THE REPOSITIONING AND URBANISATION OF HEALTH: NEW HEALTHY PLACES ALONG HOSPITAL-CITY-CONTINUUM AND ITS IMPLICATIONS FOR HEALTHY CITY PLANNING

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Abstract:

The role of health in our cities and in planning is radically changing. Aaron Antonovsky's concept of the Healthease-Disease-Continuum brought the dichotomy of disease and health to an end. Consequently, the differentiation between a place for the ill (hospital) and one for the healthy (neighbourhood) is outdated and rather moves towards into a Hospital-City-Continuum. While the World Health Organisation (WHO) identified the city and the urban environment as the main setting for health promotion, health infrastructures are gradually losing their insulated positions and turn into integrated elements of the neighbourhood's everyday life. Considered systematically the borders between hospital- and urban areas are blurring. Resulting from this, new fields and places for health infrastructure, health promotions and urban health evolve. At the same time, health promotion and health care increasingly penetrate the everyday spaces in the cities. Digital Health, individualized care, personalised (or stratified) medicine and mobile medical devises are no longer banded to health institutions. On the contrary, they can turn a private bedroom into a temporary patient room. The paper identifies and describes these (new) healthy places, positions them along the Continuum and enquires into their possible futures.

Introduction

The borders between the hospital and the city blur as the first assumes traits of the neighborhood while in the latter health is increasingly playing a distinctive role.

The compact and sealed off hospitals were a result of the last century's new technological and medical achievements. Patients flocked to the clinics for an increasing number of examinations and treatments; stationary admissions became quite common thereby marginalising the outpatient sector. Today, the medical wind is changing. Many devices lost their former size and increased the mobility, a gadget on our wrist monitors our physical functions, telemedicine enables the physician to treat a patient without requiring his direct presence and thanks to minimally invasive surgery patients leave the hospital on the same day of the intervention. Medicine is pushing back into the city and people's everyday life. This development raises the question as to how the nexus of hospital, health and city acts on each of its components. How do we handle the re-urbanisation of health and hospitals?

Historically, the form of a hospital was always a reliable indicator for the importance of health in the city. Every change in opinion gave birth to a new (or at least transformed) image of both the hospital and the city. Consequently, only a joint analysis of the city and the hospital on the one side, and urban planning and public health on the other side, can explain the on-going re-urbanisation. Against this backdrop I will conduct a comparative analysis of historical tendencies regarding the conjunction of the hospital and its (urban)

neighbourhood asking what can be learned from the organisation of the latter for the planning of the first. Opening up these closed or semi-closed entities can only proof beneficial when merging one into the other.

Starting from this assumption, the paper will introduce a new notion of explaining these areas along the lines of Aaron Antonovsky's (1979) idea of the health-ease / dis-ease continuum (HEDE). Differentiating between a place for the ill (hospital) and one for the healthy (neighbourhood) is both exclusive and out-dated as they clearly develop into a hospital-city-continuum (HCC).

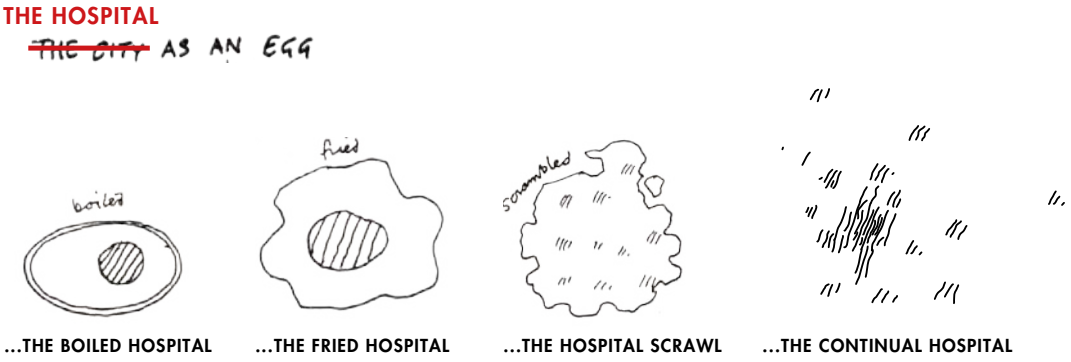

Figure 1: The hospital as an egg (Tracing of Cedric Price's original 1982 diagram, "The City as an Egg.")

The erosion of the "big hospital"

The design of hospitals is radically changing. The number of beds is being reduced, patients get redirected into primary care units or the like, as ever-improving medical engineering contributes to the erosion of the "big hospital". Large specialised and monofunctional central hospitals, the ancient "palaces of medicine" if you like, obviously fail to meet today's demands. While medical care is pushing its way back into the city's heart, the hospital is increasingly requested to take in "urban qualities". Borders between city and hospital are continuously blurred. Once the 20th century's behemoths of medical care, hospitals now seem to morph (back) into the surrounding quarters – a trend which I see as the "re-urbanisation of the clinic". (Wagenaar, 2006)

Hermetic super-hospitals like the Cornell Medical Centre in New York, or the University Hospital Aachen, or the Vienna General Hospital have a quite short history. Their de-urbanised concept, which seemingly disregards the outside world, does barely count a hundred years. Keeping in mind which spirit gave birth to these anti-urban clinics helps to the understanding of their present demise. (Foucault, 1973) Now and then, a wide-ranging repositioning of both the hospital and public health changed their interrelated connections to the city.

From the healing environments of Pavilion Hospitals to medical functionalism

Pavilion hospitals came up as the 19th century's solution to the quest for the ideal conditions of healing environments. Bright, sunny, well aerated and dry rooms were the non-plus-ultra of the time. Physicians were eager to use the results of the freshly blossomed medical empiricism and translate them into scientifically founded building types for hospitals. As measured by the standards of that time, we could read the resulting architecture as evidence-based design.

At the beginning of the 20th century, the medical disciplines change radically. It started to turn into a science, which necessitates ever more and ever bigger apparatuses – most of them immobile. Technical progress forced medicine into stationary treatment and assigned hospitals a hitherto unknown importance. (Corburn, 2009)

At the same time, the doctors' interest pivoted from the patients' living circumstances to their "inner life", the functioning and condition of their organs. (Rodensteiner, 1988) Improved microscopes and, even more importantly, he invention of the X-ray machine changed the idea of human health. Previous concepts of hospital planning appeared to be overcome, the creation of healing environments lost importance. Healing architecture had to make way for highly-specialised, compact and ever-growing buildings – medical functionalism had prevailed. The new "monuments of medicine" follow their own inner logic; they seem to ignore the urban environment just as a purely biomedical perspective on illness (and health) disregards environmental aspects. Clearly, the enclave-character of the institutions mirrored the constructed reality of the contemporary concepts of health. The de-urbanising of the hospital is a consequence of the institutionalisation of the associated de-normalisation of the clinical space. Health disappeared from the public sphere and was relegated behind the impenetrable hospital walls. This observation is significant as the motives that led to de-urbanisation are no longer valid; even more, they have attracted fierce criticism.

The Re-Urbanisation of the Hospital

Today, current hospital concepts seem to have reached their limits as they fail to answer to concerns of public health and planning. New developments such as telemedicine arise, medical devices get smaller and more mobile. Thanks to keyhole surgery and the like, the duration of hospital stays decreases. Specialised hospitals lose their monopoly over healthcare provision and it's not heretical to ask whether in the future we will need them at all. (Wischer, 2007)

Over the last decades, hospital planning has earned the reputation of a "secret science" as of its high complexity and unique character. Only genuine specialists could develop a true understanding of the mysterious matters inside. Hospital planning drifted away from the general discourse and sealed itself off from not-specific trends. Many prominent topics such as the critique of functionalism, inclusiveness or flexibility, which changed urban planning and architecture, seem as if they never really entered the sphere of hospital planning. (Nickl-Weller/Nickl, 2013)

However, it became clear that a hospital's rapidly varying professional focus, organisation and procedures couldn't provide for a reliable basis for sustainable design. As a result, medical functionalism is no longer the legit foundation of hospital planning Its tasks undergo an important

"normalisation". This development must not be misinterpreted as mere simplification. On the contrary, previously ignored qualities like urban integration gain in importance. Subsequent approaches advocate hospitals that are no longer recognizable as such, as their sheer immensity is said to represent the inhumanity of "health machines". Henceforth, values like the human, the normal and the urban shall prevail. Urbanity is the word, the promise of salvation in a world of institutionalised cold-heartedness of shuttered clinics. The building, for instance, should contribute to public life on its site. At the same time, normalisation alters the image of the hospital, which loses the aura of a closed and solitary monument. The implication is clear. The hospital itself morphs into the city becoming an integral part

of the city and the neighbourhood. As we overcome the duality of city and hospital, the latter turns out to be both an important exercise and tool in urban planning. We shall take a closer look on three levels:

- Level 1: The hospital in the city (location of the hospital)
- Level 2: The hospital in the neighbourhood (blending with the environment)
- Level 3: The hospital as city (as urban space)

(Maierhofer, 2016)

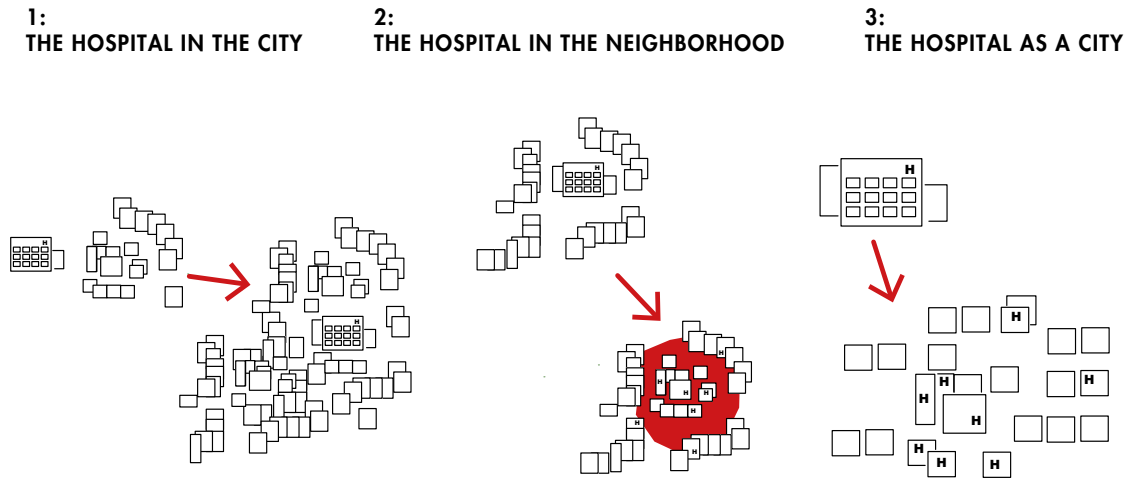

Figure 2: Levels of the hospital-urbanisation

The hospital in the city

Together with other institutions, such as an university, the city hall or a market, the hospital constitutes the basic framework of the urban fabric, the city.

The Viennese hospital master plan (Wiener Spitalskonzept 2030) displays the multiple ways a hospital may influence its urban surroundings and the city. 32,000 employees on seven locations are going to be reorganised. 10,000 beds, 400,000 stationary admissions and 3,500,000 ambulatory services per annum add to this figure. These vast numbers of permanently working, temporarily dwelling and repeatedly visiting people draw an impressive picture of how the location of such crowds and the associated visitor frequency affects the whole city and the specific site or neighbourhood. The numbers clearly point out that projecting a hospital means shaping, building and developing a city.

The crucial question of hospital planning concerns the selection of an appropriate site for the hospital. Only on rare occasions, the planner will effectively be able to choose the location. Rarely the planner may effectively choose the site. However, in this seldom case this decision has both large and long-ranging effects on healthcare provision and the city. This is why this choice must always be understood as a tool for urban development and has to anticipate future developments. The choice may change the city from within, can be part of the development or expansion of the city or may be used as a starting point of a new city.

The planner's goal shall be to link city and hospital in order to lift the veil of exclusiveness from the latter and finally overcome the not-so-invisible barriers to the neighbourhood. The city, on the other hand, has to embrace closer to the hospital and allow for its development on the urban ground. This can only be achieved through common planning of both structures.

The hospital in the neighbourhood

The strict division between structures for the sick and for the healthy can no longer be maintained. Health science has replaced this dichotomy by the "health-ease versus dis-ease continuum" (HDC). (Antonovsky, 1979) Many people live with their medical conditions, some more, some less severe. Preventive healthcare is and shall be part of everyone's quotidian live, another reason for finally bringing down the walls parting institutionalised medical care in hospitals from daily business in the urban context. The notion of functional separation is seen as obsolete for many aspects of urban organisation and hence must be reassessed also in the view of healthcare buildings.

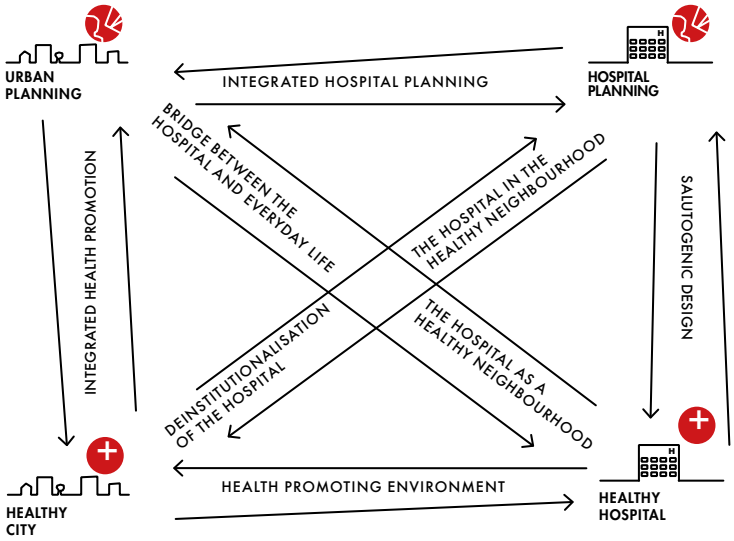

Figure 3: Integrated hospital plannning

The hospital needs to blend into its surroundings and must intermesh with it on the functional, structural as well as special developments. Hospital planning must learn to see beyond the end of its stonewalled nose. In rare cases the qualities of the quarter will may prove harmful to the hospital, and vice versa. People who work at the hospital, who make a visit or receive treatments all need everyday things, that define a well-functioning town centre, a shopping street or the like. Still, the job is only half done by incorporating qualities of the quarter into the hospital: the hospital itself has to spread over into the neighbourhood. Neither are health, its provision or its promotion exclusive to hospitals, nor are they strange to the city. While integrated healthcare allows for a smoother transition between "healthy at home" and "sick in stationary care" than it used to be, it also demands closer cooperation and communication between primary care in the city and the inpatient sector.

The location in city is of distinct significance regarding the wards. While historic hospitals used to be organised as huge wards with a small number of adjacent rooms, state of the art organisation puts examination and treatment areas at the core of the hospital. The number of beds is diminishing whereas outpatient units gain importance. New flexible types of care emerge, either provided by the hospital

itself (on- or off-site) or in cooperation with the outpatient sector. This shapes the transition from fulltime care to discharge as a multi-stage process, which is reflected by both the spatial aspects and the distance to the core facilities. This form of integrated care blurs the lines between primary and secondary care. (Stapf-Finé/Schölkopf, 2007)

In the first scenario, patients are bed-bound and depend on the total surveillance of intensive care units. These are contrasted by practically healthy patients who, concerning their accommodations, have only moderate demands. For instance, it is appropriate to plan units which require less or little attention according to the logic of the city rather than to that of the hospital. The result is a continuum of hospital and city, which - in parallel to the HDC - accompanies the patients to the hospital gates and back to their quotidian life.

The hospital as a city

It is impossible to derive the immanent form of the hospital from its functions. One reason for this is in wide range of functions which all require different formal and spatial solutions. In addition, technological and medical know-how progress at an immensely fast pace acting as constant drivers of change. Every tailor-made solution, akin to a fashionable suit, would become obsolete after a couple of years.

Building a hospital is a costly affair, but running (and adapting) it will make your expenses skyrocket. It's virtually impossible to predict the challenges and requirements it will have to manage in 20 years. Hospital construction is a highly complex matter and subject to permanent transformation. Its sustainability depends on its adaptability. (Wischer, 2006)

Regarding on the hospital site, the building structure is the most important aspect of sustainability – and this, in turn, is an argument of urban design. Therefore, it is necessary to differentiate between hospital construction as long-term structure and hospital construction as „designed function". This "designed function" describes the architectural and functional development of single hospital tracts or facilities such as stations, an emergency department (ED) or a specific department.

On the other hand, the "long-term structure" guarantees a spatial arrangement that is not only focused on present duties but allows for future adjustments – without having to question the whole organisation. This applies to both the hospital and its environment. (ibid.)

Hospital design becomes less specific as it moves towards more "normal" shapes. By virtue of this "normalisation" the planner can develop qualities independent from the building tasks. But, what are these "long-term conditions of health promotion" and what do they imply for the hospital as health promoting surrounding.

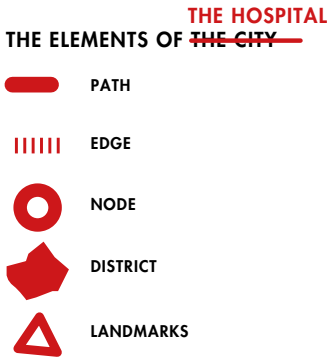

Figure 4: The element of the hospital ((Tracing of Kevin Lynchs original 1960 diagram, "The elements of the city")

If it holds true: A house, a hospital, a city; what's thedifference?

It also must hold true: A good house, a good hospital, a good city; what's the difference?

So, we will be called upon to be good urban planner. (Driesen, 2006)

The city-like hospital includes tiny alleys and large streets, a variety of pathways, circular roads and axes, calli and campielli, small yards, large squares, landmarks, monuments and residential districts, houses of every size; it encloses shops, restaurants or cafés, hotels, schools, a cinema, churches, workshops and offices. People work here, dwell and shop and celebrate here. Here they are born and here they die.

The apparent resemblance with urban spaces isn't just the result of a re-urbanised view but reveals a new understanding of looking at the conjunction of health, the city and hospitals. While the hospital adopts more and more city traits, the urban space assumes greater responsibility in healthcare provision. The compact, big hospital is to lose its importance, predictions say. It seems obvious, that the hospital's insulating walls will be torn down. The frontier between the space for the sick and the space for the fit dissolves as the dichotomy of health vanishes in the haze.

However, the impetus for this development isn't coming from the hospital alone. The second important driver of change is a new perception of the healthy city, which is born out of a novel notion of health itself.

Healthy, healthier, urban

Although urban development and medicine are mostly seen as two distinct disciplines, this hasn't always been like that. Just like their built manifestations, the fields drifted apart in the 19th century and are now slowly re-approaching each other.

Especially at the beginning of the 19th century – against the backdrop of rapidly growing cities and on the onset of modern natural science - the two disciplines lived through a quite intense love affair. Their mutual key issues consisted of the establishment of a healthy environment; this lasted until biomedical foundations of medicine were discovered and modern urban planning devoted itself to rational

functionalism. They lost interest in each other and embarked on two different academic roads. (Corburn, 2004)

Today, the glance at the city has become holistic again – everyday life is gaining ground. Urban planning concentrates on subjective experience and strives for understandable and customisable cities with empowerment and participation being the hot topics. Now that the total refusal of the city has been abandoned, urban sentiments are booming - again.

At the same time the paradigms of health are shifting. In 1948, the WHO's founding declaration adds subjective feelings to the definition of health which is described as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity". Both this conceptual realignment and the re-embracement of the city lay the foundations for the re-invigorated alliance and hence for mutual strategies of action in shared action fields. Both disciplines start to take interest in particular living worlds, quarters and neighbourhoods.

While urban planning dwells on the discovery of the micro plane, the medicinal disciplines revive their interest in the big picture: the human being in its habitat. As a result, research interests and action levels overlap once again in the second half of the 20th century. Bluntly put: while urban planners zoom into the city, physicists zoom out of the body. City and health meet each other in the living worlds of the people and open up a new, joint area of activity.

Along with the resuscitated concordance also methods and strategies come to a change. Planning becomes an integrating, coordinating and moderating purpose. Similar terms appear in the public health discourse as the WHO declares participation, empowerment and intersectoralityb the principles of action for health promotion. Still, against the backdrop of all the similarities listed above, it astonishes how little the planning discourse of that time refers to health topics. It surprises even more as no such reservations can be observed in healthcare debates. On the contrary, beginning with the 1960s health scientist pounced on the city and started to discover it in quite an euphoric fashion.

The WHO's setting approach encourages health promotion at its origin, namely "where they learn, work, play, and love", within the settings of their everyday life. In this context, cities are the arguably most important setting. The programme aims to place health high on the agendas of decision makers and to endorse health promoting general policies. So called Health Impact Assessments (HIA) help to evaluate the policies' influence on health. All this serves the purpose of integrating health topics and measures in city planning and development.

Parallel to our analysis of hospital urbanisation, the WHO equally proposes three settings for urban health promotion: the healthy city, the healthy quarter and the healthy hospital. Urban health promotion does not only deal with the city as a whole. Many concepts take into account the quarter and the district – the hood, if you like. Since the quarter comprises a variety of spheres and hence of health afflicting factors, numerous (quotidian) risks can be reduced while health potentials can be fostered.

The idea of health promotion follows a remarkably all-embracing approach. As of its immersion into constructional and physical, social, political, administrative and symbolic topics it seems nearly impossible to separate it from other fields, especially from neighbourhood development. At a first glance, the term health-promoting hospital may appear slightly redundant but it actually does make sense in the logic of general health promotion. Taking into consideration the size of hospitals, the

amount of employees, patients and visitors and the impact of the institution on its environment, the inherent potential for health promotion becomes apparent.

The hospital plays a particular role that can be compared to universities. While the latter provide access to science and education (as institutions for research and teaching) the first carry responsibility for urban health. A health-promoting city stays a mirage without health-promoting hospitals, whereas the creation of health-promoting environments constitutes an integral part of the health-promoting hospitals. The most powerful tool of health promotion is THE health care institution itself: the hospital.

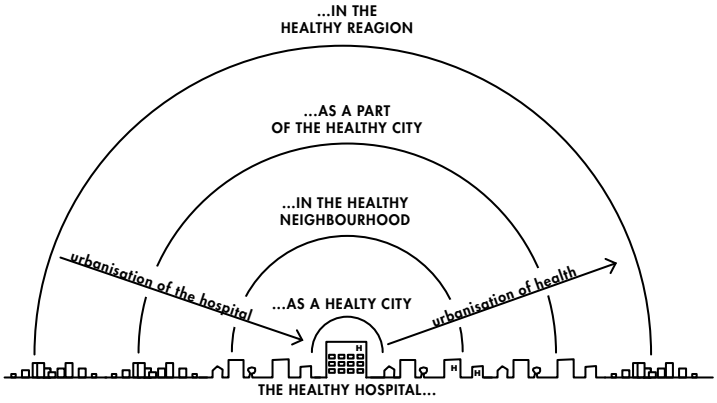

Figure 5: The healthy hospital in the healthy city

So the hospital shall become a health-promoting environment and subsequently contribute to raise the level of health promotion in the neighbourhood and the city. Bearing this spill over in mind, we can understand the correlation between the form and urbanisation of the clinic. Simultaneously, physicians re-focus on a patient's health on its whole, instead of exclusively examining the sick body. Aron Antonovsky and his description of the sense of coherence bring back the peoples' reality of life to health science. Once more, borders are overcome between health and disease as well as between pathogenic and health-maintaining spaces. City and hospital converge as more and more health arguments pop up in urban planning and hospital architecture ponders everyday properties.

The hospital-city-continuum (HCC)

In the past, the location and form of a hospital expressed the respective understanding of health and their place in urban society. Also today we may question into the current definition of health to understand the re-urbanisation of hospitals.

The duality of illness and health has been superseded by Aron Antonovskys's (1979) concept of salutogenesis, replacing it with the HEDE. In consequence, we can no longer discriminate between spaces for the sick and the fit, namely between the hospital and the city. Health promotion is no longer happening behind hospital walls, but is becoming an integral part of urban life. Simultaneously, the hospital gets increasingly integrated into the urban tissue. So it's not a mere re-urbanisation we are describing but the birth of the hospital-city-continuum (HCC). Like before, observations can be made on various levels.

Private apartments turn into hospital rooms while visiting the clinic means daily business for many city residents. A fluent transition between the two worlds implies that the "day of admission" loses the nimbus of a hard rupture between two lives (in or out, sick or healthy, etc.). The patient biography describes a gradual path; preliminary examinations and follow-ups are held in the city, the night prior to an operation is spent at the patient hotel while the procedure takes place in the core hospital. After a short time in the actual patient bed one progressively moves back to the city via patient hotel, patient apartment, day clinics and finally care at home (hence "normalising" one's situation and condition). So we could assert that every patient passes through the HCC.

The HCC's second implication considers the planning and building of hospitals, their physical aspects. Just as in any good community, the borders between "in" and "out" must be torn down. When the medical service spreads over the neighbourhood, the physical structure has to follow. We do not need an intermediate space between two worlds helping to comfort patients, relatives and staff. The solution for the modern hospital lies within an analogous continuum of treatment structure (both physical and organizational), from primary care at the rim to the hot floors at the core. With a shrinking hospital, the neighbour (the city) is ready to take over and reanimate the abandoned structure. – the spatial HCC.

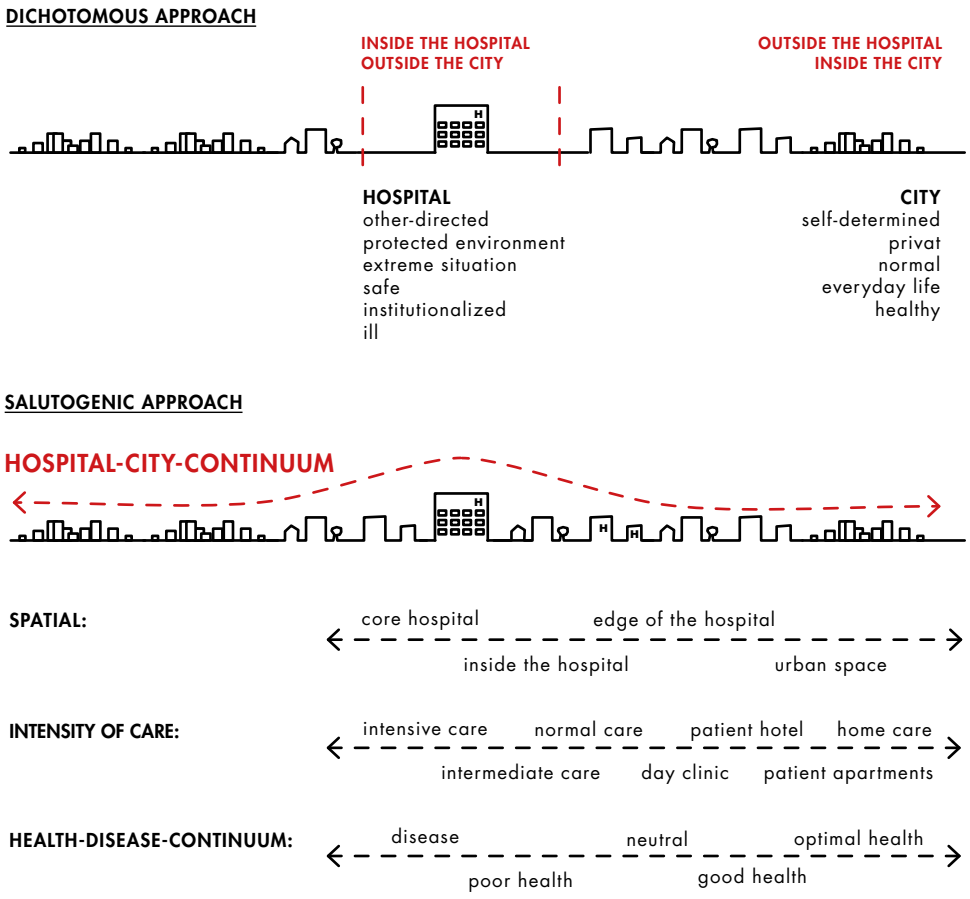

Figure 6: Hospital-city-continuum

This process will not take place abruptly, but gradually. Structures that are developed as hospitals today may be part of the "normal" neighbourhood in 40 years. Having been planned for surgery and intensive care, the core hospital might be recycled as administrative facility and thereby be moved towards the

rim before eventually merging into the city finding its built fate as university, residential complex or the like. Therefore, a genuine challenge is the planning of structures that allow for future adaptations along the lines of the HCC and repositioning therein. This process will not take place abruptly, but gradually.

Cunclusion

The disintegration of the hospital does not imply the disappearance of health infrastructure, but solely its relocation into the city, the neighbourhood, to a private apartment or the digital world. Frontiers between disciplines are brought down - no longer can be clearly distinguished between public health, urban planning and hospital architecture. Hospital planning as an isolated field will cease to exist giving way to new strategic and integrated approaches, which are needed to shape the urbanisation of health. While a hospital must always be the responsibility of urban planning, the three disciplines shall not disintegrate but maintain continuous distinctions. Neither urban nor hospital planning can be responsible for the application of health concepts for the city. On the other hand, health science won't take on the task of exploring the "goodcity" and how to plan it. Therefore, architects and urban planners must proactively develop the HCC. It has to be designed and planned like a city – like a good city.

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