Health care architecture in the Netherlands

Noor Mens / Cor Wagenaar

NAi Publishers

Health care architecture in the Netherlands

Noor Mens / Cor Wagenaar

NAi Publishers

Front cover:
Ed. Cuypers, extension Jozefziekenhuis, Heerlen, 1920–1923 (photo a/d Amstel Architecten)
Architectenbureau Koen van Velsen, Groot Klimmendaal rehabilitation centre, Arnhem, 2009 (photo Rob 't Hart)

Back cover:
B. Poyet, design for the Hôtel-Dieu, Paris, 1785 (Bibliothèque nationale de France, Paris)
Van Tijen en Maaskant, Huis in de Duinen, Zandvoort, 1952–1955 (photo Jan Versnel/MAI)

Contents

6 **Preface**
8 **Introduction**

1750-1914
12 **The origin of health care buildings**
Hospitals as healing machines: the influence of the Enlightenment
14 *Hospitals*
Ventilation machines: radiators and pavilions – Hospitals in the Netherlands in the nineteenth century
19 *The psychiatric hospital*
Psychiatric institutions in the Netherlands – Meerenberg – The benefits of nature – The fully-fledged rural institution – The sanatorium
27 *Housing and care for the elderly*

30 Meerenberg, Santpoort, 1844-1849
32 Veldwijk, Ermelo, 1884
34 Algemeen Provinciaal-, Stads- en Academisch Ziekenhuis, Groningen, 1903
36 Willem Arntsz Hoeve, Den Dolder, 1909-1912
38 De Engelenbergstichting, Kampen, 1911-1916

40 *Sanatoria for tuberculosis patients*

1914-1940
46 **Light, air and space**
Temples of medical technology and active therapy
48 *Hospitals*
Tower blocks or pavilions? – Hybrid forms
50 *The psychiatric hospital*
Active therapy – A wave of building construction – Sanatoria
58 *Housing and care for the elderly*
Urban expansion and homes for the elderly – Predecessors of the old people's home

62 Extension St. Jozefziekenhuis, Heerlen, 1920-1923
66 Zon en Schild, Amersfoort, 1928-1940
68 Rusthuis De Blauwvoet, Driebergen, 1930
70 Extension Sophiaziekenhuis, Zwolle, 1935
72 Noordersanatorium, Zuidlaren, 1935
74 De Rusthoeve, Purmerend, 1933-1936

76 *Utility and aesthetics*

1940-1960
82 **The Reconstruction**
Postwar Netherlands

84 *Hospitals*
Inspiration from Sweden and Switzerland – The Building Centre – Synthetic Modernism – Rational hospital typology – The first postwar hospitals
90 *Psychiatric hospitals*
Reconstruction – Expansion and new buildings
92 *Housing and care for the elderly*
Classification of the elderly – Different types of accommodation for the elderly

100 Juliana Ziekenhuis, Terneuzen, 1947-1954
104 De Klokkenbelt old people's home, Almelo, 1947-1952
106 Huis in de Duinen, Zandvoort, 1952-1955
108 Rode Kruis Ziekenhuis, The Hague, 1950-1960
112 Sinai Centrum, Amersfoort, 1955-1960

114 *Compartmentalisation*

1960-1970

120 **Building boom**
Care for all

122 *Hospitals*
Block types – New types
130 *Psychiatric hospitals*
Four exemplary new building projects
132 *Housing and care for the elderly*
Nursing homes – Homes for the elderly

138 Old people's home, Hagemuntstraat, Gorinchem, 1954-1961
140 Diaconessenhuis, Leiden, 1952-1963
142 Diaconessenhuis, Eindhoven, 1956-1966
144 De Nudehof old people's centre, Wageningen, 1959-1966
146 Sint Franciscushof psychiatric hospital, Raalte, 1952-1970
150 Vijverdal, Maastricht, 1958-1973
152 De Viersprong psychotherapeutic centre, Halsteren, 1966-1971

154 *Standardisation*

1970-1980

160 **The critical Seventies**
The end of growth

162 *Hospitals*
The regulation of hospital construction – The Humane and Modern Hospital – Architectural protest – Open-end structures
170 *Psychiatry*
The big renovation
174 *Housing and care for the elderly*
Nursing homes: from medical model to home model – Criticism – The building as an improved city

182 De Drie Hoven, Amsterdam, 1964-1974
184 De Zonnetrap residential building, Rotterdam, 1970-1980
186 Sint Elisabeth Ziekenhuis, Tilburg, 1973-1982
188 Clinic for acute psychiatry and socio-therapeutic community of Sint Joseph de Wellen, Apeldoorn, 1971-1982

190 *Housing for the mentally handicapped*

1980-1990

196 **Flexibility and urbanity**
Health care dismantled?

198 *Hospitals*
200 *Psychiatric hospitals*
The last traditional psychiatric hospitals – The end of the psychiatric Institution – Back to the city
204 *Housing and care for the elderly*
The nursing home – Substitution completed: ordinary housing for the elderly – Residential groups – Unpaid care

208 De Overloop old people's home, Almere, 1980-1984
210 Academisch Medisch Centrum (AMC), Amsterdam, 1966-1981/1985
214 Streekziekenhuis Waterland, Purmerend, 1980-1988
216 Merwedeziekenhuis, Dordrecht, 1981-1989
218 Eikenheuvel pavilions, Huize Padua, Boekel, 1980-1989
220 Kreilerburcht apartment block, Rotterdam, 1991-1993
222 Psychiatrisch Centrum Amsterdam, Amsterdam 1989-1994

226 *Flexibility*

1992-2002

234 **Changes in the health care landscape**
The end of the welfare state

236 *Hospitals*
The hospital of the twenty-first century
238 *Psychiatry*
The big cleaning up operation – Buildings for short-term and ambulant care – Special provisions
246 *Housing and care for the elderly*
The nursing home – Separation of housing and care: the residential care complex (*wozoco*) – Housing for the elderly

254 Academisch Ziekenhuis Groningen (AZG), Groningen, 1975-1997
256 Johannes de Deo residential care complex, Amsterdam, 1994-1997
258 Centre for mental care, Goes, 1995-2001
262 Westfries Gasthuis (first phase), Hoorn, 2003
264 De Jutter centre for child and youth psychiatry, The Hague, 1997-2002
266 Kloosterverzorgingshuis, Venlo (Tegelen), 1999-2002

268 *University Medical Centres*

2002-2010

276 **Beyond health care architecture: the way to the future**
Architecture and health care buildings

278 *Hospitals*
From medical bulwark to secure enclave – Care boulevards – Decentralisation – Architectural quality
286 *Psychiatry*
Reverse integration
289 *Housing and care for the elderly*
Nursing and care homes – Residential care or service zones (*wozozo*) – Ordinary housing

298 Sinai Centrum, Amstelveen, 2007
302 Berkenstede care centre, Diemen, 1999-2006
304 De Plussenburgh, Rotterdam, 2001-2006
306 Willem Arntsz Huis, Utrecht, 2003-2007
308 La Valence nursing home, Maastricht, 2007
310 Deventer Ziekenhuis, Deventer, 2007
314 Vlietland Ziekenhuis, Schiedam, 1999-2008
316 Maasland Ziekenhuis, Sittard, 2001-2008
318 De Pionier medical centre, Nieuw-Vennep, 2008
320 Gezondheidscentrum St. Jozef, Deventer, 2009
322 De Hogeweyk, Weesp, 2008
324 Dobbelmanterrein residential care complex, Nijmegen, 2009

326 *Healing environment*

330 **Conclusion**

334 Notes
339 Bibliography
347 Index
351 Picture credits
352 Colophon

Front cover:
Ed. Cuypers, extension Jozefziekenhuis, Heerlen, 1920–1923 (photo a/d Amstel Architecten)
Architectenbureau Koen van Velsen, Groot Klimmendaal rehabilitation centre, Arnhem, 2009 (photo Rob 't Hart)

Back cover:
B. Poyet, design for the Hôtel-Dieu, Paris, 1785 (Bibliothèque nationale de France, Paris)
Van Tijen en Maaskant, Huis in de Duinen, Zandvoort, 1952–1955 (photo Jan Versnel/MAI)

Health care architecture in the Netherlands

Noor Mens / Cor Wagenaar

NAi Publishers

Contents

6 **Preface**
8 **Introduction**

1750-1914
12 **The origin of health care buildings**
Hospitals as healing machines: the influence of the Enlightenment
14 *Hospitals*
Ventilation machines: radiators and pavilions – Hospitals in the Netherlands in the nineteenth century
19 *The psychiatric hospital*
Psychiatric institutions in the Netherlands – Meerenberg – The benefits of nature – The fully-fledged rural institution – The sanatorium
27 *Housing and care for the elderly*

30 Meerenberg, Santpoort, 1844-1849
32 Veldwijk, Ermelo, 1884
34 Algemeen Provinciaal-, Stads- en Academisch Ziekenhuis, Groningen, 1903
36 Willem Arntsz Hoeve, Den Dolder, 1909-1912
38 De Engelenbergstichting, Kampen, 1911-1916

40 *Sanatoria for tuberculosis patients*

1914-1940
46 **Light, air and space**
Temples of medical technology and active therapy
48 *Hospitals*
Tower blocks or pavilions? – Hybrid forms
50 *The psychiatric hospital*
Active therapy – A wave of building construction – Sanatoria
58 *Housing and care for the elderly*
Urban expansion and homes for the elderly – Predecessors of the old people's home

62 Extension St. Jozefziekenhuis, Heerlen, 1920-1923
66 Zon en Schild, Amersfoort, 1928-1940
68 Rusthuis De Blauwvoet, Driebergen, 1930
70 Extension Sophiaziekenhuis, Zwolle, 1935
72 Noordersanatorium, Zuidlaren, 1935
74 De Rusthoeve, Purmerend, 1933-1936

76 *Utility and aesthetics*

1940-1960
82 **The Reconstruction**
Postwar Netherlands

84 *Hospitals*
Inspiration from Sweden and Switzerland – The Building Centre – Synthetic Modernism – Rational hospital typology – The first postwar hospitals
90 *Psychiatric hospitals*
Reconstruction – Expansion and new buildings
92 *Housing and care for the elderly*
Classification of the elderly – Different types of accommodation for the elderly

100 Juliana Ziekenhuis, Terneuzen, 1947-1954
104 De Klokkenbelt old people's home, Almelo, 1947-1952
106 Huis in de Duinen, Zandvoort, 1952-1955
108 Rode Kruis Ziekenhuis, The Hague, 1950-1960
112 Sinai Centrum, Amersfoort, 1955-1960

114 *Compartmentalisation*

1960-1970

120 **Building boom**
Care for all

122 *Hospitals*
Block types – New types
130 *Psychiatric hospitals*
Four exemplary new building projects
132 *Housing and care for the elderly*
Nursing homes – Homes for the elderly

138 Old people's home, Hagemuntstraat, Gorinchem, 1954-1961
140 Diaconessenhuis, Leiden, 1952-1963
142 Diaconessenhuis, Eindhoven, 1956-1966
144 De Nudehof old people's centre, Wageningen, 1959-1966
146 Sint Franciscushof psychiatric hospital, Raalte, 1952-1970
150 Vijverdal, Maastricht, 1958-1973
152 De Viersprong psychotherapeutic centre, Halsteren, 1966-1971

154 *Standardisation*

1970-1980

160 **The critical Seventies**
The end of growth

162 *Hospitals*
The regulation of hospital construction – The Humane and Modern Hospital – Architectural protest – Open-end structures
170 *Psychiatry*
The big renovation
174 *Housing and care for the elderly*
Nursing homes: from medical model to home model – Criticism – The building as an improved city

182 De Drie Hoven, Amsterdam, 1964-1974
184 De Zonnetrap residential building, Rotterdam, 1970-1980
186 Sint Elisabeth Ziekenhuis, Tilburg, 1973-1982
188 Clinic for acute psychiatry and socio-therapeutic community of Sint Joseph de Wellen, Apeldoorn, 1971-1982

190 *Housing for the mentally handicapped*

1980-1990

196 **Flexibility and urbanity**
Health care dismantled?

198 *Hospitals*
200 *Psychiatric hospitals*
The last traditional psychiatric hospitals – The end of the psychiatric Institution – Back to the city
204 *Housing and care for the elderly*
The nursing home – Substitution completed: ordinary housing for the elderly – Residential groups – Unpaid care

208 De Overloop old people's home, Almere, 1980-1984
210 Academisch Medisch Centrum (AMC), Amsterdam, 1966-1981/1985
214 Streekziekenhuis Waterland, Purmerend, 1980-1988
216 Merwedeziekenhuis, Dordrecht, 1981-1989
218 Eikenheuvel pavilions, Huize Padua, Boekel, 1980-1989
220 Kreilerburcht apartment block, Rotterdam, 1991-1993
222 Psychiatrisch Centrum Amsterdam, Amsterdam 1989-1994

226 *Flexibility*

1992-2002

234 **Changes in the health care landscape**
The end of the welfare state

236 *Hospitals*
The hospital of the twenty-first century
238 *Psychiatry*
The big cleaning up operation – Buildings for short-term and ambulant care – Special provisions
246 *Housing and care for the elderly*
The nursing home – Separation of housing and care: the residential care complex (*wozoco*) – Housing for the elderly

254 Academisch Ziekenhuis Groningen (AZG), Groningen, 1975-1997
256 Johannes de Deo residential care complex, Amsterdam, 1994-1997
258 Centre for mental care, Goes, 1995-2001
262 Westfries Gasthuis (first phase), Hoorn, 2003
264 De Jutter centre for child and youth psychiatry, The Hague, 1997-2002
266 Kloosterverzorgingshuis, Venlo (Tegelen), 1999-2002

268 *University Medical Centres*

2002-2010

276 **Beyond health care architecture: the way to the future**
Architecture and health care buildings

278 *Hospitals*
From medical bulwark to secure enclave – Care boulevards – Decentralisation – Architectural quality
286 *Psychiatry*
Reverse integration
289 *Housing and care for the elderly*
Nursing and care homes – Residential care or service zones (*wozozo*) – Ordinary housing

298 Sinai Centrum, Amstelveen, 2007
302 Berkenstede care centre, Diemen, 1999-2006
304 De Plussenburgh, Rotterdam, 2001-2006
306 Willem Arntsz Huis, Utrecht, 2003-2007
308 La Valence nursing home, Maastricht, 2007
310 Deventer Ziekenhuis, Deventer, 2007
314 Vlietland Ziekenhuis, Schiedam, 1999-2008
316 Maasland Ziekenhuis, Sittard, 2001-2008
318 De Pionier medical centre, Nieuw-Vennep, 2008
320 Gezondheidscentrum St. Jozef, Deventer, 2009
322 De Hogeweyk, Weesp, 2008
324 Dobbelmanterrein residential care complex, Nijmegen, 2009

326 *Healing environment*

330 **Conclusion**

334 Notes
339 Bibliography
347 Index
351 Picture credits
352 Colophon

Preface

This book offers a survey of health care architecture in the Netherlands. It is more than a collection of best practices; it deals with hospitals, psychiatric institutions and housing and health care provisions for the elderly that are characteristic of developments in health care. These buildings tell a story, and health care plays an important role in that story. Nevertheless, the protagonist is architecture. Architecture is particularly significant in health care – it reflects developments in care, the ensemble of buildings can be read as a documentary journal of medico-technological innovations, changing insights in psychiatry, and socio-cultural opinions on the position of old people. Much more important is the fact that architecture is directly connected with the raison d'être of these buildings. There is no type of building in which the relation between function, structure and design is revealed so clearly as in health care architecture, and nowhere is the relation between buildings and the physical and mental wellbeing of the people for whom they are designed so intense. This is true not only of the patients and the elderly in need of care, but also of the staff – the doctors, psychiatrists and psychologists, nurses and technical staff without whom these buildings cannot function. This book is in the first place a plea for the (re)discovery of this quality of architecture, a quality that coincides with the essence of architecture.

What is the particular significance of architecture in health care? Here everything boils down to the way in which the patients and the elderly in need of care experience their stay. That experience has many facets. In the first place there is the effect of the treatment. A decisive factor in psychiatric institutions and hospitals is eventually whether the therapy is successful or not. That depends partly on the way in which the architecture supports or frustrates the therapy and everything connected with it. Whether housing for the elderly fulfils its function depends on how it promotes the wellbeing of the residents. It is increasingly recognised (again) that the way in which patients and the elderly are approached has an influence on their wellbeing. Architecture proves to have a direct influence on the experience of the users, and this influence extends to medical and psychological effects. Stress is the key concept to describe the negative effects of the wrong design decisions, and the negative effect of stress on health and healing has been proven. So these factors, which were regarded as 'soft' until recently, really do have 'hard' consequences, and they are directly connected with the core function of these buildings. The great merit of Evidence Based Design is that it has convincingly demonstrated that at least some of these consequences can be identified and measured: the view from the patient's room, single or shared rooms, routing, social support, privacy, et cetera.

Architecture, however, covers a wider area than Evidence Based Design, even apart from the way in which it accommodates processes – which are determined above all by the theme of the internal logistical organisation that dominates all else. Architecture also makes statements about the relation between staff and patient that go further than the necessary professional interaction – must the patient come to the specialist's own consultation or treatment room, or should the specialist renounce having a domain of his own in which he used to be lord and master? Can an outpatient unit also be conceived as a normal form of the provision of services and designed accordingly? Does it help psychiatric patients who are accommodated on remote terrains in the countryside if housing for normal residents is added? There is a long tradition of designs with a critical edge, and examples of that can be found in health care too, some of which have found their way into this book. Every kind of architecture – and health care architecture is no exception – transcends its function and forms a part of a long and dynamic evolution of this time-hallowed discipline as the designer of culture. Here it touches on the position of the design, the way it marks the evolution of the type, the relation with other types of building (especially housing, hotels and offices, but also airports, shopping centres, conference buildings); its social ambitions are at stake, and so is the relation with other design disciplines (art, design, fashion).

This publication throws light on the role that architecture has been able to play in the development of health care buildings. The survey covers the whole spectrum and aims at a dual renaissance: in the first place the rediscovery of the exceptionally direct impact of architecture on the care processes and thereby on how they are run and, in connection with that, on the real estate value (which, paradoxically enough, proves to increase with the generic character of the majority of the buildings); and secondly the direct effects of design on the wellbeing of the patients and staff. This book is thus above all a plea for the importance of architecture in health care. Now that hospitals, psychiatric institutions and nursing homes have been made responsible for their own real estate and have to raise funds for that purpose on the capital market, it is important to underline that investing in architecture pays off. The extra that is spent on quality is recuperated in savings in running expenses. Sustainable high-quality materials give the users that feeling that they matter and last so much longer that it is here in particular that the rule applies: cheap is expensive. Oversizing is still the best strategy to ensure flexibility. It saves the expense of renovation in the long term but immediately guarantees a spacious ambience. By taking into account not only the psychological but also the medical consequences of the design, a design makes a direct contribution to what will always remain the core function of health care buildings: the promotion of the welfare of the patients, residents and staff. In the last resort they are the benchmarks, these buildings are in the first place for them, not for the institutions that run them. The contours are slowly emerging of a trend that recognises the public character of health care architecture and no longer isolates the buildings from the social and physical context of the city, but integrates them in it. They are, when all is said and done, public amenities that directly benefit urban life.

This publication continues the tradition set by three previous monographs that were published in Dutch on the initiative of the University Medical Centre Groningen, *The Architecture of Hospitals*, and the series of activities organised under the umbrella of 'Architecture in Health'.[1] The book brings this work up to date and at the same time forms the crown and coping stone of this project – but hopefully also the stimulus for a follow-up. The fundamental role of architecture presented in this book deserves the opportunity to develop to the full – not in the service of architecture, but above all in the service of health care.

Frans C.A. Jaspers, MSc. M.D.
Member of the Executive Board University Medical Centre Groningen, Chairman Thomassen à Thuessink Foundation, Groningen

Introduction

This book contains a wide selection of Dutch health care buildings. Something special goes on in all of these buildings that is not experienced so intensely in any other building: the treatment and care of physical and mental disorders. Sometimes they are life-threatening, sometimes they only affect the quality of life, but they are always experienced as exceptional. Patients are confronted first with themselves, and afterwards with the people who take care of them. The most frequent and intensive contact is with the nursing staff. Interaction with doctors and specialists is less frequent and long-term, but all the more intensive and crucial. Health care buildings are designed to create the right environment for the medical processes that take place there. The examples collected in this publication illustrate the important role that architecture can play in this respect.

Every building has to comply with the purpose for which it is designed. All the same, the structure and physical appearance of a building are not always determined by its function. It is only since the last quarter of the eighteenth century that function has played a major part in the history of architecture, when principals and designers started to think about use in a rational way. In the case of hospitals and psychiatric institutions, this change was connected with the emergence of new insights into the treatment and accommodation of people with physical or mental disorders. The relation with tradition and convention was severed. This was also when the practice of relating all buildings, irrespective of their function, to the four architectural prime models – churches, palaces, town halls and merchants' houses – was dropped. The hospital, for instance, was often somewhere between a church and a merchant's home.

This double emancipation – from the shackles of tradition regarding use, and from the architectural practice of following a limited number of models – led to particularly specific types of building. The more exactly a building was tailored to its function, the more specific it was, the better it would be. The evolution of health care architecture is almost entirely determined by insights into its functioning. This often resulted in one-dimensional buildings: perfectly able to accommodate a particular vision, but completely outdated as soon as new insights appeared. A corollary of the classic functional approach is the need to keep adapting or replacing buildings. Hospitals, nursing homes and psychiatric institutions only appear in their original guise for a brief period. This is followed by the process of renovation, extension or demolition.

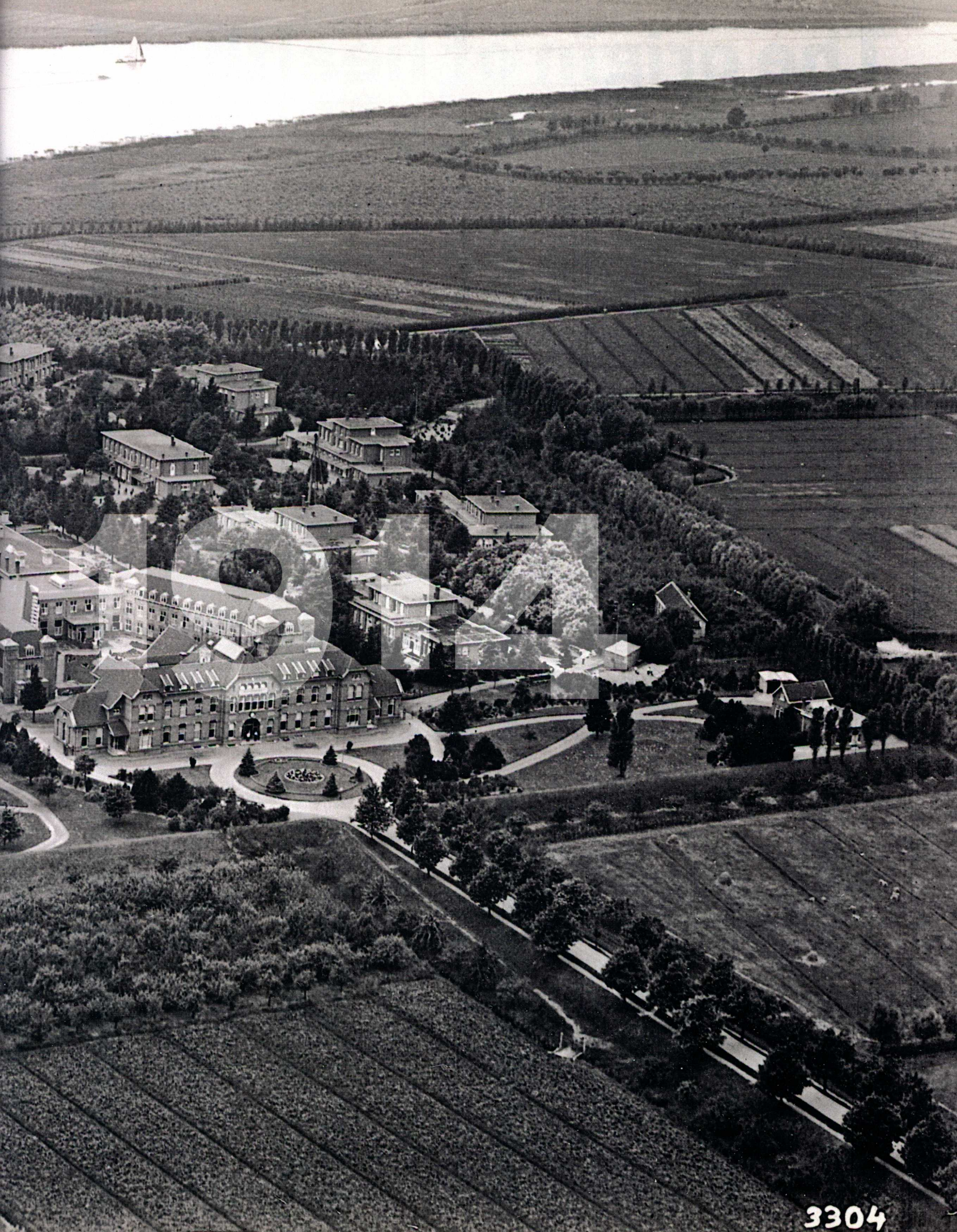
The functionalist approach was to predominate until the end of the twentieth century, when a new emancipatory movement appeared with the aim of freeing the building as much as possible from its functionalist shackles. The direct relation between function and building typology was called into question. Analysis of the actual use showed that only a small part of what goes on in hospitals, for instance, is really different from what goes on in other types of building: the hospital ward approximates the hotel, the offices with or without consultation rooms are not so different from the back and front office of regular office buildings. There was doubt about the need to cluster highly diverse medical functions, often bearing hardly any relation to one another, in large complexes. Moreover, smaller, more generic buildings seem to represent a higher value on the real estate market. The next stage in the evolution of health care buildings consists of a fundamental reappraisal of the relation between function and building. It presents the designers with challenges in which crucial episodes from the evolution prove to have lost none of their topicality. The question of the added value of architecture is fundamental. Thinking on this score oscillates between two extremes.

On the one hand, there is the experience of the space: the ambiance, the succession of rooms and encounters determined by the logistical organisation, the colour, the material, and the rural or urban setting outside the building. Architecture is manifested here as the art of manipulating spatial effects. The recipient and judge in this case is the patient. Apart from the effectiveness of this strategy, which at first was explicitly regarded as an essential component of the therapy offered in hospitals, this approach does justice at any rate to the fact that the patient's experiences form the ultimate criterion anyway. On the other hand, the architecture either facilitates or frustrates the medical and technological processes. Are the different flows of traffic separated from one another, or is it all a big confusion? What about the internal logistics? Such factors have a direct effect on how health care buildings are run, and thus on the expenses. In practice the opinions of the medical and technical staff, the programmers and managers are determinant here. In the ideal situation, the two approaches are mutually complementary rather than exclusive.

Inspired by other types of building, the contours of a new care landscape are coming into view. A number of recurrent pairs of concepts define a wide range of options: generic or specific? Central, large-scale and general, or decentralised, small-scale and specialised? Integrated in the urban context or isolated at the junctions of the infrastructure? Separate focused factories or networks of organisationally connected but physically separate branches? What is a suitable course of treatment in one case may be fatal in another – the interaction between designer and principal is still decisive. But the side that places the commissions is in flux too: health institutions are merging with similar ones or with organisations that offer complementary services; private parties are appearing, insurance companies are trying to increase their influence on the providers of care. It is in this dynamic world in which all the borders seem to be growing blurred that new opportunities for architecture arise. This leads to contradictory trends: while in Europe health care architecture is opening up to non-specialists, a trend can be discerned in the United States towards the certification of agencies specialised in health care who try to provide a scientific basis for their design methods (Evidence-Based Design).

The eight chapters of this book present health care architecture in the Netherlands. The structure is chronological and thematic – hence the first chapter is devoted to the origins of the separate building types. As a rule, each chapter devotes separate sections to the three main types (hospitals, psychiatric institutions and accommodation and care for the elderly in particular). Although the focus is on health care architecture in the Netherlands, considerable attention is paid to developments elsewhere too, at least when those developments have influenced Dutch ones. Each chapter is accompanied by an essay that goes into specific themes in more depth, and a selection of projects.


1750


3304

The origin of health care buildings