

Jean-Baptiste le Roy and Charles François Viel, design for the Hôtel-Dieu in Paris, 1773, example of the alternative type that eventually would dominate hospital architecture for over a century: the pavilion system.

Composé pour l'architecture et dessiné en 1770 par Ch. Fr. Viel Architecte de l'Hôpital Général de Paris.

Gravé par L. Guéroux Directeur de l'Eglise du Roule, en 1771

PLAN GÉNÉRAL D'UN PROJET D'HÔTEL-DIEU,  
 de M. le Roy, de l'Académie Royale des Sciences.  
 Imaginé en 1773

Cet Edifice disposé d'après les principes de la Physique et de la Médecine, devoit être placé au bout du Cours de la Reine.

## Modern hospitals and cultural heritage

BY COR WAGENAAR

The decades between 1950 and 1980 mark the heydays of modern hospital architecture. It represents an ideal merger between Modernism and medicine and a highly specific approach to health and illness as medical qualities. Since the 1990s, public health experts have recognized that aspects that have been discarded both by medicine and by modern architecture should be re-integrated in all policies that target health: the modern hospital has become a relic of the past. This essay is a plea to incorporate the changing views on health and illness in the value assessment of the modern hospital.

The history of hospitals is charged with paradoxes and contradiction. Hospitals have always been linked to the essence of human life, to issues that become fundamental when life is endangered by disease. That, however, is about the only thing the series of institutions with the name “hospital” have in common – in all other aspects hospitals from one period hardly resemble their namesakes from other epochs.<sup>1</sup> We tend to take for granted that the primary function of hospitals is to contribute to the curing of patients – but this only became their *raison d'être* in the late 18<sup>th</sup> century. Likewise, we see them as medical facilities – but even though hospitals have always attracted medical doctors, they only began to represent the frontiers of medicine in the last half of the 19<sup>th</sup> century. Today’s hospitals continue the tradition that started back then. They are the setting in which medical specialists, supported by an ever growing arsenal of medical equipment, take care of patients by providing medical treatment in order to cure them. They have become strongholds of medicine, and the mission of medicine is to apply scientific scholarship and medical technology to remove physical (and mental) threats to life itself or – equally important – the quality of life. If hospitals are indeed medical facilities, it isn’t difficult to link hospital architecture with Modernism, even if its history shows that in most countries, hospitals only accepted Modernism as their preferred architectural style in the 1950s. Ultimately, both medicine and Modernism deal with human beings – and, therefore, face the need to develop views on what it means to be human. Both, moreover, share a fascination for what its protagonists see as a scientific approach to solve well-defined problems. And both tend to cultivate the idea that in order to clearly understand these problems, it is necessary to break away from the past and overcome outdated, irrational views. Finally, medical professionals and modern designers often see their work as a social act, a contribution to a more decent society. In Europe and the United States, the modern hospital evolved as part of the social networks of the Welfare State (and in Central and Eastern Europe of its communist counterpart). It was the

proud expression of a great ideal: making hospital services – by far the most expensive component of any healthcare system – available for all citizens.

Now the quintessentially modern hospital, defined here as the ideal merger of a specific, “scientific” approach to architecture, and medicine as a field dominated by concepts derived from the natural sciences, appears to be a thing of the past. Hundreds of them have been built between 1950 and 1980, and now most of them are sadly outdated – not only because they have become obsolete, but also because their philosophical and theoretical foundations have collapsed. This, of course, does not impact their importance as monuments of Modernism. Quite the contrary: it embeds their qualities in debates that have been going on for centuries, and are not likely to fade away any time soon. The modern hospital has become a historical phenomenon – a *contradictio in terminis*: it is not obvious for a building that represents the ambition to escape from history to be listed as a historical monument, but there is no doubt that many of them deserve that status. If they do, it is because they embody specific cultural values. Current trends in cultural heritage assessment may help to expand the range of values that should be taken into account. These go beyond aesthetics and design philosophies. They may include aspects these buildings almost desperately tried to do away with: they are also monumental expressions of processes of reduction and, even denial. This essay is a plea to incorporate the positions hospitals represent in the debates on their function and, more specifically, on how their function relates to the philosophical disputes on what it means to be human.

The modern hospital evolved at the crossroads of debates and developments that had their roots in the 18<sup>th</sup> century (with precursors that hark back to the Renaissance – but we will not go that far back). Arguably, hospitals have always been microcosms of society and, more specifically, the way society conceives sickness, recovery and, ultimately, death. These views radically changed during the Enlightenment, and it is hardly a coincidence that the very first designs that conceived hospitals as institutions that should help cure

patients were made in this period. They were the result of a design competition for a new building of the Paris Hôtel-Dieu, which burnt down in 1772. The approximately 200 plans that were handed in between 1772 and 1788 can be seen as philosophical statements in a heated debate. Key issues were at stake: nature versus religion, rationality versus metaphysics, mechanical clarity versus arbitrariness, accountability versus blind acceptance, critical thinking versus unquestioning approval. Siding with the advocates for science and rationality, the architects produced hyper critical plans that forced a radical break with the past – this is one of the features that characterizes their proposals as precursors of modern architecture. It adds a historical dimension to the cultural values hospitals represent. What the competition entries have in common – indeed, what all architecture aspires to – is to position people in space, but in this epoch it gained a special meaning: space became a container of the natural as well of the social world. The alternative plans for a new Hôtel-Dieu not only envisaged a new hospital, but also offered radically new views on nature and society.

A lot has been written about the competition designs for the new Hôtel-Dieu. One of its lasting contributions is the representation of a hospital as a *machine à guérir* [healing machine]. It was a provocative term that expressed the authors' criticism of what hospitals had been until then: neither geared to the need to contribute to healing people, nor endowed with the neutral, objective, no-nonsense qualities of a machine. It is undoubtedly true that hospitals have always been characterized by the concentration of the ill and wherever such concentrations exist, there will always be medical doctors around. There was little they could do to help cure the ill and injured, nor was that the primary ambition of hospitals. The main objective of hospitals, decreed by the Church at the Synod of Aachen in 816, was the rationalization of charity. They were populated by the poorest layers of society and were lucky to prolong their lives for a while. The very last thing the well-to-do would think of if they suffered ill-health was go to a hospital – instead, they would order the doctor to come to their home. When the architects who entered the competition claimed that hospitals were about healing, this was another extraordinary statement. Equally astonishing was the term *machine*, which suggested a mechanical approach to, in this case, the matters of life and death that patients in hospitals typically face – precisely the issues the Church addressed with religious and metaphysical concepts. The *machine à guérir* liberated the hospital – and healthcare in general – from the constraints of religion, conventions, traditions and superstitions.

The entries of the design competition for a successor to the burnt down Hôtel-Dieu envisaged buildings that indeed operated in a machine-like way, their primary function being to supply the wards with fresh air. Medical professionals were convinced that fresh air contributed to the patient's well-being and, possibly, recuperation. Since cities suffered from pollution and were infamous for their stench (people could smell Amsterdam from several kilometers

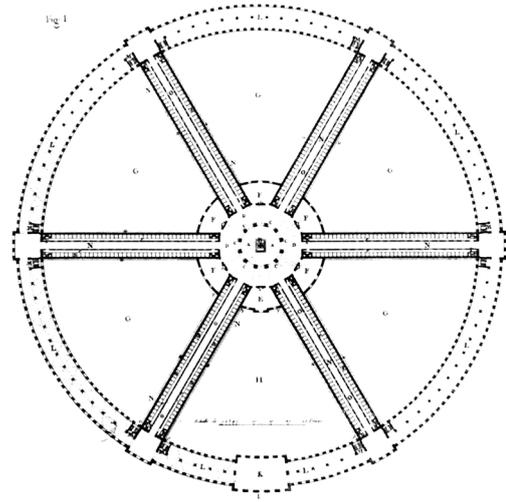
away), they were seen as unhealthy, a view that was supported by statistics: life expectancy in cities was substantially lower than it was on the countryside. Ideally, hospitals should, therefore, be built in the countryside, but this hardly ever happened since their main target group remained what it had been for centuries: the urban poor. If the new Hôtel-Dieu was destined to be somewhere in the city, probably in the vicinity of the remains of the old hospital, the design of the building should make up for the polluted air of its setting. Its layout should guarantee a maximum of fresh air. Providing fresh air was a technical problem that required a technical solution. The mining industry provided valuable inspiration, and in all likelihood the art of building orange-ries also informed the architects. Obviously, the world of technology – of creating machines – is intimately linked to the natural sciences. Medicine, the discipline that defined the program, also aspired to be part of the natural sciences. Thus, the revolutionary hospital types resulting from the design competition appeared to be entirely mechanical in the way they were supposed to function.

They wished to create islands of purified, cleansed air and anticipated the sanitation of cities, which also aimed to provide clean air and, in the course of the 19<sup>th</sup> century, introduced sewage systems, networks for clean drinking water and waste disposal services. These innovations were the first step in developing the field of public health; they illustrate the close ties between public health and prevention strategies (as opposed to the crisis management strategies associated with medical treatment of individual patients). The strategy of health promotion by environmental control, a procedure that enhanced public health by non-medical policies, originates in the revolutionary hospital designs of the late 18<sup>th</sup> century. (Although medical professionals inspired the revolutionary hospital plans, medicine itself played, at best, a marginal role in them: their contribution to healing their patients rested entirely on the environment they created. If Michel Foucault (1926-1984) blames them for being prisonlike facilities, this assumption is probably fueled by the panopticon-like floorplans of the circular radial type, which resembled contemporary prison designs – but in these radial plans, the center is not a control post for guards but a chapel. If Foucault sees hospitals as exemplary for the coercive faculties of the medical science – one of the claims that made him famous – he is clearly mistaken: the first generation of hospital designs after healing became their primary function cannot be seen as medical institutions...)<sup>2</sup>

However, “mechanical” competition designs aimed to be, the buildings they envisioned do not look like machines, or factories, or any other utilitarian facility. Quite the contrary: they were characteristic of the ambition, inherent in architecture since times immemorial, to express cultural values – they were, in a way, linguistic devices and operated – as architecture inevitably does – in the domain of the humanities. Hospitals had always been representative building – they did not represent medicine, nor their function, but the ambition of their clients (the Church, municipalities, wealthy citizens, and, when tied up with the



**01** Gordon Bunshaft, Fort Hamilton Veterans Hospital, Brooklyn, designed in 1946, this striking machine age building can be seen as a precursor of the Breiftuß-type.



**02** Antoine Petit, design for the Hôtel-Dieu in Paris, 1774, example of a project with a circular floor plan and patients' wards radiating outwards from a central core.



**03** Gordon Bunshaft, Fort Hamilton Veterans Hospital, Brooklyn, designed in 1946, this striking machine age building can be seen as a precursor of the Breiftuß-type.

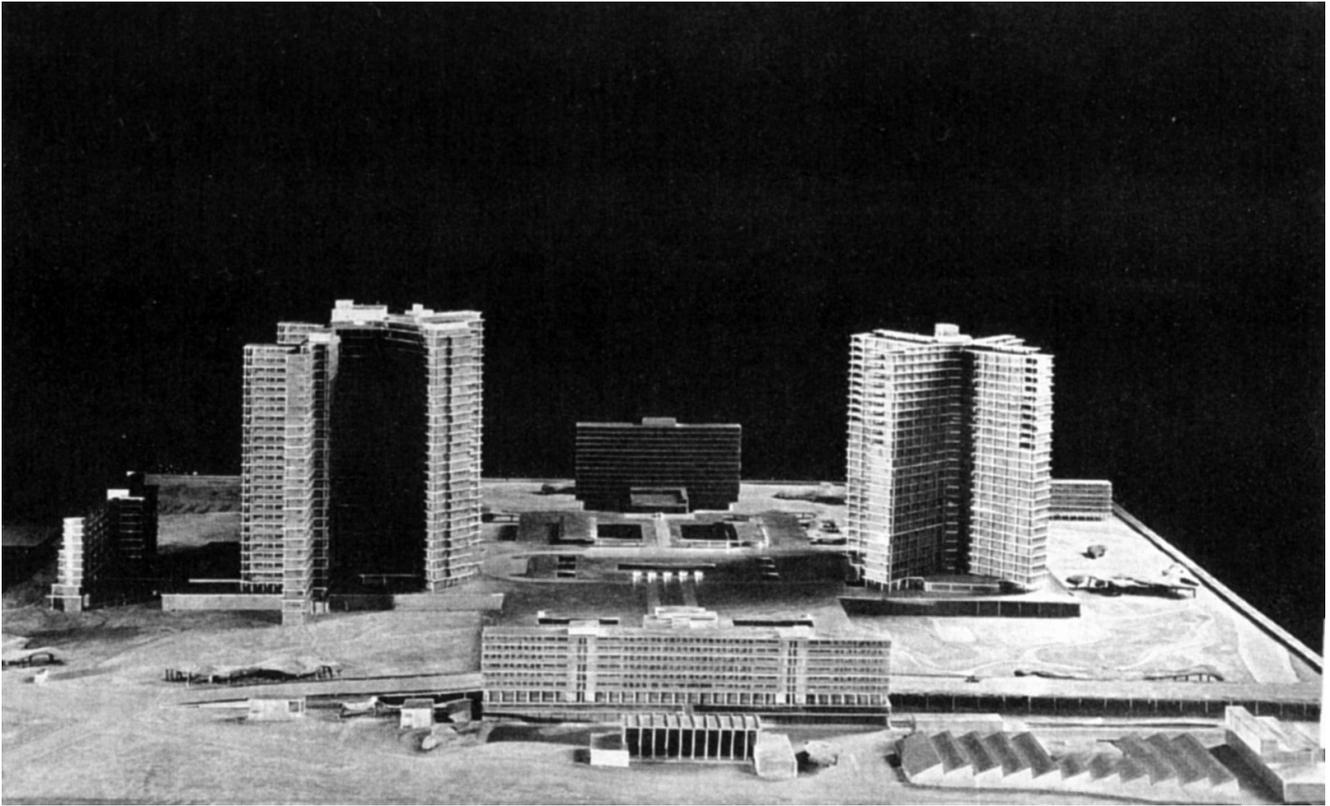
military, the state) to express their benevolent intentions. In the 18<sup>th</sup> century, Classicism became the dominant style. Few designers doubted that Classicism was the only appropriate style to represent the Enlightenment. It is the most geometric of all historical styles, which endows it with an aura of universality. More importantly, it refers to ancient times, when, in the view of Enlightenment philosophers, the processes of history had not yet caused society to drift away from its natural origins.

Combining the two domains of the natural sciences (medicine) and the humanities (representation of cultural values), the revolutionary hospital projects of the late 18<sup>th</sup> century are characteristic for one of the most interesting aspects of Enlightenment thinking: the conviction that science is essentially one single, solid field with one single, clear mission: to understand the world (our environment) and our place in it. In the late 18<sup>th</sup> century, most scholars eagerly absorbed whatever knowledge they could stomach on the widest possible range of topics; they wanted to know everything there is to know about the natural sciences, astronomy, botany, but also had a keen interest in social issues, politics and history, and they shifted between all these fields with remarkable ease. Few of them gave the impression that they considered the methods used to study natural phenomena were superior to those applied in historical studies, or the other way around – though there was no doubt about the fundamental differences between the exploratory and explanatory devices used in both fields: universal laws in the natural sciences, man's mental world in the humanities (for argument's sake we only distinguish these two fields). The evolution of hospital typologies since the late 18<sup>th</sup> century can be attributed to the weakening of the concept of science as a unified domain that encompassed different methods in different fields but with the same purpose: to get a clear and realistic picture of all aspects of the environment that define human life.

The modern hospital that conquered the world since the 1950s can be seen as the ultimate and sublime outcome of this process. Medicine – intimately linked to the natural sciences but dealing with human beings – epitomized the characteristically 19<sup>th</sup> century idea that the natural sciences represent the only valid way to understand the universe. It is easy to see why medical professionals were eager to intervene in the designs for a new Hôtel-Dieu: these were brilliant manifestations of a world liberated from the constraints of irrational concepts, and this liberation had been at the heart of their emergence as a scientific discipline since the late Renaissance. The prospect of inspiring a similar revolution beyond the world of medicine, imprinting the spirit of the natural sciences (which slowly began to monopolize the term “science”) to the world at large must have appealed to them – in this respect, the sanitation of cities was only the first step. But is it at all possible to transfer the methods of the natural sciences – unalterable, universal laws that yield the same outcomes whenever and wherever they are applied – to the world of the humanities? At the macro level, Karl Marx's (1818-1883) philosophy of historical materialism is the ultimate attempt to explain

social change by “historical laws” modeled on natural laws, and, although he is undoubtedly the most influential philosopher of the 19<sup>th</sup> century, historical reality refused to unfold according to his theory. At the micro level of human beings in need of medical treatment, it implied that people were conceived of as mechanical entities where the laws of nature apply. Those aspects of human existence that were normally studied by the humanities (in perfectly scientific ways, though with different methods) were eliminated for the sake of scientific clarity, reliability and predictability; to put it a bit brusquely: everything referring to people's qualities as civilized creatures was discarded. The conviction that this reduction was science based boiled down to the so-called “Cartesian dichotomy”: there is no connection whatsoever between people's experiences and the way they feel, and their health since the latter is uniquely defined by mechanical issues. This transformed patients into passive recipients of the medical processes to which they were subjected, and helped to profile the medical professionals as an elite corps (a status it has been cultivated ever since).

The allegedly scientific, radically reductionist view of medicine as rooted in the natural sciences only began to impact hospitals when these developed in to medical institutions. Until the mid-19<sup>th</sup> century, medicine did not rely on medical institutions like hospitals (where no medical services were offered that couldn't be provided anywhere else, for instance at home). Nor did hospitals play a role in the gradual expansion of medical knowledge, a phenomenon that coincided with the precise observation of the development of diseases in individual patients (which called for academic hospitals that served scholarly purposes but did not aspire to cure patients). A key moment in the history of hospital architecture was the introduction of surgery. For ages, surgery was not integrated in the medical profession, but part of the military – the first handbooks on the removal of bullets date from the 16<sup>th</sup> century. The amputation of wounded limbs was another surgical procedure associated with the army. These operations took place near the battlefield, not in hospitals. Paris' first building specifically dedicated to medicine was not a hospital but Jacques Gondoin's school of surgery (1769-1775); the professionals educated here were taught how to help wounded soldiers. It was the last resort for wounded soldiers who would surely die if surgeons didn't intervene. Very few people would voluntarily opt for surgery as long as there were no painkillers that worked, and the risk of dying of infection after successful surgery was very high. Crawford W. Long (1815-1878) introduced ether as an anesthetic in 1846, and a year later, Ignaz Semmelweis (1818-1865) demonstrated the importance of hygienic measures in hospitals, proving that the practice of washing hands reduced mortality due to puerperal fever to one percent. Before Louis Pasteur (1822-1895) and Joseph Lister (1827-1912) put their minds to it, nobody knew what made Semmelweis' procedures effective. Joseph Lister began to experiment with carbolic acid in 1867, diminishing the danger of infection. Hospitals were singled out as the only facilities that could accommodate surgery, and the operating theater



**04** Paul Nelson, design for a medical city in Lille, France, 1933, this project is a well-known example of the merger of modern architecture and modern, technology-based medicine. Before the 1950s, however, the clients of hospitals only rarely opted for modern design and preferred traditional, representative buildings.



**05** Jan Piet Kloos, Diakonessenhuis, Groningen, 1965, view of the patient wards, an example of modern hospital architecture of the 1960s. The floor plan resembles a K, the rooms in the wards face south.



**06** Krohn and Hartvig Rasmussen, Hvidovre Hospital, Copenhagen, opened in 1976, this modern hospital was one of the first to explore the possibilities of low-rise hospital models.

became the first functional unit that could only be found in these buildings and nowhere else.

The introduction of surgery marks the beginning of the medicalization of the hospital – it gradually shed its stigma as an almshouse for the urban poor, but it retained the architectural features befitting a charitably public building. 19<sup>th</sup> century hospitals typically combine the spacious layout they inherited from the late 18<sup>th</sup> century with the representative qualities of schools, theaters and town halls. The vast majority followed the principles of the pavilion type: a set of separate buildings on either side of a central axis that divides the area for women from that for men, and usually leads to an architectural landmark (the building for the administration and the board of directors, or a chapel). Greenery, sometimes in the form of lavishly designed gardens, separate the pavilions, help to create a pleasant climate and provide fresh air to the wards – most pavilions were just that: wards with beds for inpatients. Nursing was the primary activity in hospitals, the operating theater one of the few facilities specifically dedicated to medical procedures. As the medicalization continued and accelerated, a discrepancy between functionality and representation appeared to emerge; closing it was one of the challenges of the architects, some of whom began to specialize in health-care buildings.

Around 1900, architecture and urban design saw the emergence of Modernism, the most radical protagonists of which wanted to ban everything that was not based on scientific views of social and technological progress. Many of its goals coincided with that of the emerging medical discipline centuries before: science – or at least rationality – should rule supreme, and design should discard everything that was deemed superfluous, that is to say: not essential for making a building work. Of course, it makes a difference if superstitious convictions, religious banter or irrational conventions are expelled, or a design vocabulary is banned that has evolved in many centuries and fulfills specific functions in its own right: the “linguistic” qualities that link architecture to the evolution of society and the cultural values embedded in it. (The attempts at extreme reductionism provoked harsh criticism from such eloquent critics as Werner Hegemann (1881-1936), chief editor of *Wasmuths Monatshefte für Baukunst* in the 1920s, and for good reasons: architecture is by default a public medium, and if this mediatic aspect is silenced, it loses part of its public functions.<sup>3</sup> Of course, the debate on this particular issue was highly rhetorical: almost without exception, modern architects were very well aware of the evolution of their profession, its artistic roots and the importance of design – only since the 1950s were some of them willing to play the role of technocrats...).

The rationalist, reductionist nature of Modernism appeared a perfect match for medicine – but before 1945, only a very limited number of modern hospitals and sanatoria were built in Central and Western Europe. Not surprisingly, only the country that was subjected to the most radical social experiment, and one that incorporated revolutionary innovations in public health, triggered the

marriage of Modernism and medicine: the Soviet Union.<sup>4</sup> Promoting health was a primary goal of the new regime, and soon after the revolution, the Soviet Union introduced the first state medical system in the world. Healthcare was made accessible for everybody free of charge. Deplorable health conditions were blamed on the former capitalist system, the creation of a healthy environment (meant to include its social and political aspects) should help to eradicate diseases. New hospitals were needed nevertheless, and their layout should reflect the new social realities: they were to become “social condensers” of the new epoch. Alexander Grinsberg (1879-1938), a renowned modernist, designed several of them, often in the traditional pavilion type. In Novosibirsk he realized an 850-bed regional hospital in a pure Constructivist style. This architectural language was also prominent in sanatorium buildings and rest homes. They resembled spas and holiday resorts, and many new facilities were built in forests and along the Black Sea coast. Examples are the Kirov sanatorium in Kislovodsk, and the sanatorium for the Leningrad health protection services of the city hall. The flow of modern healthcare buildings petered out after Stalin banned Modernism from the Soviet Union; in about the same time Hitler did the same – both expulsions were to enhance Modernism’s post-war status as a herald of democratic values...

The perfect merger of Modernism and medicine occurred when Modernism became the dominant style in the Western world (and, after 1955, in the socialist empire as well). With the benefit of hindsight, we can state that Modernism could only flourish in a period that cultivated the benefits of rational management, the conviction that politics should guarantee a fair share of the expanding wealth for the lower income brackets, all that against the background of rapid demographic and economic growth, and, finally, the allegedly democratic nature of Modernism – long since unmasked as a myth. On a more practical level, Modernism’s long-standing fascination with mechanical production processes (standardization, repetition) and the management procedures developed in large industries also helped. The modern hospital that thrived between 1950 and 1980 professes to be functionalist building – it accommodates the work of medical professionals and the nursing staff. It is a utilitarian building – its esthetic qualities stem from the way it expresses what the building is supposed to do. In the Netherlands, the term “synthetic modernism” was coined to highlight one of its characteristic features: hospitals combine outpatient departments, inpatient wards and the so-called “hot-floor”, and each component calls for its own specific architectural expression. Thus, the T-type came into being, the horizontal beam accommodating the wards, the vertical one the hot-floor and the outpatient area (which was originally modest in size, but turned out to be fastest growing department in hospitals in subsequent years). The K-type accommodates the hot-floor and the outpatient area (soon to become a separate functional department in the vertical beam), and the two wings dedicated to the patient wards (facing south, it appears to try to catch the sun). The most prolific type, the *Breitfuß* (also

known as hôpital-arbre, or matchbox-on-a-muffin) tries to find a solution for the demands of medical technology, which improved at an ever increasing speed and called for the continuous adaption of the hot-floor and the outpatient departments. It accommodated all departments that constantly needed to be modified in a low-rise, horizontal volume, and put the patient wards in a slab on top of it. Each part had its own, easily readable architectural expression, and often these buildings are truly beautiful. Esthetics, however, was no longer a goal in its own right – whereas the revolutionary plans of the late 18<sup>th</sup> century combine mechanical functionality with Classicism-inspired *architecture parlante*, their 20<sup>th</sup> century counterparts were reduced to functional machines. Even their urban setting seemed to underline its modern nature: hospitals carved islands out of the spaces that surrounded them and dedicated them exclusively to medical professionals, their technicians and the nursing staff; this was seen as beneficial because it allowed them to administer their services without the least interference with the world outside. Thus, even their site stressed the special status they aspired to: set in the urban periphery and surrounded by a belt of no-man’s land, the only connection of these inward looking molochs with the world outside was the parking lot. Their isolated setting also appears to underline the ambition, inherent in the medical discipline since the scientific revolution of the 17<sup>th</sup> century at the latest, to get rid of everything that it sees as incompatible with the world of science. If science wants to be rational, pure, cleansed of everything it deems superfluous, the modern hospital is its most perfect representative.

Now these buildings have become obsolete in many ways, and one aspect that deems them the relics of a dead past is the growing awareness that the basic assumption that defined them is mistaken. They represent an extreme position in the debate on the best possible, scientific ways to position ourselves in our environment: the natural sciences (in the form of medicine) provide the only valid way to understand human life (in all its aspects). If hospitals are medical facilities with health as their core business, this seems to imply that health, ultimately, is a medical quality – but this assumption already leads to a world of contradictions and misunderstandings. The World Health Organization (WHO) claims that medical infrastructures account for only 10% of public health.<sup>5</sup> Public health is best served with an environment that facilitates healthy lifestyles – walking, cycling, healthy food, social support, a myriad of characteristics none of which is medical. (This, of course, does not imply that states should stop spending their health budget on medicine and channel it to urban planning, public housing instead: rather, the WHO makes a case for what it calls “health in all policies”: in all policy domains, health should become one of the primary objectives.) If people need to be hospitalized, the building should offer a lot more than a functional machine. Since the 1980s at the latest, the design qualities of architecture have been rediscovered as an important factor in people’s healing processes – thus an aspect that had been conceived as inherent in the expression of function was again complemented by

design features that were functional at a different level. Even though many modern hospitals are still in use today, we should begin to think about them in terms of cultural heritage. And if we do, we should incorporate the historical (but intangible) values inherent in the position they represent in a matter of fundamental importance: how people position themselves in their social and natural environment.

#### Notes

- 1 Noor Mens, “The Building Type and its Emergence”, in *Hospitals. A Design Manual*, Basel, 2018, 42-52.
- 2 Michel Foucault, *Naissance de la Clinique: une archeology du regard medical*, Paris, Presses Universitaires de France, 1963.
- 3 Noor Mens, Cor Wagenaar, “Amerika: het nieuwe Duitsland? Of Duitsland: het nieuwe Amerika?”, in *Stadsperspectieven. Europese tradities in de stedenbouw*, Nijmegen, 2015, 160-183.
- 4 Yuri Slezkine, *The House of Government. A Saga of the Russian Revolution*, Princeton, Woodstock, 2017, 276.
- 5 World Health Organization, “Progress on Health Equity Is Stalling across Europe; New WHO Report Reveals Gaps Can Be Reduced within the Lifetime of a Single Government.”, World Health Organization Regional Office for Europe, 10<sup>th</sup> September 2019.

#### References

- FOUCAULT, Michel, *Naissance de la Clinique: une archeology du regard medical*, Paris, Presses Universitaires de France, 1963.
- MENS, NOOR; WAGENAAR, COR, “Amerika: het nieuwe Duitsland? Of Duitsland: het nieuwe Amerika?” in *Stadsperspectieven. Europese tradities in de stedenbouw*, Nijmegen, 2015, 160-183.
- MENS, NOOR, “The Building Type and its Emergence”, in *Hospitals. A Design Manual*, Basel, 2018, 42-52.
- SLEZKINE, Yuri, *The House of Government. A Saga of the Russian Revolution*, Princeton, Woodstock, 2017, 276.
- WORLD HEALTH ORGANIZATION, “Progress on Health Equity Is Stalling across Europe; New WHO Report Reveals Gaps Can Be Reduced within the Lifetime of a Single Government.”, World Health Organization Regional Office for Europe, 10<sup>th</sup> September 2019.

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