the post-war reconstruction.

The Chair History of Architecture and Urban Planning publishes their inaugural speeches with a small critical apparatus, to discuss these professors at the Technical College and the work that they did with students; and to shed new light on a lesser known period in these men's careers, as well as to contribute to the history of the Technical College in Delft, in particular of its role in architecture and planning education in post-war society.

Van den Broek and Bakema as torchbearers of modernist architecture

The office of Van den Broek and Bakema has a long history. Architect Michiel Brinkman (1873-1925) started the office in 1910 and made his name with an experimental design for municipal housing in Spangen, Rotterdam (1919-1922). His son Jan Brinkman (1902-1947) and partner Leen van der Vlugt (1894-1936) took over the office in 1925, and subsequently produced much talked about designs such as the Van Nelle Factory in Rotterdam (1926-1930), the icon of the Dutch modernist movement. [Fig. 2] In 1937, a year after Van der Vlugt's sudden death, Van den Broek joined the office. He replaced the traditional hierarchical distinction between designers and engineers, and between design and the execution of a design, with the new concept of teamwork.



FIG. 2 The Van Nelle Factory in Rotterdam (Source: Het Nieuwe Instituut).

As Brinkman struggled with health problems, Van den Broek invited Bakema in 1947 to join the office. Van den Broek had met Bakema in the early 1940s while on the 'warpath for a new Rotterdam', as he described the project 'Woonmogelijkheden in het nieuwe Rotterdam' [Housing opportunities in the new Rotterdam].¹ Bakema accepted the invitation. After Brinkman died in 1949, Van den Broek formally went into partnership with Bakema. Together they reorganised the office structure in order to make it suitable for the post-war architectural goals of scaling up and mass production by perfecting the decentralised work method Van den Broek had introduced a decade earlier. In 1951 the office was renamed Van den Broek and Bakema Architects and in this configuration it made a significant contribution to the reconstruction of the Netherlands.

As the Netherlands was reconstructed, its society was rapidly changing. During the 1950s a modern society came into being, characterised by increasing wealth, a growing population, as well as the rise of a consumer culture and a taste for individualisation. The new conditions had far-reaching consequences for architecture and urban planning. To carry out the massive programme of post-war reconstruction the building industry had to modernize drastically. The Dutch government engaged actively in the reconstruction of the Netherlands, especially in the housing programme. The focus on housing required standardization of floor plans and elevations. To guide the standardization in the right direction a complex system of advisory committees set a large number of regulations for the design process. Moreover, the scaling up of trade and industry in this new society resulted in an increasingly complex structure of clients and other people involved in architecture and urban planning. Within a short space of time the building sector had developed into a huge machinery

1 Valedictory lecture by Van den Broek, 'Door drie decennien van doelmatigheid', HNI, Archief Van den Broek, BROZ 524.14.

of post-war reconstruction. In this climate of efficiency and standardisation, technocrats displaced the designing architect on any given project. In response, architects searched for precedents on which to found a new culture of design and found inspiration in the pre-war avant-gardes such as *De Stijl* and *Nieuwe Bouwen*; their search led to a widespread though one-sided interest in national architectural history. Architects and critics created a myth of a new architecture rooted in the experiments of the inter-war years.

Van den Broek: the analyst, the pragmatist and the schoolmaster

Van den Broek was one of the main protagonists of modernist architecture, though his conception of the modernist tradition was averse to any heroism. It came down to an open and pragmatic attitude towards modern construction methods, combined with a great sense of the social significance of the architectural profession.² His opinions were rooted in the social functionalism of pre-war architecture. Yet he pursued more than mere efficiency. He thought about the meaning of these functions within society and summarised his belief in a statement derived from his philosophical and theological studies: “Functionalism is a humanism”.³ He saw that an architect’s designs reflect his attitude to life; like professor M.J. Granpré Molière, Van den Broek was acutely aware of the almost religious dimension of design.

In 1924, he completed his training as an architect at the Technical College in Delft, where the curriculum was based on the model of the *École des Beaux-Arts*. Architectural education included lectures on the history of architectural styles, design exercises

2 Jean-Paul Baeten, *Een telefooncel op de Lijnbaan: De traditie van een architectenbureau* (Rotterdam: NAI Uitgevers, 1995), 15.

3 Izak Salomons, “De analyticus en de idealist. Lessen van Van den Broek en Bakema,” in *Van den Broek en Bakema 1948-1988. Architectuur en stedenbouw. De functie van de vorm*, ed. H. Ibelings (Rotterdam: NAI Uitgevers, 2000), 49.

based on architectural briefs that became progressively more complex and finally discussing different types of buildings in general. Academicism was conceived as a pragmatic planning doctrine which did not necessarily lead to one kind of architecture; it never disappeared entirely from Van den Broek's designs.⁴ He excelled in designing efficient and organizing floor plans; during the late 1920s and early 1930s he acquired an excellent reputation in the field of inexpensive and good quality housing. [Fig. 3]



FIG. 3 Interior of a flat in 'De Eendracht' building in Rotterdam, designed by Van den Broek, 1929-1935 (Source: Het Nieuwe Instituut).

4 Wouter Vanstiphout, *Maakeen stad. Rotterdam en de architectuur van J.H. van den Broek* (Rotterdam: Uitgeverij 010, 2005) 49, 193-194.

After the bombing of Rotterdam in 1940, Van den Broek became involved in the reconstruction of the city. His approach and experience attuned seamlessly to the necessary mode of production for its reconstruction. As a housing specialist, he considered the design process to be an organisational problem in which diverging specialists and stakeholders had to be aligned. Because of his involvement with the technical and organisational aspects of building, he aspired to reshape post-war building practice. While people were still clearing debris, he helped initiate the project ‘Woonmogelijkheden in het nieuwe Rotterdam’ [Housing opportunities in the new Rotterdam] in which co-operating architects presented a realistic alternative to the official municipal Public Works reconstruction plan. The project is exemplary of his practical and activist method.

Later, Van den Broek focused on domestic and foreign networks of institutes and organisations in which governments, architects, and building contractors were looking for an efficient approach to housing, trying to realise as many goals as possible. In 1946 he represented the Netherlands when the UIA (Union Internationale des Architectes) was first established, an international architects’ network for the exchange of knowledge about, among other things, reconstruction of cities after the war. By this time Van den Broek was a pivotal figure in the Netherlands, contributing to debates in articles in periodicals such as *Goed Wonen* [Good Living] and *Bouw* [Construction]. He was also one of the members of *Bouw’s* editorial board and often set the tone of the periodical.⁵

5 Bergeijk, H. van, “The Free Bird and its Cages: Dutch architectural magazines in the first decade after the Second World War”, in *Modernism and the Professional Architecture Journal. Reporting, editing and reconstructing in post-war Europe*, eds. T. Schmiedeknecht, A. Peckham (Oxford: Routledge 2018). Manuscript submitted for publication.

C.H. van der Leeuw - Dutch industrialist, former director of the Van Nelle Factory, and most importantly, curator of the Technical College of Delft (from 1946) - helped push for Van den Broek's appointment as extraordinary professor. Van der Leeuw had initiated a radical overhaul of the college's architectural education,⁶ and knew Van den Broek quite well. They were both professionally involved in the reconstruction of Rotterdam and they happened to be good friends. Besides Van den Broek, the closely connected urban planners C. van Eesteren and architect G.J. Holt were appointed extraordinary professors. These appointments were intended to counterbalance the traditionalist Delft School, an architectural movement led by charismatic Granpré Molière, professor of architecture at the Technical College of Delft since 1924. The well-known modernist architect J.J.P. Oud expressed his approval of the appointments in the periodical *De Groene Amsterdammer*. Oud considered Van den Broek and Van Eesteren influential and active protagonists of modern architecture and assumed that they would stand firmly and remain committed to their view.⁷

Despite Van der Leeuw's attempts at reform, the power of the old guard remained undiminished for several years to come. Modern architects still needed to justify their conviction and their way of working amidst the predominant traditionalist Delft School, which had also considerably influenced post-war planning and reconstruction and the educational practice of the Technical College of Delft.

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- 6 Bergeijk, H. van, Van Lohuizen and Van Eesteren. *Partners in Planning and Education at TH Delft* [Inaugural Speeches in the Built Environment: Global and Contextualised], p. 13.
 - 7 J.J.P. Oud, "Three new professors in Delft" *De Groene Amsterdammer*, January 17, 1948.

However, the size of the task of reconstruction, the ascent of planning devices, and the standardization of the building sector were of such a scale that, in the eyes of Van den Broek, only modernist architecture could provide an adequate response.⁸

Amid the conflicts of style and ideology at the Technical College of Delft, Van den Broek unfolded his vision of pragmatic and inclusive architecture. His inaugural speech ‘Creative forces in the architectural conception’ is a classic speech in the tradition of inaugural speeches held by professors of the Technical College. It united the existing diversity of movements and trends - modernists, traditionalists, romanticists and classicists - in a national architectural discourse. Here the romanticists and classicists were primarily driven by their expressive or objective sense of beauty; the modernists and traditionalists moreover, by a certain lifestyle and view of society. The architect should not seek the creative forces of architectural thinking in a multitude of architectural styles, Van den Broek argued, but should let those styles be jointly present in the mind; he envisioned the architect as a creative artist. The unity of those creative powers should manifest itself primarily as a cultural movement. Facing his predominantly traditionalist colleagues, Van den Broek weakened their prejudices: Modernist architecture and construction were not a priori and automatically interlocked; modern architecture should emphatically be considered as art, and not as engineering. But, he argued, modernist architecture was not an artistic expression of the architect alone, it was an activity of the community. By using contemporary means, that is not only by drawing on the past, modernist architecture expresses ‘conscious human life’. Therefore modernist architecture was not simply materialistic.

8 H. van Dijk, “Het onderwijzersmodernisme,” in *Hoe Modern is de Nederlandse architectuur?* ed. B. Leupen et al. (Rotterdam: Uitgeverij 010, 1990), 181-182.

The decisive element in the speech is Van den Broek's optimistic belief in the certainties of pre-war architectural culture. But he was certainly not blind to the practical problems of reconstruction and large-scale planning. In view of this complexity, he appealed to the intellectual content of the various movements within Dutch architecture. Van den Broek did not find these certainties in the history of the modernist movement only, but in a much more nuanced and pluralistic historical image of contemporary architecture in which ample space was created for a wide range of architectural movements.⁹ Van den Broek juxtaposed the modernist architects' search for 'pure forms to fulfil pure needs' with the doctrine-based and hermetic aesthetics and morphology of the traditionalists. He wondered why the forms of modern architecture were not accounted for by traditionalist aesthetics, though they claimed to capture the established principles of architecture. That they did not account for modern forms meant that traditionalist aesthetics were not based on the absolute truth, but on value judgments, he concluded, and accordingly he proposed to change the principles of the aesthetic system and broaden aesthetic intellection. Subsequently he painted a picture of an experimental building, which in all aspects responded to the ambitions of such an aesthetic system. Van den Broek's speech is a vigorous attempt to re-determine Dutch architecture at a time when the emerging consumer culture confronted architects with complex typological problems.¹⁰

In 1955, Van den Broek became a full professor, succeeding N. Lansdorp and gaining more influence over the Department of Architecture. He now taught fourth-year students to design

9 E. Taverne, "Towards an open aesthetic. Ambitions in de Nederlandse architectuur 1948-1959," in *Hoe Modern is de Nederlandse architectuur?* ed. B. Leupen et al. (Rotterdam: Uitgeverij 010, 1990), 23-24.

10 Taverne, 25.

according to two main principles: function and technique. Modernist architecture by Alvar Aalto and Le Corbusier set the example and Van den Broek took his students on excursions to, for example, the Van Nelle Factory in Rotterdam.

His lecture series was first named 'Grand design' and later 'Typology of buildings'.¹¹ Students worked individually on the design of a few building types, which they discussed during the various courses. After several conversations with his aides, students came by appointment to Van den Broek, who thoroughly engaged with their designs and gave the students suggestions and directions. Van den Broek stressed that the same brief could lead to a variety of forms. His students needed to understand that creative forces in the architectural conception derive from a number of sources. He discussed each student's final results in front of the other students during the notorious 'confrontation lectures'¹², so students could experience for themselves how different approaches to the same brief could lead to a variety of forms. Van den Broek put the value judgements of the Delft School into perspective. Architecture should not be measured by its beauty or ugliness, but by its function, construction, and form, he taught.

At all times Van den Broek presented architectural styles and methods from a synthetic point of view. Using slides, he gave an overview of architectural movements, and positioned engineering and architecture in the development of modern society, which originated in the Industrial Revolution. He discussed the various building types and laid the foundations for a functionalist approach to architectural design.

11 Originally in Dutch: 'Groot ontwerp' and 'Typologie van gebouwen'.

12 Salomons, 53.

In February 1960, Van den Broek organized a ‘commentaarcollege’ (literally commentary lectures or commented talks), a series of lectures accompanied by discussion, in response to a recent lecture by Van Eesteren on the history and background of the CIAM (Congrès Internationaux d’Architecture Moderne). Although Van Eesteren had been the president of the CIAM from 1930 until 1947, he had never before dedicated a lecture to the CIAM. In turn, he was responding to the latest issue (7 September 1959) of the periodical *Forum*, led by a young group around architect Aldo van Eyck, had prompted him to clarify the meaning and intentions of the CIAM. That issue coincided –not coincidentally, as Van Eyck was one of the CIAM members who suggested to end CIAM – with the abolition of the CIAM. Van Eesteren believed that the new editorial team of *Forum* had failed to do justice to the CIAM and to reality itself. The special lecture turned into a fierce clash between two generations.

It was also the first of many such events, which became an important institution in the Department of Architecture. During these regular lectures, professors, visitors, and students discussed topical issues and fundamental problems relating to architecture. The lectures focussed on ideation, discussing concrete examples. Relevant practitioners were invited to elaborate on their work and students got the opportunity to question them about their ideas. Van den Broek invited architect Mart Stam, whom he knew from the time they both worked at the office of Granpré Molière and P. Verhagen, to talk about pre-war art and architecture. Stam told the students about his encounter with dadaist Kurt Schwitters and his experiences in the USSR. The artist Constant Nieuwenhuys was asked to present on New Babylon, his dystopian project within the Situationist International. [Fig. 4] New Babylon responded to the shortcomings of existing cities. As an experimental idea for the future mass society, it offered a perspective for *homo ludens* (after the publication of the same name by cultural historian J.

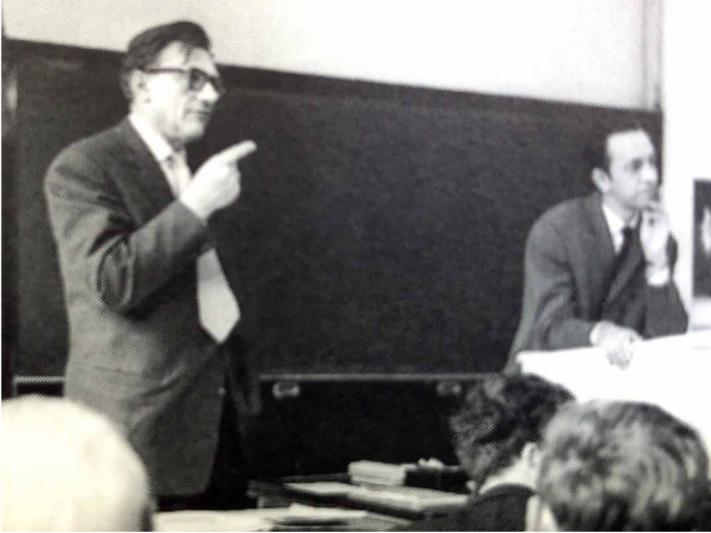


FIG. 4 Commentary lecture with Van den Broek and Constant Nieuwenhuys, 1962 (Source: H. Ibelings, Van den Broek and Bakema, Rotterdam 2000).

Huizinga, meaning ‘man at play’). Later, Van den Broek let urban planners of the Amsterdam Urban Development Department display their design for the Bijlmer area of Amsterdam. He also seized the opportunity to showcase his own design for the new building of the Department of Architecture, and questioned the future of architectural education and the professional practice of the architect.¹³

Students considered the commentary lectures highly exciting and engaging. They reported on them in the periodical *Delftse School*, edited by progressive students trying to renew and enliven the architecture discourse in the Netherlands. Van den Broek served as an advisor for the periodical.

13 Salomons, 50.

Before Van den Broek left the Department of Architecture, he wrote a letter to his colleagues A. van Kranendonk, J.F. Berghoef, C. Wegener-Sleeswijk, and H. Brouwer, outlining what he considered to be the foundation of architectural and planning education¹⁴: it should not only train architects and foster their capacity for design, but also address the social task of creating an environment for humankind as well. Van den Broek noted he had presided over the committee that had studied architecture and planning education for years for the Bond van Nederlandse Architecten [Society of Dutch Architects]. As the number of students increased steadily, Van den Broek suggested forming study groups coached by aides or lecturers.

Van den Broek reached retirement age in October 1963, which meant he had to leave the Department of Architecture. Students of the student association Stylos petitioned the department to let him stay on as a professor, or at least as an extraordinary professor. They feared that his departure would leave a huge gap.¹⁵ Despite these efforts, Van den Broek left the department in 1964. His student Dirk Frieling interviewed him for the periodical *Delftse School* and published the article as ‘A farewell to a missionary’. In the article Van den Broek stressed that he had always considered it his mission to teach his students that creating an architectural environment is above all a social activity.¹⁶ His partner at the Rotterdam office, Bakema, who was appointed professor in 1964, would preach the same high-minded ideal.

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- 14 Letter by Van den Broek to A. van Kranendonk, J.F. Berghoef, C. Wegener-Sleeswijk and H. Brouwer, HNI, Archief Van den Broek, BROZ 524.103.
- 15 Petition signed by students of Stylos, HNI, Archief Van den Broek, BROZ 524.52.
- 16 Frieling, D.H., ‘Afscheid van een zendeling’, in *Delftse School* (1964) 11, pp. 247-249.

Bakema: the idealist, the philosopher and the priest

Bakema did not experience the heroic period of the modernist movement personally, as Van den Broek did, though Bakema had been taught by Stam and gained practical experience with Van Eesteren and Van Tijen. In fact, Bakema only dealt with the legacy of the modernist movement. Drawing the focus of attention to the history of the modernist movement, as it was partially recorded in the archives of Van den Broek and Bakema Architects, was an inherent part of Bakema's design approach. He suggested a continuous line of development from M. Brinkman, making his own work look like a logical consequence of previously developed ideas; he used the cultural prestige of buildings such as the Van Nelle Factory to position the office he shared with Van den Broek at the centre of Dutch modernist architecture.¹⁷

Because of his professorship, Van den Broek had withdrawn from direct design practice. Bakema took over the daily management of the office, moving it into a more dynamic and expressive direction. He believed that a building should be more than just functional; it must have expressive power as well. The form of the building must show its meaning in society and demonstrate how society works. He considered architecture and urbanism as means of expressing society's idealism. It was all about the appearance of ideas and spreading a mentality. To Bakema the office was a laboratory where he could develop inspiring models for a new society.¹⁸ These models were realistic utopias: seductive images of a near future, exploring the boundaries of technical and social feasibilities.¹⁹

17 Baeten, 17-19.

18 Baeten, 23.

19 Baeten, 27.

At the time of Bakema's appointment as extraordinary professor, in 1964, modernist architecture was completely assimilated into the machinery of post-war reconstruction and had become dogmatic. His inaugural speech 'Towards an architecture for society' bears witness of his discontent with this development.²⁰ Bakema criticised the system of this machinery for privileging administrative, distributive, and commercial provisions over the building of spatial structures. Thus he broke with the post-war generation of architects and urban planners.

Bakema's speech expressed a holistic view of the world. It is constructed around four abstract concepts: space, form, structure, human. The simultaneous use of which in architectural design leads to concepts such as home, workplace, church, and school. The interdependence of these concepts is of the same importance as each individual concept. His concept of space had its origin in the neo-plastic concept of *De Stijl*, which treated space as a continuum. Bakema had his first encounter with the spatial continuum in the mid-1930s when he visited the Rietveld-Schröder House in Utrecht. The house designed by G. Rietveld, in 1924, is the best example of the *De Stijl*'s neo-plastic aesthetic as the outer walls dissolve into free-standing planes and the first floor exists of an open transformable plan. Bakema developed the artistic idea of neo-plastic space into a societal concept of 'total space'. He continued refining this idea of the all-embracing space for the rest of his life.

Understanding space started in the enclosures of prehistoric caves and culminated in astronauts seeing planet earth as their focal point in the expanding space of the universe.²¹ According to

20 Bakema gave his inaugural speech *Naar een samenlevingsarchitectuur* originally in Dutch on January 15, 1964.

21 Manned space travel was a highly topical event at the time of Bakema's speech.

Bakema, thinking about space was strongly related to thinking about life.²² Architectural design is primarily formulating the hidden tasks of society and becoming familiar with unknown clients. Only after unveiling these tasks could architects develop structures; only then could the unknown clients identify with 'total space'. It made no sense to teach architectural design without accepting responsibility for the impact of the built environment on people, humans and humankind. Therefore Bakema suggested a basic course, preparatory to learning how to design and construct, to teach students to understand the greater context of life in which the architectural form operates.

In comparison to earlier publications of historic inaugural speeches, this one features a new kind of layout and also contains sketches, which was rather unusual. Bakema's illustrated speech was highly influenced by the visual rhetoric of the periodical *Forum*, designed by graphic designer Jurriaan Schrofer. [Fig. 5]. The distinctive typography, boldfaced words, and sketches structure Bakema's speech. In fact, the sketch had a special meaning to Bakema. Traditionally the sketch is the most direct manifestation of the artistic design process. Bakema wielded the sketch consciously and imbued it with new meanings as a symbol of autonomous power. Bakema sketched to explain his ideas and visions to his audience, and he had a very distinctive visual language. When his employees consulted him, they never got a cut and dried solution but an inspiring story buttressed with sketches. He also published his sketches in books and periodicals, which made the sketch even more than a cursory instruction.

22 Evelien van Es, "The miracle of total space, in which everything is and becomes," *Architecture Bulletin* 03 (2007), 58.

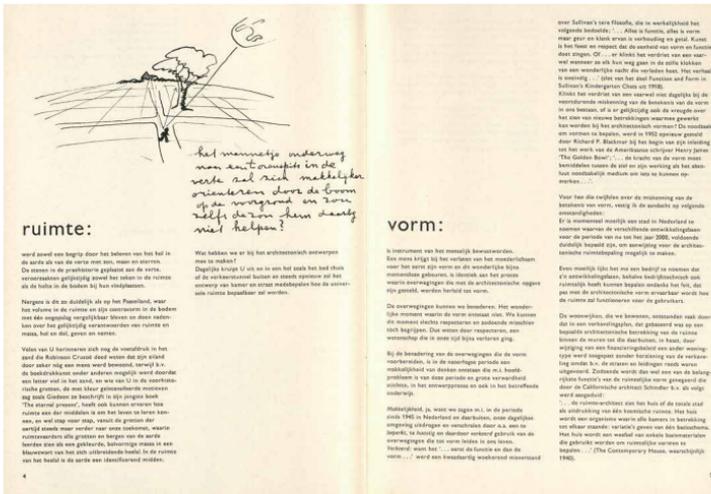


FIG. 5 Spread of the Speech. (Source: Bakema's inaugural lecture.)

By consciously creating an image, Bakema was trying to recover the artistic prestige of the architect, which had been lost in the post-war reconstruction machinery. He actually repurposed some of the sketches illustrating his inaugural speech from his earlier work on a 1962 television series, 'Van stoel tot stad' [From chair to city]. [Fig. 6] He appeared on screen as a prophet of a new era and presented collages of diverse architecture media: drawings, models, photos, and movies. The collages formed a composite world, where images of reality passed seamlessly into images of plans and projects, punctuated by footage of Bakema sketching on a classroom blackboard as a traditional professor.²³

Bakema's inspiring television performance was similar to his presence in the office his work in the CIAM, and his teaching in Delft. (Van den Broek had invited him to Delft in 1960 for a

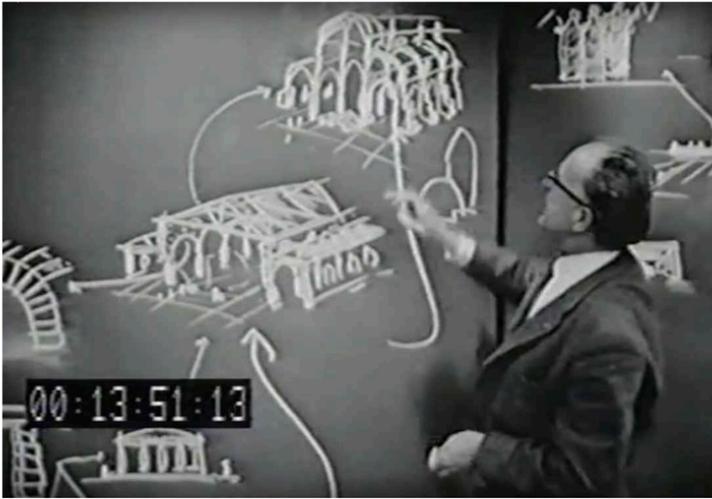


FIG. 6 Still of the television series 'From chair to city', broadcasted in 1962.

commentary lecture, and Bakema used the event to criticise the CIAM for its doctrinaire approach). He was an activist in his strong commitment to transforming the CIAM, his contribution to Team 10 (a group of young architects within CIAM), and his editorial work for the periodical *Forum*. In every domain, he refused to compromise. With the same active attitude and inexhaustible energy, he took over the Department of Architecture at Delft.

In his architect office, Bakema had created spatial visions of the future in order to indicate the direction in which he believed future society could or should develop, like the Pampus plan which Bakema typified as a realistic utopia. [Fig. 7] One of the first assignments for his students at Delft was to envision the future of the Euro Delta (Rotterdam-Antwerp-Cologne), but that proved too ambitious.

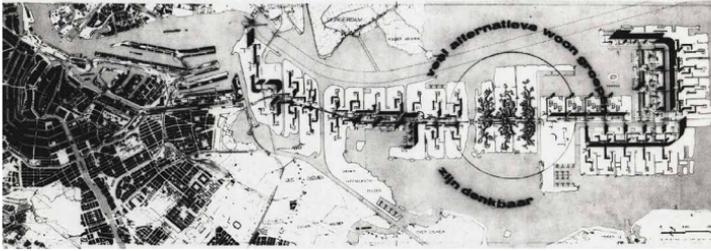


FIG. 7 Pampus Plan, a realistic utopia for an extension of Amsterdam by Van den Broek and Bakema Architects, 1964 (Source: Het Nieuwe Instituut).

As expected, Bakema encouraged his students to pursue educational innovation and democratisation of the Department of Architecture. But when in May 1969 the revolution arrived in Delft, he remained critical because of the size of the revolt. The section meeting of the Department of Architecture carried three motions questioning the ruling hierarchy in governance and education. Bakema abstained from voting, although the expectant atmosphere of solidarity and equality did please him. He asked employees who still addressed him with his academic title to call him by his first name Jaap, which sums up the new situation succinctly.²⁴ [Fig. 8]. After 1969, the social relevance of architecture and the role of the architect in society became the centre of interest at the Department of Architecture. Architecture became an interdisciplinary profession in which society played an important role. The new political aims and objectives of the reformed department formed the foundation for the introduction of project-based education, where students and professors could work together on architectural problems with social relevance. Project-based education was organised both horizontally (with students from multiple disciplines) and vertically (with students from different academic years) and took place in study groups.

24 Salomons, 54.



FIG. 8 Bakema evaluating student's designs during the Internationale Sommerakademie für Bildende Kunst in Salzburg, 1969 (Source: Het Nieuwe Instituut).

The Verticale Atelier [Vertical Studio], an initiative of Aldo van Eyck (extraordinary professor since 1966), had students from different academic years working in one design studio. The contrast with the previous authoritarian system of year professors could hardly be greater. Previously, each year had been supervised by one professor of architecture, that is to say a full professor, not an extraordinary professor. This professor formulated the design exercises for the year and left supervision of the exercises to staff members. At the end of the design work, the professor evaluated the projects. Then, with the project-based education of the Vertical Studio, the year professors lost actual control over the

evaluation of students' work.²⁵ Now the development and results of the projects were discussed in front of other students on a regular basis. Bakema himself attended the lively intermediate and final discussions. Given the hierarchical system of year professors, it had been highly unusual for professors to attend intermediate discussions. But Bakema regarded the meetings with students as an essential part of their education. He was concerned with what someone could do within the collective, using everyone's talents to the extreme. Bakema usually showed a slide of Antoine de Saint-Exupéry's *Le Petit Prince* to underline his statement: every person on earth has to take care of his own rose; and must do what he is able to cope with and for that matter use the talents which are at his disposal.

Bakema participated actively in the developments within the Department of Architecture and his department chair 'Housing and Living Environment'. The name of this chair, which was created after the reorganisation of the department in 1973, recalls the *Forum* world of ideas: architecture and urban development are inextricably interlinked, and housing had become one of the main forms of architecture of the twentieth century. Bakema focused his attention on the possible meaning of architecture and urban planning for the individual and society and on the responsibility of the designers of the built environment. [Fig. 9]

25 Heuvel, D. van den, "The spaces between \ encounters", in *Lessons: Tupker \ Risselada. A double portrait of Dutch architectural education 1953 \ 2003*, eds. D. van den Heuvel, M. Steigenga, J. van Driest (Amsterdam: SUN 2003) 122-123.

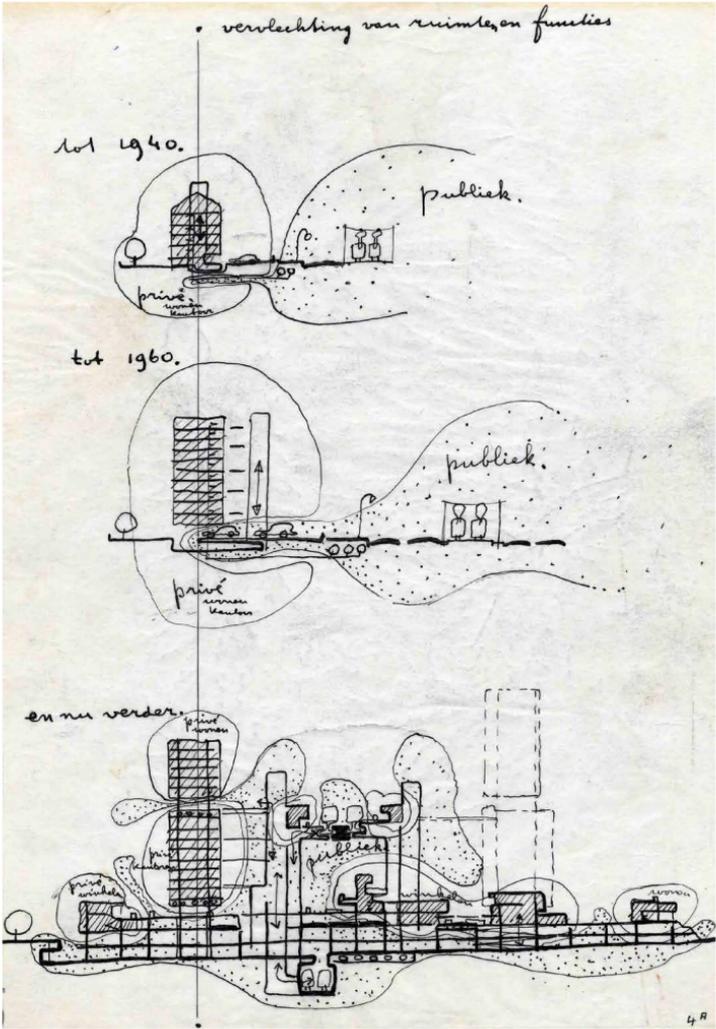


FIG. 9 Bakema illustrating the concept of interweaving spaces and functions.

In his lectures, Bakema told his students what he had experienced as an architect in the world and about his encounters with Rietveld, Mart Stam, and Le Corbusier. He wanted to inspire the future designers of the built environment to imagine a concrete vision for a world with an increasing population and urbanisation.

He taught his students about the process of the increasing scale of practically every aspect within contemporary society and made an appeal to them not to abandon this process but to make plans to address it, as Van den Broek and he had done so often.²⁶

When Van den Broek passed the torch to Bakema in the mid-sixties, the ground breaking power of the modernist movement had waned. Due to the large scale of post-war reconstruction, the movement had become completely institutionalised and bureaucratised. However, questions remained about the position and responsibility of the architect in an increasingly technology-dominated society. In a period of time equal to a generation, the focus of the modernist architect had shifted from the quantity of housing to the quality of the built environment; and from the collective community to the community of anonymous individuals. In modern society, the architect could no longer occupy a central place in the building process. From now on he was part of a much larger and more social process.

Van den Broek and Bakema were torchbearers for Dutch modernist architecture. Even in a changing society both men remained leaders of the architectural vanguard. Their successful office linked them to the daily practice of the building trade and their membership of the UIA and Team 10 provided them with relevant insights. For that reason the Department of Architecture asked

26 Salomons, 56.

them to teach young people what architecture is about and what it means to be an architect. Both men were tremendously popular with their students, and were very approachable. Van den Broek and Bakema appealed to students' sense of social commitment. Van den Broek was a true innovator; his commitment had a strong pragmatic sense. Bakema was a motivator; his commitment had a rhetorical tendency. They taught students to be architects who understood their role in the building process, their responsibility in society and the creative force of imagination.

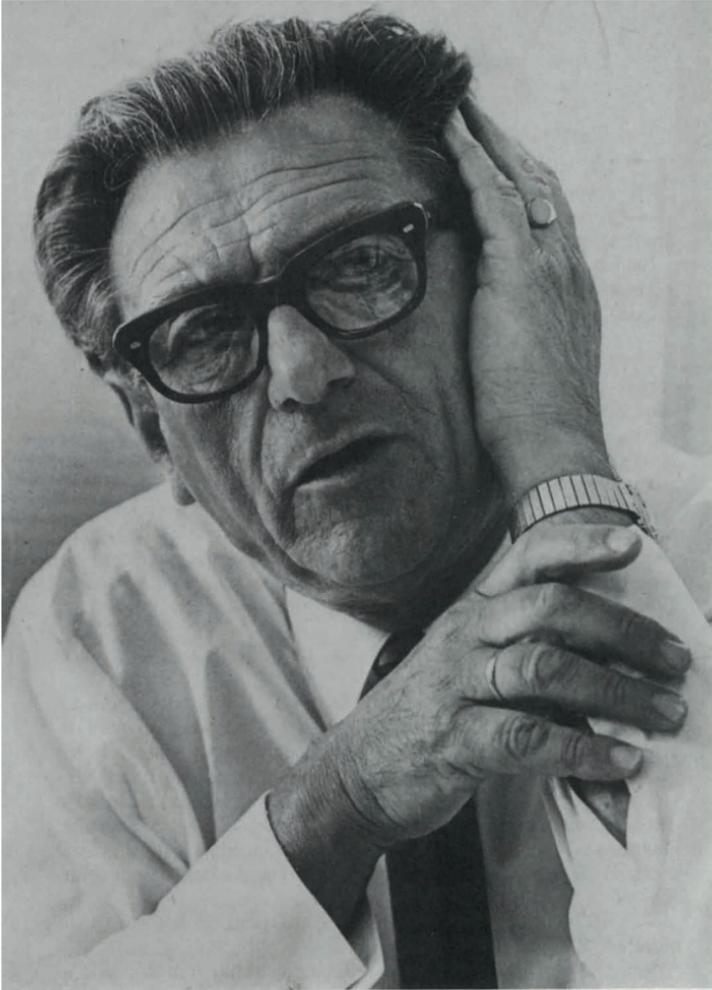


FIG. 10 J.H. van den Broek (Source: Het Rotterdams Jaarboekje, 1982).

J.H. van den Broek B. Sc

Creative forces in the architectural conception

Speech delivered by J.H. van den Broek, B. Sc., on the occasion of his accession to the office of extraordinary professor of architecture at the Delft Institute of Technology on Wednesday 28 January

Esteemed listeners,

In his third year the student of architecture is for the first time faced with the same assignment that, I hope, he will be working on many more times as a professional architect, i.e., to fashion a constructional programme into an architectural design. If he fares like I did at the time, he will be silent for a while and perceive the abrupt transition in his developmental process: until that point of time he has primarily received, whereas from that moment onwards he will also be obliged to give. He has previously mastered – or at least attempted to master – all those little pieces of knowledge and science that are deemed quintessential for the architect's professional expertise: mathematics and mechanics, a knowledge of building materials as well as drawing skills, the theory of construction and the theory of form. And now, using this alphabet, he will have to speak a language, join those pieces of knowledge together into one whole, or rather, absorb them and shape them into a dormant potential of skills, with which he will now have to mould one entity.

In the history of architecture he will have come across beautiful examples of this and have the ambition to create reflections of them in his work. This is also the time when he will look round

in his own time and environment, at what contemporaries have done and, possibly, mean to him. And initially he will fare like the layman who says in plain terms that he is no longer able to find his way in the abundance of architectural phenomena of our time and country, let alone have a feeling or express appreciation for it. It is, after all, so much easier to find one's way in Greek, Romanesque, Gothic, Renaissance or Baroque architecture, which are all displayed and explained meticulously in our companions to the history of architecture in their manifestations, variations and departures. How much simpler it would have been for the sake of easy reference if one could confine oneself to the monuments of the fine art of architecture, whereas today all buildings, including those of so-called civil architecture and humble public housing, have the presumption to be an architectural highlight. However, being a future professional with a certain amount of expertise, he will be able to make distinctions in that multitude which we can define as modernists and traditionalists, romantics and classicists.

These distinctions are non-scientific and the bases of the two pairs are different; romantics and classicists are predominantly actuated by their sense of beauty, and modernists and traditionalists also by a certain outlook on life, *Weltanschauung* and view of society. They do not constitute separate sectors which together comprise the whole of our national architecture, nor can each architect be assigned his own place in it. It would be a subject in itself to demonstrate the characteristics of the distinctions made, the similarities and differences, the tangents and interfaces, and to reflect on them in a satisfactory manner – a subject, however, too extensive to deal with here and now.

Nevertheless we must turn our attention to it to a certain extent to make sure that we know what we are talking about. However much profoundness may be hidden in the background in terms

of attitude to life and Weltanschauung, it will always come to the fore when it comes to material, technology and form; they must therefore be borne in mind.

The easiest to understand are the romantics, even though among themselves they show relatively little similarity. In any case they are the easiest to forgive, because they are the artists *pur sang*, the gifted ones, “God in the very depth of their thoughts” – according to Kloos, when referring to the poets – giving vent to their brimming emotions in extravagant or austere forms, irrespective of the commission they are charged with, on principle indifferent to the material and technology they aim to use for those forms. They form the baroque opulence of the Scheepvaarthuis, the carefully moulded forms of the Bijenkorf in The Hague, the rich and lively rows of houses of De Klerk, with their unparalleled warm colours, unaffected by time – or, indeed, the entire Amsterdam School, which for a brief while turned our country into the Mecca of architecture, and in which brick and metallized concrete, tiles and glass, grotesquely shaped windows and horizontally applied bricks are used not as a constructive material, but as a plastic clay, with which the free forms of this ecstatic expressionism are moulded. But they also include the cubic masses with which Dudok occasionally shaped his spaces, and the concrete and glass and tiles and glazed bricks, discovered by the modernists in their idiosyncratic value, but used by the free artist in the Beurs and Bijenkorf in Rotterdam for their lustre and their refinement as materials. Also among them must be ranked some of the now rich and then austere, but always sophisticated forms by Eschauzier and, I am sorry to say, also the puzzling shoddy work and artificiality of the uncomprehending followers, who have provided the Netherlands with a mass of misshapen villas. So, free forms of any material that was available, only governed by the free laws of natural beauty. Herein lies the difference with the classicists.

Not because they use classical forms, but because they feel that beauty is determined by what they call the autonomous laws of architecture in terms of proportion and rhythm, surface and mass, rather than by the intuition of the free artist. Impressed by the beauty of Renaissance and baroque, they attempted to strive for the same well-considered, more or less mathematical monumentality. It is a relatively young school with Staal Jnr, Sijmons, Holt, Komter, Duintjer; with parallel movements in Switzerland (e.g., Honegger), Denmark and Sweden (Asplund), usually from the group of modernists that I will discuss later, and exclusively or primarily aiming for objective beauty. In no way do they tie themselves down when it comes to material and technology. What is typical in this context is their design in concrete, which aims to be ornamental in character rather than make the most of the material's sophisticated tension possibilities. In that sense this is in keeping with the conscientious work of Frank Lloyd Wright in this field and that of old Perret in his churches in Raincy and Montmagny and with the Arsenal in Toulon.

Where, in fact, the romantics and the so-called classicists betray little complexity in their strivings for beauty, the convictions of the so-called modernists and traditionalists are more deeply rooted. It is true that basically they are concerned with beauty – as in architecture in general – but in their case it has a very specific relationship with material and technology, and in the last instance also with their outlook on life, *Weltanschauung* and view of society. Literally modernists are they who seek new forms, which are different from those that were hitherto universally accepted.

So in this sense all styles, particularly the primarily formal ones, were once modern compared to their predecessors. Although, obviously, the fundamental reasons are rooted far more deeply, viz., in technology and culture, a natural artistic drive for new things plays a major role. The painter Dürer frankly said:

“daß gewöhnlich alle die etwas Neues bauen wollen, auch gern eine neue Form dazu haben mögen, die zuvor nie gesehen wäre”.

In this sense the romantics referred to are likewise modernists and their work was, and is still, called “modern architecture”. And this is also why the decorative style that Van der Velde tried to found in the early years of this century was called an “art nouveau”. What we would like to describe as the modernists, the “avant-garde”, the “New Objectivity”, the “New Building”, are they who are seeking the own form-in-itself, its own roots, in technology, society and culture, for the sake of their own architecture in their own time. It is advisable, therefore, not to call this modernism “art nouveau”, but rather “esprit nouveau”, the idea being that with this foundation it is in keeping with all great forms of architecture, which were after all based on these fundamental values.

What exactly is it that the modern “New Objectivity”, the “Architecture nouvelle” or “Esprit nouveau” aims at?

First of all it is remarkable that in its historical development it repudiates the naturalist form and the naturalist plane. An added oddity is that this modern architecture, often reproached with a lack of formal structure, was so strikingly associated with the pictorial when it concerned its origin. Being Dutch we will be interested to know that in Paris, round the year 1920, a group of countrymen consisting of Van Eesteren, Van Doesburgh and Mondriaan, together with kindred spirits, tackled the issue in painting and architecture whether emotion in art ought to go hand in hand with a naturalist representation (in painting) or material and massive forms (in architecture and sculpture).

If we adopt the metaphysical view of art that the creative artist reveals his individual strengths in his work, which actually represent the relationship of his soul with God, man and world,

and that this work evokes similar emotions in the beholder, then the important question presents itself whether this effect and consequences can only be achieved through the visualization and contemplation of naturalist forms – or whether this elevation of Artist and beholder from humanity to that “harmony with infinity”, which is the strength of all religion, all love and all art can also be accomplished – and perhaps even more directly – with more or less abstract forms of line, plane, colour and mass and their mutual effect. A topic that requires a very thorough discussion in itself, which would lead us too far afield in the present context, but which proves itself thoroughly worthy of the conscious human mind, without being at all decadent. One might add that, although in such an abstraction the actual artistic effect ought to become apparent in the most direct manner (and which is why the group of artists mentioned above deemed this abstract art the true form for people in general, as a means of achieving spiritual liberation), it did not meet with universal appreciation with the public at large. The rare appreciation of abstract art may be regarded as a confirmation of the fact that the masses fail to notice the very things that constitute the quality that is by nature the most cognizable, i.e., their being, and that only few are capable of the inner contemplation that is to lead to that direct recognition. In the initial stage of this modern architecture we observe an abstraction of the material manifestation: the walls are losing the massiveness of cemented bricks, are plastered or made of concrete and in colour, irrespective of the tectonic material. The building is not pictured as a closed-off mass in space, but is shaped, as if a number of partitions or side wings, moving from one plan to the other, are placed in the infinite world space and, indeed, demarcate its own space.

It is generally felt that the work of Oud, Wils and Rietveld is typical of that time and that the Schröder-Rietveld residence in Utrecht is particularly instructive.

Architects in various countries, albeit small in number, took to the idea of abstraction. And whatever name may be attached to this movement, this fact alone makes it “international architecture”. However, its character should be called universal (being a spirit-related term) rather than international (a place-related designation). Anyhow, its forms are remarkably similar, even though they are found in a variety of different locations, which is indicative of the power of its idea: the idea becomes more important than the creative architect.

This withdrawal of the individual architect in favour of the idea of the building is gradually becoming a socio-cultural basis of this new building, the “Neues Bauen”. Its thesis is that building is not an opportunity for the architect to give vent to his artistic expression, but an activity of the human community, so the building is not an ornamental object but an activity for the benefit of that community. The architect’s concept is not directed toward the representation of the building in relation to the world, but toward its function therein. This adequately explains the designation “functionalism”.

This “functionalism” refers to two things: Firstly: the building is to be an organism in itself rather than a monument, and secondly: the building commission is not to be interpreted as an individual need on the part of the client, but as a factor of mankind. This view necessitates a thorough analysis of the building commission; firstly to get to know the organism as such, and secondly because of its place in human society, to which end the building commission must be subjected to a critical study and its meaning explored in depth: not to look upon a residence as an individual facility, but as a part of human housing; the factory and the office not as means to commercial profits but as means to satisfy the needs of the human organization, and the public building not as a monument to power but as a public asset.

This position, and this analysis of the building commission, will lead the architect to a team of workers who each in their way serve the organism of human society: urban and rural planners, sociologists, economists, structural and other engineers, artists. Those who have a grasp of this “esprit nouveau”, will identify themselves with the “new building” and feel a deep bond with these architects. Conversely, for them it is impossible to imagine architecture without this social, or rather humanist solidarity, which for them has become a deep and heartfelt conviction.

This attitude – the consciousness of building as an activity of human living together – enables us to understand that from the very beginning public housing was a centre of interest of this movement. Their free organization, the C.I.A.M. (Congrès Internationaux de l'Architecture Moderne) devoted its publications “Die Wohnung für das Existenz-minimum” (1929), “Rationelle Bebauungsweisen” (1930), “Die funktionelle Stadt” (1933) to it. It reflected on the reasonable foundations of housing and human settlement, the accompanying needs in terms of living and spirit, and values for family, neighbourhood and urban communities. We are not now in a position to elaborate upon their mutual relations and different forms; it suffices to conclude that in many cases the maxims for the many reconstructions, which, regrettably, are needed all over the world, have generally been accepted as the basic principles.

Apart from the described pictorial and social roots of modern architecture, the technical foundation must be mentioned as a third factor: the use of material and construction. It is characterized by a firm conviction that – similar to all great eras of architecture – it can be seen no different than being based on contemporary technology. The close relationship between these sources in the developing process of life, as well as the baneful consequences if it is lacking, have been studied in detail by Giedion in his work: “Time, Space and Architecture” (Cambridge

U.S.A. 1946), in the same way as his predecessor Jacob Burckhardt in: “Kultur und Kunst der Renaissance in Italien” (1860) and his preceptor Heinrich Wölfflin in “Renaissance und Barock” (1889), “Klassische Kunst” (1899) and “Kunstgeschichtliche Grundbegriffe” (1915). What is particularly important to us is that the development in technology and production in the 19th century was not incorporated into architecture as a matter of course, but was referred back to the purely utilitarian domains: the art of engineering, the warehouses, the market halls and other halls, at the very most as astounding examples of human capability on the world exhibitions, of which the Eiffel Tower and the Chrystal Palace (imitated in the form of the Paleis voor Volksvljijt, the Palace of National Industry, in Amsterdam) have survived.

This reflection on the foundations of contemporary architecture had been primarily confined to the brick technique in the case of Ruskin, Viollet-le-Duc and Berlage. Whenever iron and reinforced concrete became involved, it concerned the decorative working and detailing in particular: Berlage in the building of De Nederlanden in The Hague, and Perret and Wright in their work mentioned above. Nevertheless some examples exist in which the characteristic constructional possibilities of reinforced concrete were expressed architecturally at an early stage, e.g., the first American skyscrapers by Sullivan (Chicago 1899-1904) prior to eclectic architecture, the roof covering of Perret’s church in Raincy, Tony Garnier’s projects in his “Cité industrielle” of 1901-1904 and his “Etude pour la construction de villes” of 1917. Incidentally, in the manifest of la Sarraz of 1928, signed by some twenty modern architects including Dutchmen Berlage, Rietveld and Stam, the economic and technical development of human society was categorically designated the essential foundation of contemporary architecture, in terms of both construction and industrial production and material, as well as a consciously controlled economy in the human sense. In this context iron and concrete construction were especially in centre stage.

In recent years, however, indigenous materials such as wood (in Switzerland, Sweden and Finland) and brick in its natural state have increasingly been used again, appreciating that these too are contemporary materials. In many buildings and projects, however, iron and reinforced concrete have been applied as positive architectural elements, in our country by Duiker (Sanatorium Zonnestraal, Open air school Amsterdam) and Van der Vlugt (Technical school Groningen, Van Nelle Factory and Stadium in Rotterdam), in particular. In the well-known residence of Mies van der Rohe in Brunn the magnificent freedom of the self-supporting walls in relation to the structure is demonstrated, later frequently resulting in splendid spatial shapes.

And at this point we have arrived at design proper. As has been noted above, this “new architecture” took the position that its primary task was not to create an artistic monument, but an organism in its own right. It had initially kept to what its analysis had learned from that organism, displaying it open and freely in its entire composition: its true being is first and foremost revealed by its bare manifestation. In consequence it is not a stranger to a certain explicitness and sometimes a degree of intellectualism in the abstraction of the forms (Gropius’ Bauhaus and some of Le Corbusier’s projects) or the showing of the technical possibilities in Russian projects of circa 1930.

From the beginning it felt that the organic central idea, the building as a function, could be given its own ensuing beautiful form expressing just that (a new meaning to the concept “functionalism”). Not that this should a priori be connected with the technical construction, no more than all good engineering work will automatically evoke feelings of aesthetic wonder in addition to technical admiration. But it can nevertheless do this if the designer is capable of working in a not merely constructive but also truly creative and expressive fashion.

That the thus named “New Objectivity” should consider the technical-organizational theme sufficient for the beauty of a form of architecture, is a common misconception that is usually based on a lack of understanding if not a lack of willingness to understand. This is possibly due to the name “Neue Sachlichkeit”, which was once used as the title of an exhibition of visual art in the “Kunsthalle” in Mannheim. I am not sure what the nature of the relevant exhibits was; it is perfectly feasible that one had attempted to find the most elementary form of the objects and that behind that objectivity the compiler was instinctively aware of the artistic quality that was essentially and basically present. On the other hand it may well have been no more than a suggestive name for the exhibition.

In any event we have to make clear that the “New Objectivity” in architecture is more than merely posing the clinical fact: imagine a factory building that unlike other building commissions is accurately specified in terms of requirements and dimensions, while the commissioning manufacturer attaches no importance to the outward appearance. It is quite conceivable that all the architect in question (if such a troublesome is involved in the project in the first place) will do or is even allowed to do, is to give it its constructive shape, obtain the building permission and have it executed by the building contractor. These factories raised in steel skeleton constructions with half-brick filling are seen all too often. That would be objectivity par excellence. But what is going to happen if some value is attached to the creative skills of the architect? In such a case the architect’s efforts may result in monumentality, sometimes even significant monumentality, and then the famous Turbinenhalle by Peter Behrens is created for the AEG in Berlin, for example. The “New Objectivity”, however, will attempt to reform the specifications into a true organism in its own right (there is still much that is lacking on the part of industrial clients, who have already figured out the plan, so that

the architect only needs to take care of the exterior), but also into an exponent of human creative skill, of the community spirit of the firm's workers, of respect for the building in the public space, of unambiguous relations in the cohesion of the constituent parts, of liberation and inspiration towards further development.

And this is how "Van Nelle" comes into being, since the essence of the "New" in the "New Objectivity" is that objectivity alone does not suffice, but it aims to express the deeper idea of the building as an intended organism. "Denn die Idee des Bauwerks ergibt sich eben aus seinem tiefer verstandenen Zwecke". With the stress on deeper. It is the most beautiful word that I can find to characterize this goal of the new architecture and it is with some embarrassment that I admit that these words were not spoken by an architect, but by a German clergyman, in 1906, viz., Pfarrer Brathe in his "Theorie des evangelischen Kirchengebäudes", who was totally unaware that much later something like "New Objectivity" would come into being.

Ifelt I had to devote a fair number of words to these modernists, and on the one hand I am perfectly willing to accept this responsibility on the basis of my personal preference. On the other hand they were necessary for a clear understanding of this architectural movement, which cannot be appreciated and understood as easily as others. In his "Nieuwe Bouwkunst in Holland en Europa" (New Architecture in Holland and Europe), (Driehoek 1935), Oud provides the following brief typification: "looking for pure forms for pure needs, which have been purely articulated", each word of which has its express meaning."Looking for", i.e., "devoid of all pretension of having found", so inclusive of any further developmental potential; "pure forms" meaning more organically bound than formally, "purely articulated needs" meaning material as well as spiritual conditions that are reasonably justified, i.e., in terms of human values (which also implies "Divine" value).

Compared to the “New Objectivity” the so-called traditionalism is definitely easier to understand, since its familiar forms are in keeping with what is already known to us. In a negative sense it is sometimes understood as conservatism of a former style of living or historic forms, but this is definitely not its principle, even though poor expressions of this kind occur. In the most positive sense it is based on the fundamental precepts of technology and form that have not only proved their worth in the tradition of building, but must be considered essential for building: the protection of the house, the enclosure of the walls, the encasing of the space. In the socio-cultural domain, too, it aims to pose traditional values as crucial: the family as an autonomous unit with its own intimacy, and society as a hierarchical entity.

Its character is particularly manifest in the use of material and technology, viz., both valued in terms of the traditional expertise of the building profession: the stacked brick, the constructed carpentry. It rejects iron and reinforced concrete for other than purely constructive purposes, or at any rate it denies their autonomous architectural significance. It entertains a deep respect for the tectonic character of building, the human dignity and the craft-related job satisfaction. It displays understanding and sophistication in the processing of material, and balance between form and mass. It is active in resisting the unstable technical development as well as the “internationalization” of building styles. Its love of indigenous materials and building forms receives support from a resurgent nationalism versus the internationalism that – in its view – is becoming superficial. However, the fact that it is all too easily embraced by the public, exposes it to the danger of the kitsch in a kind of “old-Dutch” architecture. For traditional ways of building it finds possibilities in brick especially, and this has resulted in splendid examples: majestic in the case of Kromhout, massive in the case of Kropholler, Kolderwey and Van Moorsel, refined by Eschauzier and Granpré Molière, while at the same time a large group of young people is at present working in this direction.

In the spirit of this universal typification the forms of the whole as well as the parts are carefully justified. To this end the Dutch traditionally-oriented architects, at least, have at their disposal completed subjects such as aesthetic and theory of forms, based on a certain philosophical existential theory.

Of course this aesthetic has the pretension of being universal. But although it covers the romantic and classicist forms, this is not true of the so-called modern ones. The fact is that it does not consider them art, but merely technique. First and foremost it rejects reinforced concrete and iron as being artificial and ignoble materials, as opposed to brick. I fail to understand why the manufacture of iron and cement should be less natural than that of brick. In the Greek-Roman era, however, brick was regarded as an ignoble material - good enough, perhaps, for the despised early Christian architecture, or to be plastered in the Roman and traditional colonnades and coffered (Pantheon). And so it remained throughout the ages, even in the Low Countries, where people built "in brick". It was not until the latter half of the 19th century that its essential value as a material was discovered. In a similar way the slender and white concrete constructions in Rotterdam, as it is rising from its ashes, will be covered with brick coats, until eventually their essential architectural value is fully discovered.

Secondly it mourns over the unbridled development of technology, which, however, is often expressed as a rejection of technology per se. That the unrestrained commercial-economic development is rejected, does not meet with antagonism on the part of the modernists; on the contrary, it is part of their basic principles. But technology itself can hardly be blamed for being used wrongly or being in the wrong hands.

Among engineers, some very human views are cherished in this context. However, technology as a human phenomenon cannot be disposed of in a few words; In his “Philosophie der Technik” (Bonn, 1927) Dessauer even claims his own experiential domain (das vierte Reich) beside Kant’s domain of human sensibility (die reine Vernunft), the ethical (die praktische Vernunft) and the aesthetic domains (Urteilkraft), which means that technology is separate and autonomous and is not controlled by these mental forces. Many philosophers have turned their thoughts to the task, the position and development, and the socio-cultural influence of technology. For this reason all I can say is that one must not jump to the conclusion that technology should be repudiated because an improper way to use it should create gratuitous needs or even put an end to job satisfaction. Setting aside the question whether our society would be practically viable, even for a minute, without technology (neither electric light, nor Mumford’s petroleum would exist without technology), and that in consequence our appreciation is merely based on the gradual condition, it is not at all certain, firstly, that all technology kills job satisfaction (least of all the reasonable-organized variety) and secondly it is not certain that joy of life would be inconceivable without job satisfaction.

Far more serious than the rejection of the modern material and modern technology is the reproach of this traditionalist philosophy that modern architecture would only be bent on material needs, rejection of form, and adoration of matter and deification of man. After what I have tried to explain to you about this, you will not be in the least surprised that the consciously modern architect does not recognize his insight and aspiration in this description. It once more demonstrates the truth of St. Augustine’s wise words that “one should not let one’s objectors interpret the Scripture, since this is not the way to attain objectivity”.

Against this typification, modern architecture therefore maintains that it aims to pose not just material needs, but rather universal-human needs with reason and love (as opposed to rational), that – with all contemporary means – it seeks a form that is organically defined (which is more than merely pragmatic), that it regards this form as an expression of and sign of conscious human living, and that it sees this as a development or revelation of life that can be experienced religiously (which is more than deification of man). In sum, this is an evocative responsibility, based on the understanding of a certain cosmic relation and experience that appeals to and if possible inspires parallel emotions in the user and beholder alike. Fundamentally it is also an “Auseinandersetzung mit dem Unendlichen” (as Worringer calls it in his “Abstraktion und Einfühlung”), pursuing that “harmony with infinity”, that is, after all, goal and essence of all art. For this reason the “New Objectivity” emphatically wishes to be regarded as art, and not as constructive technology.

How then can it be that its phenomena are not covered by traditionalist aesthetics, which after all professes to record the firm principles of architecture? This must be attributed to its deductive method, which implies that a fundamental truth is experienced as evident through inner contemplation, after which new truths are proved through deduction which are used to judge the phenomena of art. However, this method is only effective if the fundamental truth would indeed be an absolute and unvarying fact.

This, however, cannot possibly be demonstrated on account of art theoretical objections. After all, the knowing all is tripartite: the known, the knowing and the way of knowing. The known (the absolute fundamental truth that is sought) can here be imagined as an autonomous entity, but just known as a relationship, having practical value only in that relationship. So the fundamental truth as a point of departure is also dependent on the knowing: “the

metaphysical viewpoint is determined by the stage of knowledge, tradition and emotional need”, was Heymans’s forthright conclusion in his “Einführung in die Metaphysik”. Thus put, the famous first principle of St. Augustine: “To be is better than not to be”, for example, can be diametrically opposed to the Buddhist philosophy, which teaches: “not to be is better than to be”. To our Western minds that first principle of St. Augustine may seem a perfectly acceptable, obvious absolute truth, but in reality it is a mere value judgment, allowing any kind of other view.

So we have to be careful taking these fundamental truths as criteria for further evaluation. There is no criterion for the “truth” of the fundamental truth: the so-called “inwardly contemplated evidence” is as subjective as the “evidence of reason” of Descartes. As inadequate in terms of epistemology is a religious criterion like traditionalism, of e.g., De Bonald, that says: “God alone is our teacher, who has revealed all we know to our ancestors, who have passed down this knowledge through tradition”. Because we must assume that God adjusts his revelations according to what He deems necessary for His creatures, in the same way that we give to our children only what is necessary and desirable in a particular phase. He has expressly kept Himself unknowable as absolute Truth, through the words of Isaiah: “ For as the heavens are higher than the earth, so are my ways higher than your ways, and my thoughts than your thoughts” and calling Himself by the proud name of Iaweh: “I AM WHO I AM”.

Nor can absolute truth be attained along religious paths with a view to assessing phenomena; on the contrary, the absolute can only be known in the phenomena. And so we arrive laboriously at the same conclusion as the old Chinese piece of wisdom: “He who knows the meaning of changes and manifestations, knows the works of the gods”, as was written three thousand (some say five thousand) years ago in the “I Ching”, “The Book of Changes”.

Is not, by taking the unattainability of an absolute truth as a point of departure, our value judgment deprived of all invariability? No, because however relative the fundamental truths are, basically, and changeable in terms of space, time and individual, for that particular moment and individual they have absolute value. So our subjective conviction is no less unfaltering for it. But we must always be prepared that other phenomena can present themselves in the development of life, that other insights will break through, multiply, convince others and lead to other fundamental truths. Therefore one might do well not to be led by Tertullian's' authoritarian words: "As a rule faith is: faith that has been passed down, i.e., revealed, nor by Iranians: "Where the Church is, is truth; outside the truth are they who are outside the Church", as one will have to think – as did the understanding and realistic St. Augustine – that "many seem to be outside who are inside and vice versa". And therefore one should not too hastily call that which is different from what is prevailing in art, wrong or inferior, sick or decadent, because what if it should turn out to be a mutation!

Even if the above contemplations are allowed to rest where they are, it remains a practical fact that the aesthetic sense and the appreciation of beauty may vary considerably in terms of place and time, custom and tradition. Any aesthetic system will have to change its basic principles accordingly, respectively seek to mark off its limitations in order to encompass the variety. Consequently I would like such a system, for example when dealing with the upper edge of the facade, to mention not just the gutter board or the cornice, but also the wafer-thin balustrade or the fine drip rail along the plastered modern facade. And in addition I would like to point out that not only is this edge a phenomenon of form but first and foremost has a functional root: the roof as an attic storage space, the merlons as a parapet for the soldiery, the balustrade enclosing the open roof terrace. I would definitely like to see the roof mentioned as a means to measure the depth of the house

with the eye, but also the legs under the house-in-the-air by Le Corbusier, which offer the same possibilities; and, again, not to forget the functional origin!

I would like to demonstrate the rhythm not only in the case of bays, but also with the modern residence. I would like to see the “post-and-lintel system” accepted as a force in architecture, as well as the “spanning”, not only when building vaulted structural systems but also in reinforced concrete. Likewise I would like to see the building as a boundary of space mentioned not only as a kind of enclosure, but also as a penetration of the space, religious in the form of porticoed temples and colonnades, but cosmic in the modern building, as if demarcated in space with staggered side wings. I would like to see the closeness of the house explained from a need of physical protection, spiritual contemplation, perhaps as an awareness of being bound to earth, but also the exaggerated openness as a need of being one with earthly nature and the cosmic space. I would like to see man’s hidden tendency toward permanence and alignment in a “well-constructed” house mentioned, but also his urge to keep roaming in a tent, as the only demarcation from infinity, and the farmer’s instinct as opposed to the nomad’s. And finally I would like to see discovered that so many different insights and varieties in form have common roots on the one hand, but can only be explained on the basis of differences in temperament, attitude to life and Weltanschauung on the other.

This is also why I prefer to conceive the aesthetic line of reasoning so broadly – so that, now that the philosophical-aesthetic way of educating would-be architects is rather fashionable (e.g., in the courses of Higher Architecture), it is sufficiently universal to give free rein to the development of their potential creative forces, instead of being the justification of a particular view.

And now I have come to a point where I would like to explain why I have set forth those controversies in terms of insight and procedure, movements and counter-movements, common grounds and interfaces in our world of architecture, which may be as interesting as they may be somewhat wearisome. I did not do so with a view to helping the student take a particular side when he sets out to the conception of a project, but to helping him and you to recognize those phenomena as the results of the latent creative forces in the process of architectural creation that are active, albeit hidden, in every architect. It is for this reason that the romantics are so important for him, to make him aware of the vibrant personal artistic urge toward free forms and playfulness that seeks its way in his conception, the creative force of beauty not bound to rules but nevertheless explained by them.

And therefore the new classicists are equally important for him to recognize the laws of mathematics, when it comes to proportion and rhythm, as a source of beauty, and to recognize the value of this artificial beauty that ignores nature.

These two, the romantic or natural, and the personal, mathematical, or artificial beauty, may still be called direct forces. But for this reason the traditionalists are important in order to find out that in addition, as an indirect creative force, all that has been revealed and acquired is active in him and wherein fundamental truths lie hidden that prevail to the present day, as well as instincts of reservedness versus what is new, of the tendency toward living in aloofness, contemplation and reflection. And therefore the modernists are important for him, to remind him of the fact that man is a “*homo rerum novarum*”, with the urge toward innovation, toward realization of all that is contemporary, that within him a force is active of further human development toward spiritual freedom, which can be experienced in unity with all and everything, which is slumbering in his personal awareness of

human and cosmic connection. The creative forces in the various schools of the architectural philosophy are not separate, but merge in the mind of the creative architect. It is not to be surprised, therefore, that the eventual conception, evoked mysteriously from the subconscious to the conscious, cannot be attributed to just one of these but to their joint activity and mutual influence. This is why more often than not the architect's work cannot be pigeon-holed. But still: even if these creative forces are perceived in the mind as a unity, even if a profound insight into life becomes leading, using other forces for its benefit or perhaps rejecting them, the creative forces – individually or in time – are part of a continuum, of which one wave supports or suppresses the other. When the forces have been recognized, it is not hard to discern the crosses, the reinforcement, and often also the watering-down of the original idea in the buildings of our days.

Finally one might ask whether the unity of these creative forces could manifest itself not only in the mind of the designer, but also in the world in the form of a similar unity and more specifically as a cultural unity. One might expect a negative answer to such a question, now that we have found that the various styles are so hugely different: it is the familiar platitude that our time with all its confusion displays such a lack of strong conviction and such a clash of opinions, that an unequivocal style is virtually impossible. Concurrently with the growing community, a greater sense of collectivity may well arise in the architectural form, either through natural growth or through a particular prevailing style. During the war, the Dutch architects, following a general psychological urge, have tried to achieve greater collectivity, both through an increasing mutual appreciation and through mutual influences, together with attempts to reform, which were based on a sense of superiority of their own views. This fell through, because the differences in outlook on beauty and more particularly on life turned out to be prohibitive; in consequence

they spoke on different levels, thought only of their own values and remained impervious to the emotions of others. In the professional architectural practice the very same difficulties present themselves when it comes to the mutual adjoining of adjacent premises, and the work of architects in town planning, which is likewise founded on a certain form conviction. In the required dialogue of supervisors and architects one sometimes comes across the same way of influencing or reform with a view to achieving the unity one is aiming for. Perhaps we are all too easily impressed by the stories in our art historical companions that style implies a certain equality in form conviction and must therefore be posed as a *sine qua non*. This may have true of times when the architect learned his profession by making art-oriented trips to famous brothers in art and to art centres, returning home with a new form scheme, and when architecture consisted of monuments and not the total of what had been built.

Maybe this pursuit of that common form is no more than a desire to write history forward. However, I rather recognize the character of our time in the consciousness with which we know, or think we know, the things in all their diversity. And this is the reason why I have attempted in the above to alert us to the diversity of the creative forces in our architectural conception. The being aware of these forces implies the understanding and controlling them, as well as understanding others, but nevertheless entails the need to maintain it – which is not the same thing as the freedom of art, for which a passionate plea has always been made. It is the pure understanding of multiformity as unity and as culture, more precisely as culture for our time. It does not imply the harmony that we recognize of former stylistic eras – for the time being it is just totality, perhaps distinctive totality in the long run. It is useful to know in this context that the possibility of the “free choice of life”, which has been mentioned frequently of late, arises spontaneously and may lead to a multiform wealth of life. In

any case it may be instant spiritual totality, if we are profoundly aware of the forces that move us and our professional colleagues and if we respect everyone's self-confident performance in its individuality, or rather seek to give him a place since we realize he is indispensable as a mutual complement in this culture of multiformity. One would do well – a precondition rather than an impediment – to stand side by side for all the world to see with the brother in art, each with his own conviction in his work, like Luther before the Diet in Worms: “May God help me, I can do no other”. It will bring the precious divine appreciation described in the Bhagavad-Gita: “Whichever path people choose to serve me, along that path I shall fulfil their yearnings, as it is my path, o Pártha, which people tread on their many paths”.

Esteemed Governors,

First and foremost, I may be permitted to express my gratitude to Her Royal Highness the Princess-Regent for appointing me extraordinary professor at the Institute of Technology. And subsequently to you, having been prepared to propose me for this office. By appointing a practising architect, you aimed to build a bridge next to the existing one between the professional practice and this educational institution. And therefore I have attempted today to phrase some words whose topicality may be of some value to either. I assume that you have also submitted my name on account of a certain conviction, and I have therefore taken the liberty to bear testimony of it, but at the same time give it a place in our present cultural scope.

To you, esteemed and learned Van der Leeuw, I wish to express my appreciation for the importance that you have for the recent modern architecture, when you let Van der Vlugt and his assistant Stam perform not only the work for you in this conviction, but also supported and stimulated them in this context. In addition I wish

to express the appreciation of kindred spirits among architects for the mental support that you lend to their views even today, as well as my personal gratitude for the friendship in which I have worked for you and Rotterdam after you knew where you were with me.

Esteemed Professors,

You have already accepted me in your midst and I am so bold as to see this meeting as a new confirmation of this and repeat my gratitude for the honour of having been admitted, however modest my place will be.

Esteemed Professors of the Department of Architecture, esteemed colleagues, What particularly struck me in your company when I commenced my work, was the surprising and satisfying spirit of co-operation in which you fulfil your duties for the Department of Architecture. I look forward to being active with the same spirit and, with your support, to serving the interests that have now also been entrusted to me. I regret that I cannot address my own masters to thank them for what they have taught me. It is with great respect that I honour the memory of Professors Itz, Sluyterman, Klinkhamer and Gips. I expressly wish to bear testimony, however, to my deeply felt gratitude for the late Professor van der Steur, who helped me in such an exceptional manner during the difficult times of my studies, and which gratitude I omitted to express during his life, due to a certain amount of awkwardness. Also I would like to commemorate the memory of Professor Schoemaker, whose acquaintance I made in the military, with whom I had the honour to co-operate in such an excellent fashion and who so tragically laid down his life for his country.

Dear Granpré Molière,

The last few colleagues who made speeches from this place have honoured you as their master, to whom they owe much wisdom. You were not among my teachers, but if we do not completely share the same conviction, there is no need for you to regret that unlike the proverbial son I am not entirely like the father in science. Nevertheless you have taught me a number of things. When, during my college days, I wanted to do some practical work for the first time, I looked up the addresses of architects in Rotterdam in the telephone directory. I chose the name: Granpré Molière, Verhagen and Kok, partly because it had such a good Dutch and partly noble sound. I had no idea at the time that, as Dr. Jan Kalff once quoted from a 12th-century Latin letter book, the architect must be a “nobleman”. You have taught me some of that nobility, when you corrected the ungainly forms of a bay window that I had drawn for one of the cosy houses in the unsurpassed garden village of Vreewijk. I believe there is also an electricity substation there, of which I am guilty. Your room in the office was decorated with myths referring to you, together with Verhagen’s hat and Kok’s militancy. One of those myths was that you were said to want a house in Wassenaar, which you had to build, painted white, and that this was incompatible with the planning authority’s aesthetic sense. I was told that Kok then rushed to Wassenaar to discuss this with the authorities, and lost his temper to such a degree that he tore up the entire instruction, shouting that such instructions did not apply to Molière. It is, perhaps, indeed a myth, but what I learned from it is that the self-confident architect need not give way to anyone if he is the victim of browbeating. Because worse than the tyranny of Delft with a capital D, about some words have been exchanged, is the tyranny of Delft with a small d: the pedantry that claims to have the monopoly on wisdom. In the third place I learned courage from you, when shortly afterwards you were called to this place

and used the word “God” as the foundation of your insights, in a time when it required courage not only to use it as a philosophical concept. I aspire to be worthy of what you taught me.

Mr van der Waay, dear teacher,

Now that none of my Delft teachers is among us anymore, I take all the more pleasure in seeing you here, as the first person who taught me to learn. How I appreciate in you the inspired teacher, who helped his best pupils in their further development with pure and unselfish dedication, and I am proud that in those days I was one of those chosen few and that you have shown your continued interest in me to this age. And it is a great joy to me that you, my parents, are present here today to add to the value of this meeting and to enable me to express my gratitude for all you have done for me.

Ladies and gentlemen, students of architecture,

I have attempted this afternoon to increase your awareness of the creative forces in architecture, which are also alive in you. What I had in mind was that this awareness should help you recognize them, use and control them determinedly, and reach greater maturity. Look upon it as a wonder that these forces are alive in you, in the same way that our very existence in itself is a wonder. If you believe that there is a God who has granted them as a gift, then receiving them is grace. Perhaps you assume that there is a Divine Principle that unfolds its creative forces in our Being in increasing development, so also in you, that reveals its creative forces in you to co-operate in his ever developing creation. But that, too, is grace. I invoke this and any other grace upon you in ample measure.

Esteemed listeners,

I thank you all for your presence and your attention.



FIG. 11 J.B. Bakema (Source: Het Nieuwe Instituut).

J.B. Bakema

Towards an Architecture for Society

The insights gained in the study of visual sensation can serve as indispensable leads to better understanding and more effective handling of the complexities of social relationships. (Adelbert Ames jr. in Transformation no. 1, 1950, p. 12)

Honorable Ladies and Gentlemen,

The insights gained in the study of visual sensation can serve as indispensable leads to better understanding and more effective handling of the complexities of social relationships. (Adelbert Ames jr. in Transformation no. 1, 1950, p. 12)

Esteemed Governors, Esteemed Professors, Ladies and Gentlemen lecturers, members of staff and students, and all you who, by your presence, demonstrate your interest. Esteemed listeners,

On the occasion of my appointment as extraordinary professor of architectural design at Delft Technical University, I entreat your attention for my views on the significance of this profession for our lives. The profession is about: *The design of space shaped by constructions for people.*

The concepts of space – form – construction and man are constants in any discussion of the architectural profession.

I mention them separately here in order to make it quite clear that only their simultaneous employment in the architectural design results in notions like house, workplace, school or church.

- space
- form
- construction
- man

For design, the interrelationship between the concepts is just as important as the characteristics of each individual concept.

Space:

Space became a concept through the experience of both the hollow in the earth and the distance, with sun, moon and stars. The prehistoric stones placed at a distance, created at one and the same time the marker in space and the cavity in the earth where they were found.

Nowhere is this as clear as on Easter Island, where the volume in space and its counter-form in the ground can be taken in at a glance and prompt reflection on the architect's responsibility for both space and mass, hollow and sphere, give and take.

Many of you will recall the footprint in the sand that alerted Robinson Crusoe to the fact that his island was inhabited by at least one other human being, while printing for example owed its invention in part to the fact that a letter fell into the sand,²⁷ and those of you who have visited the prehistoric caves and seen

27 Alludes to an anecdote purporting to explain how Laurens Janszoon Coster came to invent the printing press.

the colour-intensified motifs described by Giedion in his latest book *The Eternal Present*, have also been able to experience how space is one of the means of learning about life, step by step, from the prehistoric caves right up to our future, in which astronauts have learned to see all Earth's caves and mountains as a coloured, spherical mass in a blue-black, expanding universe. In the space of the universe the Earth is an identifying midpoint.

How does architectural design relate to all of this? Every day you crawl out of and into a cave, such as the bed at home or the road tunnel outside, and time and again the design of room and street will inform the way universal space is measured.

Form:

Form is the instrument of evolving human awareness. A human being first acquires its form upon leaving the mother's body and this wondrous, almost moment-less event, is identical to the process in which considerations defined by the architectural task are turned into form.

We can estimate the considerations, but not the wondrous moment in which form comes into being. All we can do is respect this moment and in so doing perhaps understand it. Thus knowledge through respect, a kind of learning that has almost been lost in our time. In estimating the considerations that prepare the form, a simplistic way of thinking has developed in the post-war period, which in my view is the main problem of this period and has caused great confusion in the design process and also in the relevant education.

Simplistic, yes, because in my view in the period since 1945 in the Netherlands and beyond, we have seen our daily environment wither and grow poorer thanks in part to a too limited, too hasty

and thus mistaken use of the considerations that lead to form in our lives. Mistaken, because ‘form follows function’ became a malignantly proliferating misunderstanding of [Louis] Sullivan’s fragile philosophy, which in reality meant the following: “All is function, all is form, but the fragrance of them is rhythm, the language of them is rhythm: for rhythm is the very wedding-march and ceremonial that quickens into song the unison of form and function, or the dirge of their farewell, as they move apart, and pass into the silent watches of that wondrous night we call the past. So goes the story on its endless way.” (Conclusion of the section Function and Form in Sullivan’s *Kindergarten Chats* from 1918).²⁸

Do we not hear every day the dirge of a farewell in that constant misunderstanding of the meaning of form in our life, or is there also the joy of discovering new relationships with which to work in architectural form-making? The need to define forms was raised once more in 1952 by Richard P. Blackmur at the beginning of his introduction to the work of the American writer Henry James, *The Golden Bowl*: “the strength of the form should mediate between the soul and its effect as the essential medium for perception”.

For those who doubt that there has been any misunderstanding of the meaning of form, I direct their attention to the following circumstances: Currently, it would be difficult to name a city in the Netherlands of which the various development phases between now and the year 2000 are sufficiently clearly defined to enable the articulation of the architectural space. It strikes me as

28 Bakema’s translation differs slightly from the original: “Everything is function, everything is form but the scent and sound of that is proportion and number. Art is the celebration and respect that makes the unity of form and function sing. Or ... there tolls the sorrow of a farewell when they go their own way in the silent watches of a wondrous night that is called the past. The story is unending..”

equally difficult to name a company that has succeeded in defining both its business and spatial development phases, despite the fact that only once the architectural form has been determined is it possible to discover how the space will function for the users.

The housing districts where we live are often the outcome of the hasty introduction of a different housing type into a plot plan that had been based on a particular architectural relationship between the space inside and that outside the walls, owing to changes to the funding policy and without any revision of the subdivision because, for example, the streets and pipes had already been laid. This state of affairs ignores one of the most important functions of spatial form, which the Californian architect [Rudolph] Schindler, for example, described thus: “the space architect sees the house or the city as a whole as the expression of a single cosmic space. The house is an organism in which all the rooms are interrelated: variations of a basic scheme. The house is woven from a few basic materials that are used to define spatial form.” (‘The Contemporary House’, probably 1940 [actually in *Architect and Engineer*, San Francisco January 1936])

In 1924, the painter-architect Theo van Doesburg, who died in 1931, wrote as follows about architecture in the 6th volume, no. 6-7 of *De Stijl*: “the arrangement of the functional spaces is strictly determined by rectangular planes which have no individual form as such, since although they are bounded (one plane by another), they can in theory be infinitely extended, resulting in a coordinate system the different points of which correspond to an equal number of points in the universal space. As a consequence of this, the planes have a direct tensional relationship with the open (exterior) space...”. How is it possible that in such a lucid flat country as the Netherlands, the best of what had been discovered for architectural spatial articulation, has been emphatically forgotten in the total urbanization of the Netherlands that has

been taking place since 1945? For Van Eesteren also stated, on p. 166 of that same issue of *De Stijl*: “urban design arises out of a plastic balance of the components of which the city or district in question is composed. Changing one of the components results in a disruption of the state of balance.” Is it possible that the Van Doesburg–Mondrian philosophy was subject to the same kind of misunderstanding as in the case of Sullivan? “...the wall is angular – we know why, the bathtub is smooth – we know why, the door is 2 m. high – we know why. But who knows why utilities (stations, stock exchanges, electrical substations, urinals etc.), have to be theatrical representative monuments?” (Mart Stam in the catalogue of the international architecture exhibition mounted by the ‘Opbouw’ association in 1928, quoted by J.B. van Loghem in his 1932 book *Bouwen, Bauen, Bâtir, Building*).

In 1932, in his attempts to promote a social architecture, Van Loghem included the abovementioned credo in a series of quotations that began with one by Granpré Molière, published in *Wendingen* in 1918: ‘many have attempted in isolation from society to at least discover beauty for themselves. In this they resemble deserters who choose the suffering of loneliness and faithlessness above fighting together.’ Both the ‘bathtub’ and the ‘faithlessness’ explanations can be lumped together under ‘Nieuwe Bouwen’, as promoted by Van Loghem. Molière built Vreewijk, Stam collaborated on Van Nelle and the Weissenhofsiedlung in Stuttgart in 1928. Just as the design of Vreewijk could be called an overly rectilinear interpretation of the beauty of our medieval town centres, the ‘bathtub’ explanation might pinpoint the moment when an overly rectilinearly interpreted functionalism threw the form away with the bathwater. This was also the feeling in the circles of Dutch Nieuwe Bouwen adherents; even Duiker found it necessary in a conversation with [Willem] van Tijen in 1933 to reiterate that “the pure definition of the fact is strictly intellectual conception” (*De 8 en Opbouw*, p. 156).

To explain more of this background, it is important to bring into the discussion that aspect of architectural design that is probably subject to the greatest misunderstanding, namely:

Construction:

We are now in the vicinity of the term that is preferably mentioned in the same breath as the word Art. Engineering and Art. Is this intended to be a unity and antithesis, like Man and Woman, Straight and Curved?

Engineering and art were temporarily separated in 1794 by dint of removing the subject of Engineering from the curriculum of the Académie des Beaux Arts and giving it a place of its own in the École Polytechnique, a mere three years after the Proclamation de la Liberté du Travail. In 1919 Walter Gropius tried to bring engineering and art under one roof again by founding the Bauhaus. That this was contrary to the view of society in Germany only became apparent in 1933 when the German government rendered the school unviable by classing it as 'Cultural Bolshevism' and raised traditional architecture like that of Paul Schmitthenner to the status of rural state architecture. Yet again, columns were misused for government buildings.

For a proper understanding of our current situation, it must alas be said that the Netherlands, especially in regard to rural architecture, maintained its role as friendly nation back then rather too obviously and for a bit too long. This may be evident from the big official exhibition organized in the very first year of the Occupation (1941) in the Boymans museum [in Rotterdam] under the title 'The Netherlands Builds in Brick'. It was the engineer A. Plate who pointed out, in one of the final issues of the magazine *De 8 en Opbouw* (no. 6, 1942), that architecture can only be of enduring significance when the constructed (built)

spatial form is the expression of the age-old process of human awareness, which is guided by respect and concern for the wonder of the universal space in which everything is and will be. Seen from this perspective, construction is an equal partner in the entity of Engineering and Art, Man and Woman, Straight and Curved. “Every mathematical curve has a nature of its own: the accuracy of a law, the expression of an idea, and the evidence of a virtue. Denial of these characteristics may be caused only by a blind ignorance that seeks refuge in lazy egotism.” So said the Spanish engineer E[duardo] Torroja, considered one of the great architect-structural engineers, in his book *Razón y ser de los tipos estructurales*, published in German in 1961 as *Logik der Form* (p. 259) [published in English as *Philosophy of Structures* (p. 312).] Here we have a structural engineer who explains his work in terms of the words ‘idea’ and ‘virtue’, which is to say two words infused with the notions of imagination and ethics, and he directs decisions about construction towards that sphere of life in which the origin of existence resides. For him, constructing is the adoption of what Newton introduced with “the laws of nature are written in a mathematical language”. Thus construction is this kind of thinking the visualization through form, of tensions that govern the shape of the material. And what a fascinating activity construction is. Seen in this light the hole in the earth, the branches bent to form a dome, the adobe walls assembled from dried blocks of clay, the arches on walls, the vaults flowing down into compound piers and the concrete cantilever or bent and folded concrete surfaces are a kind of confrontation between human wonderment and research, and the laws of existence.

The American structural engineer [Richard] Buckminster Fuller explained his exploration of spatial structures by talking about “using the minimum weight in material to achieve the largest possible spans”, while the Spanish-Mexican thin-shell builder, Félix Candela, loved to relate how his first curved shells came

about as an economical way of covering markets in Mexico City or of building churches for priest-builders who shared many cares with their parishioners but no money. “Aren’t the pillars in the nave a bit too thin in proportion to the height of the nave?” “I’ve given these pillars the diameter they require for their vertical load; because all the pressures are neutralized by the distribution of the flying buttresses that transfer all their pressure to the outermost counterforts, leaving a maximum of space inside.” Thus Hugo van Courtenay responding to the bishop charged with evaluating the gothic design for the extension of a Romanesque cathedral in the 13th century, in Viollet le Duc’s *Histoire d’une hôtel de ville et d’une cathedrale*.

In his introduction to [the Dutch translation of] this book, Dr. P.J.H. Cuypers wrote: “without a clear knowledge of the social circumstances of their period it is impossible to form a proper understanding of the development of major monuments.” As far as I am aware, our Technical University still lacks a course that explains the connection between the structure of cities and buildings and the structure of the society that produced them. As recently as the last election in the Netherlands, while the quantity of proposed structures (in this case mainly dwellings), was much discussed, the sort of dwellings that should be built in connection with the evolving types of people, and the method of construction (sort of construction) that should be applied in connection with that, was scarcely broached in 1963. The shaping of space is a vital human activity aimed at providing protection from nature, but at the same time, man seeks by way of the shaped space to relate to the total (universal) space. Thus, as well as being an indispensable element in the shaping of space, construction is also a way of learning to understand the tensions that shape matter.

Construction and form are complementary in the search for the relationships that generate the things we observe. Increasingly nowadays, the explanations of our existence are synonymous with the work that must be done to make daily life possible. Pierre Teilhard de Chardin declares, in his reflections on the 'phenomenon of man', that "Man discovers that he is nothing else than evolution become conscious of itself, to borrow Julian Huxley's striking expression."

I had a very powerful personal experience of the way construction and the spatial form can determine one another in Los Angeles where, in around 1930, the mosaicist Sam Rodia took to welding pieces of steel together in his garden as a hobby. He then encased them in cement into which he stuck colourful shards of bottle glass, tiles and found objects, culminating in a towering sculpture in which construction and form in combination with cement and shards evolved into a single sculptural spatial condition. The roughly 20 x 15-metre sculpture that completely filled his small garden was dubbed 'Watts towers'. The towers are of an expression reminiscent of looking-into-the-distance or sailing-towards-the-horizon. Each component, viewed individually, represents the essence of the total spatial-sculptural-colour construction, and the construction is such that it could not be knocked down by bulldozers, which is why they are still standing. For people had indeed wanted to demolish Rodia's hobby owing to a lack of confidence in the construction and perhaps also because the imagination that shaped cement, steel and tiles into a sculptural construction did not seem immediately useful in the Los Angeles society of that time. Now many people flock to see this colourful, overcrowded garden. This spatial sculpture was not engineered. Might the necessary constructions of our time not function better in the emotional lives of the users if they had been more the outcome of the unmediated desire to shape an idea? "Prior to and more than any manner of engineering, it is the idea that moulds

material into its resistant shape to fulfil its purpose.” (Torroja in *Logik der Form*). It seems logical to me that in architectural design, this idea can chiefly be of significance if, as a result, the use of the built space also leads to a better understanding of the universal (total) space.

Interest in this has always been a strong theme in the development of architecture. One could follow the development of the notions of space, form and construction by contemplating the evolution of the possibilities man created in order to free himself from the fear of existence, in this case from his fear of boundless space. The transformation of this fear of, into a relationship with, or from ignorance to understanding. Man seeks to make spans as wide as possible and motivates this with such considerations as e.g.:

- extension of worship (Gothic cathedral),
- expansion of covered market places (Galerie des machines, 19th century),
- enlargement of covered workplaces for administration and production (our time).

Nevertheless, the architect will always try to explain all the considerations that lead to the development of architectural structures as the development of multiple possibilities for experiencing space. He will employ the possibilities of construction for the figuring out of spatial structures.

In an exchange of letters between; the Luxembourg architect [Jos] Weber, the Finnish architect [Reima] Pietilä and the German structural engineer Frei Otto, the last wrote that “for me structures are tools I love, as the carpenter loves the plane and a woodcutter the axe. The form of tools ‘exists’, ‘exists’ as a result of a long evolution. Every attempt to employ them in a design is difficult, to shape them almost impossible without truly improving them,

thus to bring them to 'life', to trace them, to discover them. The ideal tool can serve in an ideal way, the way it serves is entirely the responsibility of the one who uses it." (December 1962). A recent 'commentaarcollege'²⁹ in the Faculty of Architecture prompted a study of the key work of a Russian contemporary of Rietveld and Van Doesburg, namely the urban design architectural principle developed in 1924 by El Lissitzky under the title 'der Wolkenbügel' [literally 'cloud iron', colloquially 'cloudscraper'].

At the intersection of ring roads and radial roads of existing big cities, vertical lift shafts would form the supports of horizontally cantilevered buildings housing large offices. He explained his work as follows: "Compared to the prevalent American high-rise system the innovation consists in the fact that the horizontal (the useful) is clearly separated from the vertical (the support, the necessary). This in turn allows for clarity in the interior layout, which is essential for office structures and is usually predicated by the structural system. The resulting external building volume achieves elementary diversity in all six visual directions." (El Lissitzky, *Rußland: Die Rekonstruktion der Architektur in der Sowjetunion*, 1930 [English translation by Eric Dluhosch in: *Russia: An Architecture for World Revolution*, Cambridge, MA: MIT Press, 1970])

El Lissitzky's work was in part responsible for the rise of an architectural trend later called 'Constructivism', which had a strong affinity with the work of the *De Stijl* group, for which the term 'Neoplasticism' had been coined. Together with Futurism in Italy and *l'Esprit Nouveau* [in France], they constitute the roots of the architectural development in which contemporary technology was used to give expression to a new time-space consciousness.

29 A lecture format then recently introduced at the Delft Faculty of Architecture: instead of a lecture *ex cathedra*, this format concerned a presentation with questions and answers delivered by a guest from outside the university.

Constructivism was given little opportunity for further development by the political regime in Russia. Nevertheless, in the aforementioned book Lissitzky did include a photograph of an office centre in Kharkov with the same spatial organization, and if one looks at the bridge connection between the Van Nelle office building and the factory buildings of the same complex, it becomes clear how new technical means were employed in the period 1920–1930 for spatial constructions, with which man could once again give shape to his enduring and thus ever-new wonderment with his existence on earth in space. Imagination was the foremost instrument in that endeavour and how different that is from the motives driving the development of constructions for the production of our housing districts. In the building of Mies van der Rohe's multi-storey block in the Weissenhofsiedlung in 1927, the construction was used to achieve the greatest possible number of variations in housing options through a choice of different floor plans and also through the use of covered roof terraces, which form a nuanced transition from the space within the block, via the urban space to the total (universal) space.

“For economic reasons the construction of rental housing should be standardized and rationalized. On the other hand, the increasingly differentiated housing needs demand greater functional flexibility. In future it will be necessary to take account of both trends. Skeleton construction is the best construction system for this. It allows for a rational construction method and leaves complete freedom for internal spatial determination. If the only fixed spaces are the kitchen and bathroom owing to the associated services, and if you also decide to subdivide the remaining living space with movable partitions, I believe that using these means it is possible to satisfy every acceptable housing need.” (Mies van der Rohe's description of the block of housing he designed in 1926 for the Weissenhofsiedlung in Stuttgart. Bau und Wohnung, Verlag Wedekind und Co. Stuttgart 1927)

Back then, the creative use of technology generated a flexible use of space inside the housing block as well as a varied transition from the space inside the block to the surrounding urban space. Compare these outcomes with the obstinacy with which structures are currently misused in order to neutralize any optimism on the part of the users of recently built dwellings regarding differentiated spatial experience, out of kind of neurotic anxiety about the unattainable number. The future of which Mies van der Rohe wrote in 1927, has meanwhile become our reality in 1963, where unfortunately in the shaping of our built environment the structural possibilities are usually limited to a means for multiplying the same, rather than helping to visualize the magnificent coherence that is characterized by a thousand-fold diversity.

The current pursuit of efficiency in construction will only be appreciated by the user if the product thus attained has greater future value than with a traditional approach. (This insight has also been adopted in recent studies by the Economic Institute for the Building Industry). The place of the notion of future value in the overall development of construction and in the gathering of the data needed for design, production, distribution, use and improvement, is the subject of a 1953 publication [*Development Index*] of the University of Michigan in Ann Arbor by Lönberg Holm and Theodore Larson. Their 'development cycle' concept refers not only to the aforementioned activities, but also to the requisite research that must precede designing.

Would it not be possible, given an annual Dutch production of e.g. 80 to 100,000 dwellings, to allocate a half to one per cent of this each year to research aimed at the development of forms of living? It seems to me that the universal character of the education at a technical university, might include e.g. research into new dwelling types as part of the curriculum of the architecture faculty, which could to that end collaborate with private architects and engineering consultants.

The yet to be defined philosophy of building might find its practical limitation in a revised profession of art history, making it possible to study the aforementioned relation between the structure of buildings and cities, and that of the relevant society. Through participation in research, the insight gained could be applied in the preparation for designing.

Man:

The only part of existence with the capacity of consciousness: "In order to live man must act, he must become engaged with what surrounds him. But in order to decide what he will do with all this, he needs to know what he is dealing with, i.e. he needs to know what it is. Since that basic reality does not automatically disclose its secrets to him, he has no choice but to activate his intellectual apparatus, of which in my opinion the imagination is the main tool. Man imagines a certain form or existence of reality". (Ortega Y Gasset in [the essay] 'Geloven en Denken', 1934).

"Consciousness is the form-giver; life itself, which is a ceaseless growth process, is too strong to be aware of the much weaker form of to 'exist'; as such, it never has an outcome because this would be a completion; in our thinking it can never acquire form because, while still developing, already growing again, it has outgrown that form and is potentially, at the same time, another and yet another emerging form..." (Dr. H. Oldewelt in 'De plaats van de mens in de totaliteit van het leven' [Man's place in the totality of life]).

"When a person wills he also wills something; his act of will is entirely focused on a thing and can only be thought of in relation to that." (Schopenhauer, '[Die beiden] Grundprobleme der Ethik; der Wille vor dem Selbstbewusstsein')

"I find, first of all, that I pass from state to state." (Henri Bergson in Creative Evolution).

Ladies and Gentlemen, I am conscious of the fact that a practising architect who is invited to be an extraordinary professor of architectural design, is not the obvious person to classify the philosophical motivations that provide further insight into the function of architecture in life as a whole. My reason for attempting to do just that, lies in the fact that I am keenly aware that architectural design should be based on man's need to give shape to his desire for a creed for life. And in our age of worldwide communication, getting to know life is increasingly a matter that every individual will have to learn to take responsibility for himself, since he is increasingly discovering, right in his own living room, the relativity of what he is vis-à-vis other people.

The time is past when a group, party or religion can dominate the search for a creed for life. The interrelations between the various world views are becoming a stimulus for man's awareness of the laws governing his existence. The time is also past when a particular building can dominate vis-à-vis the rest in the design of the built human environment.

The relationships between all buildings are becoming more important than each individual building. We are all still familiar with the city in which the town hall and church were intended to be dominant. But that intention has long since been rendered obsolete by the accompanying silhouettes of warehouses, offices and apartment buildings, television towers or moving bridge pylons. With the disappearance of the dominant in the silhouette, the familiar clarity has been lost, but that does not have to mean that no new kind of clarity can be developed with the environment being built in our time. (See the architect J.J.P. Oud's writings on clarity in urban design.)

Man has always tried to understand his existence by comparing his own efforts with those of his fellow men, but never before has he been beset with so many comparisons as in the present day. Some will see in this a loss of depth, but this is compensated by the great advantage of increased participation by everyone. The shocks that force people to reflect have become stronger, the intensity greater, the time in which to achieve equilibrium shorter. Responsibility for the management of earth and space is becoming more and more of a public problem in which every individual according to his nature and capacity must learn to participate.

The palace of the future will undoubtedly be formed by the aggregate of all the houses of the many people who live there. And each of them lives in rooms that are also connected by television with the earth and total space.

Bearing in mind that man's desire to feel at home in the global space, can only be formed via things present in his immediate environment, the spatial form of his room acquires significance as a means to consciousness.

The rooms that form the house are also instruments by which the user tries to live together with his fellow men, but more especially with the things that manifest in his existence and challenge him to be understood. He cannot ignore that challenge because he lives, and when the sun shines or the wind blows he will pit himself against the why, and thus every space that is shaped with constructions could be another attempt by man to learn to come to terms with the surrounding space. We live in the age in which every individual acquired a perfect right to their own creed for life.

“He knows that things do not really exist unless man has discovered their wonderful being that they have hidden with a veil, with darkness.” (Ortega Y Gasset, ‘Der Intellektuelle und der Andere’).

This idea seems far removed from the practice of architectural design, but mindful that every line on paper is intended to give shape to an idea about space, I think it is essential to contemplate that thinking about space in conjunction with thinking about our existence. Might not the ease with which the brick aesthetic, hung on concrete structures and exhibited in 1941 in 'The Netherlands Builds in Brick', was able to change into a glass curtain-wall aesthetic, point to insufficient insight into the function of architectural expression in the process of human awareness?

How is the student to learn to employ spatial form-construction if he has not first been introduced to the significance of the concept of form in man's search for balance?

Thus it seems to me essential that before commencing the study of design and construction, the student should learn to comprehend the great coherence of life in which architectural form functions. Professor Granpré Molière, in his own way, made a start on this, which I think could be expanded into a general basic subject. The aforementioned philosophy of building seems to me to be a necessary basis for the correct use of the capacity for designing and constructing. Especially at this time and why? Sometimes I have the feeling that, compared with other human activities, we deal with our many possibilities for architectural form-giving in a rather haphazard way. The words openness, seclusion, high, low, number, size, rhythm, proportion, straight, curved, convex, concave, are at best used as concepts, but rarely can the concept be used in connection with its significance for the development of human relationships.

When it comes to the architectural definition of visual relations, there is practically no result of scientific research available, yet at present, if an architect defines these visual relations in his design, drawing on his own sense of life, it provokes uneasiness about the inappropriate influence the resulting human environment

supposedly exerts on human behaviour. For example, there has been a lot of talk about group formation in the construction of dwellings, and the concepts of neighbourhood and district appeared to offer some points of reference, until the change in spending patterns e.g., rendered these concepts in turn obsolete, and it became clear that, like the notion of the garden village, the neighbourhood concept had proved to be inadequate for the structures of our emerging urban agglomerations.³⁰

Right now there is a trend of banning motorized traffic from the centre of cities and channelling it along ring roads around the City until it becomes apparent, as in Brussels, that the city centre then loses its *raison d'être* compared to those areas where motorized traffic is permitted. For the sake of convenience in construction, the curtain wall is being used more and more, until people here and there discover that the small amount of material used results in a reduced thermal and acoustic absorptive capacity.

How long will it take before people also realize that a plastically expressed transition between inside and outside space satisfies a basic human need to continually experience nuance, from man's birth in the enveloping body to the final take-off into the ever-expanding universe!

“The clarification of visual forms and their organization in integrated patterns as well as the attribution of such forms to suitable objects is one of the most effective training grounds of the young mind.” [Rudolf Arnheim, ‘Gestalt Psychology and Artistic Form’. In: Lancelot Law Whyte ed., *Aspects of Form*, 1951]

30 In those days of welfare state planning everything – local shops, district centres, parking – was pre-planned on the basis of scientific surveys. However, as Bakema pointed out, if there was a change in people's habits (shopping, car use) all that careful planning was suddenly rendered obsolete.

What a field of study this opens up for the many who currently wear themselves out in a kind of social-psychological pedantry about what others do.

“The insights gained in the study of visual sensation can serve as indispensable leads to better understanding and more effective handling of the complexities of social relationships.” (Adelbert Ames jr. in Transformation no. 11, 1950) [Sensations, Their Nature and Origin: Brief Statement of the Findings of the Dartmouth Eye Institute, 1945]

It is fairly generally known that among the recommendations President Kennedy received from a working group of philosophers, artists, doctors and other specialists, was one to trace the origins of aggression, and that his faith in international cooperation by nations with different ways of life appears to have been reinforced by the recommendations of this group.

Yet to date architects know practically nothing about effect of architectural form on human behaviour. This situation seems to me acceptable so long as that form can be determined in a ‘fair play’ between user and designer. But that approach is decidedly outmoded when it comes to the emerging method of building. The space that is now being built for the majority of people comes into being in a system of administrative, distributive and commercial regulations, to which the moment when decisions are made about this kind of space has become almost entirely subordinate. The kind of spatial experience this produces is at odds with the freedom of belief implicit in article 181 in chapter 8 of our constitution, because religion and belief have a lot to do with respect and concern for the total space in which everything is and will be, while belief and religion are as close as space and

construction.³¹ That sounds rather weighty and direct, but does it make sense to learn the profession of architectural design without also accepting responsibility for the impact of the built environment on the development of human beings?

There are many examples in the history of building in which there is a demonstrable link between the way of living and architectural-urban forms. The army encampment-style structures of the Graeco-Roman and Anglo-American colonists, the boulevard structures of the cities of the despotic era, the colonnaded buildings of the recent dictatorships. They are nearly always gouged like scars into the organism that arose out of the awestruck search for the secrets of tension in material – light – sound – movement – colour – strength – space – birth – death. Everybody suffered an occasional scar and was often none the worse for it, but just as often a scar gave rise to disablement and total destruction, and it is equally possible that our cities, following the scars they acquired in the 19th century due to the construction of industrial slums, are now in danger of being unrecognizably mutilated by the recent consistently built negation of the basic human need for a distinctive kind of spatial transition from the unchanging measure of things like table and bed, and the ever-expanding measure of things like motorways and industrial estates.

The diversity that is characteristic of every healthy society is being ignored in the cities now being built. If now, as once happened to Pompeii, our cities were to be covered with ash and archaeologists were to dig them out in the year 2000, would they see reflected in the ruins of our suburbs the signs of a vital democracy? I do not know, but whatever the case, the year 2000 is not so distant any more.

31 In the constitutional revision of 1983, freedom of religion was moved to the first chapter, article 6, and recast as 'freedom of religion and conviction'.

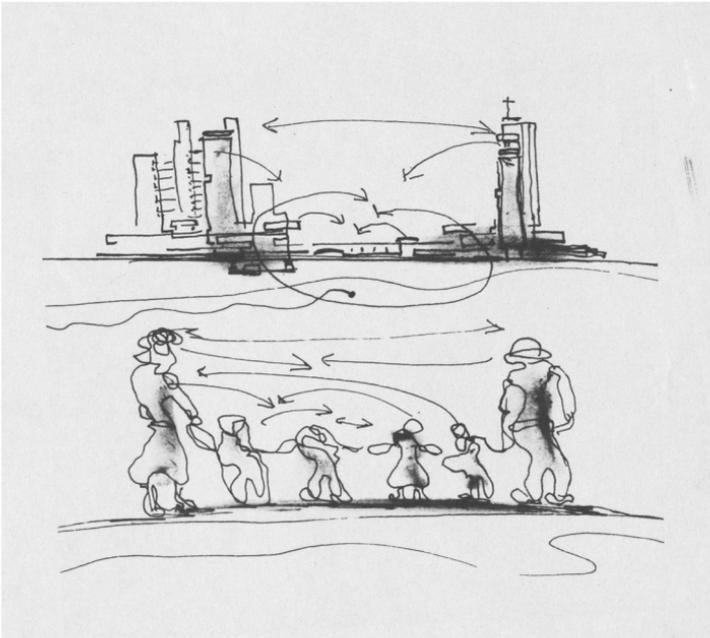


FIG. 12 Bakema demonstrates with the 'friendship diagram' how architecture can be an expression of human behaviour.

"People in a neighbourhood talk about it, they notice both the fact and the effect of the loss of diversity long before the failure of what has taken place is reported with maps and statistics." (Jane Jacobs in *The Death and Life of Great American Cities*).

"Yesterday's truth is dead, tomorrow's yet to be erected. There is no valid synthesis perceptible, and each of us holds only a bit of the truth." (Antoine de Saint-Exupéry, *Letter to a Hostage*, written in Portugal while awaiting passage to the United States in 1940)

It is perhaps with this attitude that we can make our circumstances work once more for our great life's goals.

Every space that is built contains a bit of the truth about the great space. Every human being, starting from the space he uses, will get to know the great space and when combined with other people's experience of it, the total space will become familiar. The home could become part of configurations which in turn could grow into residential palaces in which the squares could be like roofless rooms and in which roads could be like corridors for cars above which are decks for the pedestrians. We will have to stop disproportioning our country any further with garden cities, and instead learn to give form to the problem of living together with 350 people per square kilometre in the Eurodelta from Amsterdam to Cologne and Antwerp.

“[The truly evolved human being] will no longer attempt to bring beauty, health, or shelter to the city's streets and parks by means of trees and flowers. He will build healthy and beautiful cities by opposing buildings and empty spaces in an equilibrated way. Then the outdoors will satisfy him as much as the interior.” (Mondrian in his essay ‘House – Street – City’ which originally appeared in the magazine i10, 1927, reissued in 1963, edited by Arthur Lehning and Jurriaan Schrofer. [English transl. in: Harry Holtzman & Martin S. James (eds.), The New Art, the New Life: The Collected Writings of Piet Mondrian, p. 207]).

We will have to learn to use our sense of form to render visible possibilities that at present lie hidden in a Kafkaesque confusion, in comparison with which the disentangling of the Gordian Knot seems like child's play.

Architectural design in our time means first of all learning to formulate the tasks hidden in society in order to gain the trust of the clients that remain anonymous in our current pattern of life.

Architectural design in our time means developing spatial structures so that these anonymous clients are able to identify with the total space according to their own nature and capacity. To put it more plainly, it means that we must learn to give form to the house that meets the demands of the increasing independence of man, woman and child within the family circle, and to a way of life with short, intensive, automated working hours coupled with free time in which a lot of work can be done that is impossible with machines. Those who now choose to study architecture, will above all need to practise rendering social questions visible without expecting that the solutions they sketch will be built immediately. More bluntly: we lack sufficient capacity, for example, to design the coming interweaving of public and private space, to design movement that benefits staying put, to define cores for changing domestic arrangements, and above all to learn to work for people who seek freedom through consciousness. As dr. ir. A. Korevaar, librarian of this university wrote on p. 245 of his book *Technology and Philosophy*:

“For the human character does not in general want freedom from work but rather work that allows the individual to live life to the full in that work.”

I hope with this lecture to have clarified a few ways in which architectural design can help to shape our society.

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This small booklet contains the inaugural speeches of J.H. van den Broek and J.B. Bakema given on the occasion of their appointment as professors at the Technical College of Delft. The speeches provide novel insights into their respective teaching programs, and into the dynamics of their time. An analytical reflection of their work is given by architectural historian Evelien van Es.



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Abidin Kusno [Guest Editor]

ISSUE 2

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Postcolonial
Traditionality



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Postcolonial Traditionality

Guest Editor: Abidin Kusno

Design: Sirene Ontwerpers

This small booklet contains the inaugural speeches of Gunawan Tjahjono and Josef Prijotomo on their appointments as professors at the University of Indonesia and Surabaya Institute of Technology, 10 November. The texts provide novel insights into their respective approaches to Indonesian architecture, and appear here for the first time in English. An analytical reflection on their work by the architectural historian Abidin Kusno introduces them. The notes in the speeches are made by the editor.

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Inaugural Speeches in the Built Environment: Global and Contextualized

Inaugural speeches have long been unique moments in the careers of academics in many countries: they offer time to pause, to reflect, and to envision new approaches. Planners and architects in particular have used such speeches to tie together insights into design work and education and to offer a programmatic view on their own role in the academic community. Prepared with great care for university and general audiences, inaugural lectures also offer later researchers insight into the thoughts of these scholars at a specific moment in time. Material gathered for and notes written on the occasion of these lectures can help such researchers understand the work habits and thought processes of their authors, perhaps even their relationships with colleagues and students. This series presents inaugural lectures – translated into English and contextualized with scholarly introductions – to unlock information for comparative research and set the stage for new investigations. For example, scholars can use these works to explore educational activities in the built environment or to study the dissemination of planning and design ideas. The series continues with the words of two highly influential professors from Indonesia.

Carola Hein and Herman van Bergeijk

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FIG. 1 A photo taken by Tjahjono (accompanied by Prijotomo) in Sumba Island, eastern Indonesia, of a traditional Marupa house being constructed in the manner of mutual help by the community. The photo shows the ritual performed after the elementary structure was set up for the roof. The owner of the house sits on the top of the structure.

Postcolonial Traditionality: Gunawan Tjahjono and Josef Prijotomo

*I would like to take this opportunity to revisit the challenge posed by Van Romondt. I think the challenge has not yet been taken up seriously by our nation. The current architectural construction of national identity has not fairly benefitted our mosaic of ethnic diversity. Since Independence, issues of identity in architecture have arisen numerous times in different forums, with little result. This indicates that our contemporary society is looking for self-liberation from the constraint of a rigid social norm. In this endless exploration I think it would be better if we could first understand the position of architecture in Indonesia, in order to determine where it wants to go and by what means are we going to get there. On this issue, Van Romondt's speech has laid out a foundation on which we can search for an Indonesian architecture.'*¹

¹ Gunawan Tjahjono, "Arsitektur Di Indonesia: Kancan Penjelajahan Tanpa Batas" (paper presented at the Inaugural Speech for Professorship in Architecture, Faculty of Engineering, Depok, University of Indonesia, 28 December 2002).

In 2002, Gunawan Tjahjono opened his inaugural speech at University of Indonesia with a reference to Vincent Van Romondt, the last remaining Dutch tutor of architecture in Indonesia, who had pioneered an approach that challenged Indonesians to think about the relationship between architecture and ‘nation-building’. Since independence, the topic of ‘towards an Indonesian architecture,’ has received various interpretations, with numerous references to Van Romondt. Josef Prijotomo, one of the most respected Indonesian architectural theorists, for instance, wrote an article in a newspaper in 1982 entitled: ‘Van Romondt dan peran arsitekt Indonesia [Van Romondt and the role of Indonesian architects]’. Prijotomo reminded Indonesian architects of Van Romondt’s inaugural speech and his emphasis on the importance of architecture in the nation-building of postcolonial Indonesian society. He also revisited Van Romondt’s question of whether social and cultural values of Indonesia could be the foundation for the construction of architects’ identities in this time of transition.²

Indonesia is a postcolonial country, and its architects engage with the spirit of decolonization by coming to terms with (instead of ignoring) their colonial past.³ This reflection on inaugural lectures delivered by Indonesian professors in the postcolonial era reveals a simultaneous identification with and problematization of a Dutch/European legacy of architecture.

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- 2 Josef Prijotomo, “Van Romondt Dan Peran Arsitek Indonesia (Tanggapan Buat Johan Silas),” *Surabaya Post*, 15 July 1982. The article was a response to his colleague, a former student of Van Romondt, Professor Johan Silas who discussed (in the same newspaper) the emerging role of “super clients” in determining architectural culture. Prijotomo reminded readers that Van Romondt pointed out that the socio-aesthetic aspect of architecture is most uncertain especially in any time of transition, but that the social role of architecture remains crucial in the formation of architects’ identity. See also forthcoming booklet.
 - 3 On the colonial and postcolonial construction of Indonesian architecture, See Abidin Kusno, *Behind the Postcolonial: Architecture, Urban Space and Political Cultures in Indonesia* (London and New York: Routledge, 2000).

This booklet seeks to explore the theme of architecture and postcolonialism by focusing on the inaugural lectures of Gunawan Tjahjono and Josef Prijotomo as symptomatic responses to a postcolonial condition, in an effort to construct or re-work an ‘Indonesian architecture’ – a theme that was central to Van Romondt’s inaugural lecture.⁴ It addresses this theme by considering the political context against which their lectures emerged. We start with a brief and discursive discussion of institutional shifts in architecture at the time of transition, from a more technical sphere to ‘architecture’ and how such a shift has shaped architectural thinking beyond the technical, to capture the social. The discussions provide context for understanding the theme of post colonialism in the inaugural lectures of Gunawan Tjahjono and Josef Prijotomo. This introduction hopes to stimulate further exploration from different angles, including those of architectural education and professional association.⁵

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- 4 Gunawan Tjahjono, “Arsitektur Di Indonesia: Kancan Penjelajahan Tanpa Batas” (paper presented at the Inaugural Speech for Professorship in Architecture, Faculty of Engineering, Depok, University of Indonesia, 28 December 2002). Josef Prijotomo, “Inaugural Lecture: Arsitektur Nusantara: Arsitektur Perteduhan Dan Arsitektur ‘Liyen’ Pembacaan Arsitektural Atas Arsitektur Masyarakat Tanpa Tulisan” (paper presented at the Inaugural Speech for Professorship in Design Theory and Method, Faculty of Architecture and Civil Engineering, Surabaya, Institute of Technology 10 November, 19 April 2008).
- 5 A history of Indonesian architectural education and professional association still needs to be written. There is some documentation on annual architectural awards at the office of Indonesian Institute of Architects (IAI) in Jakarta and there are some annual reports on activities in some Indonesian architectural schools, but they have not been put together under a historical narrative. The first, and only, attempt to write a history of Indonesian architectural education was 30 years ago. See Suparti A. Salim, “35 Tahun Pendidikan Sarjana Arsitektur Di Indonesia,” *Kongres 35 Tahun Pendidikan Sarjana Arsitektur di Indonesia* (1985), pp.9-24

Colonial and Postcolonial Interface

Architectural discourses in postcolonial Indonesia could be said to have started in 1950, although the Institute Technology of Bandung – ITB (the former Bandoeng Technische Hoogeschool) had been established much earlier, in 1920. Sovereignty was only officially transferred from the Dutch to Indonesia in 1949. On 25 October, 1950, a course in ‘building construction [bouwkunde afdeeling]’ was opened at the Faculty of Engineering Science in ITB.⁶ The term ‘architecture’ however, was not used until 1957 when a unit entitled the ‘Department of Architecture and Fine Arts’ was established. In 1950, there were only 20 students in the department, taught by a small group of staff.⁷ Of this group of about six Dutch tutors, the most influential were Prof. Ir. Jacques P. Thijsse, Prof. Ir. F. Dicke, and Prof. Ir. V.R. van Romondt. Indonesian professors who were once taught by these tutors remembered them favourably.⁸

These Dutch tutors played a key role in designing the curriculum, which owed much to the architecture school in Delft. Van Romondt was perhaps the most popular. An Indonesian architect recalled him stating: ‘the true architect is an artist with knowledge of engineering. Thus an insinyur with artistic inclination will be able to create form based on the three pillars of the architectural profession: soul (*djiwa*), material (*materi*), and reality (*kenyataan*).’⁹ For Romondt:

6 By 1959, the Faculty of Engineering Science was integrated into the Faculty of Exact Science (Fakultas Ilmu Past dan Alam).

7 Salim, “35 Tahun Pendidikan Sarjana Arsitektur Di Indonesia”, p.9

8 For instance, Parmono Atmadji, after citing Prof. Ir. F. Dicke, declared that “architecture shouldn’t represent any personal ambition. Instead its main purpose is to serve people, humanity and society and if it had a belief system, it would be a dedication to God.” Parmono Atmadji, “Inaugural Speech: Arsitektur Dan Pengembangannya Di Indonesia “ in *Kumpulan Pidato Pengukuhan Guru Besar Dosen & Alumni*, ed. Ratna E.S. B. Setiawan, Maulidina D.K.D (Department of Architecture and Planning, Gadjah Mada University: Yogyakarta: 1981), p.19

9 Van Romondt, as cited in Salim, “35 Tahun Pendidikan Sarjana Arsitektur Di Indonesia”, p.12

'While architects can be consulted for their knowledge of the technical, the artistic, and the social life, the latter two aspects (the artistic and the social) are the most uncertain, especially in the time of political transition... The technological side, on the other hand could leap forward without sentiment by continuing to solve issues posed by technical challenges. In these three fields of knowledge (the technical, the artistic and the social), the technical occupies a relatively stable ground as it serves to satisfy the artistic and the social. The firmness of the technical has given the architect a means to carry out his or her duty. That is perhaps why architecture is located in Fakultas Teknik [...]'¹⁰

This philosophy evidently attracted students, as enrollment increased from year to year to the point where there was clearly a shortage of teaching staff. By 1952/1953 there were 225 students, which grew to 430 by 1955/1956. It was reported that the three to six Dutch docents intermittently covered every aspect of the school. As anti-Dutch sentiment in Indonesia increased towards the end of the 1950s due to the conflict over West Guinea, all of the Dutch docents returned to Holland with the exception of Vincent Van Romondt, who stayed until 1962.¹¹

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- ¹⁰ Vincent van Romondt, "Menuju Ke Suatu Arsitektur Indonesia" (paper presented at the Inaugural Speech, Fakultas Teknik Universitas Indonesia, Bandung, 26 May 1954).
- ¹¹ Van Romondt, as cited in Salim, "35 Tahun Pendidikan Sarjana Arsitektur Di Indonesia." p.15. Suparti Salim recorded that prior to Van Romondt's departure in 1962, he reminded Indonesian students that: "... architecture is universal in its capacity to fulfill the aspirations of people. Architects should carry out this universal task. Architectural education ought to be universal too capable of reaching all the scientific fields."

The departure of the Dutch docents left a vacuum for a year. In 1958 the government was able to bring in three members of teaching staff from Austria and two from the U.S under the Post WW II American assistance program, carried out by the Kentucky Contract Team.¹² The team worked together with Van Romondt until the program ended in 1962 (which coincided with Van Romondt's departure). It is not entirely clear how such a dramatic change in the faculty transformed architectural education in Indonesia, but Indonesian professor Johan Silas recalls that:

*'In 1957, I went to ITB to study for six years, and the curriculum was the old Dutch one geared towards bouwkundig ingenieur. The boundary between bouwkunde (civil engineering) and architecture [was not yet clear]. During my time I still had to learn how to construct a road and a bridge. Yes! And I had to know how to calculate the price, the timber price, iron price. Then it was moved to pure architecture and they eliminated all these unnecessary [engineering] subjects. We still had two Dutch professors at the time. When they left we had professors from Australia and some American. That is also the reason why we needed to speak English. I finished in 1963.'*¹³

From 1963 onwards the school of architecture was fully in the hands of Indonesians. The government had decided to open more architecture schools, such as in Gadjah Mada University in Yogyakarta (1962), Diponegoro University in Semarang (1962), Hasanudin

¹² For an account of this transition period, see: Kenneth Watts, "Urban Planning and Development 1948-1989, a Personal Memoir," *Habitat International* 16, no. 2 (1992); See also Ellen Shoshkes, *Jaqueline Tyrwhitt: A Transnational Life in Urban Planning and Design* (New York: Routledge, 2013).

¹³ As cited in Freek Colombijn, "I am a Singer": A Conversation with Johan Silas, Architect and Urban Planner in Surabaya, Indonesia," *Indonesia*, 102 (October 2016), p. 11

University in Makassar (1963), University of Indonesia in Jakarta (1965), the Institute of Technology of 10 November Surabaya (1965) and Udayana University in Bali (1965).¹⁴ Largely, graduates from the ITB Bandung staffed these schools, all still very much influenced by the Dutch curriculum. Johan Silas, who was involved in setting up the architecture school for Surabaya's Institute of Technology, pointed out: 'we just copied ITB's curriculum, including the books used. No big deal.'¹⁵ There is not yet enough information available to historicize the transformation of Indonesian architectural institutions from the Delft/Dutch model to those influenced by the U.S. or British and German models, but by the beginning of the 1970s more Indonesian students were sent to the U.S. for their graduate studies. Despite the change from engineering-oriented content to architectural design (as indicated by Johan Silas), today Indonesian architectural schools (which total 142) are largely housed in Faculties of Engineering (Fakultas Teknik).¹⁶

The location of architecture in Fakultas Teknik raises the question of architectural identity. Van Romondt acknowledged the firmness of the technical, but was not quite sure if the technical could adequately represent the spiritual will of the new nation. For Van Romondt, this should be drawn from Indonesian art and culture. Van Romondt's assertion continues to haunt architects of postcolonial Indonesia: 'Culture and art cannot be obtained just simply by establishing an institution. Culture and art must be born from a spiritual will of a nation (- for the time being represented by its leaders -) as the embodiment of the spiritual life of the public'.

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- 14 Salim, "35 Tahun Pendidikan Sarjana Arsitektur Di Indonesia" p.20. The government's initiative to open more architectural school was in some ways to catch up with private universities which had already opened their architectural schools as early as 1960.
- 15 Colombijn, "I am a Singer," p. 14
- 16 Salim, "35 Tahun Pendidikan Sarjana Arsitektur Di Indonesia"

The following two inaugural lectures by Gunawan Tjahjono and Josef Prijotomo could be said to articulate a way of locating architecture in the culture and art of Indonesia, thus opening up a space to think about (postcolonial) ‘Indonesian architecture’. In doing so, they have also challenged the institutional location of architecture in the Fakultas Teknik. Before discussing the significance of these two lectures, it may be useful to consider some of the earlier postcolonial inaugural lectures as they too have contributed to the thinking of postcolonial Indonesian architecture in relation to nation building.

Connection: Tribute to Earlier Postcolonial Inaugural Speeches

During the 1980s there were various attempts at a national level, through congresses, to highlight the connection between an architecture and culture that is specific to Indonesia: ‘Traditional Architecture’ (Jakarta, December 1981); ‘Towards Indonesian Architecture’ (Yogyakarta, December 1984); ‘The Role of Cultural Identity in Indonesia’ (Jakarta, September 1984); ‘Indonesian Traditional Architecture’ (January 1986). In these congresses, a series of questions were asked: Does tradition belong to the past? Can it be rediscovered in the postcolonial era as a basis for constructing an Indonesian architecture? How should ‘Indonesian architecture’ be periodized? Should it include the colonial era’s invention of ‘Indonesian’ tradition? How relevant is ‘tradition’ or ‘modernity’ for thinking about ‘Indonesian architecture’? Does tradition suggest an architectural strategy for the future? The 1982 national architectural congress closed its meeting by declaring that ‘in the efforts to support the building of the nation and the state and the development of culture, there is a need to develop an Indonesian architecture, conceptually and substantively, as a totality of architecture.’¹⁷

¹⁷ “Conclusion of the National Congress II of the Indonesian Association of Architects (Iai)”, (paper presented at the Rekaman Kongres Nasional II IAI Ikatan Arsitek Indonesia, Yogyakarta, 1984).

A series of inaugural lectures were also organized around the theme of 'towards an Indonesian architecture'. For instance, in 1981 Parmono Atmadi emphasized that 'architecture is a product of culture and thus an expression of the development of national cultures. The history of a nation can be traced in the history of architectural development of that nation'.¹⁸ Such a mission demands architecture to move beyond technocratic tendency, to enter the field of social sciences and humanities. Atmadi thus further indicated that 'Indonesian architecture can only develop its character according to the aspiration of nation-building if architects work together across different disciplines with experts from different fields'.¹⁹ Similarly, in 1984 Sidharta proclaimed in his inaugural lecture: 'architecture in Indonesia needed to be understood within social contexts. Such research could then be used as a consideration for designing architecture with an Indonesian identity'.²⁰ And in 1991, the most accomplished student of Atmadji and Sidharta, Eko Budihardjo, in his own inaugural lecture explained that 'what we mean by socio-cultural gaps is the discrepancy between societal norms and the professional norms of architects as a result of difference in culture, education and socio-economic status. As a result, architects produce architecture, housing, and urban design that are insensitive to socio-cultural values and disregard the realities of everyday life, and they contribute to the elimination of the essential symbolic dimensions of life'.²¹ Budihardjo declared that 'to handle the problem of architecture and the built environment, we need a thousand dedicated and well intentioned architects with a strong sense and love for people. We don't need a genius or a master builder who comes with doctrines...

18 Atmadji, "Inaugural Speech: Arsitektur Dan Pengembangannya Di Indonesia".

19 Ibid.

20 Sidharta, "Pendidikan Arsitektur Dan Masa Depan Arsitektur Indonesia" (paper presented at the Inaugural Speech, Semarang, Universitas Diponegoro, 1984).

21 Eko Budihardjo, "Kepekaan Sosio Kultural Arsitek: Implikasi terhadap Pengembangan Ilmu dan Profesi Arsitektur," Inaugural Speech, 1991. In *Kumpulan Pidato Pengukuhan Guru Besar Dosen & Alumni*, edited by B. Setiawan, Ratna E.S., Maulidina D.K.D. Yogyakarta: Department of Architecture and Planning, Gadjah Mada University, 2012.

We need barefooted architects who are sensitive towards the socio-cultural values and capable of producing works that touch the soul and enrich people's spiritual life'.²²

We can see from these earlier postcolonial inaugural lectures a strong sense that architecture had not yet quite been adapted to the context of Indonesia. The profession was considered too elite and the architecture too strongly oriented towards the international norms that reflect Euro-American hegemony. Meanwhile, a large number of postgraduates obtained degrees from Europe, America, Australia, Japan and other British-influenced Southeast Asian countries, further sustaining such hegemony. In fact, Parmono Atmadji obtained his Master's from Columbia University in 1960; Sidharta received postgraduate training from University of Washington, Seattle in 1965; Eko Budihardjo got his Masters from University of Wales, Cardiff in 1978. Yet, while their degrees were from the West, they were still able to cultivate a relationship with the art and culture of Indonesia. We see in their own inaugural speeches how tributes were paid to their Dutch tutors at ITB and architecture practitioners, such as Henri Maclaine Pont and Thomas Karsten; They cited the statements of Vitruvius, Le Corbusier, Mies van der Rohe, Walter Gropius, and Paul Rudolph; They made reference to the works of Bruno Zevi, Juan Pablo Bonta, Wayne Attoe, Geoffrey Broadbent, Christian Norberg Schultz and Kenneth Frampton; and they talked about Bauhaus, Form Follows Function and Postmodernism. And yet they also paid respect to the works of their Indonesian teachers, especially the work of Y.B. Mangunwijaya, and their former Dutch Masters such as Vincent van Romondt. Their inaugural lectures thus always focus on the challenges facing Indonesia and the need to think about architecture as an expression of Indonesian

22 Eko Budihardjo, "Kepekaan Sosio Kultural Arsitek" *ibid.*

national cultures, while recognizing the diversity of ethnic and regional expressions. What is consistent in these earlier inaugural lectures is the concern over ‘Indonesian identity’ in architecture, a theme that is also central to the lectures of Gunawan Tjahjono and Josef Prijotomo, further discussed in the following section. Prior to this, however, we must tease out a relevant socio-political context within which Tjahjono and Prijotomo (and others of their generation) are located.

Context: Cultural Tradition as a Battle Ground

The interest in the notion of ‘Indonesian architecture’, while inspired by Van Romondt’s inaugural lecture, also needs to be understood within the context of a particular postcolonial time. By the mid-1980s, Indonesian architects had formulated ‘Indonesian architecture’ in order to deal critically with the rising influence of the cultural politics of the nation-state, which was promoting Javanese nationalism.²³ The state saw Javanese culture as carrying a strong foundation for guiding a young generation of Indonesians in the course of their development. The president as the ‘father’ of development would guide the ‘children’ of the nation with Javanese culture.²⁴ Some officials even sought to translate Javanese cultural values into the built form. For instance, they identified the typical Javanese ‘Joglo’ roof as representing Javanese values. The governor of Central Java once declared that ‘we have Joglo architecture which is more beautiful, why use foreign architecture? ...

²³ For a discussion on this subject, see: John Pemberton, *On the Subject of ‘Java’* (Ithaca: Cornell University Press, 1994); Benedict Anderson, *Language and Power: Exploring Political Cultures in Indonesia* (Ithaca: Cornell University Press, 1990).

²⁴ See: Romain Bertrand, “Asal Bapak Senang’ (as Long as It Pleases the Master): The Pastoral Government Idea and Privatisation of the State in Indonesia,” in *Privatising the State*, ed. Beatrice Hibou (London: Hurst & Company, 2004), pp.211-240.

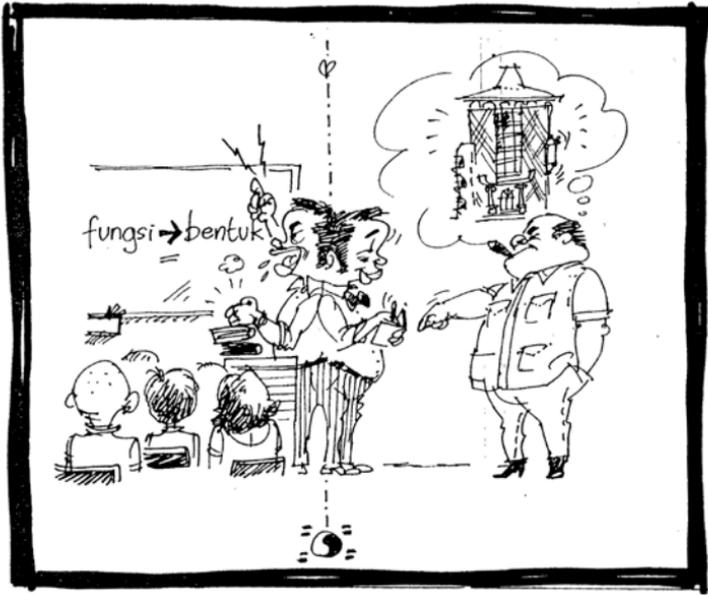


FIG. 2 Between 'Form follows function' and the traditional 'Joglo' roof.
(Artist: unknown, 1985)

Is it appropriate for this foreign architecture (referring to a neoclassical façade of a public building) to be juxtaposed with the existing statue of our national hero?²⁵ The governor went as far as to instruct all future government buildings in his region to be built with a 'joglo' roof.

²⁵ "Joglo = Jogja – Solo," *Tempo* June 1, 1985, p.58; see also "Membongkar Pillar Yunani," *Tempo* September 1, 1984, p.18.

Most Indonesian architects deplored such decisions. They saw this as the outcome of a conservative ethno politics of the state which sought to re-invent Javanese tradition as the dominant culture of the nation. They called for an intervention in architecture to express identity that would not glorify only one culture. Instead, Indonesian architecture should be broad enough to convey the diversity of the nation. They saw the challenge towards an Indonesian architecture as a challenge that called for a double movement: one was to be critical of Western architectural hegemony, as represented by the modernist doctrine of 'form follows function', the other to be critical of the Javanese-centric formulation of national culture promoted by the nation state.

The following two inaugural lectures can be located within this Indonesian socio-political milieu. Both Gunawan Tjahjono and Josef Prijotomo delivered their speeches in the 2000s after the collapse of Suharto regime (1966-1998). They represent a new post-authoritarian era, but their positions could be understood as having developed from within the context of Suharto's cultural politics *against* which they present their thoughts. Both are deeply interested in Javanese culture (the signifier of Suharto's state), and it is thus most interesting to see how they go against the grain, how they counter the forces of provincialization and ethnicization of national culture; how they simultaneously deal with forces of globalization and the geopolitical hegemonic knowledge of the West. Essentially, while they acknowledge the power of customary practices, they see 'culture' as an invention, not as a given 'inheritance'. This opens up a way of thinking about Indonesian architecture beyond the framework of preserving a dominant cultural form or adopting a modernist doctrine. How did they re-work both the nativism and modernism through an intellectual formulation of 'Indonesian architecture'?

Gunawan Tjahjono and the Cosmopolitan Layer of Javanese Architecture

Gunawan Tjahjono started his architectural training in 1965 at University of Indonesia, Jakarta and obtained the Insinyur degree in 1975.²⁶ Prior to his graduate studies in the US in the 1980s, he designed various buildings and won a series of design awards (ranging from 1st to 3rd place) for an Islamic Centre in Surabaya, low cost housing and the upgrading of an irregular settlement and bazaar in Jakarta. Gunawan remained active in architectural design during his graduate studies at UCLA for a Master of Architecture (1981-1983) and at UC Berkeley for his PhD (1985-1989). Throughout the 1980s and 1990s, he designed a series of university master plans, of which the most famous is the master plan and the Rectorate tower of the University of Indonesia. Tjahjono's academic publications reflect the research strength and interests of UC Berkeley on vernacular environments (the history of which goes back to the phenomenological and anthropological approaches to the design of the built environment during the 1960s). Tjahjono's works on the vernacular settlement, which culminated in his PhD dissertation on Javanese architectural tradition, brought together various strands of scholarship associated with Amos Rapoport, Christopher Alexander, Paul Oliver, and his contemporary Nezar Alsayyad and Dell Upton. Tjahjono is thus part of a worldwide architectural movement that sought to respond to the industrialization of the 'third world' by way of re-conceptualizing 'tradition' in architecture.

²⁶ Gunawan Tjahjono, known as "Pak Gun" is by heart an educator, a bookworm and a conceptual thinker who has a unique way of inspiring students and colleagues. He has dedicated his life to the university without ignoring the world of architecture and urban design. He has been the chair of the city's architectural committee for almost two decades. For a lively account of Gunawan Tjahjono's life and work, see: Safitri Ahmad, *Gunawan Tjahjono: Arsitek Pendidik* (Jakarta: Anugrah Sentosa, 2013).

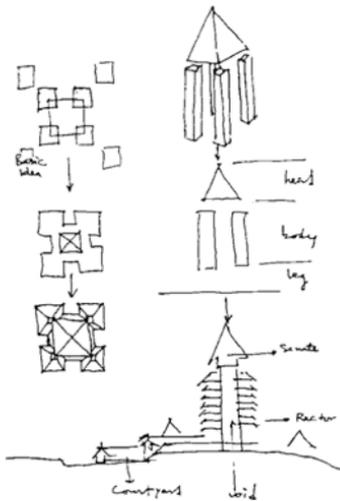


FIG. 3 Gunawan Tjahjono's sketches of the Rectorate Tower of the University of Indonesia

Alongside completing his dissertation, Tjahjono joined the design team for the new University of Indonesia which was to be located on the outskirts of Jakarta.²⁷ Tjahjono took up the task of designing the campus's most important administrative building - the Rectorate Tower - and reviewed the master plan of the new campus.²⁸ He was also responsible for designing various facilities, in particular the symbolic components of the campus: the gate and the university's epigraph.

²⁷ For a history of this relocation, see: Kemas Ridwan Kurniawan, "Memory and Nationalism: The Case of Universitas Indonesia," *Inter-Asia Cultural Studies* 12, no. 4 (2011), pp.532-551

²⁸ The design of University of Indonesia has been covered quite extensively, see, among others, architectural report from , *Mimar* 12, no. 42 (March 1992); Wiwiek Usmi, "Bentuk Tradisional, Wajah Sebuah Kampus Baru [Traditional in Form, the Face of a New Campus]," *Asri* 53 (1987), pp. 21-6; Zein Wiryoprawiro, "Citra Arsitektur Indonesia Untuk Kampus Baru Ui, [an Indonesia Architecture for the New Campus of Ui]," *Konstruksi* 12 (1988).



FIG. 4 The rectorate tower of the University of Indonesia designed by Gunawan Tjahjono

The task of designing structures with such high symbolic value carried the burden of how to represent the nation. Tjahjono used Javanese ideas about space to consider a range of spatial and formal typologies of Indonesian regional houses, to produce a form that could be considered both Javanese and Indonesian. There was a considerable effort to compose 'Indonesia' instead of fetishizing only certain Javanese elements to represent Indonesia. Javanese spatial concepts were elevated to a meta-level to constitute the idea of trans-local 'national' culture of Indonesia. In doing so, he registered the importance of 'Java', but subsumed it under 'Indonesia'. This was captured in the Rectorate tower where the highest floor is reserved for the Senat, and not for the Rector. The top level speaks of 'becoming Indonesia'. Java was deconstructed at the point that it was reconstructed as Indonesia. Tjahjono thus registered the idea that 'Indonesian architecture' lies in the spirit of 'becoming' rather than 'representing' a particular culture.

The emphasis on composition, synthesis and mobilization of relationships between different cultural ideas and mutually constituting forms has managed to convey a message that Indonesian architecture is simultaneously local and supralocal, that it could be many things but certainly not simply a representation of a dominant culture. Could we also say that the University of Indonesia, while showing a primary concern over Javanese signifiers, develops a criticality that Java is not given? Does it instead exist, much like other traditions, only through a composition?

In his inaugural speech, Tjahjono therefore emphasizes the palimpsest of Indonesian tradition:

*'Indonesia today is the sediment of many layers of influence... Our people, in their aspiration to live together, continue to absorb the new without discarding the old... Architecturally, the Hindu-Buddhist layers comingled with that of Islam and the West, represented historically by the Dutch, the British and the Portuguese, which added another layer of cross-cultural production that have produced at different moments in Indonesian history a variety of ideas and forms for the built environment.... And through colonial territorial discourse, a new nation is produced. The era of decolonization has enabled a formation of a national consciousness beyond the framework of local sub-regional identities.'*²⁹

Such layering prevents a domination of one culture over the others, and 'Indonesian architecture' offers an intellectual framework to consider the overlapping relationship between cultures. Furthermore, this cross-cultural practice suggests intertwined temporalities where tradition is no longer in opposition to modernity.

²⁹ Tjahjono, "Arsitektur Di Indonesia: Kancan Penjelajahan Tanpa Batas."

'Unlike modern creation, tradition is often a creation without authorship. Yet both formations were 'modern' at the time when they were founded, until they were transmitted to the next generation, often then as 'tradition'. Criticality is an important component in architectural design, so that we don't fall into the trap of romanticizing tradition or anti-tradition.... Tradition (not unlike the modern) is living and present. It therefore should not be fixed by a rigid framework of time. Tradition then won't freeze. Instead it could be understood in terms of adaptation and progression, capable of dealing with contemporary challenges. Criticality serves as our filtering mechanism to shape and transform tradition to address current challenges.'³⁰

Tjahjono's formulation is supported by his argument that the global forces today offer an opportunity for the local to participate. The process of homogenization is being complemented by heterogenization, despite the fact that both are operating within a system of capitalist development. The emergence of the local in the face of the global has posed a challenge for Indonesian architects who have been accustomed to following only Western architectural histories and theories. The resurgence of the local within the global forces has posed a challenge to Indonesian architects who knew very little or nothing about Indonesia's own architectural traditions, as represented by ethnic and regional architectures. Tjahjono thus calls for an appreciation of regional architecture, which must be understood (and integrated into architecture school) and explored for a creation of a cross-cultural contemporary 'Indonesian architecture'.

30 Ibid.

Tjahjono indicates: ‘we have a lot of homework to do’ considering the hegemony of Western architectural schools. ‘We need to explore across different disciplines and frontiers as the name ‘Indonesia’ bears such endless and limitless opportunity for exploration.’³¹

Tjahjono’s inaugural lecture could be said to stem from the debates that have been ongoing since the 1980s over cultural strategies of architecture in coping with capitalist modernization and the state’s ethno-nationalism. His speech offers a profound statement on ‘Indonesian architecture’ which acknowledges the hegemony of the West and marginalization of local/regional architecture, but moves beyond the binary opposition between the West and the East, beyond modernity and tradition, by defining ‘Indonesian architecture’ as an aspiration for a hybrid, cross-cultural production. This vision, which Tjahjono called a *wacana* [discourse], could be seen as his postcolonial response to Van Romondt’s invitation to think about ‘Indonesian architecture’.

In Tjahjono’s speech we see that the basis for moving towards an Indonesian architecture is achieved by overcoming the binary opposition between the East and the West, but that he does this by suspending the structure of inequality in knowledge formation. This has led us to ask questions such as: How should the uneven structure of knowledge be challenged? How could local architectural knowledge be understood on its own terms so that it could stand on the same platform with those of the West? These are the questions most directly picked up by Josef Prijotomo in this inaugural lecture.

31 Ibid.

Josef Prijotomo, the Politics of Otherness and the Inner Layer of Javanese Architecture

In 2008, six years after Tjahjono's lecture, Josef Prijotomo gave his inaugural lecture entitled: 'Arsitektur Nusantara: Architecture of Shade and 'Liyān' Architecture: An Architectural Reading of the Architecture of society-without-writing'. Unlike Tjahjono's lecture which offers a general response to Van Romondt's call for an Indonesian architecture, Prijotomo's is a specific exposition of Javanese architectural tradition to the point that it could stand on its own while serving as a counterpart (if not opposition) to western architectural assumptions.

Prijotomo's invocation of 'society-without-writing' recalls the philosopher Claude Levi Strauss' structuralist anthropology, which he appropriates to discuss the role of speech as having a structural function, similar to that of language. In doing so, Prijotomo plays with the relationship between *langue* and *parole*, but he extends the act of speech to different domains of performative representations, which include bodily gestures and artifacts. The performative domains (of the visual, the aural and other sensory), while discursive, are not in any way subordinated to textual representation. Instead, they play a crucial role in the social relation of society-without-writing. Such insight is obtainable by reading outside of the discipline of architecture. Architecture therefore would need to incorporate other disciplines in order to comprehend the architecture of society-without-writing.

'Let me offer my utmost appreciation to the disciplines of anthropology, philology, folklore, and cultural studies. They have ably put together materials related to the society-without-writing. For the discipline of architecture, these materials ought to be the 'reading materials'. They are the 'texts' that need to be read into the language of architecture. They are the layers of doors that enable

*architecture to reach out to the world of the society-without-writing. Therefore, the exploration of the architectural thoughts of the society-without-writing is an exploration of interdisciplinarity.*³²

By invoking society-without-writing as a characteristic of ‘Nusantara architecture’ (the architecture characteristics of different ethnicities of Indonesia, as constructed by the discipline of architecture), Prijotomo not only calls for interdisciplinarity, but also effectively emphasizes the profound *disjuncture* between the non-textual tradition of Nusantara architecture and the written tradition of Western architecture. Thus, ‘the knowledge formation of Nusantara architecture would need to be based on a way of reading the society-without-writing. It should not be based on the written tradition of the West.’³³ Unlike other Indonesian architectural theorists and historians, who seek to understand the challenges of Indonesian architecture by coming to terms with Western architecture, Prijotomo confronts the West by actually challenging it. ‘Oppositional’ becomes a strategy for building a different architectural knowledge, as well as a way to construct a domain for Javanese agency vis à vis the West.

Josef Prijotomo is not only a theoretician, but also one of the most consistently perceptive and creative architectural critics in the design studio even though, as he once claimed, he has never produced any design work.³⁴

³² Prijotomo, “Inagural Lecture: Arsitektur Nusantara: Arsitektur Perteduhan Dan Arsitektur ‘Liyen.’ Pembacaan Arsitektural Atas Arsitektur Masyarakat Tanpa Tulisan.”

³³ Ibid.

³⁴ Prijotomo, known as “Pak Josef,” is not only a very committed educator, but also a great teacher and a most creative and inspirational figure. Students were often dumbstruck with an unspeakable mix of terror and joy when receiving comments about their design from Pak Josef.

Prijotomo is also perhaps one of the most prolific architectural historians and theorists of Indonesia today. By the time he obtained his PhD in 2006, he had already published over five important monographs on architectural issues in Indonesia, including his influential *Idea and Form in Javanese Architecture*, based on his Master's thesis while studying at Iowa State University.³⁵

He wrote numerous articles in Surabaya's newspapers, some of which have entered the classroom as core readings for discussions on the relationship between architecture and culture.³⁶ Central to his teaching are the potentials and challenges of the diverse ethnic Nusantara architecture in thinking about 'Indonesian architecture'. His writings from the early 1980s demonstrate how architecture in Indonesia has always evolved within diverse social and cultural contexts, and therefore explain why a narrative of stylistic development (as developed in the Western historiography) would make no sense. At the same time, he shows how architecture could make an intervention to the context within which it is embedded by addressing issues that are profoundly social, if not political. He also talks about *kampung* and the city as two important components of Indonesian urbanism that every architect, in his or her preoccupation with building alone, ought to seriously address.

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- 35 Josep Prijotomo, *Idea and Form of Javanese Architecture* (Yogyakarta: Gadjah Mada University Press, 1994); Other books prior to his PhD include: *Pasang Surut Arsitektur Di Indonesia* (Surabaya: CV Arjun, 1988 – revised edition 2008); *Petungan: Sistim Ukuran Dalam Arsitektur Jawa* (Yogyakarta: Gadjah Mada University Press, 1995); *Arsitektur Nusantara – Menuju Keniscayaan* (Surabaya: Wastu LaNas Grafika, 2004); *Dari Lamin Dan Bilik Pengakuan Dosa* (Surabaya: Wastu LaNas Grafika, 2004); *Kembara Kawruh Arsitektur Jawa* (Surabaya: Wastu LaNas Grafika, 2004); *(Re-)Konstruksi Arsitektur Jawa – Griya Jawa Dalam Tradisi* (Surabaya: Wastu LaNas Grafika, 2007).
- 36 As students, we read many of Prijotomo's interesting articles from 1979 to 1987 which were compiled in *Arsitektur Indonesia: Masalah & Potensi (I)*; and *Dinamika Arsitektur Indonesia* (ITS: 1987); *Pasang Surut Arsitektur di Indonesia* (Arjun, 1988)



FIG. 5 Western 'Greek' Architecture vs Nusantara Architecture

Meanwhile, he encourages students to take the concept of 'Indonesia' seriously, and emphasizes that 'Indonesian regional architecture, when accounted for its diverse non-physical symbols and meanings, could be said as richer than the sources of western architecture itself'.³⁷

With the ability to read old Javanese manuscripts, Prijotomo has access to primary materials. Through Javanese texts, he sees the 'inner core' or the 'elementary form' of Javanese architecture as one that is based on the preservation of the 'self' as the basis for agency. From the 'core' he develops the other side of Javanese dualism that is the 'outer layer'. Unlike the core, this outer layer serves as a 'diplomatic' domain where Java relates itself to the rest of the world, including the West.

The outer layer represents the appearance of Javanese cosmopolitanism. Hidden behind this is the core of Javanese culture, which is at once preserved and strengthened by the outer layer's interaction with the world. This concept finds its manifestation in architectural form.

³⁷ Josef Prijotomo, "Modernisme Dan Arsitektur Indonesia," *Surabaya Post* 13 November 1986, p.107

In careful readings of Javanese manuscripts, such as *Kawruh Kalang Sasrawirjatma*, Prijotomo redefines the essence of Javanese architecture in terms of its non-physicality, thus displacing the fetishization of the physical dimension as the core of architecture, as has been theorized in the West. A new concept emerges, such as that of *berteduh* as the meaning of a *griya* (building).

‘Entering a building (*griya*) is seen and understood as an act of *berteduh* (going into the shade) under a ‘big shady tree’. This statement, recorded in *Kawruh Kalang Sasrawirjatma* (1928) manuscript, defines what architecture is. Here, architecture is formulated as taking shade under a tree, not as a shelter (for protection)...³⁸ For Prijotomo, *berteduh* (to shade) is not hiding or securing associated with isolation from the surrounding environment. *Berteduh* for him is not to protect. Instead, *berteduh* is to form a relationship with the immediate environment. Therefore, architecture (as understood in Javanese script) cannot be associated with a type of shelter that offers physical protection against the surroundings. Regrettably, Prijotomo further points out, the formulation of “architecture as a shelter” is still commonly used in architectural schools in Indonesia, which is an indication of the influence of Western architectural thinking. Heavily influenced by Western hegemony, students of architecture in Indonesia still tend to misleadingly see architecture as a protective shelter, not as *perteduhan*.

The size of Javanese architecture thus is derived from the shade. From the intangible concept of *berteduh*, Prijotomo moves on to construct the physicality of architecture. For instance, the size of Javanese architecture is derived from the shade. In other words, from the ‘coverage’ of the shade the dimensions of other architectural

³⁸ “Inagural Lecture: Arsitektur Nusantara: Arsitektur Perteduhan Dan Arsitektur ‘Liyen.’ Pembacaan Arsitektural Atas Arsitektur Masyarakat Tanpa Tulisan.”

elements are determined, not the other way around. The wall, a most important and elaborated element of Western architecture after distinguishing itself from ‘the primitive hut’, is not mentioned at all in Javanese *Kawruh Griya* (as walls are only adopted later on in Javanese building culture).³⁹ Other differences are recorded in Prijotomo’s inaugural speech: ‘the majority of Nusantara architecture uses timber as its prime building material. This is quite different from Western architecture, which is dominated by the architecture of brick and stone. The use of timber and other organic materials (such as bamboo, thatch, reeds, and *ijuk*) demands a periodic recycling’.⁴⁰ Difference constitutes a ‘self’. Thus Prijotomo concludes:

‘It is clear that Nusantara architecture is significantly different from Western architecture. If Nusantara architecture is the architecture of society-without-writing, Western architecture is the architecture of written tradition; Nusantara architecture is architecture of shade (perteduhan) whereas Western architecture is architecture of protection; The construction of Nusantara architecture goes through the process of moving from roof to floor; whereas Western architecture moves from floor to roof. These are just some of the differences identified here. The thought and the knowledge about Nusantara architecture that is being built up here strongly indicates that Nusantara architecture is an “architecture” but it is not the one framed by the perspective of Western architectural knowledge.’⁴¹

³⁹ For a discussion on the “origin” of Western teleological architectural historiography based on the idea of a “primitive” hut – as an archetype that at once represents the “other” that cannot be lost in Western architectural psychic even as it only exists in mind, see: Joseph Rykwert, *On Adam’s House in Paradise: The Idea of the Primitive Hut in Architectural History* (Cambridge, MA: MIT Press, 1971). We could think about this imagined hut in terms of colonial imagination of the overseas colonies.

⁴⁰ Prijotomo, “Inagural Lecture: *Arsitektur Nusantara: Arsitektur Perteduhan Dan Arsitektur ‘Liyan’*.” *Pembacaan Arsitektural Atas Arsitektur Masyarakat Tanpa Tulisan*.”

⁴¹ *Ibid.*

The construction of difference produces a position for Nusantara architecture to stand against Western architecture. For Prijotomo, Nusantara architecture is architecture of the 'other' which he calls 'liyan [the other]' architecture. This construction of the 'other', as indicated earlier, is related to the preservation of an inner-self and the question of agency against the domination of Western knowledge.

'It is obvious that this strategy (of liyan) is developed after I locate the tradition without-writing as equal to written tradition. Our willingness to be aware that we have been duped by written tradition, that only in written tradition do we find truth and knowledge, is a consciousness crucial for a critical understanding of architecture's past and future. With this consciousness, we know that the past doesn't mean backwardness, stupidity and primitiveness.'⁴²

Instead, according to Prijotomo, 'the architectural aspect of Nusantara challenges us to nurture and develop Nusantara architecture within the environment of BHINNEKA TUNGGAL IKA. Gone is the narrow regional and ethnic mindset which could potentially give rise once again to *divide et impera*. Batak could present in Java, and from there could give rise to hybrid Java-Batak, a hybridity that would enrich both Java and Batak'.⁴³

Conclusion

What have two of the most important Indonesian architectural thinkers taught us about architecture and nation building under a postcolonial condition? Prijotomo's construction of Indonesian architectural tradition is set against the hegemony of

⁴² Ibid.

⁴³ Ibid.

Western architectural historiography. He shows that a struggle 'towards an Indonesian architecture' needs to be sustained by a counter knowledge against the global hegemony of Western architecture. But what is most significant about Prijotomo's approach is his attempt to be critical to the nativistic political culture of the Indonesian state. Prijotomo teases out the specificity of Javanese architectural tradition as one that could not be easily co-opted by both Western architectural thinking and the nation-state agenda.

Tjahjono's cosmopolitanism, on the other hand, is based on the acceptance of different architectural traditions, including those of the West. He sees no contradiction in accepting Western architectural tradition, as far as it could be reworked to expand the perspective of culture so that it would not be provincialized to represent only a single culture of one ethnic group. Architectural modernism is seen as capable of localization, whereas Javanese culture could be expanded to go beyond its ethnocentrism in order to imagine a broader Indonesian architecture.

From these two inaugural lectures we can see that Prijotomo and Tjahjono approach Javanese culture differently, but that they both were against a fixation on Javanese culture. Through a journey from the 'inside out', Prijotomo brings us back to what Tjahjono has noted in his inaugural speech, that it is the cosmopolitanism of Java which is central in combating the Java-centricity of the state, or any fossilizing claim of superiority of one culture over another. In different ways, Prijotomo and Tjahjono seek to go against the grain, by opening up further the meaning of 'Indonesian architecture' and re-conceptualizing it in a way that it would once again respond to Van Romondt's call for an 'Indonesian architecture'.



FIG. 6 Gunawan Tjahjono

Architecture in Indonesia: An Arena of Exploration without Borders

Translation by Abidin Kusno, prepared for Inaugural Speeches in the Built Environment: Global and Contextualised - TU Delft - series editor: Carola Hein

Honorable guests,

Please allow me to begin this presentation by remembering an event that occurred 48 years ago. On Wednesday, May 26, 1964, the late Professor Insinyur Van Romondt delivered his inaugural lecture, entitled ‘Menuju ke Suatu Arsitektur Indonesia [Towards an Indonesian Architecture]’ for his appointment as Professor of Architecture at the Fakultas Teknik Universitas Indonesia in Bandung. Van Romondt presented some questions to challenge Indonesians to look for their own way of creating Indonesian Architecture. He emphasized that Indonesians must take care of the future of their own architecture, as they must also with their cultures. Van Romondt’s message was: ‘To create a living architecture, one has to honestly build from below, and one must search for a new foundation of life’.⁴⁴

⁴⁴ Romondt, “Menuju Ke Suatu Arsitektur Indonesia.”

I would like to take this opportunity to revisit the challenge posed by Van Romondt. I think the challenge has not yet been taken up seriously by our nation. The current architectural construction of national identity has not fairly benefitted our mosaic of ethnic diversity. Since Independence, issues of identity in architecture have arisen numerous times in different forums, with little result.⁴⁵ This indicates that our contemporary society is looking for self-liberation from the constraint of a rigid social norm. In this endless exploration I think it would be better if we could first understand the position of architecture in Indonesia, in order to determine where it wants to go and by what means are we going to get there. On this issue, Van Romondt's speech has laid out a foundation on which we can search for an Indonesian architecture.

In the following section, drawing from my knowledge of and experience in architectural study, building and regional design, I reflect on Professor Van Romondt's speech. I will begin by teasing out the essence of architecture, and move on to identify the different challenging environments of Indonesia, before finishing with a discussion.

The World of Architecture

Architecture has become a common term, often used loosely by those who are not in the profession. They seem to know how to understand architecture from their perspective. Of course in this free world, everyone has the right to use the term as he or she wishes, based on his or her interests and capacity to formulate.

⁴⁵ Since 1984, many forums have been staged by the IAI (Indonesian Institute of Architects) and architectural schools in different universities.

Architecture is considered an interesting profession, to the point that the notion of the intellectual architect is seen as they who uncover manipulative or criminal activities. It would be rather strange, however, if architecture was understood without reference to the architect who supplies the intellectual force behind the architecture. Architecture is a knowledge-based discipline, on which I will proceed to elaborate.

We have learned from a sacred text of a great religion that this universe is related to the Creator. According to the text, before the universe took its current shape, it was in a state of chaos. God then transformed the universe from chaos to order. As such, the universe is presented to us as a design with the Almighty as Architect.

In this world, we know that people build their homes and develop their social lives based on their needs, desires and wishes, which continue to change. Some of the changes are constrained by their environment as well as by their own actions. However, humans are not the only beings in this world who build. Bees, termites, orangutans and birds are amazing builders. A termite can build a structure 1000 times the height of its own body. Animals build according to a determined code and in line with their need to live, adapting to the challenges of their environment. Humans build according to the cultural codes within which they are embedded. This explains the almost unlimited diversity of buildings constructed by humans.

Forces behind Architecture

Architecture is a product of human desire (*hasrat*), which is formed by consciousness of one's relation to his or her environment. There are at least five desires in human beings that I have noted, which I will share with you here: the desire to defend life; to live with

fellow others; to live peacefully with supernatural forces (*alam adikodrati*); desire for self expression; and for continuity - by way of leaving a legacy which can be handed down to the next generation.

The desire to defend life demands adaptation to the environment within which he or she is located. There are two ways of doing this: to change the environment, or to follow the environment. Either way involves thought and knowledge. To change an environment requires the knowledge of how to transform an existing condition, whereas to follow an environment requires careful understanding and a willingness to compromise on comfort. The first choice (transforming the environment) determines the domain of dwelling, its protective space, which leads to the production of architecture. The second choice (accommodating the environment) may limit demands and save resources.

The desire to live with fellow others encourages people to form relationships and build tolerance, and to collaborate to form rules of conduct. On this basis, people form partnerships and groups. Living together generates cultivation of a place, and determines the quality of safety and level of control over the state of living together. Boundaries are drawn, rights and responsibilities are agreed on, and a way of building is developed and standardized, based on this sense of togetherness in an environment. Over time, different understandings create differences in the origin of place, differences in appearance, in behavior, in interest, in habit, and so on. The difference between this and that, where there is no sense of relationship, ends in conflict. It is where there is a desire to live with fellow others that we find the clustering of buildings within a territory.

The desire to live peacefully with supernatural forces (*alam adikodrati*) is a manifestation of human behavior in facing something beyond human control, beyond comprehension - so

powerful that this force is believed to have determined human fate with no alternative. As a result, they must provide space for this *alam*, personally or collectively. They may try to satisfy the *alam* through all kinds of practices as represented in his or her belief system, such as rituals and offerings. They may look for a form that would convey this relationship with the *alam*. The manifestation of such a desire can be seen in buildings for worship, and found in spaces ranging from family altars to amulets.

The desire for self-expression, from a small self as a person to a big self as part of a community, takes the form of self-accomplishment through the fulfillment of aspirations. If the desire to live makes a person work, then the desire for self-expression makes a person create. Through creation, we attain emotional satisfaction, as in doing so we leave behind work that is meaningful for following generations. This desire prompts us to cultivate, improve and make perfect the creation. The manifestation of the desire for self-expression is the quest for distinctiveness to mark our existence.

The desire for continuity by way of ‘replicating’ oneself motivates reproduction, or the handing down of things collected in life to subsequent generations. This desire also generates a sense of belonging to and longing for a heritage. This desire to look back is the other side of the coin that looks forward to a new condition. The desire to look back encourages us to preserve and bestow all that we have to those who are willing to keep and preserve them, and this sometimes take the form of an object to commemorate. Tradition and custom, which tend to bind, are one of the manifestations of this desire for continuity.

A desire stems from stimulations, which can come from within as well as from outside, or from both. There are several levels of desire, which depend on one’s cultural social backgrounds. Desires can be turned into motivation: an essential step for self-

expression. The larger the desire, the greater the effort needed. Not all desires appear simultaneously, but it is not impossible that some desires come at the same time.

All of these desires take place in space and time, which, in turn, curb the desire. People are constantly confronted by environments that tend to control their desires. They then give meaning to the space by reframing it and thus turning it into a place (*membingkai tempat*) within which they are located. Since every individual and his or her group faces different challenges, and their desires also vary, the reframing of place is also multiple, as is the investment of meaning into that place. Place therefore is meaningful only after it is built and used. This meaning, however, is not permanent. Rather, it changes according to each new user, each of whom invests different meaning. Architecture therefore represents an attempt by humans to invest meaning into the space in which activities are performed.

The Object of Architecture

As a matter of fact, architecture is invisible. What is visible is the work that produces an object called architecture.⁴⁶ The object can thus be studied, as it takes the form of a building. A building registers its presence by marking a space, which at once is given meaning by the users. Is architecture always associated with monumental buildings of particular scale? The idea that architecture only refers to an important building or to an important person is no longer valid. Architectural historian Nikolaus Pevsner's statement that a bicycle shed is a building, whereas Lincoln Cathedral is

⁴⁶ Richard Saul Wurman, *What Will Be Has Always Been: The Words of Louis Kahn* (New York: Rizzoli, 1986).

architecture, has long been problematized.⁴⁷ If architecture represents knowledge and the skill of constructing space with meaning, then what has been built ought to be studied.⁴⁸ Such understanding indicates to us that without “small” buildings that represent everyday life, the special monumental building means very little. The history of architecture has moved from its focus on the styles of monumental buildings to the analysis of the spatial ordering of everyday life. The meaning of a space is no longer in the hands of authority; those who use the space as part of their daily lives instead control it.

Monumental buildings are not always honest to the conditions of the society in which they belong. Monumental architecture can obscure the real situation. History has taught us that monumental architecture is often constructed at a time when society is experiencing an economic downturn.⁴⁹ However, buildings that use a thatched roof can be a more genuine expression of real living conditions.

In opening up the boundary of architectural analysis, we can focus on issues concerning the knowledge and skills that have produced architecture. From there we can tease out the meaning invested in the architecture. We can then consider why the presence of the architecture is worth studying. Only one or two perspectives therefore should not frame architecture. It must be more. However, architecture cannot be understood without posing a limit either. Something without limit prevents us from

⁴⁷ Nikolaus Pevsner, *An Outline of European Architecture* (Middlesex: Penguin, 1985).

⁴⁸ Spiro Kostof, *A History of Architecture: Settings and Rituals* (New York: Oxford University Press, 1991).

⁴⁹ Indonesia has experienced this tendency several times, such as the Mercuri Suar monumental building projects in the Sukarno era and the skyscrapers of the Suharto era, which were constructed at times of economic crisis.

seeing what needs to be seen. As in architecture, without a frame we cannot analyze a building, as we tend to generalise.

Buildings come into being after completion. They should satisfy building requirements. However, an expert in structure and construction could fulfil such requirements, it does not need an architect to do so. A building is built in order to give comfort to the people who are active inside the building, as well as those in the surroundings. It therefore must satisfy the requirement for protection and comfort. However, building scientists or space programmers could satisfy such requirements. It does not need an architect to do so. A building is built to give pleasure. For this it must satisfy some aesthetic criteria. An artist, however, can fulfill such requirements; there is thus no need for architect in this respect. If we dissect a building into these different criteria, we cannot assign a role to the architect. However, if we present architecture as a whole, then the architect has an important role to play.

Architecture combines all these requirements into a coherent unit, so that each part of the whole cannot stand alone. The architect is the translator of all the requirements for the production of architecture. However, architectural quality does not always mean that an architect was responsible.⁵⁰ A building, perhaps in a particular region, could be built following societal norms, and such buildings often have architectural quality. In contrast, a building designed by an architect can often appear poor.

For a long time, the academic standing of architecture has been heavily influenced by knowledge developed in the Western world.

⁵⁰ Bernard Rudolfski, *Architecture without Architects: A Short Introduction to Non-Pedigreed Architecture* (New York: Doubleday, 1964).

Most are influenced by Vitruvius, the first century architect. Vitruvius, if you recall, proposed three qualities of architecture as a discipline: strength, functionality and beauty.⁵¹ Today we are no longer framed by these criteria. There is a desire now to move beyond Vitruvius' definition, such as by emphasizing meaning in architecture. Meaning can only be grasped through the creation of space, place, time, and event. Vitruvius' triangle may be able to frame space and limit time, but time and event are components that are crucial for the production of architectural values. The work of architecture ought to nurture environment so that it can provoke an investment of meaning by those who experience it.

Western architecture stems from the tradition of Egypt, Greece and Rome. At one point it was under the influence of the church, before the intervention of the Renaissance 'enlightenment'. Western architecture then entered the phase of what we know as functionalism and pluralism.⁵² Unlike in the field of science, changes in architectural thinking have been slow. Today, architectural thinking is influenced by multiple values and there is a strong desire to set it free from the trap of mainstream modernism. It took a while for western architecture to enter the modern era. The long journey was accompanied by an interaction between development of technology and social change. Indonesia did not experience such change evenly, and thus the journey of Indonesian architecture has taken a different path.

⁵¹ Vitruvius, *Vitruvius: The Ten Books on Architecture*, trans. M.H. Morgan (New York: Dover Publications, 1960).

⁵² Many architectural history books have dealt with these issues, see, among others, Christian Norberg-Schulz, *Meaning in Western Architecture* (New York: Rizzoli, 1984).

Architecture in Indonesia: The Arena of Exploration without boundary

Honorable guests,

Indonesia is one of the most diverse countries in the world in terms of its ethnicities and cultures. The richness of cultures can be seen in the richness of natural landscape and the built environment, which shows strong regional diversity. The mountain, the sea, the valley, the beach, the river and the savanna are all panoramic and sources of inspiration for architectural creation. The natural landscape is so rich that it often serves as the arena for the expression of social drama, of which the built environment is a part. We have inherited a built form that we understand as traditional. But we must not forget that the notion of tradition connotes temporal dimension. It begins as a creation, not necessarily seen as tradition at the time. Over time, in a long, creative process of understanding the natural and social environment, a built form is created and eventually registered as part of the society's tradition. The diversity of form in the built environment of Indonesia, however, has not received adequate attention because the rush for development has left behind such recognition.

Our nation has encountered a huge challenge in its history of architecture and spatial design. There is a will, on the one hand, to model our nation on the Western world, with a pre-text that our tradition offers no such example of development. As a result, the development wheel has flattened our built environment to the point that the new urban form in our cities is similar to those found in cities all over the world. On the other hand, there is a strong will to defend traditional buildings which have given pride to those who inherited them. Are we then in the business of making a choice?

Largely, our nation is still living under agrarian tradition, although this is changing rapidly due to the rise of urban society - which will become the majority in twenty-five years. Meanwhile, the improvement of transport (as part of rural development) has increased the volume of rural to urban migration. The rise of a network society will change the map of spatial relationships between the city and the countryside. Meanwhile this nation, much like other nations undergoing rapid development and transformation, will see a strengthening of ethnic and identity-based grouping with concomitant strengthening of spatial and social boundaries.⁵³

Identity is associated with the will for self and group expression. In architecture, the desire for self and group expression is capable of producing a different form. For an ethnic group who identify themselves with a regional character, the will for self expression produces space and form along with how they understand and use things, recognizable only to them. If space is produced through an interaction of different groups, with no exclusive claim over particular regional expression, then the meaning invested in such a space will be more ambiguous and pluralistic. Such a new creation is free of association with a particular identity, which often suggests favouring one group over another.

What we see in Indonesian traditional architecture is the sedimentation of different compounds of layers of influence. Every layer of influence has left a trace, but because of the lack of written evidence, we are still unable to analyze each one of them.

⁵³ See: Manuel Castells, *The Power of Identity: The Information Age: Economy, Society and Culture Volume 2* (Oxford: Blackwell Publishers, 1997). See also Setha M. Low, "Spatializing Culture: The Social Production and Social Construction of Public Space in Costa Rica," in *Theorizing the City: The New Urban Anthropology Reader*, ed. Setha M. Low (New Brunswick: Rutgers University Press, 1999), pp.111-137

Having moved from what we now know as Austronesia, our ancestors wandered until they settled, and developed a culture that is (because of this migration) related to different parts of Nusantara. Their migration across different regions had given them a cross-cultural (*silang budaya*) experience. Most had encountered Hindu culture and ideas of Buddhism. They represented their encounters in their built forms and integrated their learning into a system of governance, which in turn found expression in the built environment. In the realm of formal and spatial design, all forms of human desire converged, requiring creativity to select and compose in order to build. In the depths of the Island, sustained by the relatively stable social and natural environment, a particular form and space was consolidated and eventually served to bind together members of society. It gave them passion and direction to lead their lives. In the coastal regions, cross-cultural practices took more diverse forms. The ports were the arenas where values and interests clashed and were negotiated, but were also the sites of conflict resolution. The intensity of trade in the coastal areas found expression in the built forms. Here, the melting of boundaries and the intersection of differences was seemingly unavoidable.

Interaction with Islam produced a new kind of building and a different social life. Islam never dictated a particular form, and its earlier development in Nusantara witnessed the trace of Hindu and Austronesian cultures. As such, Islam took a compromised form. Here we see how our nation kept alive cultural practices of continuity, without destroying what we had. And on this basis we accept the new. Here we see that the desire to live with others is expressed in the pluralistic and hybrid built environment.

The interaction with Western cultures, which came with the arrival of the Dutch, Portuguese and British, added another layer of influence to the architectural design of Indonesia.

New buildings, new town planning and new systems of governance challenged society to accommodate the new or to reject it, through the creation of boundaries. The values of this new building culture were not always suitable for the local conditions, causing problems for those who fully embraced them. These cross-cultural practices have produced a variety of built forms, which have marked the living spaces of Indonesia today. Cross-cultural practices often provoked resistance, but they serve to mutually enrich both cultures.

Western culture introduces and bestows on us the inheritance of new urban design, capable of replacing a spatial concept based on autocratic and cosmological ideas of space. The construction of the colonial city during the colonial era encouraged craftsmen to migrate from rural to urban areas. New urban space had changed people's needs and self-perception, as they emulated the fashions of the ruling elites.⁵⁴ Meanwhile, in the village, traditional building faced difficulty, as it became expensive to build using traditional methods. Western culture introduced new technology, which contributed to the decline of Indonesia's building tradition.

Decolonization has transformed ethnic groups into new national subjects. However, there is a tendency in the postcolonial state, in some ruling elite circles, to look back at the 'golden age' of the Majapahit Empire. Our nation inherited products of cross cultural practices unevenly. The more open a region, the more diverse the buildings in the living environment of society. The more isolated the region, the more substance its building seems to carry as it follows closely the growth of the desire for self expression. The uneven exposure to practices of cross culture could be said to be caused by the unevenness of access to information in different

54 This is discussed by Dutch architect Henri Maclaine Pont, "Javaansche Architectuur," *Djawa* 3 (1923), pp. 112-127; and "Javaansche Architectuur," *Djawa* 4 (1924), pp.28-58

regions. Such unevenness has lowered self-esteem in some and created an over-confidence in others. The result is strong expression of identity in built forms.

Indonesia's Independence has liberated territorial and cultural confinement in that regional differences have amalgamated into the concept of the nation representing a broader sovereignty. Nationalism set up a basis on which to imagine beyond a sub-regional boundary, to think outside the box, to look outwards instead of looking inwards.

The 'society-with-strong-tradition' produces form that works only to strengthen tradition. This, however, minimizes compatibility with urban society today. We find such 'society-with-strong-tradition' largely in agricultural regions. Life that depends on natural resources demands the preservation of knowledge about what works in certain situations. The availability of technology and building materials in the 'society-with-strong-tradition' is quite limited, whereas in places where construction is active, there are abundant building materials and technology. In places abundant with technology, we should be able to create more diversity, which would lead to the formation of certain qualities. However, thanks to new frameworks presented with slogans such as efficiency, fabrication, and marketing, what has been produced turns out to be dry and lacking creativity. This is ironic.

It is important to note however that even though the 'society-with-strong-tradition' tends to reproduce its forms with limited choice and in a limited space; it does not depend on any 'organization-without-form' (such as transnational corporations) or external powers that control their decision. On the contrary, modern urban society has many options, but what they can choose from is limited to a system that operates globally. In this global system, options are ironically limited if we don't creatively respond to

the system. In big cities we see different types of building such as shopping centers, shophouses and apartments, which replicate built forms in ways that remind us of cultural reproduction in the 'society-with-strong-tradition'. Such development, in my opinion, is backward.

The contribution of each ethnic group to cultural forms needs to be accepted as an endowment. However, to form a future that we want to see, we must accept the endowment critically, not without doubts. Is the inherited cultural form acceptable today? And should it continue? We have learned that all traditions have a beginning. A tradition is often created without us knowing the creator.⁵⁵ This is not dissimilar to what we know as modern creation. The difference, nevertheless, between modern product and tradition is that we know who the modern producer is. What brings them together is that whether in the form of object or idea, at the moment that a product is created it appears meaningful. It is considered new for that time and for those who made it, but over time it becomes a tradition, at which point the product is bestowed as inheritance to the following generation.

In this sense, the modern and the traditional are not opposed. Philosopher Karl Popper suggested that the Western world must preserve its critical tradition so that it can be responsive to what is being faced.⁵⁶ In facing issues of building where spatial design is the main focus, we should develop a critical attitude so that we don't float off into a romantic dream or become anti-tradition.

⁵⁵ See E. J. Hobsbawm, and T. O. Ranger, *The Invention of Tradition*, ed. E. J. Hobsbawm, and T. O. Ranger (Cambridge Cambridge University Press, 1984). See also Bruno Queysanne, "Commentary: Tradition and Modernity in the Face of Time," *Traditional Dwellings and Settlements Review*, 1, no. 1 (1989), pp.3-6

⁵⁶ Karl Popper, "Towards a Rational Theory of Tradition," in *Conjecture and Refutations: The Growth of Scientific Knowledge*, ed. Karl Popper (New York: Harper and Row, 1965), pp.120-135.

Architect or architect-scholar should be alert to avoid the trap of replicating image in design. Emulating an image from a magazine, for instance, which displays 'contemporary' design in order to appear modern is just as uncritical as those who reproduce what is inherited from tradition.

If we approach tradition with curiosity and a sense of exploration, we may be able to find its history. Through such a historical approach, tradition can be developed. I see tradition as something that is alive and therefore which should not be fixed. If we were to frame it, it would freeze and wither. It would be unable to face change and the challenges that have become increasingly formidable today. If the attitude of breaking the frame (unfixing tradition) could be developed today, then the wealth of inheritance would increase. With critical attitudes, we will be able to filter values that are relevant from those that need to be left behind or dislodged, so that new ones can be constructed.

We realize that the future of architecture of this nation must not be held back by its past. We realize that remembering is part of life, bringing us closer to a past that may be sweet or bitter. Recalling the past can lead to no action (status quo). However, recalling could also motivate us to search, to gather more recollections. The future needs to be built with honesty, from below and by starting with existing reality. It can also be built from something new, something that we are not quite familiar with. Endless searching seems to be the effort required to progress to a new architecture.

The role of the local has become more important in this challenging global era. In the world of building construction, we have learned that Manado and Bali have exported their buildings. Meanwhile, both foreign and domestic tourists have diminished boundaries between regions and nation-states, as have the built forms, which have become increasingly similar everywhere.

In the abundance of choices, we are given a chance to explore. The blurring of the boundary in the architectural arena needs to be stirred (or shaken), but how? Here we need to consider the world of architectural education and practice.

The world of architectural practice in Indonesia is still filled with problems. It still relies on the relationship between the client and the architect, and it is therefore difficult to reach broader members of society who need architects' assistance. Ordinary people however, are disinclined to approach architects. As a result, architects have been associated with serving only a minority - a reality that cannot be denied. Meanwhile architecture is associated with the world of design, especially the knowledge and skill in designing the physical environment. The world of architectural practice needs to be more sensitive and further reaching. It needs to understand the changing world of which architecture is a part. Thus, knowledge of practice needs to be sustained by broader knowledge of a wider variety of disciplines. The world of practice needs to work in partnership with the world of education, and not just simply complain that the education system has gone adrift.

The world of architectural education in Indonesia is very diverse. It ranges from offering a Bachelor of Architecture, (*sarjana arsitektur*) to issuing diplomas. *Sarjana arsitektur* is no longer someone who is skilled in practice. The academic world produces people who are capable of thinking but who are not quite ready to solve challenges in design. For a long time, there has been an impression that architecture focuses only on design. The influence of such a view, however, is diminishing globally. Architectural education in world-class architectural schools today offers a great variety of choices for students to cultivate themselves. The sharpening of knowledge of materials is no longer at the Bachelor level, but at the Master's degree level. What is unfortunate is the neglect of knowledge about tradition of regional architecture.

The exploration in design therefore is dominated by an orientation towards the West. It seems that there is a tendency in the process of globalization for the local to be enhanced rather than displaced. This may direct attention to the tradition of regional architecture and give it a more central place as an object of analysis. With this new attention, exploration across the boundaries of regional territory would tease out the principle of architecture in Indonesia and also bring to light the historical layers that cover the tradition of regional architecture. Western knowledge could serve as a comparison, which in the design studio could compete with local architectural knowledge, in an effort to create a new architecture.

For all these, we need to rethink architecture, to rethink issues for exploration, to think about crossing the boundary, about demolition and reconstruction, and to rethink pedagogy. We still have a lot of homework to do. It seems to me that we need a network that would link us to different fields for an endless exploration in the arena that we called Indonesia. Whether architecture would be better, and what form it would take, are questions to which I am unable to respond.

Acknowledgements

Honorable guests,

I am grateful to God for with His permission I have the chance today to stand in front of you all. I accept this appointment (as professor), entrusted to me, as my dedication to University of Indonesia. I am indebted to my late parents who would have been proud to attend this event. My mother never had a chance to go to school and that is why she wanted her children to obtain as high an education as they could. My father only completed secondary school, and with this lack of education he always supported his

children's education to the highest degree. Their kindness I won't be able to return. I am also indebted to my beloved wife who, selflessly, accompanies me with patience and has always shared her feelings with me throughout my career. The support and understanding of my children have brought peace to my household and convinced me that what I have been doing is worthy. I want to offer my appreciation to all of the teachers who have been part of my education. Let me mention a few names for the opportunities they have given me, which have opened up a space that have led to my achievement. Dipl.-Ing. Han Awal introduced architecture to me and trusted me with teaching materials when I was still in my third year of university. This chance brought my attention to teaching materials and ways of researching. He was also the first to propose that I offer a Selected Topic (Kapita Selecta) course entitled Post-Modern Architecture, not long after I completed my degree. Professor Suwondo was the first to invite me to serve as his assistant for a fourth year design course, just after I received my degree. Much of his valuable advice has guided me throughout my teaching career. Ir. Gurnawan Ranadireksa, who served as my Mentor in my final year of architecture until I graduated. The chance to work with him empowered me to complete a larger task. Dr. Bianpoen opened up a chance for me to pursue research and involved me in an international conference on habitat. Ir. Gustaf Abas M. Arch inspired me to follow in his footsteps. Ir. Hartono Purbo, M. Arch provided a letter of recommendation for my study in the United States.

At UI, the roles of Professor Parsudi Suparlan and Dr. Budi Hartono were crucial to me in choosing to follow a research track, rather than a professional design job. They demonstrated to me that scholars should never compromise on their beliefs. The late Professor Nugroho Notosusanto for giving me the challenge to design this campus so as to allow me to eventually take up the Javanese concept of architecture as the topic of my dissertation.

For the design of the campus, I want to thank Mr. Diyan Sigit who always challenged the design so as to achieve the best result. Thanks to Dr. Harianto Sunidja for making it possible for me to return to Berkeley to continue my graduate study following the completion of the design of the campus of UI in Depok.

In the intellectual circle of the United States, I am indebted to Professor Richard Meier, Professor Clare Cooper Marcus, Professor Robert Reed, and Professor James Anderson from UC Berkeley who served as my mentors for my PhD dissertation, full of understanding and patience. I also thank the late Professor Horst Rittel who always challenged every opinion so as to sharpen my argument. Prof. William Mitchell, the late professor Charles Moore and Prof. Berge Aran from UCLA who, full of understanding, supervised my thesis. They showed me that a mutual respect between teacher and student could overcome distance. Such a belief I uphold until today.

In the professional world, Ir. Sidharta Nurochman once explained to me about the elite schools in the US and encouraged me to study further in order to teach better in Indonesia. Mr. Morris Simon showed me examples of how a letter of recommendation can be written in such a way to demonstrate one's capacity.

In the department of architecture, Ir. Tato Slamet and Ir. Siti Utamini facilitated my research while I was completing my study. Bung Budi Sukada has always been my sparring partner who gives me input for my writing. Bung Triatno Yudoharyoko who is always critical to my statements. To the late Mr. Mustadjab who was like a parent when I was doing fieldwork at Kota Gede. He shared with me wholeheartedly his knowledge about Javanese culture. Without his guidance, I would not have been able to complete my dissertation. To Prof. Edi Sedyawati and the late Prof. Kuntjaraningrat, who invited me to engage in issues around

culture, which has broadened my intellectual association. The late Dr. Ardi Pardiman Parimin, who was always critical to my opinion. Finally, my thanks to all the administrative staff of FTUI, especially Mr. Firman, who diligently helped the organization of this event. My apologies if there are names that I have forgotten to mention.

Honorable guests, let me close my presentation with an address to my students. Students should not expect answers from teachers. Teachers only prepare a program that may lead you to find an answer. Don't be disappointed if the answer turns out to be more new questions, which need to be further analyzed. Exploration without limit gives you a chance to move across borders, an act of which demands critical thinking, and this is the essence of knowledge formation. Don't get tired of asking and don't get disappointed when the answer is 'I don't know'. Only through will and hard work to find your own character, can architecture be genuinely explored and pushed beyond its limit. Through this attitude we can produce a new era for architecture.

Thank you for your attention, honorable guests.

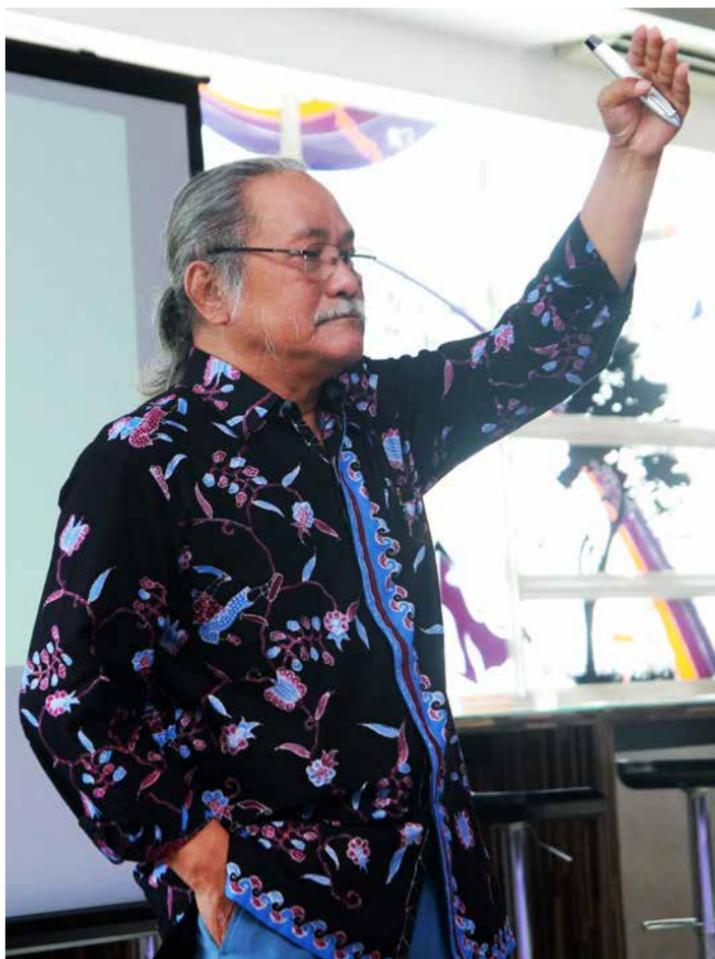


FIG. 7 Josef Prijotomo

Nusantara Architecture:⁵⁷ The Architecture of Shade and ‘Liyan’ Architecture. An Architectural Reading of the Architecture of the ‘Society Without-writing’⁵⁸

*Inaugural speech delivered on the occasion of appointment to Professorship at Institut Teknologi Sepuluh Nopember, Surabaya, 19 April 2008.
Translation by Abidin Kusno*

- 57 The Indonesian title is ‘Arsitektur Nusantara: Arsitektur Perteduhan dan Arsitektur ‘Liyan.’ Pembacaan Arsitektural atas Arsitektur Masyarakat Tanpatulisan’. Nusantara refers to the Indonesian archipelago. The term originates from the Old Javanese Sanskrit word of *nusa* (island) and *antara* (in between) which, when combined, conveys the idea of a ‘whole’ archipelago. Gajah Mada, the military leader of the 14th century Majapahit Empire was the first to glorify the term through his oath to ‘unify’ Nusantara. This concept, however, was revised in the early 20th century by Douwes Dekker to imagine the Indonesian regions from Sabang to Merauke. The term has become the synonym for Indonesia. It is seen as indigenous as it does not contain any ‘foreign’ association, such as ‘Indies’ or ‘India’. Prijotomo may have used the term with this understanding, but as his inaugural speech informs us, the notion of Nusantara contains a cosmopolitan nationalist vision of unity in diversity (Bhinneka Tunggal Ika - p. 24), and is particularly strategic in his aim to overcome the Euro-American-centric knowledge formation of architecture.
- 58 The notion of ‘tanpatulisan’ is derived from Claude Levi Strauss’ society without writing (p. 4). Prijotomo, however, puts together two words ‘tanpa’ (without) and ‘tulisan’ (writing). The English translation here acknowledges this amalgamation by hyphenating “without” and “writing” to represent a single idea of ‘tanpatulisan’. So ‘tanpatulisan’ is translated as ‘without-word’ to acknowledge Prijotomo’s specific local appropriation of Strauss’s idea in a way that is similar to his discussion on ‘Iamtalking’ for ‘I am talking’. (see p. 8)

Honorable Ladies and Gentlemen,

Thanks to the presence of Almighty God I am honored and proud to receive the trust bestowed upon me to deliver my inauguration speech as professor at this honorable event.

Epilogue: Expressing Message and Recording Thought

Reading is not just spelling words and sentences, nor is it simply the stringing together of meanings of words. To read is to grasp the message of the writer. Once the reader grasps the message, he or she would say that the message is understood. This principle applies to all acts of reading, regardless of whether the writings are in Latin, Arabic, Chinese or Javanese script. If we pay closer attention to the rules of reading, we see that Latin script is read from left to right. Javanese script too is read from left to right. Arabic script, however, is read from right to left. Chinese script goes from up to down, right to left. These different rules of reading (in different languages) do not, however, change the meanings of the sentences.

It is essential to understand the use of certain scripts and the method of reading in order to grasp the meaning of a text. For us who use Latin script, we won't have difficulty in understanding a sentence such as 'architecture is a container of activities'. But would the sentence come across as such in Javanese script? If we can read Javanese script, we would know the answer, but what if we don't know Javanese script? If we don't know Javanese script, for sure we won't be able to read the sentence as such. We thus can say that we are literate in Latin script but illiterate in Javanese script. Understanding a script is related to understanding a language. We can be illiterate in Javanese script but literate in Javanese language. This is similar to someone who is fluent in

Javanese language and capable of writing in Javanese script but illiterate in Latin script. On the other hand, even if we have mastered Latin script, but are not well versed in English, then not all English text will make sense. The mastery of a language and its script is key to reading and understanding a text. The capacity to grasp the meaning of a text is an expression of a mastery over a script and a language.

Reading is also an attempt to grasp the message, the thought and the feeling of the author. This is because a piece of writing is a manifestation of a message from the author. It is also a record of the thought and feeling of the author. Problems appear if we meet a person or community who does not recognize writing, who does not use text. How do they convey their message? How do they record their thoughts? Such a person or community belongs to the illiterate, but this does not mean that they don't have the capacity to express their message and record their thinking. Although for centuries in the past the Toraja community has not been able to recognize writing, messages concerning the norms of life still can be found in their tradition. The stunning ancestral house of Toraja would not exist without a careful and sophisticated recording of their thoughts. Here we can't rely on written texts to grasp the message and thoughts of Torajan people. A similar problem is facing a great many other communities in Nusantara that do not recognize written text, such as those who built Candi Prambanan from the 9th-10th centuries – a stone structure as tall as a five storey building; or the house in Sumba with three-storey timber construction; or a Javanese building without a roof truss. Here we must leave behind the view that writing is the only expression of message and record of thought. We have to search and find the kind of 'texts' that are being used to express messages and record feelings.

Society-without-writing

Honorable Ladies and Gentlemen,

In a society with no writing, one that structural anthropologist Claude Levi-Strauss called 'community without writing', there is still a particular way of recording or giving expression to messages, thoughts and knowledge. Borrowing from this understanding, I want to show how speech, activities and artifacts operate like 'writing' as they find expression in the society-without-writing.

A. Speech

Based on the high capacity to memorize, a society-without-writing excavates, acquires, communicates, transfers, and records knowledge after knowledge. Speech and other expressive forms are the first step to communicate. The emergence of mnemonic practices or the 'rule of thumb' may have originated from society-without-writing. They help to remember. Through mnemonic practices a range of otherwise hidden or forgotten knowledge can be retrieved. Then there are stories (such as folklore, fables and so on), tales (*hikayat*) and chronicles (*babad*), songs and sacred hymns. They are all forms of speech that serve as the 'written' form of knowledge.

B. Acting and activity

Acting, activating and doing (which remind us of 'learning by doing') are also forms of 'writing'. The tradition of apprenticeship (*magang*) for instance, is a way of transmitting and recording knowledge from the expert to the disciple. The activity of assembling the rooftop for communal feast (*selamatan*) is not only a festival or religious ritual. The process of assembly demands those involved to move continuously up and down the rooftop. If assembly is not

perfectly executed, the building will collapse as the builders ascend. Here the process of assembly of the rooftop for *selamatan* is a way of challenging the skill of assembly. Dancing is another form of 'writing': the registering of thought and conveying of messages through movement of the body, according to a rhythm.

C. Artifacts

Speech and action depend on the individual who makes the utterance. And this individual act can be limited, for the repertoire of knowledge is huge, so the scope of knowledge transferred by an individual cannot represent the total knowledge that transcends a generation. Objects and things in our surroundings thus offer a way to register and transfer knowledge in a way that could not be executed adequately by an individual. We thus often see a community, such as followers of animism, who believe that a stone can embody a soul. The soul gives animism a particular expression, but if the soul is understood as a force, an energy, an inertia embedded in an object, then the expression that 'the stone has a soul' cannot be associated with animism any more. Another example is the association of the forest with the dwellings of genies and giants. A forest is ghostlike, and should therefore be left alone and not destroyed. In depicting the jungle as a haunted place, the forest is preserved. Here the association of the jungle with the ghostlike turns out to be important for the preservation of the forest. Is it possible to imagine what might have happened to the forest of the 'society-without-writing' if the forest had not been represented as a haunted place? All of Java's forests would have been destroyed two or three hundred years ago.

Now consider the era in which we live, an era that produces books for reading and for the registration of knowledge. In the past, the book took the form of speech, action, and artifact. What we need to be cautious of here is how the book is read. Speech, actions and

artifacts are not merely a product of culture and tradition of the society-without-writing. They are not what they are. Instead, they are a representation of thought, and they therefore have to be 'read' instead of accepted, as simple fact or truth. We also must be cautious of the fact that that each of these expressions was embedded in the spatial and temporal context of the society-without-writing. Another brief example: We are often impressed by Nusantara architecture for its lack of nails in construction. Unfortunately, we tend to stop at such admiration, satisfied with a feeling of pride for this practice; and therefore never consider the ideas that are hidden within the nail-less building. What can we say about the expertise of the craftsmen (*tukang*) and his tools, modest compared to the tools we use today for building construction. We have stopped appreciating the tradition of mutual help (*gotong royong*), and admired instead a Javanese house and a Balinese Meru built solely by a construction management company. Speech, action and artifacts are not three separate forms of 'writings' to be decoded. Instead, they are mutually constituted networks of 'writings' that complement each other. The integrity of the messages and thoughts stems from the network formed between different speeches, actions and artifacts. Each reading produces a meaning, which becomes a message and idea of the society-without-writing.

To end this section, let me thank and offer my utmost appreciation to the disciplines of anthropology, philology, folklore, and cultural studies, to name but a few of the disciplines that have ably put together materials related to the society-without-writing. For the discipline of architecture, these materials ought to be the 'reading materials'. They are the 'texts' that need to be translated into the language of architecture. They are the layers of doors that enable architecture to reach the messages and thoughts of the society-without-writing. Therefore, exploration of the architectural ideas of the society-without-writing is an exploration of interdisciplinarity.

Honorable Ladies and Gentlemen,

From what I have discussed above concerning the society-without-writing, what is its significance for our understanding of Nusantara architecture? First, Nusantara architecture develops out of the environment and the tradition of the society-without-writing. In this context, we can say that the (non-textual tradition of) Nusantara architecture operates outside the Western (*arsitektur manca/barat*) intellectual environment, which is based on a written tradition.⁵⁹ Second, the knowledge formation of Nusantara architecture would need to be based on a way of reading the society-without-writing. It should not be based on the written tradition of the West. We can use the analogy of language (*bahasa*) and writing (*tulisan*) to see the difference. To explore Nusantara architecture is to read Javanese in Javanese script. Let me illustrate with an example: To write 'I am talking' is to write in Latin script, but in Javanese script, it would be something like 'Iamtalking'. Can we tell if 'Iamtalking' is a word or a sentence? We know nevertheless the difference, for 'Iamtalking' is a non-written action expressed in a language form. Third, the way of reading architecture in Western tradition is useful in so far as it is limited to the inquiry over 'how western architecture constructs its knowledge'. So, how the written tradition builds its knowledge could serve as an inquiry to explore how the society-without-writing builds its knowledge. Western architectural tradition then will not be taken as an intellectual product as represented in the question, such as, what is it? Instead it should be seen in terms of its processes of knowledge construction with an emphasis on the

⁵⁹ *Arsitektur manca/barat* refers to Western or Westernized architecture as well as architecture abroad. The term sounds monolithic, but is used by Prijotomo to construct a different position for Nusantara architecture, which he later on describes as the position of 'the other' (see the section on Liyan architecture). Mindful of the diversity of '*arsitektur manca/barat*', I simply translate '*arsitektur manca/barat*' as 'Western architecture'.

question of why and how it is what it is. Here, it is important not to take the model of Western architectural knowledge as a basis to form knowledge of Nusantara architecture.

Several attempts were in fact made before the end of the twentieth century to differently construct the architecture knowledge of society-without-writing. Li Yu (1994), using a computer language program, has successfully shown the principle of Chinese traditional architectural design. The result is a production of knowledge about Chinese traditional architectural design in a computer language. Through a computer language program, Li Yu has demonstrated a way to produce Chinese architectural knowledge without relying on the tradition of Western architectural knowledge.

A decade after Li Yu's attempt not to follow the written tradition of Western architecture, Reena Patra (2007) wrote a dissertation about an ancient Indian manuscript. Unfortunately, Patra did not follow Li Yu's step to leave behind Western tradition. Instead, Patra uses the written tradition of the West, which she has taken as a model to read the *Vaastu Shastra* manuscript. In other words, Patra uses Western architectural method of reading to read Indian architecture, and by doing so, she assumes that ancient India is a society of written tradition, and not a society-without-writing. Reena Patra's method is similar to that of the Indonesian Department of Education and Culture, which documented traditional architecture in Indonesia in the 1980s. Although limited in circulation, the Department published over twenty volumes, each representing the traditional architecture of a different province in Indonesia. This state project relied heavily on the discipline of anthropology (as this discipline evolved in Indonesia at the time), but (despite its methodological problem) many schools of architecture in Indonesia are still using this series of books as a key text for teaching courses on Indonesian traditional architecture.

In 1980, YB Mangunwijaya published a different book. Called *Wastu Citra*, the book sought to liberate Eastern architecture from the framework of Western architecture, despite the fact that Mangunwijaya did not locate Eastern architecture (such as of India, Japan and Nusantara) in the context of the society-without-writing. Mangunwijaya firmly rejected the notion of architecture, using the term *Wastu* instead. Unfortunately, Mangunwijaya passed away before he had a chance to develop *Wastu* into a philosophical foundation for a non-Western knowledge formation.

These examples show different attempts to build architectural knowledge for non-Western architecture. They find various ways to read. Li Yu and Mangunwijaya locate Chinese and Eastern architecture outside the circle of Western architecture, whereas Reena Patra locates Indian architecture within the circle of Western architecture.

On the Notion of Nusantara Architecture

I have indicated earlier notions such as ‘Nusantara architecture’ and ‘traditional architecture’, as if they are two kinds of architecture. But this is not the case. Both terms ‘Nusantara architecture’ and ‘traditional architecture’ refer to the same object: the architectural characteristics of different ethnicities in Indonesia. The difference between these two terms refers to the two different ways of constructing knowledge for the same object. The knowledge of traditional architecture is built from the discipline of anthropology, whereas Nusantara architecture refers to a knowledge produced by the discipline of architecture. There are occasions when attempts were made to rework the terms. Gunawan Tjahjono, for instance, introduces ‘architecture of tradition’ to show that his exploration of traditional architectural knowledge doesn’t fit with the discipline of

anthropology. Meanwhile, Galih Widjil Pangarsa (2006), through his book entitled *Merah Putih Arsitektur Nusantara* [The Red and White (referring to the Indonesian national flag) of Nusantara Architecture], also uses the term Nusantara architecture, but his usage is different from mine. Pangarsa nevertheless intentionally uses the term to convey that the knowledge he is building is not that from traditional architecture.

The Architecture of Shade (*Arsitektur Perteduhan*)

Honorable Ladies and Gentlemen,

The Nusantara architecture that I have been most extensively and intensively exploring is Javanese architecture. Although we can still see many buildings designed in Javanese architecture today, what I am going to share with you in this honorary opportunity is the representation of Javanese architecture in Javanese manuscripts. I have explored over ten manuscripts, all written between 1882 and 1933. As indicated in the manuscripts, the texts were based on oral communication of the craftsmen (*tukang*) and the Javanese *undhagi* (architect-priest). So, these manuscripts are in fact speeches recorded in written form. As such, when I read the manuscript, I served as a listener – listening carefully the utterances of the *tukang* and the *undhagi*. I did this in order to locate Javanese architecture and the Javanese society within the society-without-writing. How Javanese architectural knowledge is constructed within the context of society-without-writing is what I present below:

A.

'Dados tiyang sumusup ing griya punika dipun upamekaken ngaup ing sangandhaping kajeng ageng [...]'

Entering a building (*griya*) is seen and understood as an act of *berteduh*, or going into the shade under a 'big shady tree'. This statement, recorded in the *Kawruh Kalang Sasrawirjatma* (1928) manuscript, defines what architecture is. Here, architecture is formulated as entering the shade under a tree, and not as a shelter (for protection). Let me explain: If a person goes under a shady tree, he or she will be shielded from direct exposure to the sun, and from getting soaked by the rain. Although protected from direct exposure to the sun and the rain, they are still exposed to the heat of the sun and the dampness of the rain. But they still experience the heat of the sun and the heavy rain. Going into the shade is to still be part of the surrounding environment. Being shaded (*berteduh*) thus is more than being in a shelter (*bernaung*). Being in a shelter gives physical independence (from the surrounding environment), whereas the shade gives a sense (*rasa*) of inner comfort and peace. The notion of *berteduh* is used here, as in the quotation above, because it is associated with the notion of *kajeng*. In Javanese *kajeng* means both wood and strong determination. If we take *kajeng*'s first meaning as a piece of wood, it would mean 'going under the shade of a shady tree' and if we bring in *kajeng*'s second meaning as an expression of 'determination', the whole *kajeng* would mean 'going under the shade of a shady tree with a strong honorable determination'. In this mutually constitutive double sense, the precise architectural formulation would be 'entering a building is like going into the shade with a strong honorable determination'. With this formulation, gone is the idea of approaching Javanese architecture only in terms of its physical dimension (*matra*). Instead we are bringing in the nonphysical (*tanragawiah*) dimension.

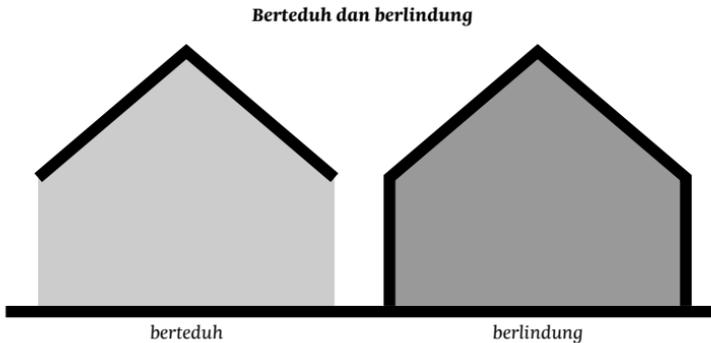


FIG. 8 Being shaded (left) and being protected (right)

Berteduh (to shade) is not about hiding or securing in terms of isolation, or disappearing from the surrounding environment. Because *berteduh* is not to protect, so architecture (as understood in Javanese manuscript) cannot be associated with the shelter that offers physical protection against the surrounding. Architecture in Javanese manuscripts is the space in the shade (*perteduhan*) and its relation with the immediate environment. Regrettably, the formulation of ‘architecture as a shelter’ is still commonly used in architectural schools in Indonesia, which is an indication of the influence of Western architectural thinking which is based on the perception of architecture as a protective shelter, and not of *perteduhan*.

B.

Perteduhan locates an object above the head and body. This object is the leafy, shady tree. The wide-hat is also an example of the object that gives shade, and in building, the roof is the element that provides shade. The roof therefore is the most important element in a building for it is the roof that plays the role of providing shade, not the wall, not the floor. In a tropical setting

such as Indonesia, the roof is the element that is most capable of dealing with the sun, the wind and the rain. Besides Javanese architecture, in the architecture of mBojo-Bima, Waerebo-Flores or Atoni-Kupang, building forms are dominated by the roof - so dominant that the roof also serves as the building's walls. The term 'roof architecture' is quite appropriate here.

The dimension of the roof determines the extent of the area beneath it, along with the activities and the uses of space (note: activities under the roof are better captured by the notion of 'use' than the term 'function' which suggests a deterministic organization of space by the floor plan). Depending on the number of rafters (*usuk*) on the roof, Javanese architecture organizes spaces beneath for activities such as for storing valuables and for dwelling (*dalem, griya ageng*); for gathering (*pendhapa*), for storing rice paddy (*lumbung*); or for animal farming (*kandhang*) and for religious worship (*sanggar pamujan*). The number of rafters determines the breadth of the roof, and the size of the shaded area. The roof therefore takes the lead in shaping the uses and the activities of the building. The extent of the roof size allows the owner to give shape to the building (*Menggah ewahing dhapur wau boten angemungaken saking murih gampil utawi cekap kemawon, saweneh among saking lancip (kakirangan) saweneh saking sasenengan* – pg 6). The form of the roof could take the shape of *tajug, juglo, limansap* or *kapung* (see feature 2). In the conventional courses of traditional Javanese architecture, also taken by ordinary people, the form of the roof communicates the use of the space such as: *pendhapa*, finding expression in the shape of *juglolo*, *kandhang* is represented by *kapung* and so on. However, such understanding is misleading, as shown in the quotation from *Kawruh Kalang Sasrawirjatma*. What determines the use of the building is actually the breadth of the roof, and not its physical form.

Tampang depan skematik dari dhapur

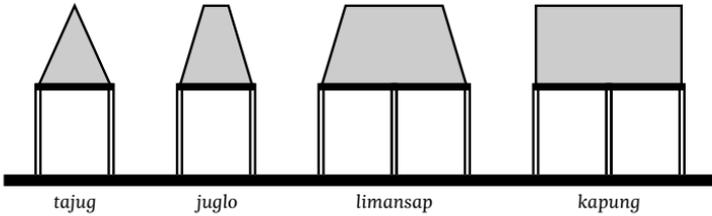


FIG. 9 The schematic front of a kitchen (dhapur)

As indicated earlier, the area of the floor is a product of the size of the shade area. Such logic is quite different from the conventional principle of design influenced by Western architecture, which is based on the presence of the floor plan for the organization of use and activity. In Western architecture, the size of the floor is one of the primary determinants for the presence of the roof. In Western architecture the basis of a building stems from floor plan and finishes with roof; Nusantara architecture, on the contrary, starts only after the roof is determined.

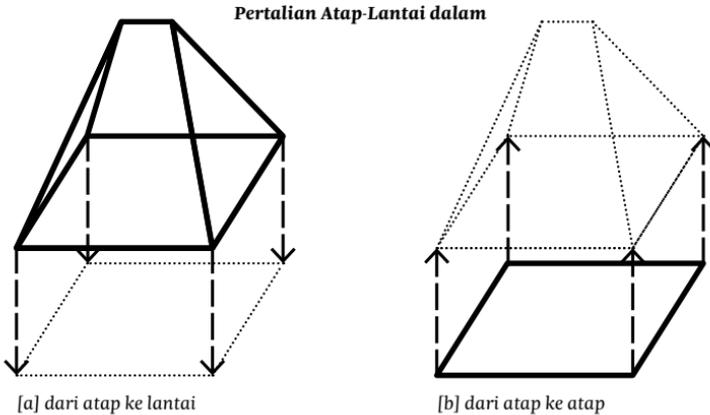


FIG. 10 [a] from roof to ground floor; [b] from ground floor to roof

C.

As indicated above, the architecture of shade (*perteduhan*) enables architecture to integrate with the surrounding environment. This means that walls are not as important in a building. As a frontal piece, walls serve only to protect, as object through which we cannot see. Walls thus tend to compromise the capacity of a building intended to provide shade. It is not surprising therefore that the *Kawruh Griya* manuscript mentions nothing about walls.

It should be acknowledged, nevertheless, that Javanese architecture did eventually recognize and adopt walls. Considering Javanese architecture alongside other Nusantara architecture, we can see that the walls are used only in buildings which aim to protect or to hide. When a building is a place for protection and hiding, then it is no longer a dwelling but only a place for storage. Protecting our body while sleeping is a form of storage, and therefore it is not quite appropriate to identify such a room as 'bedroom' (as Western architecture would call it). This suggests that daily activities other than sleeping are not conducted in spaces with walls, but in overhang verandas or the space under a building on stilts. If privacy is needed for activities under overhangs or in the space beneath a building on stilts, then a screen, a curtain or a blind can be erected.

D.

The use of rafters for the main structure comes with the question of what kind of timber is most suitable for the rafters, the roof frames (*balungan*) and the building as a whole. *Kawruh Griya* explains what kind of timber to use from the beginning of the manuscript; whereas *Kawruh Kalang* only gives such instruction at the end. Why such a difference in the representation of the same material? The reason is that the audience of *Kawruh Griya*'s manuscript is the building owners, whereas *Kawruh Kalang* is a manuscript for craftsmen (*tukang*). This difference shows how

knowledge is divided according to the social division of labor. For the building owners, timber as a building material is less important than the *angsar*, the character and quality of each type of the timber. In the following I will show the representation of timber and its *angsar* by way of a table published in *Kawruh Kalang Sasrawirjatma* manuscript.

Angka	Kajeng ingkang sae	Dunung sarta katranganipun	Angsar tuwin kasijatipun
1	Gembrang	Kadjeng ingkang kasamber gelap	Langkung kuwawi panulak
2	Pandawa	Wit satunggal pakah gangsal	Langkung rosa ingkang ngenggeni
3	Simbar	Ojot medal wit utawi ngepang	Ajem sarta asrep kang ngenggeni
4	Tunjung	Kasusuhan pakai agene, utawi ngandhap kangge manggen kewan	Kadrajadan, tuwin santosa sedyanipun
5	Monggang	Inkang wonten punthukan ngardi	Mindhak-mindhak darajadipun sugih rijeki
6	Uger-uger	Wit satunggal pakah kalih	Gujub sarajatipun
7	Trajumas	Wit satunggal pakah tiga	Kathah rijeknipun
8	Amulo	Uwit ingkang kinubeng toja	Asreb sawabipun santosa panggalihipun
9	Gedheg	Inkang wonten gembolipun	Kuwawi simpen donja agung
10	Gedhug	Inkang wonten gandhikipun	Wiludjeng, sugih rodja-kaja
11	Gendhong	Trubus tumumpang ing pang	Sugih kaja, saking ngandhap
12	Gendam	Inkang dipun susuhi paksi alit, sarta dipun griyani bangsa gumremet	Kerep kadhatengan rejeki, tuwin sugih bala santana

FIG. 11 Good timbers for building

Our written tradition would say that the table consists of 12 kinds of teak wood, and advises on construction materials. The information in columns 3 and 4, however, are not easy to follow – not because of the Javanese language, but because of the relationship between these two columns and the others. For instance, we can follow column 2, which lists 12 kinds of teak wood each with its own name. (Table 1)

Column 3 is not too difficult to understand, as it describes only the physical characteristics of each teak type. Problems arise with column 4, which describes both the *angsar* and the physical strength of the teak wood. How can it be that *Gembrang* teak can possess both *angsar* and the strength of the wood as described in the phrase: '*langkung kuwawi, panulak*' (stronger to withstand, counter disaster)? For a *tukang* or *undhagi*, the table would be understood in the following way: If a tree is chosen as a building material, then it would be used, following the wish of the building owner, for its ability to cope with certain challenges or for its ability to counter disaster. Based on this understanding, a *tukang* or *undhagi* would first listen carefully to the building owner to understand his requests. On the basis of these requests, the *tukang* or the *undhagi* would determine which building material is most suitable. Through this process of understanding, we know that the table is more than a collection of material information, but is about:

- 1 *The various intentions and requests of the owner*
- 2 *The capacity of different building materials to fulfill the intention and the request of the owner*
- 3 *The physical attributes of teak wood as a building material*

Following conventions in architecture, column 2 (the different types of teak wood) represents column 4 (which consists of intentions and requests of the owner). This means that column 4

doesn't provide information about the strength of the teakwood per se, even though it conveys the qualities of 'angsar serta khasiat', (the savor of the teak wood), for it merely conveys the intention or the request of the owner (this is consistent with contemporary practice of 'form follows client'). The choice of building material represents the intention or the request of the building owner. What is also important here is the responsibility of the *tukang* or the *undhagi* to uphold the intention and the request of the owner. The task of the *tukang* or the *undhagi* is to realize the building as wished by the owner. Finally considering *angsar* and the qualities listed in column 4, we see that they represent not so much the quality of the building material, but the strong determination of the owner and the *tukang* or *undhagi*, and it thus confirms the formulation of 'going into the shade with a strong honorable determination' ('berteduh dalam tekad mulia').

So we ask why the characterization of trees, as listed in column 3, indicates only the physical appearance of the trees and not the strength of the wood in kg/cm². The answer to this is, firstly, that in the era when the manuscript was written, there was no instrument for measuring strength in kg/cm². Second, the expressions from column 3 are those of *tukang* and *undhagi*, whereas the metric measurements of kg/cm² are those of builders trained in technical schools.

D.

The majority of Nusantara architecture uses timber as its prime building material. This is quite different from Western architecture, which is dominated by the architecture of brick and stone. The use of timber and other organic materials (such as bamboo, thatches, reeds, and *ijuk*) demands periodic recycling. The construction technique of 'bundling', or the system of 'pen and holes', works well for this purpose. Nusantara architecture has

affinity with the timber-based Japanese architecture and Chinese architecture. The use of nails in the construction industry cannot match the accuracy provided by the bundle technique and the system of pen and hole construction (note: nails probably came in tandem with the emergence of Western architecture and were probably introduced in the Dutch colonial era).

E.

With the roof as the central component of a building, and the coordinator of the use and activity in the space beneath, it is fair to say that the appearance of the roof deserves particular attention – as an elegant roof shape informs the status of the building owner and the identity of the (ethnic) community. Here, forbidding the use of certain decorative patterns, as indicated in *Kawruh Kalang*, can be understood as an architectural message in the representation of the owner's status, perhaps a member of the nobility or the king. This also explains why generally Nusantara architecture displays very little contrast between buildings for nobility and those for peasants. For those of higher status, the size of the building might be bigger with more 'expensive' materials, and richer in decoration. A *kraton* (palace) is nothing more than a building larger in size, and of more selective building materials, and more adorned in decoration. *Alun-alun* in Javanese *kraton* is merely a front or back yard of a house. Such correspondence reminds us of the structure of society that recognizes chieftain or elders. Unlike in old European societies, here the king is seen as a chieftain.

'Liyān' Architecture

Through an exploration of Javanese architecture, and enriched by an examination of Nusantara architecture in different regions in Indonesia, it is clear that Nusantara architecture is significantly different from Western architecture. If Nusantara architecture is the architecture of a society-without-writing, Western architecture is the architecture of written tradition; Nusantara architecture is an architecture of shade (*perteduhan*) whereas Western architecture is an architecture of protection; The construction of Nusantara architecture goes through the process of moving from roof to floor, whereas Western architecture moves from floor to roof. These are just some of the differences identified here. The ideas and knowledge about Nusantara architecture that are demonstrated here strongly indicate that Nusantara architecture is an 'architecture', but that it is not the one framed by the perspective of Western architectural knowledge. Nusantara architecture stands outside the circle or the environment of Western architecture. It is architecture of the 'other' which can be called 'liyan' (*the other*) architecture. My exploration here could be said as extending or acting on the thoughts of Mangunwijaya.

In this 'liyan' position, Nusantara architecture has the same opportunity to respond to change and development in the world of architecture. For instance, if Western architecture is able to present contemporariness through high-rise buildings, then Nusantara architecture has the same opportunity to present itself as such.

Embracing the Future

Honorable ladies and Gentlemen,

Mangunwijaya has pioneered a new insight for the architectural world, not only for us in Indonesia, but also for architecture in all parts of the world. Mangunwijaya also emphasized that 'Western' architecture which has been so popular (*merakyat*) does not represent the only truth and the only knowledge available. Through 'Wastu citra' Mangunwijaya believed that Wastu (a term he used to replace architecture) is a truth and knowledge of architecture from the position of 'liyan' (*the other*) in relation Western architecture.

The notion of 'Nusantara architecture' is in fact equivalent to 'Wastu'. I am not only confirming Mangunwijaya's perspective, but also developing a strategy and a way to construct a truth and knowledge for Nusantara architecture, the architecture of 'liyan' in relation to Western architecture. It is obvious that this strategy (of 'liyan') has developed after having established the tradition without-writing as equal to a written tradition. Our willingness to be aware that we have been duped by written tradition, that only in written tradition we find truth and knowledge, is a consciousness crucial for a critical understanding of architecture's past and future. With this consciousness, we know that the past doesn't mean backwardness, stupidity and primitivism. The use of axes and chisels had produced impressive works such as Toraja architecture and Minang architecture. In all honesty, are we able to produce architecture that is equal to that of Toraja and Minang with the same tools and building materials? Here, the past refers not only to the fact of the past but also to its context, as what we refer to today as the past was once a present. Or to put the same issue differently, would the traditional architecture of Toraja and Minang look the same

nowadays if they were built using the tools and the materials of the present day? It is a challenge today to produce works that are equal to those of the past.

Undoubtedly we cannot, and must not, return to the past. The future must always be the orientation of our life, our thought and our actions. In the same way that we cannot forget our parents, we must also stick firmly to truth and knowledge. Indonesian architecture should make Nusantara architecture its 'parents', and Western architecture its 'colleagues', inviting the two to stay compatible and equal. This is an attitude that would allow us to avoid Euro-American centrism in the truth and knowledge formation of architecture.

If we take architecture as our focus, the architectural aspect of Nusantara challenges us to nurture and develop Nusantara architecture within the environment of BAHINNEKA TUNGGAL IKA. Gone is the narrow regional and ethnic mindset which could potentially give rise once again to *divide et impera*. Batak could grow in Java, and from there could give rise to hybrid Java-Batak, a hybridity that would enrich both Java and Batak. It is time to study Nusantara architecture and teach it in the domain of architectural knowledge, no more borrowing from anthropology, ethnography or cultural studies.

Furthermore, if architecture is still believed to strive for the creation of identity, we must acknowledge the following three issues: First, to acknowledge that the first fifty years of our architectural pedagogy in architectural school was to present an image of transnational architectural identity. Now it is time to move the pedagogy and education of architecture to teach issues around identity and representation of Nusantara, of *wong cilik* (ordinary - small - people) who are proud of *gonjong* and *Joglo* (types of traditional roof). In striving to make Indonesia rooted in

the environment of Nusantara, we recognize the names of current leading architects such as Yori Antar, Sony Sutanto, Ridwan Kamil, Popo Danes, Eko Prawoto, Putu Mahendra, and Edwin Nafarin; while names such as Abidin Kusno, Galih Widjil Pangarsa, Mohammad Nanda Widyarta, Setiadi Sopandi, Juliastono or David Hutama and Undi Gunawan have produced works that have great potential to stay current with (but which are no less important than) knowledge from abroad. It is acknowledged that constraints in communication and information have caused those Indonesians relatively unknown to Indonesia, while Indonesian architects and students so easily pronounce names from foreign lands. This constraint has also kept me from mentioning names that are blossoming and growing outside Java. Yes, that is the irony of the development of architecture in Indonesia.

Second, with the Nusantara and Indonesian attitude that I have discussed in this talk, we won't be seeing *wayang* tradition as merely a story or tale, or merely as a philosophy and ethic of life. *Wayang* could be seen as a science fiction of another era. As such we could appreciate the old time for its capacity to predict and construct a very scientific future. Long distance wireless connection has been depicted in *wayang* play, but was only realized at the end of the twentieth century through the *handphone*. The army battalion of Alengka possessed laser as a weapon for war. The medical world was faced with a very complex issue when it was confronted the newborn baby Gatutkaca, who was wrapped in a layer as he came out of goddess Arimbi's womb. The world of education also admires Bambang Ekalaya, an autodidact who achieves skills equal to the much-worshipped Arjuna. And so on and so on.

The past has also left us with a great many agendas for the present and the future: issues that were already considered a probability.

The third point refers to the component of the teacher in Javanese building, who serves as a model and a leader. The past can also be a good teacher: the figure who made us a trained AND educated person, not only teaching us. My late father was a schoolteacher at Sekolah Pendidikan Guru (The School for the Education of Teachers). He told me that when a student achieves more than him, he is delighted. Here we are reminded of a teacher influenced by Ki Hadjar Dewantara, the philosopher of Indonesian education: *Ing ngarsa sung tuladha, ing madya mangun karsa, tut wuri handayani*. Is idealism still sprouting in the heart of our teachers, lecturers, and professors in Indonesia?

To Close: Appreciation and Indebtedness

Honorable Ladies and Gentlemen,

That is all I can deliver at this pleasant opportunity. Now let me show my appreciation and thanks to those who have made it possible for me to accept the honor and responsibility of a professorship. Let me first of all thank all who have been involved in processing my promotion to professorship: from typist to Rector and the Minister of National Education. Although I won't be able to mention everyone's name, it does not mean that I have forgotten those who have worked so hard to successfully complete this inauguration process.

To my colleagues in all architectural schools in Indonesia, I thank you for the discussion and exchanges that have made me more aware of the journey of architecture and architectural education in Indonesia. I especially thank and honor the late Djelantik, Josef Maria Soendjojo, Stephanus Setiadi, Slamet Budihartono, Mas Santosa, Angger Orie, Ardi Pardiman Parimin and Sidharta who played a major role in forming my teaching personality and

mission. Mr. Harjono Sigit, Han Awal, Soewondo Bismo Soetedjo, Gunawan Tjahjono, Johannes Widodo, Yuswadi saliya, Sutrisno Murtiyoso, Herbasuki Wibowo and Johan Silas have challenged me in order that I may become a principled teacher, and be consistent in believing in architecture as a form of knowledge and as a *dharma*. You have convinced me that for the teacher, much like my late father used to say: 'the happiest moment is when he sees his student achieving more than what he can achieve'.

Such teacher-student relationship does not end when the student completes his or her study, and does not stop outside the classroom.

To students whom I have taught, to those whom I was not able to accommodate in my classes, those from Banda Aceh to Jayapura and from Manado to Kupang, I thank you all. You are the ones who have challenged and reminded me, at every moment, to become an instructor who could brighten your perspective, and to build character and nationalism in your heart. Forgive me if I became a 'killer' in your eyes.

From parking staff to the head of administration, and from cleaners to clerks, you have supported me in the path of positive thinking (*temen-tinemu*) which I took in the Department of architecture at ITS. I am proud of you for showing me the way. I thank you all. Please do not be disappointed if I don't mention you by name.

Honorable Ladies and gentlemen,

This valuable time has compelled me to thank all my teachers in SDK Santo Josef, SMAK Santo Albertus, Thew Institut Teknologi Sepuluh Nopember and the Iowa State University, as well as all of my friends and colleagues who, in my opinion, were my teachers for the life I have pursued. Apologies if I couldn't mention each one of you name by name, but believe me that you are in my life as teachers who have taught and educated me. Thank you for the teaching and the education you have given me.

All the children, in-laws, grand children and great grandchildren of the big families of Gerardus Soewandi, Roestamadji, Himowidjajan, Raden Mas Kadarsan and Tjokroprawiro who have given me guidance and invaluable appreciation of my work and dedication in teaching and education. Thank you with my salute to you all.

I have always regretted that I loved my books and computers often more than nurturing the love I have planted in my relationship with my loving wife Maria Sri Andrijati and my dear daughter Josephine Roosandriantini S. Psi. I was moved and touched to hear of the tears my wife shed on receiving the text message that informed her that the letter of professorship had been issued; and my daughter proudly pronounced my name along with the title professor. My wife and my daughter, I hope you take what I have achieved here as a sign of my love for you.

My father Gerardus Soewandi, unbeknownst to me, informed my wife that he would be very happy if I were to achieve the highest in the *dharma* in which I found myself. My father was unable to witness this, as he returned to Bapa in heaven in 1997. It is my mother Maria Roosmijah who accompanied me to this highest point in my life. I will never forget how you were trying to smile

happily while, with difficulty, listening to my whisper: 'mother, I have been trusted with a professorship'. My mother's departure to meet my late father in peace thirteen days ago, to me is a sign of happiness of a mother who had taken care of her children in order for them to achieve the highest in the *dharma* they pursued. My beloved father and mother, I hope today's event conveys the wish you have implanted in my heart: 'be diligent in one task, and achieve the highest from what you are doing'. Please accept this event as your child's dedication to glorify his beloved father and mother.

Thank you.

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FIG. 3 Sketch of University of Indonesia’s Rectorate Tower by Gunawan Tjahjono (Courtesy: G. Tjahjono)

FIG. 4 Photo of University of Indonesia’s Rectorate Tower. Source: Abidin Kusno

FIG. 5 Poster for Prijotomo’s lecture, 2013. Designed by architectural students of Universitas Brawijaya Malang (Source: <http://archipress-ub.blogspot.ca/2013/04/kuliah-tamu-bersama-josef-prijotomo.html>)

FIG. 6 Photo of Gunawan Tjahjono. Courtesy of the LafargeHolcim Foundation for Sustainable Construction

FIG. 7 Photo of Josef Prijotomo. Source: uc.ac.id

FIGS 8, 9, 10, 11 Professor Dr. Ir. Josef Prijotomo March, Nusantara Architecture: The Architecture of Shade and ‘Liyan’ Architecture. An Architectural Reading of the Architecture of Society Without-writing. Inaugural speech delivered on the occasion of appointment to Professorship at Institut Teknologi Sepuluh Nopember. Surabaya, 19 April 2008.

On the Editors

Carola Hein is Professor and Head, Chair History of Architecture and Urban Planning at TU Delft. She has published widely on topics in contemporary and historical architectural and urban planning – notably in Europe and Japan. Among other major grants, she received a Guggenheim Fellowship to pursue research on The Global Architecture of Oil and an Alexander von Humboldt fellowship to investigate large-scale urban transformation in Hamburg in international context between 1842 and 2008. Her current research interests include transmission of architectural and urban ideas along international networks, focusing specifically on port cities and the global architecture of oil. She serves as Editor for the Americas for the journal *Planning Perspectives* and as Asia book review editor for the *Journal of Urban History*. Her books include: *The Capital of Europe. Architecture and Urban Planning for the European Union* (2004), *Planning History Handbook* (2017/forthcoming), *Port Cities: Dynamic Landscapes and Global Networks* (2011), *Brussels: Perspectives on a European Capital* (2007), *European Brussels. Whose capital? Whose city?* (2006), *Rebuilding Urban Japan after 1945* (2003), and *Cities, Autonomy and Decentralisation in Japan*. (2006), *Hauptstadt Berlin 1957-58* (1991). She has also published numerous articles in peer-reviewed journals, books, and magazines.

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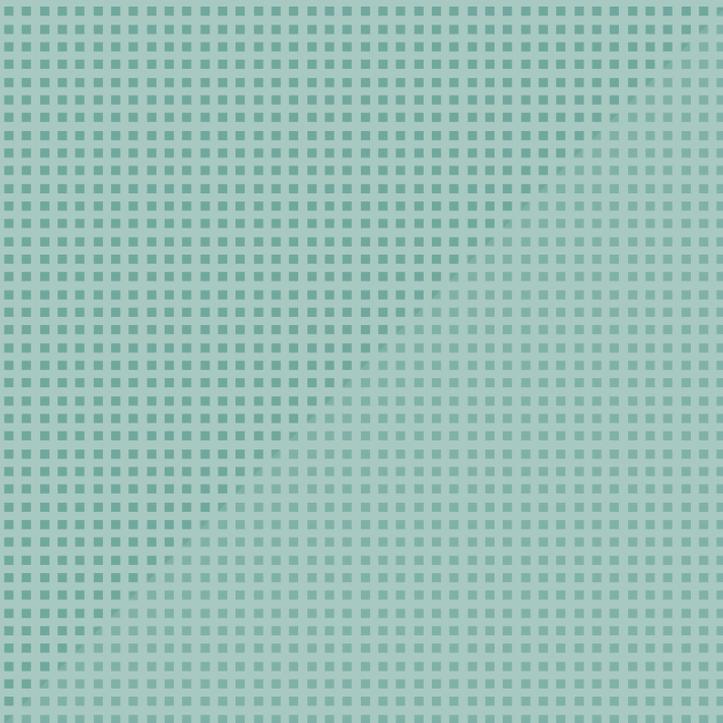
This small booklet contains the inaugural speeches of Gunawan Tjahjono and Josef Prijotomo on their appointments as professors at the University of Indonesia and Surabaya Institute of Technology, 10 November. The texts provide novel insights into their respective approaches to Indonesian architecture, and appear here for the first time in English. An analytical reflection on their work by the architectural historian Abidin Kusno introduces them.



Herman van Bergeijk [Guest Editor]

ISSUE 1

Van Lohuizen & Van Eesteren Partners in Planning and Education at TH Delft



Inaugural Speeches in the Built Environment:
Global and Contextualised



TU Delft Open 2015



Van Lohuizen &
Van Eesteren
Partners in Planning and
Education at TH Delft

Inaugural Speeches in the Built Environment:
Global and Contextualised

**Inaugural Speeches in the Built Environment:
Global and Contextualised**

Series Editors: Carola Hein and Herman van Bergeijk
[Chair History of Architecture and Urban Planning, TU Delft]

ISSUE 1

**Van Lohuizen & Van Eesteren
Partners in Planning and Education at TH Delft**

Guest Editor: Herman van Bergeijk
Translation: UvA Talen
Design: Sirene Ontwerpers

This small booklet contains the inaugural speeches of Th. K. van Lohuizen and Cor van Eesteren on their appointments as professors at the Technical College of Delft. The texts provide novel insights into their respective teaching programs, and appear here for the first time in English. An analytical reflection on their work by the architectural historian Herman van Bergeijk introduces them. The notes in the speeches are made by the editor.

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Inaugural Speeches in the Built Environment: Global and Contextualized

Inaugural speeches have long been unique moments in the careers of academics in many countries: they offer time to pause, to reflect, and to envision new approaches. Planners and architects in particular have used such speeches to tie together insights into design work and education and to offer a programmatic view on their own role in the academic community. Prepared with great care for university and general audiences, inaugural lectures also offer later researchers insight into the thoughts of these scholars at a specific moment in time. Material gathered for and notes written on the occasion of these lectures can help such researchers understand the work habits and thought processes of their authors, perhaps even their relationships with colleagues and students. This series presents inaugural lectures – translated into English and contextualized with scholarly introductions – to unlock information for comparative research and set the stage for new investigations. For example, scholars can use these works to explore educational activities in the built environment or to study the dissemination of planning and design ideas. The series starts with the words of two professors from Polytechnic in Delft (today's Delft University of Technology) who were highly influential in the Netherlands and beyond.

Carola Hein and Herman van Bergeijk

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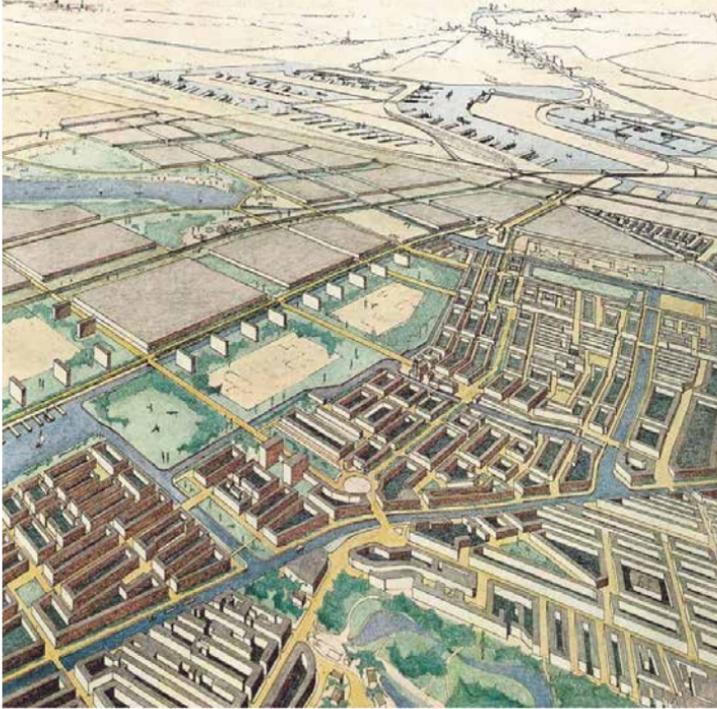


FIG. 1 Drawing of the Westelijke Tuinsteden [Western Garden Cities] for the General Extension Plan of Amsterdam as conceived by Cor van Eesteren with the help of Th. K. van Lohuizen

Cultivated landscapes as new cathedrals

'I have the same idea with all my books: an attempt to come close to the core of reality, the structure of reality, as opposed to the merely superficial.

The realistic novel is remote from art. A novel should heighten life, should give one an illuminating experience; it shouldn't set out what you know already. I just muddle away at it. One gets flashes here and there, which help.

*I am not a philosopher or an intellectual. Practically anything I have done of any worth I feel I have done through my intuition, not my mind – which the intellectuals disapprove of.'*¹

In the mid-twentieth century, the Polytechnic of Delft (TH Delft, today's Delft University of Technology) appointed engineer and city planner Theodoor Karel van Lohuizen (1890-1956) and architect and city planner Cor van Eesteren (1897-1988) as extraordinary professors. Van Lohuizen, appointed in 1947, worked there until his death in 1956, and Van Eesteren, who started in 1948, taught until his retirement in 1967. Numerous scholarly publications by Vincent van Rossem, Kees Somer and others document their intensive collaboration before World War II on the extension plan of Amsterdam.² Their collective work after the war, with the help

¹ P. White, *Patrick White Speaks*, p. 24.

² V. van Rossem, *Het Algemeen Uitbreidingsplan*; K. Somer, *The functional city*.

of students in Delft, is less known. And, as the writer Rein Blijstra stated as early as 1971 in his little monograph on Van Eesteren, 'the developments resulting from his educational work at Delft merit more attention'.³ Their work at TU Delft, separately and together, is of fundamental importance to the development of town planning in the Netherlands.

Both professors gave inaugural speeches when they came to the Polytechnic, Van Lohuizen on the 11th of February 1948 on the 'The Unity of Town Planning', and van Eesteren on the 28th of April of the same year on the 'The Conception of our Present-day Settlements and Cultivated Landscapes, Their Appearance and Expression'. These talks established town planning as a discipline in the Netherlands and beyond. The professors' overall work and methods, including statistics, formed the programmatic basis of the knowledge of many future town planners in this country. They acquainted students with two sides of the discipline: the scientific one and the more artistic one. Van Lohuizen focused on the first, Van Eesteren on the latter.

This article sheds light on a lesser-known period in these men's lives and contributes to the history of the school in Delft, particularly the history of the teaching of architecture and town planning. Both men studied various cities in Europe in depth and took study trips to many other locations. Van Eesteren also directed many students to work on small towns and villages in the Netherlands. In their work, we can see how he classified these settlements and how he thought about their relationship with the surrounding landscape, a theme upon which he touched in his inaugural speech. Indeed, Van Eesteren was dedicated to his teaching, although he refused to write his lessons down (as he wrote in a draft letter to

³ Blijstra, C. van Eesteren, p. 1004.

his colleague at Delft, professor J.L. Klein).⁴ Klein had sent him the resumes of his lectures on planning. Van Eesteren found these interesting but had a different educational method. He preferred to jot down some key words, avoid giving ‘rules and formal systems’ and leave much to the moment. He also refused to teach rules and key terms, as he believed that they would destroy the spontaneous creativity of students. Instead, he taught them to improvise. (In this sense he was the opposite of Van Lohuizen, who was both meticulous and mainly interested in teaching research skills based on a scientific approach.) His inaugural speech was one of the few texts on which he really worked intensively and that took him some time to prepare, as the material in his archive clearly shows. This does not mean that Van Eesteren took his educational work in Delft lightly. On the contrary, his agendas and notebooks show just how seriously he took his encounters with students and how strictly he planned his time with them, sometimes even hour by hour.

The Archives of Van Lohuizen and Van Eesteren at the Het Nieuwe Instituut hold a vast amount of information on the teachings of both professors: lecture notes, student work, and other material from their time in Delft. It also holds English translations of their 1940s inaugural speeches, showing that both professors were interested in publishing their views for an international audience, even many years after the fact. The archives also give information on the genesis of the inaugural speeches and their effect on their students and friends. Colleagues and friends of these two professors appreciated their speeches, as the many letters of congratulations show. But the immediate impact of the speeches on the profession was less great. Nonetheless, through their teaching and their practice these scholars were able to effectively illustrate and disseminate their ideas.

⁴ The code (HNI, Archief van Eesteren, EEST VI 78) refers to the inventory of the archive of Van Eesteren, that is kept in Het Nieuwe Instituut in Rotterdam.

In the classroom, they advanced the position that town planning was not based on the work of the individual but relied on fruitful teamwork between researchers from the different urban disciplines. Outside the classroom, they worked with experts from economics, agriculture, landscaping, and so on, many of them from other institutions and universities. Town planning became teamwork. This idea of interdisciplinary collaboration in education and practice has currency today, as we witness planners' renewed interest in research and statistics as a creative means of dealing with the city and its problems.



FIG. 2 Van Eesteren in 1987. The contact sheets including this photo were rescued from the Van den Broek en Bakema faculty building after it was completely demolished by fire in 2008.

Instead of referring students to the traditional knowledge of the discipline, embedded in manuals, handbooks, history surveys, historical examples, etc., Van Lohuizen and Van Eesteren stressed the importance of gathering scientific facts and of coming into contact with the visual contemporary arts. Van Eesteren played an instrumental role in the history of urbanism education in the Netherlands. Scholars of Dutch architecture from J.J. Vriend to H. Ibelings regard him as a modernist, a counterpart and foil to the more traditionally oriented Marinus Jan Granpré Molière, who in his architecture was an enthusiastic advocate of the use of brick and who later was one of the main Roman Catholic architects in the Netherlands. Van Eesteren's expansion plans for Amsterdam earned him a good reputation before World War II; his post-war work focused on the IJsselmeer polders, but also involved modernizing urbanism education in Delft. Almost every Dutch post-war urban designer, whether urbanist or architect, was influenced greatly by the lessons of Van Eesteren. As architectural historian Auke van der Woud points out, Van Eesteren represented an 'artistic type of urban design', an attitude that might not have placed him at the heart of post-war dynamism in the field of urbanism, but that did ensure he was able to open the eyes of many students to changes in the fine arts.⁵ Van Eesteren was greatly influenced by pre-war art movements and had friendships with many of the artists, including Theo van Doesburg.

Van Eesteren pioneered his new approach at an institution undergoing tremendous change. Education on architecture and the built environment at what was then the Polytechnic in of Delft (Technische Hogeschool Delft) needed a radical overhaul to adapt to new standards. The executive board of the Polytechnic (in which C.H. van der Leeuw, director of the Van Nelle factory,

⁵ A. van der Woud, "Een toon van Hulde," p. 4-5.

was an influential figure) appointed many new staff and faculty members. The power of the old guard, whose most influential exponent was Granpré Molière, who had been Professor of Architecture since 1924, remained undiminished at first. But calls grew for modernization and for tailoring education to the needs of the time. Three new professors were brought in by special appointment by to teach architecture and urban design: Johannes Hendrik van den Broek, Van Eesteren, and Gerardus Hendricus Holt. In the weekly magazine *De Groene Amsterdammer* of 17 January 1948, the famous architect J.J.P. Oud welcomed this move towards modernism. As an advocate of a ‘new art of construction’, he saw the appointment of Van den Broek and Van Eesteren as a positive step towards improving the education on offer. (He had his reservations about Holt.) ‘Het nieuwe bouwen [the modernist movement in Dutch architecture and construction] eschews pre-existing forms. Rather, it bases itself on the needs and possibilities that arise from the practicalities of everyday life and enables these, as it were, to burst out to create a new form. It develops in an evolutionary way, continually recreating itself. The resulting form takes shape not at the start, but at the end of the design process. This very concept has hitherto been almost totally alien to the Delft program and the art Delft has presented to us previously has been visual in nature rather than functional. Giving students freedom is worthless when a view like that at Delft prevails. Just as in the old-style architecture program, so with the new art of construction the students must be guided according to principle and expertise. This new art of construction cannot be left for the students to solve of their own accord. This will lead to chaos or ... to the Delft School!’⁶

6 J. Oud, “Drie nieuwe Professoren Delft.”



FIG. 3 Cor van Eesteren in a Sikorsky helicopter during his visit to Brazil in 1958

It is both striking and remarkable that Oud makes no reference to the appointment of van Lohuizen at the same institute, despite being well acquainted with his work. Some eight years earlier, he had offered his apologies to Van Lohuizen for being unable to attend his public appointment as lecturer at the University of Amsterdam. ‘I am delighted that you have the opportunity to put your knowledge of and dedication to this field to good use in educating a new generation of urban designers.’⁷

⁷ See letter from J.J.P. Oud to Van Lohuizen, dated 24 January 1940, in HNI, Archief Van Lohuizen.

On 11 February 1948, Van Lohuizen gave his inaugural address in Delft, as professor of urbanism research by special appointment. Around two months later, on 28 April, Van Eesteren gave his own speech to mark his acceptance of the post of professor of urbanism by special appointment. As was customary, both of these speeches were published. In addition, Van Lohuizen published his speech as an article in the journal *Tijdschrift voor economische geografie* [Review of Economic Geography].⁸ That journal had also, in 1940, published his public lesson on the subject of scientific research in urban design, ‘Het wetenschappelijk onderzoek in den stedenbouw’ [Scientific Research in Town Planning]; he had originally given it as a speech to mark his appointment as private lecturer at Amsterdam University. He had sent a copy to the architect Willem van Tijen, who communicated in a letter how much he had enjoyed reading it. He wrote: ‘It is characteristic of the way in which Urban Design is developing [...] I was very impressed by the quality of the articles on the subject in the journal V. & S. I was also particularly taken by the Sloterveer plan. If it succeeds, it will be a real achievement. Something like this engenders confidence, even in impatient and skeptical people like me.’⁹ Many years later, in 1982, Van Eesteren wrote to the architect J.P. Kloos that the three speeches – the one in Amsterdam and the one in Delft by Van Lohuizen in Amsterdam and his own – should be regarded as complementary.¹⁰ Yet they never contemplated making a booklet out of all three speeches.

The speeches in Delft offered both professors an opportunity to present their thoughts to their future students, and also to bring their ideas to the attention of colleagues within and beyond the institute. It was not only a local but a national event. But there were few reactions to the factual content. Most people

8 Th. Van Lohuizen, “De Eenheid van Stedenbouwkundige Werk,” p. 401-407.

9 See letter, dated 13 February 1940 in Archief Van Lohuizen.

10 See letters in: HNI, Archief van Eesteren, EEST X 1026.

congratulated Van Eesteren but did not enter into the merits or defects of his text. Writer and friend Til Brugman did levy some stern criticism in a long letter: 'You take things as your basis and go from there to people. Whereas I go from people to things. [...] Ultimately all work starts for the sake of people. That point cannot be made clearly enough, especially to students. Perhaps you will find it strange that I place the emphasis in this way, because you will say: all construction – it cannot be clearer, because without people it itself does not exist – is based on people. But it also needs to be SAID.' She believed that he should take the human connection as his starting point. There was little feedback from further away. Because the addresses were given in the Dutch language, their effect was limited to the Dutch-speaking area. Van Eesteren saw this as a great disadvantage. He had an international reputation and was often invited to act as a consultant or speaker abroad. His archive includes an English translation of both his own speech and that of Van Lohuizen. (Van Eesteren's speech was translated in 1981 by Anneliese Nassuth-Broschmann.¹¹ Her relatives, G.S. (Siegfried) Nassuth (1922-2005) and Götz A. Nassuth had been students of Van Eesteren in Delft. On the death of the master, Götz Nassuth had published some of his memories in *Archis*.)

Although much has been written about the life and work of Van Eesteren and a monograph was published about Van Lohuizen, there has been little focus on their teaching. This is strange, because they significantly influenced teaching, and the archives of both professors include a wealth of information about their work at the Polytechnic. The most remarkable aspect of this information is

¹¹ In a letter to Van Eesteren, dated 16 March 1981, Nassuth-Broschmann refers to the translation. We have used this translation and amended it only if there were obvious errors in the translation of the quotations. (HNI, Archief van Eesteren, EEST X 1026)

probably the inherent conflict it reveals in Van Eesteren's teaching between the freedom of art and the thoroughness of research. He peppered his lectures with references to works of art – poetry and literature and the like – but did not deny the importance of history and research into the facts that underlie the transformation of a city. He used all kinds of material to explain his approach: photographs, descriptions of places, cross-sections, historic maps, and other illustrations. He expected his students to do thorough research, including fieldwork, into the origin and development of the towns and cities that he discussed. While Van Eesteren made a plea for freedom from traditional ways of looking and applying town planning rules, Van Lohuizen was teaching the importance of facts and their interpretation. Avant-garde art played a major role because it set a different mind frame for the students, but the freedom that the art suggested was bound by the thoroughness of the research.

Both professors conceived of urban planning as a collaborative practice. Study groups in Van Eesteren's classes included students from his own department and also students from other disciplines and other universities. Urban design and planning were the two poles within these study groups. And thanks to their networks of contacts, close collaboration was guaranteed between the different disciplines, study groups, and municipalities of the cities used as case studies. Students closely studied many small towns and villages, their work forming the basis for extensive reports and expansion or development plans, complete with comments of all those involved. Many municipalities were very happy with the students' research and facilitated it in various ways. When a group of students issued a final report, they would often present it in the municipality concerned, accompanied by some festivities. It is interesting to note that the professors and students did not treat the major cities in this way. The focus was on the smaller cities and villages. The metropolitan areas were more likely to be

the subject of lectures or a popular destination for excursions. Along with major cities in the Netherlands, teams visited foreign cities with international appeal. These excursions were part of the curriculum.

Van Eesteren's address indicates that he was interested not only in urban settlements, but also in wider vistas. The title of his speech indicates this clearly. He focused primarily on the relationship between villages (or small towns) and the surrounding landscape. Town and country were inextricably linked. This approach seems connected with pre-war German scholarship that had focused on natural landscapes and their charm (Paul Schultze-Naumburg, Hans Bernhard Reichow, or Fritz Schumacher, for example), but Van Eesteren was primarily interested in landscapes shaped by humans, or cultural landscapes.

Whereas Van Eesteren traced in his speech a broad and lively picture of the world around him, the speech of Van Lohuizen was almost austere and to the point. In his inaugural address, Van Lohuizen did not quote anyone. He did not explore the history of his subject or the work of, for example, Robert E. Park or Ernest W. Burgess, who both emphasized the value of surveying for urbanists. Van Lohuizen merely touched on problem areas and tried to elucidate the objectives of his work. His approach was not directly scientific; rather, he intended to make the difficult subject understandable to his listeners. He pointed out that town planning had to integrate general research with local research; general knowledge and specific surveys should both form the foundation of the discipline.

Van Lohuizen made a strong argument for fieldwork and also for more comparative analyses between cities of a similar size. Van Eesteren adopted a different means of arriving at results. This was already clear in his inaugural speech. He referred here

to modern artists and art movements (he had little interest in traditional art); avant-garde art best expressed the new values of his own time. Most of his listeners were probably familiar with the names he mentioned: Arp, Mondrian, and Van Gogh were all respected artists, especially among the post-war generation. Georges Vantongerloo and Herman Kruyder may have been slightly less well-known, yet Van Eesteren deliberately uses these figures to demonstrate that knowledge of art is of great importance in students' development. He referred to the work of three urbanists in particular: Fritz Schumacher, Ludwig Hilberseimer, and Eliel Saarinen. Since the 1920s, Van Eesteren had been a great admirer of Fritz Schumacher, the Hamburg-based architect, urban designer and theorist whose plans for Cologne had earned great acclaim in the Netherlands. Van Eesteren had certainly read Schumacher's memoirs *Stufen des Lebens* [Steps of Life] published in 1935 and republished in 1949, but it is not known whether he was also familiar with Schumacher's extensive theoretical writings. Schumacher was an influential town planner and certainly had a broad perspective on his own profession as even his last books testify. At the beginning of his career Van Eesteren was very keen to work with Schumacher and asked him for advice on several occasions, in correspondence now in his archive.¹² Schumacher explicitly advised him to focus on the organizational aspects of the profession. According to Van Eesteren, the new districts that Schumacher designed for Hamburg were similar to those that had been established in Amsterdam: 'They both had broadly the same virtues and shortcomings.' He did not give a more detailed specification.¹³

¹² See letters in: HNI, Archief Van Eesteren, .EEST X 1046.

¹³ C. Van Eesteren, "In Memoriam Fritz Schumacher", p. 65.

Van Eesteren also cited Ludwig Hilberseimer, who had emigrated from Germany to the United States after the Nazis had come to power. His book *The New City*, published in 1944, proposed the gradual dissolution of cities and a new kind of relationship between landscape and human settlements. It starts with an excerpt from Walt Whitman's poem *Leaves of Grass*, which is followed by an introduction by Ludwig Mies van der Rohe, who wrote: 'He [Hilberseimer] knows that cities must serve life, that their validity is to be measured in terms of life, and that they must be planned for living. He understands that the forms of cities are the expression of existing modes of living, that they are inextricably bound up with these, and that they, with these, are subject to change. He realizes that the material and spiritual conditions of the problem are given, that he can exercise no influence on these factors in themselves, that they are rooted in the past and will be determined by objective tendencies for the future.'¹⁴ These words could almost have been written by Van Eesteren himself. He attempted to make the very same point in his inaugural speech. Just like Hilberseimer, Van Eesteren believed that urban designers of the early 20th century had become aware of their responsibility to society: 'Then the growing recognition of the forces shaping intellectual, social and economic and technical changes was definitely brought into the field of city planning to effect there significant and lasting concepts. City planning became a science. Man came to realize that, like any other science, it is rational and must be mastered in all its phases.'¹⁵ At times you could almost hear Hilberseimer's words echoing in Van Eesteren's speech. Hilberseimer's book ends with an allusion to the relationship to landscape, citing the examples of Versailles, Karlsruhe, and Bath; this would certainly have appealed to Van Eesteren.

¹⁴ M. van der Rohe, Introduction to L. Hilberseimer, *The New City. Principles of Planning*, p. 15.

¹⁵ L. Hilberseimer, *The New City. Principles of Planning*, p. 190.

Indeed, it was one of the themes that he raised in his letters to Schumacher, who recommended that he visit some parks in England. Like Van Eesteren, Hilberseimer took an artistic approach to urban design: 'Only by mastering the technical means can the city planner realize his aims with artistic freedom. This freedom must be always linked with the useful and the necessary.'¹⁶ But for Van Eesteren, modern art in particular was an important factor in reaching this freedom. This was something he was particularly eager to impress on his students. He sought to perpetuate artistic influences to enable them to serve as symbols of a new reality. They sharpen our sensory perceptions. He left the more scientific approach to the surveyor and others.

In this, Van Eesteren was very similar to the third urban designer who interested him and to whom he referred in his speech: Eliel Saarinen. Saarinen wanted to draw a distinction between town planning and town design, favoring the latter. 'Town-planning', he wrote, 'has gradually become surrounded by an aura of insipidity due to the degrading effect of superficial practice. In our analysis, therefore, at least as far as the three-dimensional conception of the physical city is concerned, the word *planning* has been avoided in all cases where misunderstanding could have arisen. It is a word that implies a vapid dryness, just the same as does a stereotyped street map laid out on paper as a mere utilitarian pattern of intercommunication. Therefore, to avoid misunderstanding, the word *design* was preferred. It implies that civic organization must spring from wells deeper than the utilitarian purpose only.'¹⁷ It is impossible to underestimate the

¹⁶ L. Hilberseimer, *The New City. Principles of Planning*, p. 191. Also see for Hilberseimer: S. Colman, "Promoting the New City: Ludwig Hilberseimer at the Art Institute of Chicago, 1944", in: R. Freestone/M. Amati [ed.], *Exhibitions and the development of modern planning culture*, p. 111-129.

¹⁷ E. Saarinen, *The City, Its Growth*, p. 354.

importance to Van Eesteren of Saarinen's sparsely illustrated book. Many of the ideas and concepts that Saarinen raised recur in Van Eesteren's speech. Though Saarinen ignored the connection with the other arts he emphasized what Van Eesteren saw as the problems of the modern city: the lack of leadership, or what Saarinen referred to as 'proper counsel'. Van Eesteren would certainly have agreed with his view that 'it is most important to understand more than has been so far understood, that past methods of town-building are not valid anymore, and that present and future methods must be based on entirely new premises. And these new premises can and must be found only in and through the existing difficulties'.¹⁸

It is not surprising that Van Eesteren mentioned Sigfried Giedion in his inaugural speech. The two had been acquainted for many years and formed the active and organizational center of the C.I.A.M. (Congrès internationaux d'architecture moderne) for many years, Giedion as the secretary and Van Eesteren the president. They maintained a lively correspondence and had met each other on many occasions. Both were present at the C.I.A.M. conference in Bridgwater in 1947. Giedion's reputation was partly based on his publications, in which he promoted modern architecture. In 1938 and 1939, he was invited to give the Charles Eliot Norton lectures at Harvard in Cambridge in the United States. He published them in 1941 with the catchy title *Space, Time, and Architecture*. This book became an influential resource for understanding modern architecture and a standard work in architecture schools that wanted to teach a fresh look at history. Van Eesteren was probably eager to see this book used in Delft as he referred to it on several occasions.

¹⁸ E. Saarinen, *The City, Its Growth*, p. 143.

Giedion was and is considered to be ‘a milestone in modern thought’.¹⁹ He saw history not as a collection of facts but as insight into the dynamic and ever-changing process of life. He sought to create a new tradition that would also include urban design: ‘The virtues and defects of various types of cities – governmental centers, sea ports, factory towns – cannot be compared, simply because there has been no steady and unified research.’²⁰ Giedion believed in progress, although the Second World War would dampen that belief to some extent. He celebrated the same developments of society and the dominant role of technology as Van Eesteren and similarly connected architecture, urban design, and the fine arts. Giedion acknowledged these resemblances, and would even devote a chapter to ‘Van Eesteren’s idea of the town planner’.²¹

From the speeches it can be ascertained that Van Lohuizen and Van Eesteren worked successfully together. This is not surprising. They believed in the positive effects of teamwork and had already worked together on the Amsterdam General Expansion Plan [Algemeen Uitbreidingsplan van Amsterdam].²² It was a lucky turn of events that both were appointed at Delft.

¹⁹ D. Mertins, *Transparencies yet to Come*. Also see: D. Mertins, “System and freedom. Sigfried Giedion, Emil Kaufmann and the constitution of architectural modernity,” in: R.E. Somol [ed.], *Autonomy and Ideology. Positioning an Avant-Garde in America*, New York 1997, pp. 212-232, and Z. Ceylanli, *Sigfried Giedion’s “Space, time and architecture: an analysis of modern architectural historiography.”*, unpublished thesis Middle East Technical University, 2008.

²⁰ S. Giedion, *Space, Time and Architecture*, p. 9.

²¹ S. Giedion, *Space, Time and Architecture*, p. 816-817.

²² V. van Rossem, *Het Algemeen Uitbreidingsplan*. Also see: M. van Stralen, “Empirical urban analysis. The collaboration between Van Eesteren en Van Lohuizen.” in: *Daidalos*, 1998, nr. 69/70, p. 60-67.

Their joint arrival in Delft laid the foundations for a new way of teaching, in which students attended lectures but worked primarily in study groups supervised by various professors.

But Van Eesteren was initially quite dissatisfied with the conditions of his appointment and its duration. Following some disagreement over terms with the director of the department, Granpré Molière, Van Eesteren finally announced his willingness to accept the appointment on 18 July 1947, although not all of his objections had yet been met. The main issue was that the department initially intended to offer him a temporary appointment for only five academic years, and he sought a more permanent position. Several professors of the architecture department in Delft – Herman Rosse, Ludwig Oswald Wenckebach, and Henry Tino Zwiers, none of them representatives of the most progressive movement – visited Van Eesteren and convinced him of the possibilities of expressing and teaching his own ideas. After their visit he wrote to the department arguing that the ‘movement expressed in Nieuwe Bouwen [New Building] [...] must have such representation, that the potential that lies within Nieuwe Bouwen can effectively be brought out. Only then will it be possible to achieve a genuine interplay of insights and growth of ideas’. Van Lohuizen did not harbor similar objectives. As well as working at other universities, he had contributed to an urbanism course in 1942, for which he taught research methods (Jules Henri Froger was responsible for urban design at that time in Delft) and had found his niche, in which he was perfectly happy. His work did not represent a distinct direction with the discipline.

Van Eesteren, who had acquired teaching skills when he was professor of architecture and town planning in Weimar in 1926, began to give lectures in Delft in the autumn of 1948. On 5 November, he spoke of the ‘use of moderation and scale in connection with the street plan’ and a week later raised the issue of ‘De Stedebouwkundige Ruimte’ [Urban Design Space].

In the spring, he raised the subject of villages, using the report issued by urbanism consultancy 'Instituut Stad en Landschap van Zuid Holland' [Institute City and Landscape of the province South Holland] on the towns Alblisserdam, Hardinxveld, and Lekkerkerk. He also explored villages in the north-eastern polder, including Nagele and Nieuwe Tonge. An excursion to Schiphol was also included in the program. His choice of subjects was anything but random. Van Eesteren knew very well which areas to tackle and where future problems lay. The relationship between the village and landscape was a particularly frequent subject, not only in his lectures but also in his study groups. His arguments were often illustrated by personal experience. After taking a study trip to Copenhagen with Van Lohuizen, for example, where he met Flemming Teisen and other members of the Danish Town Planning Institute, he immediately incorporated his impressions in a lecture. For most of his lectures, he drew up a rough structure that he loosely fleshed out with an artistic argument. He would always leave room for interesting excursions. Images of paintings, pictures, and maps were always his main references and as he spoke he would constantly correct and re-correct himself as he searched for the right word to express what he wanted to say. As Blijstra recalls, his students dubbed him the great stammerer.²³

Again, the multidisciplinary study groups were a particularly important innovation. These involved professors from within and beyond Delft meeting with students of various disciplines. In the academic year 1949/1950, the town of Gorkum was the subject. Van Eesteren noted that he had good experiences with this course; he intended the work not only to result in communications that could be compiled in larger reports, but also in exhibitions, 'possibly to mark institute anniversaries'. He wished to address Leerdam or Breda in

²³ R. Blijstra, C. van Eesteren, p. 15.

the following year, and indeed Breda was chosen as the next case study. In subsequent years, students and specialists scrutinized and discussed the towns and villages Apenberg, Goor/Rijssen, Markeloo, Bergen op Zoom, Weesp, Steenwijk, Purmerend, Kuilenberg, Hattem, Doesburg, and Hardewijk in many separate sessions.

Many students attended the courses, especially those who had a special interest in town planning. They came into close contact with the professors and often had a special relationship with them. An example are the Nassuth brothers, who participated in the Bergen op Zoom study group in 1952. This group was led by the professors Hendrik Gerrit van Beusekom, Froger, P.Ph. Jansen, Van Lohuizen and Van Eesteren.²⁴ Siegfried Nassuth served as Van Eesteren's assistant. His brother, Götz Nassuth, did not mention the study groups in his recollections but he did write that Van Eesteren's lectures made a great impression on him. Van Eesteren had a penchant for using visual illustrations. "The images and associated text each formed an independent information link within a chain, whose cohesion was to be gleaned from the context of the lecture. An important factor that contributed to this approach was his express desire not to be a theoretician. This meant that, during the lectures, one needed to have the theory that formed the basis of the narrative to hand in order to be able to contextualize the flow of verbal and visual impressions and fully understand the result. All of this led to the fact that no lecture notes were ever published of Van Eesteren's work."²⁵

²⁴ H.G. van Beusekom (1893-1976) became professor of public housing by special appointment in 1947. J. H. Froger (1903-1976) started as a lecturer and was professor of urbanism from 1947. P.Ph. Jansen (1902-1982) was professor of hydraulic engineering.

²⁵ G. Nassuth, "Herinneringen aan Van Eesteren," p. 5.

Yet the archive does contain a transcript of a lecture dating from February 1952, when Götz Nassuth was a student of Van Eesteren, on the subject of ‘Design and recreation sites’. Van Eesteren had hung up maps and photographs on the walls and stated: ‘Objects of recreation are examples of living matter. Everything is in motion [...] We need to experience it to the full.’²⁶

For fieldwork, the students could fall back on the teaching of Van Lohuizen. He covered such themes as residential district, population, traffic, and income sources, and he explained research methods. Though he was no lover of statistics, he accepted them as an invaluable resource: ‘figures are the symbols of life itself. Statistics are not only an analysis of what exists, projection into the future is also possible as Van der Valk points out who examined van Lohuizen’s education in more depth.’²⁷ He had the students examine the flow of traffic, counting pedestrians, bicycles, cars, trucks, and other road users. They would experience the city by being physically present during longer periods.

Van Lohuizen’s teaching came to an abrupt end on 9 December 1956, when he died following a brief illness. Van Eesteren delivered a speech at his funeral, very much appreciated by the family because it was such a vibrant portrait of the deceased: ‘At home, withdrawn, gentle and friendly and quietly thinking and working – here, the strong contours of creative work and human attachments’. The warm words were a testament to a close friendship. Van Eesteren summarized the importance of Van Lohuizen: ‘You, the apparently exclusive and – as precise as possible – deliberative researcher, embodied for us the understanding of the rich wealth and plenitude of life in the city and in the countryside. Your probing mediation

²⁶ See: “Vormgeving en ontspanningsterreinen” in: HNI, Archief Van Eesteren, EEST VI-160.

²⁷ A. van der Valk, *Het levenswerk van Th. K. van Lohuizen*.

brought us an awareness of the nature, being, function etc. – characteristic and visible expressions of this life.’ His research did not have a ‘cooling influence’. Quite the contrary, it was of enormous value: ‘In the study groups that embodied your passion and came about above all at your initiative, interdisciplinary collaboration is spontaneously and continuously put into practice.’ According to Van Eesteren, they approached their teaching ‘like two brothers sharing the same trade’.²⁸ Van Lohuizen attempted to make Hans Westerman his successor but he did not succeed.²⁹ Westerman went on to make a name for himself in Australia, while H.G. van Beusekom would take on Van Lohuizen’s lectures and students.

After Van Lohuizen’s death, Van Eesteren continued to supervise the study groups. But he had lost a fellow traveler, and the atmosphere at the institute gradually began to change. He mainly had contact with students in his consultation hours, when he took extensive time to discuss their papers. He carefully updated his diary and assistance and assessment timetables. In December 1959, he gave lectures on the ‘history and background of the C.I.A.M.’.³⁰ Although he often referred back to comments from his inaugural speech and used them as a point of departure for his lectures, he had never devoted a separate lecture to the C.I.A.M. and to the importance that these had had for him in particular.

²⁸ Concept letter in: HNI, Archief Van Eesteren, EEST VI 78.

²⁹ For Westerman, see: R. Freestone, “Hans Westerman and planning for options”, in: R. Freestone [ed.], *Cities. Urban planning, traffic and environmental management in the nineties*, Annadale 1983, p. 1-14.

³⁰ See documents in: HNI, Archief Van Eesteren, EEST VI 179.

(4/4)

College 1948-49
 V III
 21-10-49

Overschicht van het stelsel van landbouw

• Werk. Vervolg plan morning
 V/II. De land.

11-10-49

Met de ontbrekking van het land als in
 een rijk de bekende kwaliteit opgevoerd. Geschiedt
 voor Nederland. Maar een vroege landbouw
 geschiedt. Wij hebben zeer verschillende landbouw
 van Engeland Frankrijk; geen afgevoerd of hoog
 beyond twelfde eeuw hier in deze land; een
 landbouw district van twelfde eeuw met
 a land twelfde eeuw - Frankrijk; een geschiedt
 van ontbrekend land met in Siberië of Afrika.
 Maar eenheid verschilt het alle, niet in de
 methode of omvang.

Vooruit ontwikkeling en verandering, en althans
 een stelsel met system of bekende ontwikkeling
 die van twelfde eeuw: de omgeving van de grote steden,
 de handelsgebieden. de steden in vroege, vroege
 steden - industriële gebieden. Landbouw gebieden
 geen landbouw - verandering twelfde eeuw
 steden - industriële gebieden (rijke gebieden). Dan
 de omgeving. New Towns met vroege gebieden.

De land.

11-10-49

We zullen nu bespreken van het twelfde
 eeuw steden (stadbouw). Maar twelfde eeuw
 een hierarchie der ontwikkelingen. Nog lang
 volkomen onverschillig. Vroege omvang
 land met vroege gebieden van het land
 gebieden met een vroege vroege gebieden
 Maar twelfde eeuw gebied of twelfde eeuw
 of twelfde eeuw, twelfde eeuw, vroege gebieden,
 vroege (vroege gebieden), vroege gebieden,
 vroege gebieden

Maar twelfde eeuw twelfde eeuw gebieden en om-
 vanging gebied of een vroege vroege gebieden of

FIG. 5 Page of a lecture of Van Lohuizen

He did this now in response to the recently-published issue of the journal *Forum*, in which Aldo van Eyck had published his 'story of another idea'. Van Eesteren wanted to illustrate his own origins and emphasize the benefits of the C.I.A.M.; he argued that the views of Van Eyck and others failed to do justice to reality: 'The FORUM issue again addresses the matter intuitively. Now it is time for the reality. A city is something very real.' He felt that the students did not really grasp the importance of the C.I.A.M. and refused to see the benefits that these congresses had produced. In February 1960, the open-minded Van den Broek invited him to present a 'commentary lecture' [kommentaarkollege] to discuss and clarify his ideas. He faced quite a battle. Nic. Tummers, Jean Leering, and Pjotr Gonggrijp, all prominent students, turned against him, seeing him as stubborn and outdated. Van Eesteren did not understand their position and their protest. He defended himself by pointing out that 'analysis does not cause analytical settlements. The problem is not analysis itself, but becoming bogged down in it'. But in the subsequent commentary lectures, the fierceness of the attacks intensified. The attitude of Van Eesteren was described as being too clinical, too distanced from the people. Herman Hertzberger and Jelle Jelles also joined in the debate. The former argued: 'The madness starts when the individual and the collective are separated! Community cannot exist unless they come together. The meaning of the individual is lost in the new districts. FORUM has highlighted that there is something wrong here. The kasbah is cited as a possibility.' Van den Broek joined in: 'Our residential construction is like an off-the-peg industry. Individual people create their environments through paintings, furniture, color. The kasbah is something invented.' Van Eesteren introduced the next session and spoke about the pre-parceling of land. He concluded: 'Architecture reaches up to the door knob: everything according to its nature and place in the community,' but 'as an architect, one must not even begin building in a plan if one cannot engage with the vision of the urban designer.'

The debate continued afterwards, showing a conflict of generations. Yet many of the students that opposed Van Eesteren's views went with him on an excursion to Finland that was organized by the student association Stylos in 1961.

After the heated debate during the commentary lecture, Hertzberger, who had just graduated, felt the need to explain his views to Van Eesteren and wrote a long letter to do so. In it, he alluded to a 'grandiose misunderstanding'. 'It is (or has become) clear to me from the various reactions to what appears to have been dubbed the 'Forum idea' that, to use your own words, through the door that we have only placed on the latch, all kinds of unsavory individuals are attempting to enter, even trying to get a foot in the door; people who have never seen or felt anything, and are now claiming that they had always predicted this story, despite the fact they have no idea what they are talking about because they have hardly anything to say.' He admitted that he knew very little about the C.I.A.M.: 'But it is a pity that you are only now openly talking about this subject in Delft, when the ship is in peril or has even sunk.' Opinions polarized, with advocates of an autonomous architecture opposing the proponents of the Van Eyck 'story'. Hertzberger wrote bitterly: 'It is not only extremely difficult to shape and formulate your thoughts, but even harder to present things in such a way that they are not seized upon like prey by the wrong groups, making it almost impossible to discuss these things, because they cannot even talk, never mind engage in a discussion.'³¹ The letter from young Hertzberger signaled the changing climate in the department. Accord among the students – if it ever existed – had vanished and conflicts began to emerge.

³¹ See letter in: HNI, Archief Van Eesteren, EEST VI 90.

Van Eesteren remained a pivotal figure for many and was open to all directions. Even students who wanted to develop grand projects – such as Henri Hulsbosch at the Weena in Rotterdam, or Frans van der Werf with his corridor city between Arnhem and Nijmegen – could still turn to Van Eesteren. He also continued to invest a lot of energy into the study groups. In 1960, he supervised a study group that included Dirk H. Frieling, Jón Kristinsson, M.F.Th. Bax, Gerrit Smienk, Abel Cahen and several others. The object of their study was Papendrecht. Within such study groups, Van Eesteren was able to keep the peace. As long as he could continue his work in urbanism education, there were no problems. But the school was slowly phasing out this way of learning. Although the study groups had initially appeared to be successful, they came more and more under pressure in the 1960s. The cry for democratization began to take its toll and there were demands for different kind of consultation. The school replaced the study groups, in which every member still had his own responsibilities and was judged and criticized on these, with a less individual approach. Slowly the foundation was laid for the so-called ‘vertical workshops’ in which students from various years had to work together and deliver a collective result. But Van Eesteren had given opportunity to many students to discover their own views and arrive at a certain degree of emancipation.

Meanwhile, issues arose for Van Eesteren when he began to move outside his field of specialization and become involved in architecture. He sensed a lack of understanding on the part of architecture students. But he did not avoid confrontation and often reflected on the problems raised by students, for whom he had a great sympathy. This comes across most strongly in the frank letter that he wrote in January 1968 to Gonggrijp. Gonggrijp, who was an intriguing figure in Delft, had been part of the study group on the subject of the city Baarn and was about to graduate. Van Eesteren had already retired, but continued to supervise students’ graduations. He wrote: ‘My dear Gonggrijp.

I am captivated by your efforts and your work and repeatedly wonder what causes the anti-climax in our conversations. I think I can put this into words. You are looking for the form and structure of an occupation environment. Actually part of the western Netherlands. For that, you find frames of reference in the landscape: geological, historical or otherwise. You raise important psychological considerations. All of these are of a primary nature and significance. I am enthusiastic about the result with regard to these frames of reference. You then present your design sketches and – the enthusiasm disappears. [...] I wonder what could be causing this. Your method and working style? No, they are fine. So what could it be? In my opinion, the cause lies in the fact that you do not yet know about several co-determinant environmental factors, but still attempt to evoke a complete picture. You also need to explore and know about those factors, as you have about what I just mentioned. Things like traffic and transport, the way people live, production and services, physical cultures and relaxation. Urbanism enables all environmental factors to be integrated in order to achieve a maximum quality, both in terms of function and with regard to expression, atmosphere and so on, in other words as a work of art. Assuming that this is of interest to you, I would like to share ideas about it with you. As stated, I would like to find a not too challenging task in the western Netherlands where these as yet untreated factors will be easy to identify. I would like to do this partly in order to achieve your aim and also enable you to graduate in the near future.³² Letters of this kind testify to the humanity and openness with which the professor engaged with others.³³ He did not hide behind intellectualism or his status but was approachable. Overall he was much respected.

³² See letter in: HNI, Archief Van Eesteren, EEST X 855.

³³ See letters in: HNI, Archief Van Eesteren, EEST VI 136.

This same kindness was expressed in a letter that he wrote in 1974 to the department secretary, Veraart, when she was leaving. He himself had left the department seven years before, but evidently had a good memory of her. Van Eesteren praised her energy and looked back on his own position within the department. It is interesting to note how he reflected on his colleagues and his past: 'I remember it as if it was yesterday – how you solved a furniture-purchasing problem simply by ordering factory furniture [...] I think it was because one or more professors who wanted to design their own had failed to deliver. [...] You simply believed that members of the department ultimately – it was around 1949 – should simply be able to sit like normal people. I was one of the few professors who went along to the Gorkumse – Stylos – Hugo de Groot – Loevestein event; standing on a horse-drawn cart – packed together and holding onto each other to avoid falling off – we rode through crowds towards the town hall.'³⁴ To attend, he had had to disappoint his friend Giedion, missing his lecture marking the anniversary of the study association of architectural students. He also explains how he ended up in Delft. 'My appointment was [...] not a straightforward matter in the department. Although when I entered, Molière said: "Van Eesteren, I opposed your appointment, but now you have been placed in our circle and accepted, you are *zeen*³⁵ to me" – a comment that I of course appreciated and saw as positive. At the start, efforts were made to keep me confined to my remit, as a professor by special appointment. Van Lohuizen refused to play that game. He saw in me a partner who could realize his ideas and desires. Just think of his inaugural address on the unity of working in urbanism [De eenheid van het stedeboekkundig werk]. Our very first study group proved to be a success. With hindsight, this heralded a new phase of education. In fact, my significance for education and for

³⁴ See letter in: HNI, Archief Van Eesteren, EEST X 1506.

³⁵ Zeen = a fibre, a sinew.

the students was purely that of a normal professor; even in terms of scope.' (Van Eesteren always had issues with the fact that he had been brought in 'by special appointment' and remained so.) However: 'All in all, my experience in the department was very positive, especially when I think of the teaching, the students, the staff and some colleagues, including, as I said, Van Lohuizen, but also Zwiers, Nicolaas Christiaan Kist, Cornelis Wegener Sleswijk, Bram Hammacher and later some of the younger ones.'³⁶ These recollections of his time in Delft were written seven years after he had left the department but they nevertheless still give a vivid picture of how Van Eesteren perceived the period that he was teaching at the university.

He gave his valedictory lecture on 9 June 1967. De Telegraaf newspaper reported that 'the man who gave Amsterdam its face' had taken his leave, but made no mention of his significance to Delft.³⁷ His last lecture had a more somber tone than that of his inaugural address. He believed that there needed to be a dramatic increase in student numbers in order to be able to tackle the problems.

Van Eesteren had educated countless students and often helped them find employment by writing testimonials.³⁸

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- ³⁶ Besides the already mentioned Van Lohuizen and Zwiers, Nicolaas Christiaan Kist, Cornelis Wegener Sleswijk and Bram Hammacher were professors in Delft. Hammacher was not an architect or a building engineer but an art historian.
- ³⁷ "De man die Amsterdam zijn aangezicht gaf". [The man who gave Amsterdam its face.] Prof. Van Eesteren takes his leave from the Polytechnic in Delft. The newspaper *Nieuwsblad van het Noorden* published the same day an article with the title "Prof. C. van Eesteren: Stad is caricatuur van de menselijke nederzettingen" [Prof. C. van Eesteren, City is a caricature of human settlements].
- ³⁸ He not only wrote testimonials for students, but also for others. These occasionally included his own characteristic views. In a testimonial letter about Zwaantius Naber, urban designer in Emmen who was applying in 1951 to an engineering consultancy in Bandung, he wrote that Naber was highly competent, but also "niggling" and difficult to get along with. He obviously wanted Naber to remain in Emmen.

His valedictory lecture made hardly any reference to art or artists, but he quoted Lewis Mumford: 'The first step in a proper plan is to initiate an impartial investigation into what would be ideal. Once this is known, it needs to be realized within the structure of a large framework such as the urban district.' Van Eesteren added that this essential structure of landscapes and settlements had largely been destroyed. The task for the future was to enable a resurgence of these structures.³⁹ He had moved from an approach with a strong focus on art and art history to Mumford's more sociologically and philosophically shaped perspective, and stressed the importance of research based on fieldwork.⁴⁰ A year later, Van Eesteren was awarded the David Roëll prize by the Prince Bernhard Fund for his services to urban design.⁴¹

³⁹ See: "Afscheidscollege Professor van Eesteren".

⁴⁰ D. Miller, *Lewis Mumford: A Life*.

⁴¹ N. Tummers, "Cornelis van Eesteren". Also: R. Blijstra, "Van Eesteren ijverde al vroeg voor 'leefbare' stadswijken." [Van Eesteren already fought in early times for habitable neighbourhoods]. The same article was published on the same day in the *Haagse Courant*. Blijstra had been a member of the judging panel.

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FIG. 6 Portrait of Van Lohuizen

The Unity of Town Planning

This English text of Van Lohuizen is identical with the one that is kept in the Archive of Van Eesteren in Het Nieuwe Instituut.

Ladies and Gentlemen,

Now that through the extension of the training in town planning to the Technological University,⁴² the great diversity by which town planning is characterized today is also reflected in education, it is especially necessary to be aware of the inseparable unity of town planning, and of the interrelation between the many tasks which have to be performed in this field, therefore I think I could not do better than speak to you in this hour about ‘The Unity of Town Planning’.

We shall have to face the necessity of this unity for town planning if workers of quite different nature and mental attitude are going to make their best endeavours. This unity will also have to materialize in the research work to be done by municipal, provincial, and governmental offices in behalf of the plans which will determine

⁴² The school in Delft was initially a Royal Academy [Koninklijke Academie], in 1864 it became a Polytechnical School [Polytechnische School], in 1905 a Polytechnic [Technische Hoogeschool], in 1986 the name was changed in University of Technology [Technische Universiteit].

the picture our country will show after some decades, and form the basis of life of the Netherlands community.

Let us first consider the making of a somewhat important design, e.g. the design of a medium-size town, and let us imagine the whole planning to be concentrated in one person. Then this person will have to be fully aware of three things: he wants to create an externally beautiful town; this town must be of an inner harmony; in making his design he must make allowance for the topographic situation of the town and its environs. The structure of a town has an outer and an inner harmony; the beautiful form and the correspondence between size, situation, and character of each of the elements of the town, and the purpose for which they are used. It is not sufficient to say that the town must be equipped efficiently. We are not exaggerating when we state that each disproportion between a function of life and the element which is the embodiment of it will no doubt give a feeling of disharmony. Town planning should not only find expression in architectonic proportions, but also in the harmony between all the aspects of the life of its inhabitants, and the form in which these aspects are crystallized in the organism of the town. The surface of the industrial sites and the dock yards, and the size of the groups of the population to be employed there must be well proportioned. The same holds for the numbers of dwellings of various kinds, and the numbers of families of different size and social standing. The nature of the buildings needed will have to match the cultural properties of the population. The course and the capacity of the traffic arteries will have to be adapted to the density and the direction of the flows of traffic, which in their turn depend on the many relations existing between the inhabitants of the town. Ultimately there will have to be the indefinable harmony between the character of the population and the outward appearance of the town, which gives every town its own individuality.

Now how is the designer going to set about his task? It will be a gradual process, of searching for the answers. There will be no end of discussions with many authorities, with Heads of Services, with persons from all circles of municipal life. He will have to study and elaborate statistical figures, collect and elaborate various data, reconnoitre the surroundings, and inquire after technical requirements and the property of sites. But soon he will make the first sketches, partly to record and test ideas, partly to get an insight into the possibilities offered by the situation and to discover problems to be solved after a thorough investigation. He will plan the thoroughfares and the incoming and outgoing roads connected to them. He will record his ideas concerning the situation of living and working quarters, and parks and green verges. Numerous questions arise and determine the socio-economic and demographic survey. At the same time directives can be derived from the investigation. Sometimes they confirm the correctness of an idea; sometimes they show that the idea is not tenable or that it has to be modified according to the actual situation; sometimes they reveal quite new possibilities. In any case they precise the required size of the plan, give the desired ratio between surfaces, and the exact measurements required by the design.

There is a continuous interaction between intuition and knowledge, and the designer gets a constantly deeper insight into the matter. The plan is gradually maturing. There is a perpetual interplay between the reflection of what is observed and the creative power of the artist. Finally the endless variety of facts and circumstances, which determine the design, give birth to the beautiful synthesis, in which all aesthetic, technical, socio-economic, and psychological factors are combined into one harmonious organism.

In the meantime it will have become clear to you that all this work cannot possibly be done by one person. This is perfectly true. In reality it is done by a team of workers of different aptitude and mental attitude, the most important of whom are the designer, the surveyor, and engineers in various fields.

It is a matter of major importance to coordinate the knowledge, talents and insights of these individuals as if they were united in one person. For this purpose each co-operator should be able and willing to identify himself with the others, and to be fully appreciative of their work.

This will be applicable in particular to the co-operation between the designer and the surveyor, because of the close relationship between design and survey.

Now if you think of the manner in which a design is being established as I explained it just now, it will be clear to you that there must be the closest co-operation between these two people, and that they must continuously take part in each other's work. The development of this co-operation, and the share to be taken by each of them in the whole process depends on the manner in which their personalities have been formed, and above all on their individual aptitude. It would no doubt be wrong to make a clear separation between their fields of action. The more their tasks are interlinked the better for the unity of the work.

The more the surveyor is interested in the establishment of the plan the more he will be suitable for the town-planning survey. If he is the right man for the work entrusted to him, he should have great creative powers and be deeply interested in his task. He must be constantly aware of the knowledge required for the plan, and he should fully realize that the results of his study of the social structure of the town should lead up to directives

which are to be laid down in such a form that they can be used as guiding principles for the further procedure. To this end he will continuously elaborate his material to fit the purpose in view. He uses the methods of science in full objectivity and with a profound sense of truth. Just like the pursuer of pure science he will not be satisfied until he has studied his problem in the minutest particulars, but for him the object of his research is always the applicability. He will no doubt fail if he merely collects data. He must take in consideration that for every application of social survey it is necessary that the material (statistics, results of public enquiries and censuses) should be elaborated into a form in which it is comprehensible to the users and if possible shows the direction in which the survey leads.

But this sketch of the activities of the surveyor does not sufficiently show the part taken by both types of workers, the designer and the surveyor, in the establishment of the conception of the plan. Besides the creative talent of the artist this requires a certain insight, which is obtained through intuition and through knowledge. Now in obtaining their most important results both the designer and the surveyor will be led by their intuition.

The designer's conception does not only result from a vision concerning the appearance of the urban organism but also from the intuitive insight into the nature, the composition, the developmental possibilities, and the needs of the community. It will only be possible for the surveyor to comprehend the essence of the complicated structure of society, and to get a clear insight into its future tendencies, notwithstanding the almost overwhelming confusion of the phenomena in the world around him, if he is blessed with a keen intuition. By means of this faculty he also will be able to make his direct contributions to the ideas underlying the main principles on which the plan is to be based. The designer will materialize these ideas, and develop them into

the harmonious and beautiful picture determining the physical form of the town. Both the designer and the surveyor as well as some other people contribute to the realisation of this purpose.

However, besides intuition a profound knowledge is required. As to the surveyor he will no doubt feel the need of it because of his natural urge towards knowledge. But the designer will also have to be convinced to the fact that he must not rely on his intuition. There are a number of subjects which he can only master through insight and knowledge. He would run the risk of making serious mistakes if he would for instance fix the number of inhabitants for whom he is planning a town before studying the developmental possibilities of the town. How could he get a clear insight into the surfaces required for residential quarters and industrial areas, into the volume and course of future traffic, into the number and the kind of special buildings needed, without a previous study? In a rural area the landscape design will depend for a large part on the properties of the soil and on the use made of the soil. The designer will have to study these factors thoroughly before setting about his task. If he would neglect them his vision might turn out to be a mere illusion in the light of the bare facts, His mind must always be of a great flexibility , and he must be able to abandon ideas which he may have cherished for a long time. He has to bear in mind that there are always many possibilities, and that it is a beautiful task to try and find the typifying embodiment for a socially and technically fruitful conception, even if it is not his own conception. Not only the designer but the surveyor, too, must have a flexible mind, he, too, should realize that there are often several alternatives, and that often a satisfactory solution is the result of joint efforts and a close co-operation. He should not forget that it is rarely possible to give an absolutely definite opinion on social phenomena, that there are many gradations, and that it is often more a question of probability than of certainty. The surveyor should constantly realize the danger of caring too much about prevailing tendencies. He should account for

the fact the creative human mind is also able to influence the social development. The requirement of close co-operation does not hold only for the designer and the surveyor but for all those dealing with the plan. They will all have to be fully aware of the demands made by the plan, and each of them must have a clear idea of his responsibility and his abilities with respect to all the details. As soon as one of the details is considered as an independent unit or as a unit of primary importance it is no longer possible to realize a synthesis. There is an ideal co-operation, if after the completion of the plan none of the workers appears to have a clear idea of the part he has taken in it.

I have given an almost ideal picture of the relation between design and survey, and in general of the relations between the activities required for the plan. But just like any other ideal this ideal is difficult to realize. There are several reasons why it is so difficult to bring about a close co-operation between people who differ so much in aptitude, interests, education, and ways of thought. Now there is one happy circumstance. In the field of twin planning in the Netherlands we may call ourselves fortunate, because all those working in this domain are fully aware of the fact that together they have to perform one great task in a spirit of mutual toleration and appreciation. We may say that the workers have only one ambition: to give the best of themselves for the benefit of the whole. Even those entering this world more or less as strangers will soon be seized by the grandeur of the common task

So if the ideal is not always realized it is because it is in fact difficult – I should be inclined to say: never entirely possible – to form a true notion of the place we take with our work in the whole. It is difficult to see that the things of which we are so fully conscious, and which are so very important in our own opinion, are only one of the factors determining the plan, and that considerations which do not even occur to us are as determinative of the harmony of the whole as the items which are of primary importance to us.

However, difficulties of this kind can be overcome for the greater part. Where there is a will there is a way! This is first of all a question of attitude. Sometimes it is sufficient to consider the problem from the other party's point of view to realize the relative value of our own conceptions and the limitations of our own insight into the matter.

Still it is quite right, and even necessary to promote mutual understanding by external means. Thus we enter the field of practical considerations.

At this moment we think, of course, in the first place of the influence exercised by training. Already the institution of the Commission for Training in Town Planning, in which design and survey, the Departments of Architecture and Road and Hydraulic Engineering, urban and rural experience, education and practice, administration and legislation, technique and landscape designing were represented, showed that there was an awareness of the close coherence between all these aspects. And the working method of the Commission of which all who took part in it have the most agreeable memories, was an example of the spirit in which the training itself would have to be developed. Today the student of architecture, and the civil engineer who want to study town planning are being trained in the manner envisaged by the Commission, and the method applied supplies the existing deficiency in the forming of future town planners, i.e. it makes up for the lack of all-round knowledge. The chairs instituted now, and the plans to initiate the students through various lectures in more remote fields will cover all the aspects of town planning. So in whatever direction a student is going to specialize he will never run the risk of being too limited in his outlook on the whole. During their college years both the future designers and those who are going to apply themselves more to survey will through their own experience get into touch with the other field.

By working together the students will become acquainted with and appreciative of each other's methods, and through this experience they will come to the conclusion that a close cooperation will likewise be indispensable in practical work in the future.

Up to now the future engineers wishing to apply themselves to the survey have not been in a position to get informed of all the aspects. As to the students of geography and economics who are going to be employed in town planning, however, the difficulty is that their education does not enable them to experience the atmosphere of creative work and planning. As a matter of fact they do not get acquainted with the working method in which the economic, social, and cultural needs of the community are crystallized in terms of areas, and numbers, and in which after many sketches the conflicting demands are finally harmonized in a design that is so well balanced that nobody has the faintest idea of the many difficulties which had to be overcome.

Credit has to be given to Mr. ter Veen and the Economic Faculty of the Amsterdam University for taking the initiative to bring the future surveyors into touch with professional skill in town planning by attaching an external lecturer in this field to the University.⁴³ I am very grateful to them for enabling me in this manner to get an idea of the needs of these students, and it has been very difficult for me to abandon this task. It is a matter of satisfaction that the Economic University has enabled Mr. Angenot some time ago to do the same for the students of the Rotterdam University, and that Mr. Wieger Bruin has recently taken office as

⁴³ Henri Nicolaas ter Veen (1883-1949) became professor in social and economic geography in Amsterdam in 1927. He held a inaugural speech with the title 'Van antropogeografie tot sociografie' [From antropogeography to sociography].

Professor Extraordinary in Architecture and Town Planning in the Agricultural University at Wageningen.⁴⁴

If a similar solution could be found for the other Universities where future workers in town planning research are educated, it would greatly facilitate acclimating them to the activities in practice. And would it not be most attractive to establish, already during the college years, contacts between the academically trained future surveyors and the Delft students of town planning so that they could get acquainted with each other's way of thinking in the free and easy manner which is the privilege of a student? Thus far about training. However complete the training may be, town planning in practice will require much care, devotion, understanding, and tact to co-ordinate the activities of the various kinds of co-operators in such a manner that the unity of the work will be safeguarded. This is in the first place the responsibility of each individual, who always has to be aware of what he can do to maintain contact with his colleagues. But often their nature and aptitude will prevent him from discerning where they fail in this respect. The designer can be so much absorbed in his formative work that he does not notice which essential data are actually lacking. The surveyor can be so deeply engrossed in studying the social structure of his area that he does not realize that much of what he is collecting is of no value for the plan. Then it is particularly the task of the directing staff to see to it that the interrelation between the various activities is maintained. On the whole it greatly depends on the attitude of the directing staff whether the co-operation is effected in the manner required by the work.

44 Laurent Hubert Joseph Angenot (1901-1979) was appointed extraordinary professor for town planning research in Delft in 1963 and ordinary professor two years later. The topic of his inaugural speech was 'De uitbreidende en uitdijende stad' [The expanding and swelling city]. As town planner Wieger Bruin (1893-1971) was active in the development of various polders. In 1947 he became professor by special appointment in Wageningen, a position that he would hold till 1958.

It will be a good thing for the co-operators to be enabled to take continuous note of the progress of each other's work, both in a formal and an informal manner. There should be friendly and positive criticism, and the workers should not be averse to admitting each other to their various fields.

Is a special form of organization required for this purpose? I do not think so. There is no special form of organization which would always give the best results. It will have to differ according to the nature of the work and the persons available to do the work. However, I think it will be very difficult to maintain the unity of the work, if from an organization point of view surveying is separated from designing. The position of the various workers in the organization, and their share in the work will also depend on their capacities. Care will have to be taken to make them harmonize as much as possible.

For executive qualities, a full understanding of all the aspects of town planning, and, of course, the urge to create something will be the main points. These properties may be present in persons of any education, so that it is not necessary to give in principle preference to certain categories or to exclude some of them.

In particular regard to the place of the survey in practical work, some more remarks will have to be made. There has been a time when authorities and designers had very little confidence in the results social research could yield for the solution of town planning problems. Now there is a tendency here and there to assume the opposite. However, town planning research is no machine to which the problem is fed, and which is expected to supply the solution without any proviso, preferably within some days or weeks. Town planning research is first of all a process of maturing. Only gradually, after many efforts is the insight into the phenomena approached. It is necessary to collect many data, which have often to be processed, before they can be used.

It may appear that a particular method of approach does not yield the result expected, and that a new start has to be made. Not until the right insight has been gained will it be possible to determine, in consultation with the co-operators, the directives resulting from the research.

Because of the nature of the social phenomena the results are often a question of probability rather than of certainty. Mostly a minimum and a maximum estimate will have to be made, and it will be necessary to ascertain in careful joint consultation which of the various possibilities will have to be considered the most effective directive.

It should be borne in mind that the social sciences and particularly their application to practical life are still in an early developmental phase. Whoever wants to make use of their results to erect a building, is often faced with the task of having to collect the building materials and even sometimes of having to find the methods to make them.

We now come to the second example by means of which we would demonstrate the unity of town planning, and which particularly concerns the field of research. In the Netherlands we are experiencing an extremely important development of town planning. The estimate made by various experts concerning the number of the future population show that until 1970 we shall have to expect an increase of our population of two to three million people. Now the primary problem for the Netherlands town planning is: how is this increase going to be distributed over the various parts of the country and over each separate part: how is the increase to be distributed over the towns and villages of various size, and over the rural areas?

For these factors are decisive of the aspect of the country, of the agglomerations in which the population is going to live, of the

building and reconstruction plans of the various municipalities, and in fact, of the structure of each town and each village.

How is this distribution going to be realized, if it is left to free development as reflected in past and present tendencies? Will it give rise to undesirable social and town planning conditions? How can we get a distribution preventing wrong conditions and yet accounting sufficiently for the reality of economic and social life? The distribution of the population will depend firstly on the distribution of the rise of the birth-rate over the country and secondly on the distribution of the means of subsistence, which are ultimately decisive of the settlement of the population. If this distribution does not correspond with the natural increase of the population in the various areas, the population will have to migrate from areas with *over-employment* to areas with *under-employment*.

In any case it is the simple but solemn truth that the difference between the sum of the increases and the sum of decreases of the separate municipalities must be equal to the increase of the population of the whole country.

It will not be necessary to explain in this time that our country will have to industrialize on a much larger scale if it will be able to feed its future population. So the distribution of the population will for the greater part depend on the manner in which industries are to be distributed over the country, either planned or not, though the other means of subsistence will not have to be neglected. The attainable degree of decentralization of the population will be determined by the degree to which industry can be decentralized. The question whether it will be possible for a certain place to expend considerably or only to a limited degree, depends on its suitability for the establishment of new industries and the development of existing industries. Moreover, there are many sociological, cultural

and technical questions, and problems concerning landscape and town planning. Is not it quite possible that a strong increase of the population in the West of the country will be accompanied by too large an extension of the big towns, or such a growth of the dormitory areas that landscape has to be sacrificed to the dwellings of those who came to live there just for the beauty of nature? Is it right to cope with the surplus population of a certain area inside the area itself, and if so in what manner should it be done: by an equal extension of all municipalities or by a concentration in some central municipalities? Is it desirable to limit the growth of certain towns and to stimulate the growth of other towns; what size is to be aimed at in either case? Or does the distribution of the population of a certain size require a gradation in the size of the various settlements? What are the consequences of the growth of a village or town into a settlement of quite a different character for the psyche of the population, for its style of life, for social and cultural life? Is it sometimes better here and there to build new towns as Great Britain has done in so many places? Is it possible to allot a certain future number of inhabitants to a particular town at random, or are there certain factors inherent in the character of the town or its surroundings which are determinative of the growth? It will be necessary to give a very concrete and clear answer to all these questions and many others, because the answer is materialized in the plans and it is a matter of great importance to know how this answer will be found, and who is to give it.

It will be quite clear now that the solution of these questions requires a strong central direction. Only those who are able to take a comprehensive view of the whole will be in a position to judge the coherence of the phenomena and guard against a disharmonious development. The axiom alone that the difference between the sum of the increases and the sum of the decreases must be equal to the total increase can be guaranteed only centrally. To be able to judge of a certain system of distributing the population we must be able

to make a comparison with another distribution, but we must also be able to find out whether a certain development in one part of the country can have bad consequences in another part of the country. It is also desirable to collect comparative material in order to get an insight into the properties and needs of settlements of different size and nature, and into the factors controlling the growth of towns.

But if the treatment of such problems is centralized too much there is a certain risk. Life and society are very complicated; each town, each village is a living organism with its own individuality and its own psyche. If we are in a position to compare the conditions of development of e.g. a number of medium-size Netherlands towns, we shall notice that they are different in each of them. These individual differences are one of the factors determining whether a development which may be desirable within the framework of the entire distribution of the population will really have a chance of success. However, it is also true that, except to a certain extent for the very big towns and for many villages, it is in fact not quite possible to forecast the future population for an individual town, considered as an independent unit, which would appear to hold in a plan for the distribution of the population all over the country.

And thus here, too, unity of town planning will be recognized, i.e. the unity of the general national research as the basis of a plan for the distribution of the population over the various areas and towns of the country and for the local and regional research in which the thorough knowledge of the separate communities will be devoted to the insight into the whole, in which full justice is done to the individuality of each town. The general research guarantees the maintenance of the coherence of the phenomena and their interdependence; the local research supplies useful material for this purpose, and maintains the direct contact with the multi-coloured reality of the life of the social organisms. Thus it may be prevented that a far-reaching schematization would

give rise to a development which would take insufficient account of reality, because it would not do full justice to the tendencies inherent in the local individuality. Moreover, the municipalities would be prevented from making plans which might appear to be mere illusions if considered with regard to the whole.

Co-operation in town planning is also desirable from another point of view. In the study concerning the plans of separate municipalities the need is constantly felt of making a comparison with other municipalities of the same character and the same size or of a size expected for the relevant municipality in the future.

However, usually it is difficult or impossible to get such comparative material, because analogous research was not, or at least not in comparable form, made in other municipalities, and usually it would be too much work to make a comparative research for one particular case.

So the surveys made would be more useful if a wider publicity would be given to them. What is even worse, many surveys are never made, because individual municipalities shrink from undertaking them. So it would be useful to find a method enabling municipalities to profit by their individual studies and providing the possibility of making surveys which might be useful for many municipalities together.

It will be difficult to realize the wishes expressed by me just now. For the time being much research work will have to remain undone because of a shortage of scientific workers. However, fortunately a number of medium-size municipalities have now made provisions for the socio-economic research concerning their population, and it is to be hoped that others will soon follow their example. So the awareness of the close coherence of all research concerning the phenomena determinative of town planning in the country

will contribute to making all parts of the Netherlands after some decades attractive to live in for all inhabitants.

We know that after all our happiness is not determined by our external circumstances, but on the other hand we know quite well that there is a strong relation between inner and outer life, and we feel the need of expressing in the world around us something of the harmony which is all in all to us in our best moments, and which is the profoundest essence of our being.



FIG. 7 Cor van Eesteren in his academic regalia after delivering his inaugural speech

The Conception of our present-day Settlements and cultivated Landscapes, their Appearance and Expression

This English text is identical with the one that is kept in the Archive of Van Eesteren in Het Nieuwe Instituut.

*'Cités! Vous êtes les monuments les plus sublimes de l'Art humain. Le mouvement indéfini de la marche humaine s'élève vers l'immobilité infinie. La lassitude fait souhaiter au monde le repos plein d'activité de la vie végétative. Des vagabonds s'arrêtent et, se tenant les uns près des autres comme les arbres dans la forêt, ils plantent des racines artificielles, leurs maisons se dressent, la ville projette ses ombres. Et l'unité merveilleuse du nouvel établissement, avec ses tours et ses demeures, ses aqueducs et ses cloaques, ses architectes et ses pontifes, apparaît tout entière dans le nom de la cité.'*⁴⁵ [Apollinaire]

45 G. Apollinaire, *La Femme Assise*, p. 102.

Ladies and Gentlemen.

Just like the American poet Whitman, the French poet Apollinaire, who has had a great influence on painting and literature (to mention some names: on Picasso, Cocteau, and Aragon), who discovered the painter Rousseau for us, and who stimulated cubism, has been greatly fascinated by the concept of town.⁴⁶ This is clearly demonstrated by what he wrote about 1912:

'Cities, you are the most sublime monuments of the art of man. The indefinite motion of human pilgrimage rises to infinite immobility. Lassitude makes the world crave for the rest, full of activity of vegetative life. Wanderers stand still and, holding close together like trees in a wood, they plant artificial roots. Their abodes arise and the town casts its shadows. The marvellous unity of the new settlement with its towers, its dwellings, its aqueducts and sewers, its builders and its pontiffs appears in all its fullness in the name of the city.'

When we make a comparison between the towns and cultivated landscapes of today and those of the baroque or the mediaeval periods we see that there is a great difference. The Chinese towns of the seventeenth century had quite another appearance than the European towns of the same century. When a culture expands spatially, as e.g. the ancient Greek culture around the Mediterranean in the early part of our era, the forms characteristic of this culture influence the whole area.

⁴⁶ Walt Whitman (American writer, 1819-1892), Guillaume Apollinaire (Italian-French writer, 1880-1918), Pablo Picasso (Spanish artist, 1881-1973), Jean Cocteau (French writer, 1889-1963), Louis Aragon (French writer, 1897-1982), Henri Rousseau (French artist, 1844-1910).

The towns built in the Stone Age had quite another expression than the Inca towns; the settlements of the still existing so-called primitive peoples are very diverse in appearance and expression. As soon as the influence of the Western world makes itself felt on the afore mentioned peoples their settlements assume the character of the twentieth century in the manner appropriate to them. On close consideration of these examples we come to the conclusion – and this is of particular importance for us at this moment – that all forms are different in expression. The differences in appearance and expression, so in style, mark a difference in purport, in vital principle.

In his book, *The City*, the Finnish architect Saarinen compared the human settlement with two phenomena of organic life: the existence of the individual cell in a living tissue, and in an organism.⁴⁷ ‘The shape of a living organism’ states Saarinen, ‘is the materialization and the expression of its vital principle. The oak and the beech are forms of different vital principles in the vegetable world.’⁴⁸

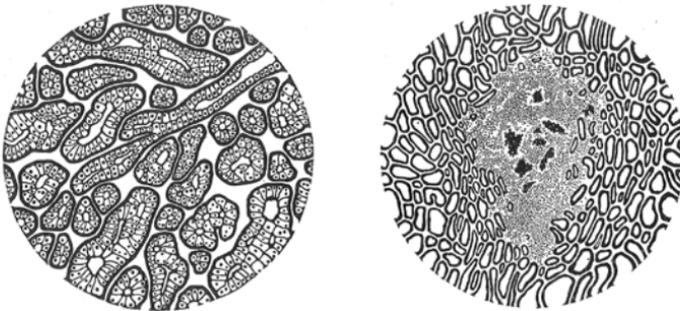


FIG. 8 Illustrations in the book *The City* of Elie Saarinen (p. 10 and 16)

⁴⁷ Elie Saarinen (Finnish-American architect, 1873-1950).

⁴⁸ Van Eesteren probably quotes from memory. Elie Saarinen does not speak of the oak and the beech but of the elm and the oak: E. Saarinen, *The City*, p.11.

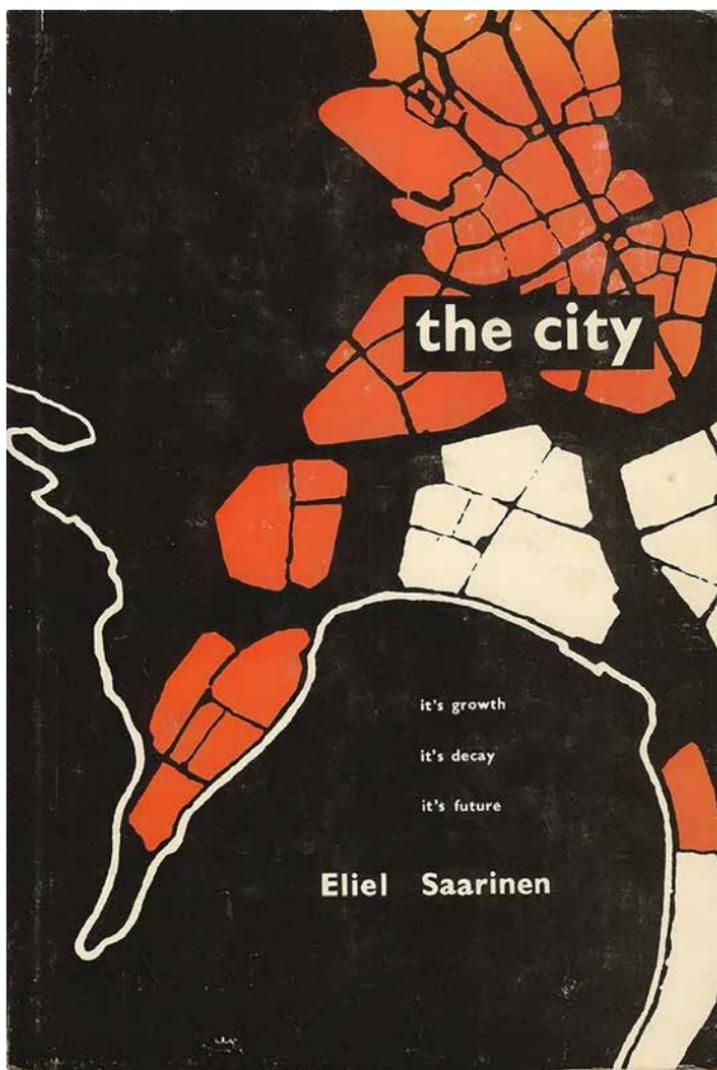


FIG. 9 Cover of the book *The City* of Eliel Saarinen

According to this point of view, which is correct in my opinion, towns are to be considered as materializations, thus, forms of vital principles in the social world; with the understanding that plants grow in nature, while towns are built by man who is responsible for their purport and appearance. Acceptance of this responsibility has led up to the development of town planning as a means to control the establishing and designing of landscapes, towns and villages. The development of town planning requires those dealing with it to study the essence and the influence of its appearance in order to enable designing to be effective in a continuous interaction of scientific and intuitive research. The town planners are exponents of the community whose desires they give a form only in the sense that harmonic designing and its realisation can be effective with the co-operation of the members of the community.

Today the renovation of the purport and form of society gives rise to many conflicts, much difference of opinion, and many quarrels about the designing, laying-out, and form of our cultivated landscapes and towns which are materializations of all aspects of society. The same struggle is carried on in architecture and related fields of the liberal arts, where it gives rise to trends and isms which are of a conservative or a renovating nature. The young town planner will want and must choose his position in this struggle. He will have a desire to know the causes of it and to be aware of the background of the difference in appearance and in expression of the various designs. It will be his intention to direct the development of his designing capacity in the best manner, and he will feel the need of a vision that is universal so that it can lead to a unity of conception which will attempt to give a unique form and expression to our cultivated landscapes and settlements. A cultivated landscape is understood to be a landscape made by man, as e.g. the Wieringermeerpolder in our country, which is the opposite of a natural landscape, let us say the jungle. When he has recognized and acquired this universal vision he will be able to practice unity of *planning work*,

a necessity which was advocated here some time ago. As to the natural elements affecting the appearance and the expression of our towns and cultivated landscapes, such as the nature of the soil and the geological structure of the landscape, man has very little if any control over them. It would undoubtedly be fascinating and instructive, particularly with regard to The Netherlands, to deal with the interaction between natural conditions (e.g. the fact that a large part of the Netherlands lies below sea-level) and the efforts made by man to continually obtain better control over the forces of nature in order to make them subservient to his welfare, but I must not digress from my subject: 'the conception of our settlements and cultivated landscapes, their appearance and expression'.

It is man himself who builds the towns and lays out the cultivated landscapes. As I have just said town planning resulted from the realisation of responsibility for the purport and forms of towns and landscapes. It is a social task. The town planner has to determine the right places and has to solve problems of an architectural, scientific, and technical nature in space and time. These problems are changing together with the social structure. The means through which the purposes of town planning are realised are also changeable. These means have always been dependent on the stage of science and technique. The present-day problems of town planning can be solved only with the means and methods of today. There is an interaction: new social needs confront us with new technical problems and new technical acquirements, as such, are accompanied by new social problems. In general we may say that the development of society runs a kind of race with technical progress; there is always leeway to make up. After the negative effects of a new exploration of the forces of nature have become apparent in society, it is investigated how they could be applied in a positive sense for humanity.

This still holds to a high degree for modern times. We witnessed a transformation of technical processes, and we have not yet

learned how to acquire the positive values of this transformation. The nineteenth century produced two things which have changed society profoundly: the machine and the industrialization of production through the machine. At the same time, without being realized, creative visual instinct was lost just when it was so badly needed in a changing world. Machines and industries destroyed the essential structure of the landscapes and settlements. The spatial chaos in which we are living is an invertible consequence of a world which, as always but now at an extremely high speed, is changing noticeably. Yet, I am convinced that order will be able to come back. Then it will arise from the nature of things in its purest essence, which will have to be recognized, acknowledged, and fully appreciated in order that it may find expression in all aspects of human activity, including town planning.

Mr. Hilberseimer (the former teacher of town planning at the Bauhaus, and now professor in the United States) has written in his book *The New City*, 'if we are to help direct the forces which will bring order out of disorder, it is profoundly important that we understand the forces which, in the past and in the present, influence the origins and the developments of human settlements'.⁴⁹

'All human settlements depend, in their growth and in their decline, on social, spiritual, political, and economic forces. These forces are influenced by the status of technics, by the forms of production and consumption, and by the means of transportation available to the settlement builders. This interdependence of social and technological forces is expressed in all kinds of culture and varies only with the variations of the predominant elements.'

49 L. Hilberseimer, *The New City. Principles of Planning*, p. 18.

We need not be surprised at the difference in the forms of appearance, in expression – in style – particularly not if we bear in mind how different the material and immaterial conditions were in which these forms were created. The appearance of the towns and landscapes produced by human society is the expression of the spirit by which man and his society are inspired and of the creative forces of mankind. 'The rationalism of the eighteenth century paved the way for the predomination of natural science in the nineteenth century. The conception of evolution, which was characteristic of natural of science became the standard of all research.' Also for the research in the field of architecture and town planning both in various periods of history and with regard to the so-called primitive peoples living now. The communities of these periods and peoples are thus not considered as groups of peoples whose way of living is determined by surroundings and conditions but rather as stages of development which are interlinked without interruption. According to this theory the culture of Egypt is a primitive predecessor of the culture of Greece, and so on up to this time. Thus far Hilberseimer.⁵⁰

Though he does not deny the value of the theory of evolution for our profession, he is of the opinion – and I think rightly so – that it has to be supplemented by the view expressed in the foregoing statement, which starts from a philosophy of life. If we study the effect of the interwoven spiritual, social, political and economic forces which have been active in the world throughout history and which are also influencing existing primitive peoples we shall obtain a better understanding of the appearance and expression of the settlements in which these forces are reflected.

⁵⁰ Van Eesteren paraphrases and quotes Hilberseimer at the same time. In the English translation that was made the opinion of Hilberseimer has been forced even more in a certain direction. The translator did not cite from the original book.

However, this would be beyond the scope of my lecture. But it is a matter of importance to point out that it appears from such research that both settlements with an organic and settlements with a geometric structure occur simultaneously in the same periods in various places but under different circumstances. Think for instance of the early mediaeval towns of Rothenburg as an organic and Montpazier as a geometric structure. The same differences existed in other periods, e.g. in the Stone Age. The appearance and the expression of the said towns is of an early mediaeval character, though there is a difference in the pattern of the lay-out.

Now I would ask what will be the forms of our towns – with their greatly different patterns of lay-out – in order to guarantee that their expression will be the typical expression of the twentieth century. I cannot give a definite answer to this question, though I assume that presently we shall come to the conclusion that we have approached these forms somewhat closer and revealed some of them. Without discussing the why of the organic as compared with the geometric form of a town I should like to say that the trained observer can tell by the forms of the towns, under what circumstances they were built. In his close observations – and I want to emphasize this – he comes into contact with the emotional values which are expressed by the forms, and he states that curved and straight lines, rectangles, circles and other fundamental forms can be applied with a great difference in expression. He observes that the relation between materials and forms, between materials and colours and between lines and planes, and the interrelation of all these elements, as well as their application, differs in the various eras, and accordingly the expression differs too. It may be said that the expression is determined by the manner in which materials, technique, forms and colours are applied in their interrelation. After this I could ask whether lack of expression and character in e.g. our urban expansion and our rebuilt towns and villages may be attributable

to the application of technique, materials, forms and colours in disharmony with the emotional values of today. Presently we shall have to find out if and where the specific emotional values of our time find expression in the field of art.

One of the causes of the lack of expression of our new residential quarters and our rebuilt towns and villages is, partly for ideal reasons and partly because the line of least resistance was taken, the application of historical, dead architectural forms, which sometimes involved defects, one example of which is insufficient entrance of light into the dwellings.

The history of architecture and town planning of the nineteenth century shows us results of the application of old, and later dead forms. This leads up to an eclectic art, which was prepared already in the Renaissance and Baroque periods and which must be understood as the application of historical forms, which are no longer fit to express the feelings prevailing in the world of today, but which in the still existing truly ancient works of art appeal also to people of modern time.

The art historian, Giedion, who is one of the prominent people in the C.I.A.M., the International Congresses of Modern Architecture, and who is the author of *Space, Time and Architecture* (in which he deals particularly with architecture and town planning in the 19th and 20th century and demonstrates the development of a new tradition) has explained that towards the end of the eighteenth century when the artist was beginning to lose contact with man, the symbol lost its content.⁵¹ The content was the essence through which the observer came into contact with the forms and colours of his towns, villages, cultivated landscapes, buildings

51 S. Giedion, *Space, Time and Architecture*.

and objects. Giedion calls this disintegration ‘the devaluation of the symbol’. According to him the development of industry and this loss of contact coincide. Since that time we have known the lack of creative visual power both in famous and respected living traditional artists and in the ordinary man, contradictory to the palmy days of civilization when the elected artists and the ordinary man, each according to his capability, possessed creative visual power. This breach dates back to the period of the Salons, of the gold medals, the Prix de Rome, of the routinists in art, and of the pursuit of eclectic art, also in town planning, which we partly witness today and which is characterized by a severe struggle between the so-called traditionalists and the so-called modernists.

Besides the fêted artists of the day there lived and there are still living – as Giedion rightly says – the artists (particularly painters, sculptors and authors) whose work was or will be recognized only after many decades. Only now are Van Gogh’s works understood and appreciated. In the days of Van Gogh, Ebenezer Howard wrote his *Garden Cities of To-morrow*, functional, not romantic, units with an open centre, glass shopping arcades, etc.⁵² A short time afterwards Tony Garnier designed his ‘Cité Industrielle’ near Lyon. For the greater part these artists to whom I am going to refer later on, lived and are living in a state of isolation.⁵³ In this connection I would mention Hilberseimer, Milyutin and even Le Corbusier although his name is on everybody’s lips.⁵⁴

⁵² E. Howard, *Garden cities of To-morrow*.

⁵³ Tony Garnier (French architect, 1868-1949).

⁵⁴ Nikolay Milyutin (Russian planner, 1889-1942), Le Corbusier (Charles-Édouard Jeanneret, Swiss French architect and artist, 1887-1965).

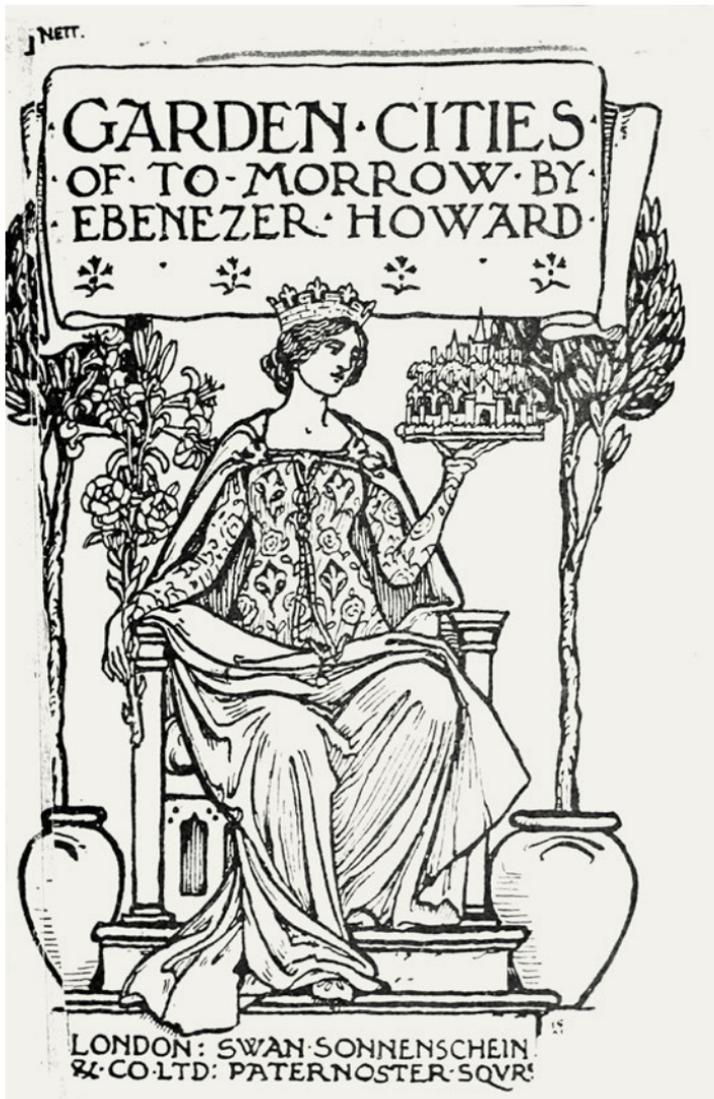


FIG. 10 Cover of the book *Garden Cities of To-morrow* of Ebenezer Howard

Thus, there came a type of artist whose way of working more and more approached that of the inventor, the investigator and the discoverer.

The less the artist tries to get into the good graces of the public, which has lost contact with art, the greater the chance of his getting in touch with the hidden sources from which the emotional content of the work of art is fed.

The interaction between reality and symbols of feeling is as much in a state of flux as the interaction between acting and feeling. In town planning and in art in general the point is to give expression to a realm of feeling which our contemporaries identify to be theirs. Here we are faced with the difficulty that there is a time interval between the creation of a modern work of art, which expresses the realm of feeling of today, and recognition by the public. I need refer only to the delayed relation between the public and Van Gogh, Mondriaan, Van Doesburg, Van der Leek, Kruyder, Willink and many Others.⁵⁵ This element of delay can be demonstrated by the phenomenon that not until now has the public become appreciative of the works of art created in a rather remote past. This gap can only be bridged by putting the rising generations into touch with the achievements of contemporary art, painting, sculpture, architecture, music and literature. For this purpose we shall have to fall back on the schools and other media. In this connection I think for instance of the activities of the Museum of Modern Art in New York. If no such measures are taken, our generation will never be able to understand the essence and the emotional values of our settlements, cultivated landscapes and elements of modern life, such as articles resulting

⁵⁵ Vincent van Gogh (1853-1890), Piet Mondriaan (1872-1944), Theo van Doesburg (1883-1931), Bart van der Leek (1876-1958), Herman Kruyder (1881-1935) and Carel Willink (1900-1983) are all Dutch modern artists.

from mass production, prefabricated houses, etc., because the man of today will only be able to appreciate the essence of these things if he has a feeling for the manner in which they are appreciated and expressed by modern art. I am quite convinced that thus our society will be able to cope with technical progress to the effect that conscious, present-day designing can be realized. What I mean is a manner of building and designing in which every member of society can truly be actively concerned. Thus we could avoid the risk that the best town planning schemes would be stultified by no end of papers and rules and regulations and that town planning should be drowned in a sea of instructions and prohibitions which are not understood by the man in the street.

Now it does not seem to be an easy thing to realize the idea I put before you. But if we enter into the realm of thinking and feeling which is covered by the term *unity of town-planning work* we see various potentialities and chances. The unity in the many aspects of town-planning conception by which this state is characterized will enable us to lay out more harmonious landscapes and towns. The harmony of appearance and expression will be more perfect according as there is a closer and more fruitful relationship between the individual and the community. But how must we visualize this unity of conception? As soon as we succeed in doing so, after having become aware of its content, we shall probably also succeed in picturing our present-day settlements and cultivated landscapes.

Those sharing in town-planning must have visionary power, knowledge and capability. This is true for the administrator, the investigator, the technical specialists and the designer. Each of them must be able to make, in his own field, reasonable suppositions about the future and to see the interrelation of details as well as the whole. Experience may be an advantage but yet a deep insight may even be a greater advantage. For, what is the case? Already in their developmental stage settlements and cultivated landscapes, even if

they are entirely new structures, are subject to changes. They are totally different from buildings, which are mostly erected within a limited time according to the plans. Especially when preparing large developmental plans, regional plans or reconstruction plans it is fully realized that town planning both projects the future in the present and inserts the present into the future.

It is an interesting though difficult task to meet the demands made by town planning today, but it is a most fascinating adventure to project the future in the present. The constructor of a building works with a more or less concrete programme of demands and of properties of materials. A town planner, moreover, works with tendencies, tendencies which should be realities for him. However, though these tendencies may or may not be crystalized in a later stage, they are subject to rules and regulations, and have to be mapped out immediately. These tendencies will be mostly discovered by town planning research people, who study them critically and determine a point of view with regard to them, after which the designer will embody them, together with the concrete points of the programme, in a set of drawings. In continuous consultation and collaboration with many persons and institutions concerned in the spiritual, social, political and economic aspects, the town planning staff will work on steadily trying to obtain justified results. The investigator and the other people concerned will submit their data, conclusions and suggestions to the designer; and the latter, on his part, will inform them of the development of the plan. It stands to reason that this picture is very incomplete and schematical. I use it only to point out that the collaboration of so many people – to whom will finally have to be added all those workers who in a following stage realize the plans, by e.g. the reclamation of land, the digging of canals and the construction of roads, bridges and buildings which are going to determine the appearance of part of the country or of the town – can be fruitful only if all are dominated by a unity of conception. This collaboration

can be realized in the period in which we are now living, in which notwithstanding or probably thanks to all the controversies we are witnessing, a collective conception of life is developing.

The architect Fritz Schumacher, who in 1924 designed a plan for the expansion of Cologne which has had an unmistakable influence on the development of town planning in the Netherlands, one day after an important decision had been made with regard to his plan, passed the famous cathedral of Cologne.⁵⁶ Still preoccupied with town planning the following association of ideas came to him: 'When the cathedral was created, its organism was a conglomeration of all the elements and forces dominant in those days. But today the situation is quite different Now not everything is concentrated in one unique building but in the big social organism of the whole settlement, in the design of which we have at last recognized the most important task: the task to find a new form for the living community. And again generations are going to build up the symbol of their existence.'⁵⁷

The cathedral were often destroyed and new even more radiant monuments of beauty arose from their ruins.

How was it possible that the cathedrals were always rebuilt in a purer form? This could be done, because the development of the cathedral was based on unity of conception. Vision and unity of conception inspired by an elevated principle led the development of the cathedral on from the Roman basilica to the apogee of Gothic architecture in the late Middle Ages. Throughout many ages architects have tried to find the purest conception of the cathedral.

⁵⁶ Fritz Schumacher (German architect and town planner, 1869-1947).

⁵⁷ F. Schumacher, *Stufen des Lebens*, p. 345.

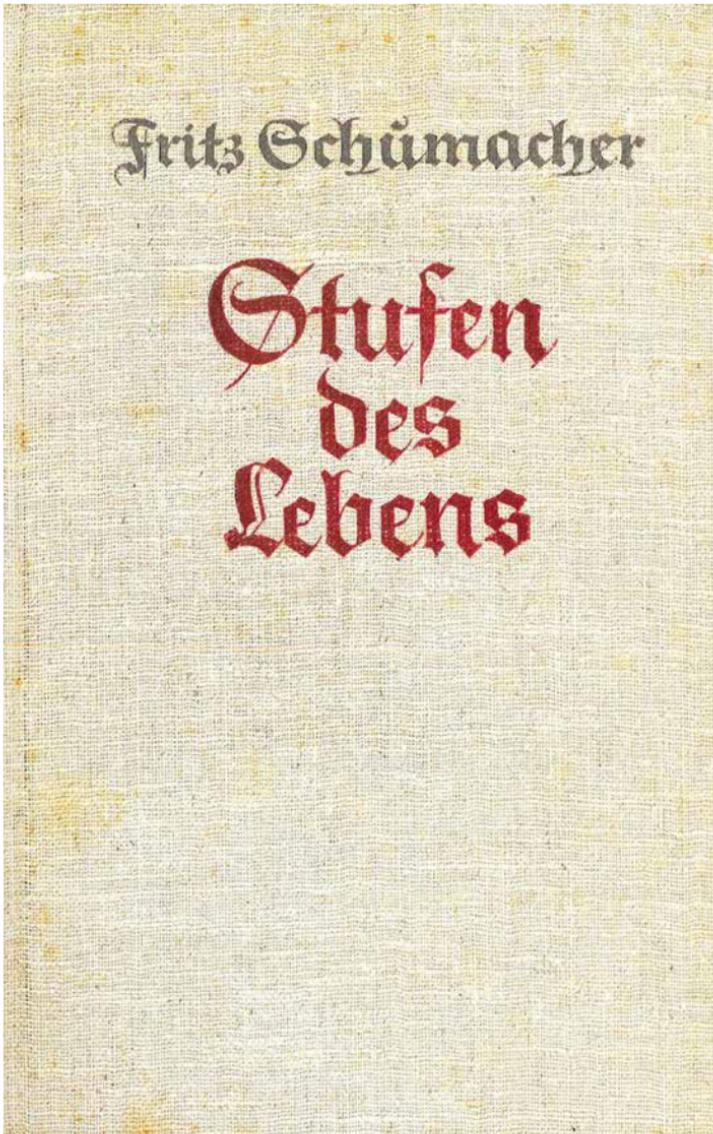


FIG. 11 Cover of the book *Stufen des Lebens* of Fritz Schumacher

A fascinating progress of creating a constantly purer conception developed in western and central Europe. The invisible community of architects was fully concerned with the conception of the cathedral without being aware of its ideal design beforehand and without having a vision of the technical completion of the monument. They were creating the reality of a communal conception which was essentially present in their deepest feelings and thoughts, a conception arising from the complex of the psychical, social, economic and political forces from the Middle Ages. This is not restricted to cathedrals or the Middle Ages, but is also found in the analogous developmental process of conception in other civilizations (China, Bali, Yukatan, Tibet, Ancient Egypt).

The way of working which is nowadays called *team work* is identical with the method applied by the builders of the cathedral. No working-group of town planners, which if it is a good team and represents the actual elements of the living community and directs its spiritual, social, political and economic forces to the town planning aim, will ever be able to finish an important scheme if it does not acknowledge a communal conception as point of departure. There will only be good results if in the subconsciousness of the community of town planners, specialists, investigators, etc. there is a preconception which urges towards consciousness. This is the inner conviction that a totality, which is jointly desired and also thought to be possible, must be aimed at and achieved. This conviction will reveal the image of landscape and settlement, just like the image of the cathedral was revealed gradually in the course of centuries; and it is this conviction which has to be the leading principle of the authorities, committees, designers, investigators and administrators who are preparing our spatial plans in national, regional, local and even international relationships and which has also to lead on those who have to realize these plans. Thus our settlements and cultivated landscapes, like formerly the cathedral, will attain their perfect form.

With regard to the habitation of the earth we distinguish three kinds of activities in a socio-economic and town planning sense: exploration, exploitation and occupation. Large parts of the earth, as the Antarctic regions, parts of Siberia, Africa, Canada, South America are still being explored while they are at the same time being more and more exploited and occupied. New towns are still being built there. Today exploitation follows exploration closely, and in fact is mostly premature exhaustion, though people are becoming more and more convinced that premature exhaustion is inadmissible and that efforts should be made to maintain the fertility of the soil. Shortage of goods and disorganization as results of World War II have a delaying effect on the transition from exploitation to occupation. The United States is in a stage of forced transition from forms of exploitation to forms of occupation. It is obliged to execute immense works in the fields of technology, forestry, and agriculture in order to stop or at least to mitigate the catastrophes in nature resulting from an unlimited exploitation of the soil and vegetation. In this connection I would mention the works in the Tennessee Valley. Today western Europe, including the Netherlands, is mainly in the stage of occupation, which involves that here, if we consider our town planning problems in broad outline, it is particularly the change of the forms of occupation which has to be considered. Nevertheless it would be incorrect to assume that in the Netherlands the situation is stable. The industrialization, mechanization and rationalization of the productions of raw materials and goods, as well as the changes in agriculture, horticulture and cattle-farming are being effected at an accelerated pace, which requires conscious action in the field of planning. The establishment of new and the extension of existing industries and, moreover, the large increase in population for which industry will have to provide new conditions of living, will bring about considerable changes in our towns and landscapes. The layout of our settlements has, for the greater part, become obsolete and asks for improvement. The change in the use of the soil and

the cultivation of the soil are accompanied by changes in the dimensions of the constituent parts of the landscape, its lay-out, its greenery, its farms. We are in need of recreation areas which enable the population to come into closer touch with plants and animals.

The purport, the object of all this is of vital importance. All those concerned in these radical changes in the various sectors of society must be gifted with imaginative power, the ability to design and unity of conception. Our main problem is whether in these changes the manifestations of contemporary life will be accepted in a positive sense and will be utilized creatively or whether they will be received reluctantly. Creative utilization involves that their value will have to be put to the test, after which it will be allowed to utilize them very carefully and only in the interest of the individual and the community.

But you will ask: 'What idea must we form of this acceptance and creative utilization?' In order to be able to give an answer to this question we shall have to deal with the specific emotional values which find expression in art and which I indicated just now.

Some time ago Vasalis wrote: 'Artists have this in common: they express what they have received, after something has happened to it beyond their consciousness.'

The resulting creation by no means originates, as Roland Holst wrote in his *My Own Backgrounds*, from so-called thinking, but from life as it is experienced in contemplation.⁵⁸

58 M. Vasalis, *Over den dichter*.

Ladies and gentleman, I have quoted these words because we shall have to deal with these deeper moving's of life if we want to effect a closer approach to our contemporary conception. This holds particularly with regard to the coming town planners and the students of town planning, who in the near future will be called upon to assist in designing towns and landscapes and who will have to conduct an inner struggle: a struggle with the main issue of their creative power and the object of town and landscape designing.

Very much to the point Lao-Tse said in *Tau Te Tsjing*: 'Let your intellect be one with your intuition and let there be no inner conflict.'⁵⁹

Well then, the technical shapes are the expression of our technological and organizational ability, which is great and rather simple so that these shapes are often quite clear. Therefore we may share Oud's expectation that 'the construction itself will have to transcend its material necessity to assume an aesthetic form.'⁶⁰ In my opinion this is going to happen if intellect and intuition are one and the designer has experienced the essence of his object in contemplation. The well-known bridges of Maillart in Switzerland and the concrete constructions of Le Freyssinet in France are examples of a wonderful amalgamation of technique and expression.⁶¹ The realm of intuition finds expression in art and particularly in the liberal arts, whereas in technique it is the intellect which is preponderant. But, let there be no conflict...

⁵⁹ Lao Tse, *Tau-te-tsjing*.

⁶⁰ J.J.P. Oud (Dutch architect, 1890-1963).

⁶¹ Robert Maillart (Swiss civil engineer, 1872-1940), Eugène Freyssinet (French structural engineer, 1879-1962).

Poincaré, the mathematician and philosopher, has written that ‘we cannot fully cognize things but we can reveal something of their essence by observing their interrelations.’⁶²

The artists who I just mentioned to you, and who in their way of working and living are coming closer and closer to the investigator, the discoverer and the inventor, in their isolation have observed the interrelations of things and men and have discovered something of it. After dealing with equilibrium and happiness Piet Mondriaan wrote in *Art and Life*: ‘I build everything on observation; the fact that the art of painting comprises a whole culture involves that it is an ideal medium to demonstrate equilibrium and happiness.’⁶³

In this connection I would refer to James Joyce, who in *Ulysses* integrally represents the interpretation of inner and outer life of his persons, and confronts their physical and psychical egos with each other in their environment.⁶⁴

Moreover, I should like to mention in the same connection the poet and painter Hans Arp as well as Kandinsky, Klee, Braque, Calder, Vantongerloo.⁶⁵

The cubists painted various projections of objects in shape and colour beside, over, and through each other in order to be able to represent in one image the simultaneity in experiencing the various

⁶² Henri Poincaré (French mathematician and philosopher of science, 1854-1912). Poincaré was influential for some artists and architects in the 1920s, in particular Theo van Doesburg. See: John G. Hatch, “Some Adaptations of Relativity.”

⁶³ Probably Van Eesteren cites from memory and refers to: P. Mondrian, *De nieuwe beelding schilderkunst*.

⁶⁴ James Joyce (Irish writer, 1882-1942).

⁶⁵ Hans Arp (German-French artist, 1886-1966), Wassily Kandinsky (Russian-French artist, 1866-1944), Paul Klee (Swiss artist, 1879-1940), Georges Braque (French artist, 1882-1963), Alexander Calder (American artist, 1898-1976), Georges Vantongerloo (Belgium artist, 1886-1965).

aspects and properties of these objects. They started from the totality of the cognition of their subjects. The whole field of isms, such as futurism, which just like cubism represented movement and simultaneity in paintings and plastics; constructivism, which illustrated the possibility of equilibrium of spatial tensions; Dadaism, which expressed particularly the idea of relativity; tactilism, which demonstrated the emotional values of the properties, the structure and the skin of matter in connection with its being sensed by eye and hand; surrealism, which interrelates the unconscious, the subconscious, and reality – they are all aspects of an expanding new reality with which art has established emotional contact.

In this Apollinaire recognized an *Esprit Nouveau*, and wrote: 'Their investigations will be useful, they will lay the foundations of a new reality, which will probably not be inferior to the reality, so poetic and wise, of the ancient land of the Greeks.'

The *Stijl*-group and others in our country supported and are supporting this new reality, which is being recognized more and more.

Art is becoming multi-dimensional, and, as clearly observable in painting, sculpture and music, transcends the representation of the three-dimensional world, because it wants to express values which cannot be interpreted in any other manner. These modes of expression result from an inner urge irresistible to artists.

It is a little difficult to talk about these things without showing works of art. Still I cannot, but do so because I can explain the backgrounds of contemporary designing only in this manner. It is sometimes alleged that the isms should be a sign of disintegration and atomization. But this is by no means true. In a wide sense they form together the contemporary unity of art and the various movements make the facets and motives of modern art manifest.

The observed relations are experienced through the senses, just like the transfer of expression, which enables us to live the content and expressiveness of the works of art. And just as the urban objects and relations can be observed intellectually they can also be perceived by our senses.

Let us first say something about the objects and the relations themselves.

The functions and purposes of planning – and this is a sensory perception – are to be concretized in dwellings, public buildings, roads, canals, railways, factories, parks, farms, woods, sports grounds, etc. – so in objects. When the interrelations of functions of life aiming at spiritual, productive, cultural, industrial, agrarian, recreative and other objects are not well ordered the result will be a spatial chaos. In the great adventure of the living community the town planner is aiming at spatial order by making schemes, projecting the present in the future and the future in the present in a continuous interaction. The science of town planning makes us aware of functions and purposes, and the art of town planning enables us to group the objects I mentioned just now spatially together and with elements such as water, greenery, differences in altitude, etc. The manner in which this is done determines the appearance and expression, the style, of the settlements and cultivated landscapes.

In the beginning of my lecture I have pointed out that the forms and the expression of towns and cultivated landscapes differed through the various epochs of civilization. I have quoted Hilberseimer, who makes the rise and decline of all settlements dependent on spiritual, social, political, and economic forces occurring in many combinations with changing dominant forces. Within this complex of forces, and affected by these forces, vision and conception of form and expression arise and become active

in the manner of art. Experiencing life in contemplation the liberal artists creates his works of art and in the same manner the urbanist arrives at a conception. Of course, it takes a long time before the creative process is started and it will be difficult to say when and where it is exactly started.

The numerous objects of the town planning schemes have no end of values and meanings. Mostly they have a practical purpose and at the same time they are symbols of the forces from which they originate.

In the one case the stress lies on the practical aspects and in the other case it lies on the symbolic aspects, mostly they are interwoven. The place of the stress depends on the dominance of one of the spiritual, social, political or economic forces active in the object. The form of an airplane is for instance based on the practical use; a war monument is an object of a symbolical nature. I would refer to the devaluation of the symbol in the nineteenth century, which was pointed out by Giedion, and to what I have said in this connection. I think I demonstrated just now that contemporary art involves a re-evaluation of the symbols, of the emotional values. The art of town planning is also concerned in this process. In this relation we shall now consider some urban objects.

A dwelling and a dwelling unit should not only give shelter to the occupants but also enable them to develop their personalities. Voluminous books have been written about the dwelling and the dwelling unit and about the urban objects and elements which will be briefly mentioned hereafter. The designer must know both their individual nature and the practical demands with regards to situation, etc., and to synthesize them together with the emotional values into a special form, after which he can include them as components in the scheme.

A school is a building which can have a character if it is a good school. Of course, the same holds true for any kind of building. For everybody the word school is related with a certain representation; for the town planner it has more facets than for the layman, but ultimately it culminates for him also in a summarizing representation of the object school.

For the town planner, roads, railways and canals are objects of traffic, along which movement takes place and man transports himself. In the landscape itself they are static elements but for the traveller they are lived dynamically so that there is a simultaneity of impressions. This is the simultaneity of the cubists and the futurists, just like the relativity which I am going to mention presently, was revealed to us by the Dadaists in the manner of art. The designer, when trying to find a track for a road, will doubtless include both aspects in his conception.

Agrarian landscapes serve for food production and they are at the same time residential regions. Owing to the rationalization and the mechanization of farming the dimensions of land property have become larger and much of the greenery has been cleared away. In making plans we have to account for the necessity to incorporate the human element which is important from the point of view of habitation in the landscape, and to maintain the biological equilibrium. Like in Joyce's prose, man is confronted in a present-day manner with the landscape.

Woods supply timber. However in densely populated regions like ours they are of great importance for recreation; they represent biological and climatological values as well. They bring man into contact with the intimacy of life, with plants and animals, their coming into existence and their perishing. On the other hand seas, lakes and pools give us a feeling of space. A combination of wooded areas and wide, open views provides ideal spots of recreation.

Such a landscape unites reality and subconsciousness and thus creates harmony within us. And as soon as we understand the essence of surrealism – the relation between subconsciousness and reality, of which life and death are the factors – we shall be able to give a better form to planning, as well as to landscapes for recreation.

Both for worshippers and others a church is not merely a building with some hundreds of seats from which divine service can be followed. Owing to many aspects of spiritual, cultural and social life, churches, schools, libraries and similar objects, from the point of view of town planning, belong to the atmosphere of relativity.

A park, an office building, a monument, a garage, a hospital, a concert hall, a sports-field, a market, a cemetery, a harbour, a rubbish-dump, shunting-yards, an industrial complex, an allotment garden park, farms, horticulture gardens with their buildings, beaches, woods, mud flats, all these objects are perceived sensorily by the urban designer and experienced by him in contemplation.

So besides their practical properties and values the objects and elements of the town planning scheme – be it on a local, national or international level – also have an emotional content. In themselves and in their interrelation they are for the inspired man more than mere utility and matter. The interrelations of the objects and elements are greatly affected by the purport and intentions of the scheme. Purity in experiencing the creative forces will benefit the expression. Renovation of the fundamental values towards the elementary has a fructifying effect on town planning.

After what I have said I need not explain that the harmony of our settlements and cultivated landscapes depends on the harmony of social forces. Acknowledging and accepting struggle, decay and death as essential elements of life, which are also crystalized in the

forms of settlements and landscapes, I now come to the personal attitude and responsibility in life, which is actually a special subject in itself. But as I touched upon the various movements and spoke at the same time about collaboration, I cannot but tell you how I picture them to be in the practice of town planning and architecture.

The potential collaboration of the various movements in architecture and town planning is incorporated in the communal and reciprocal recognition and acknowledgment of the elementary values and principles determinative of the forms of the objects and the utilization of natural elements as parts and components of towns and landscapes. It must be possible for colleagues with different views of art and life and spiritual backgrounds to deal together in a positive sense with the essential things concerning the preparation of a design, e.g. of a church or an office building, in the interest of the town planning entity. I know from practice that if the members of a team are really of good will and sincerely try to understand each other's points of view, they will accept everybody's right to a different insight. Still success can be achieved only if consultation is held on a proper level both as to planning and human relations. There will undoubtedly be difficult moments at which the relativity of things can lead up to weak solutions. However, if the members of the team give each other the chances required for a good result with regard to both the separate parts and the entity, and acknowledge the priority of what is reasonable, the collaboration will be fruitful.

My own attitude in this collaboration is quite well known and I need not explain it to you.

In respect to education I would remark that contemporary art could favourably affect the designing capacity of the future town planners and building, projecting and constructing engineers.

In saying so, I want to emphasize that contemporary art must also have its chances in our Technological University.

A minimum of equality of insight and effort is as much a requirement for success in education as in other fields of creative work. The same holds true when a group is working on a plan. The potentialities which a designer begins to see in a task at a certain moment, and the inspiration he finds in the working group stimulate his creative capacities. Then, unity of the conception of education can be prepared too, in which the set-up, the methods, the professorships, etc. are of great importance. If this does not happen, it will not develop afterwards in practice, and the promises of *modern architecture* cannot be fulfilled either.⁶⁶

We know the difference between good and evil, between right and wrong. Everybody has a sense of elementary human values, and education aims at enabling everybody to discern these values. Man has also an inborn sense of the elementary values of form, colour, and sound. More than hitherto, education at home and at school will have to contribute to the development of this sense and likewise to the development of the creative faculties. Then a general creative visual power will develop and the sense of being responsible for the architectural and urban forms will increase. Perhaps there may be a time when people will consider it to be contrary to the common good and will think it improper to create bad spatial solutions or to start building without regard to an approved town planning scheme.

⁶⁶ With this Van Eesteren refers to the inaugural speech of Marinus Jan Granpré Molière with the title “De moderne bouwkunst en hare beloften.” (Modern architecture and her promises), held in 1924.

As a result of their activities present-day town planners want to realize ethical values. They want to serve and promote the spiritual, moral, and material welfare of the occupants of the settlements and landscapes. In the reality of a society full of tensions between life and death they are aiming at a *Cité du bon accord* as Reclus called it characteristically. The degree to which the forms of our towns and landscapes will harmonize depends on the degree of purity of the social relationships; their appearance and expression – their style – on the degree to which we experience life in the entity of the forces.

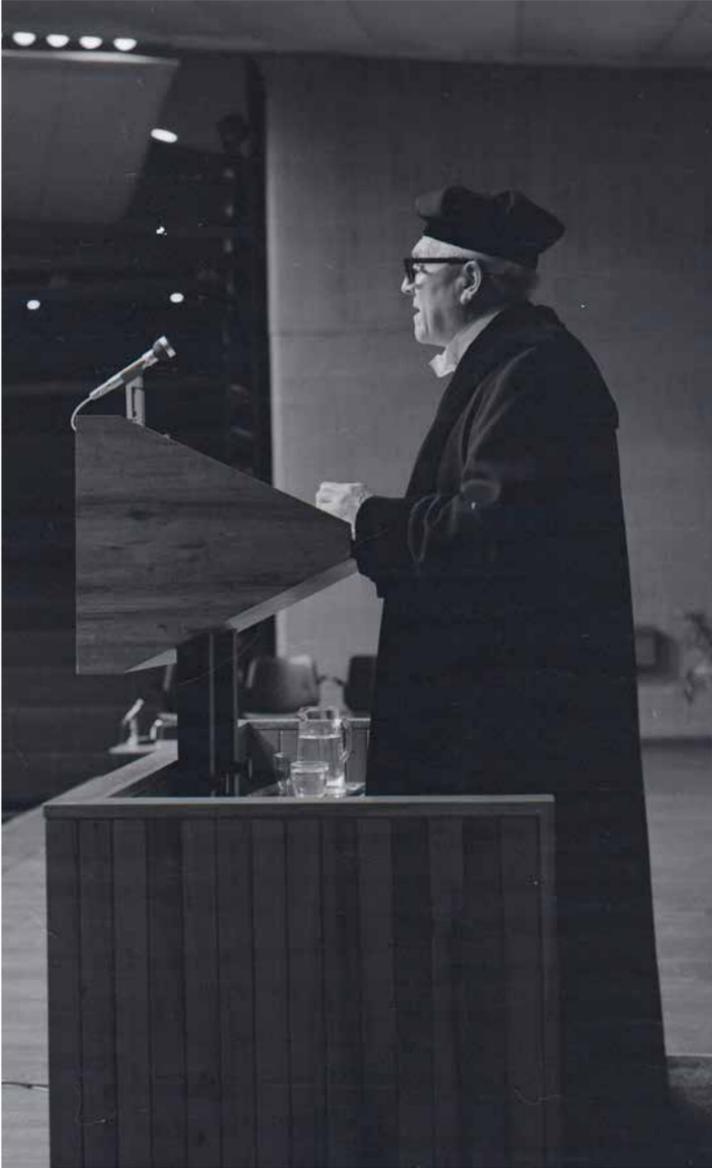


FIG. 12 Cor van Eesteren delivering his valedictory lecture in 1967

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On the Editors

Carola Hein is Professor and Head, Chair History of Architecture and Urban Planning at TU Delft. She has published widely on topics in contemporary and historical architectural and urban planning – notably in Europe and Japan. Among other major grants, she received a Guggenheim Fellowship to pursue research on The Global Architecture of Oil and an Alexander von Humboldt fellowship to investigate large-scale urban transformation in Hamburg in international context between 1842 and 2008. Her current research interests include transmission of architectural and urban ideas along international networks, focusing specifically on port cities and the global architecture of oil. She serves as Editor for the Americas for the journal *Planning Perspectives* and as Asia book review editor for the *Journal of Urban History*. Her books include: *The Capital of Europe. Architecture and Urban Planning for the European Union* (2004), *Port Cities: Dynamic Landscapes and Global Networks* (2011), *Brussels: Perspectives on a European Capital* (2007), *European Brussels. Whose capital? Whose city?* (2006), *Rebuilding Urban Japan after 1945* (2003), and *Cities, Autonomy and Decentralisation in Japan*. (2006), *Hauptstadt Berlin 1957-58* (1991). She has also published numerous articles in peer-reviewed journals, books, and magazines.

Herman van Bergeijk is an architectural historian who studied in the Netherlands (Groningen) and Italy (Venice). After working abroad and teaching at many universities in the United States, Germany, Italy and the Netherlands he obtained his Ph.D. in 1995 with a study into the work of the architect and town planner W.M. Dudok. In 1997 he was appointed at the University of Technology in Delft. Since 2004 he is an Associate Professor in Architectural History in Delft. He has curated many exhibitions and published extensively on 17th and 20th Dutch and Italian architecture. Recent publications are: *Het handschrift van de architect. Schetsen van Nicolaas Lansdorp en tijdgenoten* (together with Michiel Riedijk) (2014) and *Aesthetic Economy. Objectivity in Dutch architecture* (2014). A study into the work of the Dutch architect Jan Duiker will be published in 2016.

This small booklet contains the inaugural speeches of Th. K. van Lohuizen and Cor van Eastern given on the occasion of their appointments as professors at the Technical College of Delft. The speeches provide novel insights into their respective teaching programs, and appear here for the first time in English. An analytical reflection on their work by the architectural historian Herman van Bergeijk introduces them.

