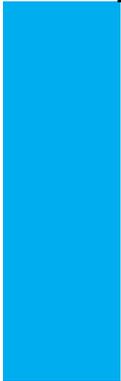


Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences



Graduation Plan: All tracks

Submit your Graduation Plan to the Board of Examiners (Examencommissie-BK@tudelft.nl), Mentors and Delegate of the Board of Examiners one week before P2 at the latest.

The graduation plan consists of at least the following data/segments:

Personal information	
Name	Ian Omumbwa
Student number	4933613
Telephone number	
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Studio		
Name / Theme	Transitional Territories “North Sea: Landscapes of Coexistence, a Topography of Chance Studio”	
Main Mentor	Taneha K. Bacchin	Urbanism
Second Mentor	Sjap Holst	Building Technology
Argumentation of choice of the studio	<p>My choice of <i>Transitional Territories</i> as a graduation studio occurred through its focus on the territorial approach to studying urban, rural and aqueous conditions. In considering socio-economic and geographical processes in terms of their dynamics and physicalities, the studio raised my interest through the possibility of studying current and large-scale territorial processes.</p> <p>In terms of context, the possibility of having the North Sea; its maritime urban condition and adjacent countries as case studies was enticing due to the large scale. These studies included conducting rigorous analyses of policy, geo-physical processes, anthropogenic processes and current trends in <i>landscape</i> alteration.</p> <p>In combining architecture and urbanism students, the interdisciplinary quality of the performed analyses and collective phases hinted to the approaches and stances of the studio which promoted “<i>using the project as a knowledge producer</i>”. The collaborations, further weaving academic research and practice geared towards the studio’s title “<i>landscape of coexistence</i>” as it hits at interdisciplinary design – beyond scales of comfort.</p> <p>Having had a primary fascination with the world of data, I identified the possibility to research on the relationship between data and the territory within the studio. This freedom of thematic allows personal research and the studio’s focus on the relevance of spacio-temporal conditions and context guide to a choice of project.</p> <p>In considering the context of the North Sea, many of its territorial transformations are guided by migration which can be broken down into health (people), logistics and data flows. Hereby, the project will focus on the territorialisation of health and data – combining the context’s research outcomes with a personal fascination with data.</p>	

Graduation project	
Title of the graduation project	Healthcare in Transition
Goal	
Location	Amsterdam (Noord), Netherlands
The Posed Problem	<p>Architecture has historically lagged in the creation of spaces promoting health and healing. Instead, typologies were borrowed to cater to the processes of curing and caring for human beings. However, with deeper understandings of health and a shift of definition from sickness to wellness, healthcare has expanded to encompass well-being. In the context of the North Sea territory – and focusing on socio-cultural and human health – health is intersected with logistics and data to form a flow in its own right.</p> <p><u>Territorial: North Sea</u></p> <p>With the increase in risk of public health on territories at the threshold of land and water such as the Netherlands due to the volatility of increased unpredictable climatic conditions (flood surges, storms, extreme temperatures), the provision for cure and care services must challenge and redesigned to allow for resilience of this ecosystem.</p> <p>Further to this, current digitization trends and inefficient decentralization of services have led to a sprawl of medical facilities (not limited to hospitals) leading to the growth of health’s territorial footprint (pharmaceutical firms, hospitals, GPs, medical tool production, medical waste, medical data servers) and techno-centric interventions.</p> <p><u>Urban: Amsterdam (Noord)</u></p> <p>Being a logistic and data node in central northern Europe along with a leader in the digitization of processes in healthcare, Amsterdam remains at the centre of information flow and digital health innovation. The Dutch healthcare policies and technocratic innovative stances have shaped the physicality and accessibility of caring facilities but have enabled a sprawling system of increasing costs and ageing decentralized infrastructure.</p> <p>With the continued growth of the country’s population (Over 18 million by 2060)¹, urban sprawl, inequalities in access to healthcare facilities and growths in chronic, environment-related injuries and mental health conditions due to societal strain will become issues.</p> <p><u>Health & People:</u></p> <p>Since the late 18th century, the sea shifted from a place of external danger to one of open-air leisure. In warranting its beneficial treatment virtues, northern European cultures devised the typology of the <i>solarium</i> and the <i>Grand Hotel</i> by the sea – these enabled the sea shore to become a territory of leisure and healthcare.</p>

¹ Korver de, F. (2019).

	<p>With society growing in number and economic output, this form of treatment has become a luxury and hospitals, or patient centres are today confined to urban areas – albeit faster accessible and not including private clinics.</p> <p>However sociological studies² have shown correlations between access to a natural view or a natural environment and faster patient recovery. This hereby attests to the neglect of the necessity of human interface with the natural environment.</p> <p>These prompts call for new design responses addressing a broader view of health and its affiliated typologies and programmes.</p>
<p>Research Questions</p>	<p><u>Territorial/Urban:</u></p> <ul style="list-style-type: none"> • What infrastructural/typological reconfigurations should be carried out to increase the resiliency of medical facilities and alleviate the territorial footprint of healthcare? • How can the calculated displacement and reconfiguration of the decentralized model of healthcare facilities contribute to an alleviation of urban-related illnesses and medical disorders? • To what extent can the urban shore be reconfigured as a territory of healthcare? <p><u>Architectural:</u></p> <ul style="list-style-type: none"> • To what extent can digitisation (logistic and process optimization, human-centric robotization, automation and patient data collection via wearable technology) alter the scale and programme of medical facilities and processes of cure & care? • How do natural and digitised healing processes result in coexisting healing spaces and practices?
<p>Design Assignment</p>	<p>In dismantling what appears as the core principles and spatial conditions of healthcare, the project will consider new cohesions, constructs, negotiations and encounters as means to answer the aforementioned problematics.</p> <p>The architectural and territorial challenge aims to rearrange the healthcare space as a stage for radical natural-techno-human intervention. The project is committed to fostering a deeper understanding of the ramifications (cure and care) of health through the lens of territorial and cultural practices.</p> <p>“Healthcare in Transformation” enquires into the entangled processes, rising costs and territorial occupation of the medical field in order to imagine alternative biotechnological, medical and ecological futures as means to alleviate sprawling facilities and urban strain.</p> <p><u>Territorial/Urban:</u></p> <p>To alleviate the current territorial footprint of healthcare, the project proposes a reconfiguration and combination of programme. Instead of decentralized supply chains including hospitals, medical tool manufacturing, pharmaceutical manufacturing and delivery, medical waste processing, out and in-patient centres or off-site food production, amongst others, the project advocates for a merger of</p>

² Roger, U. (1984).

typologies to reduce spatial consequences and deliver care to patient on-demand. Therefore, a patient care centre may be more alike to a biotechnology campus than a singular clinic which must import all equipment(s) to function.

To alleviate urban-related illnesses and medical disorders, the project is situated in an entirely green area on the northern shores of the IJmeer, in proximity to Amsterdam to allow for a fast commute. The immediate proximity to a natural and maritime environment is done to reclaim the shore as a territory for healthcare. The studio's philosophy sees the sea's territory and threshold as a central space and not a limit to the land, therefore, the project is placed within this space and is revisited through the lens of the land and adjacent sea.

Architectural:

With the proliferation of data production and increase in importance of the digitization of processes in healthcare, associated programmes are radically changing in size. The automation of processes in patient centres lead to faster patient recovery due to more contact time with medical staff and the collection of data and continuous monitoring via wearable technology means that less time is spent in hospitals. Data and automated logistics are therefore fuelling the advent of personalized care. The collection of data such as genomics data or clinical data allows for the optimization of each individual's medical care. In considering the territorial scale, personalized health aims to process data to benefit the population at large by *"identifying and tackling health risks at early stages and applying appropriate preventive and therapeutic measures"*³.

This evolved understanding of healthcare as wellbeing can allow for architecture to regain its agency relative to the world of health.

In the project's proposal, these digitised processes will be considered equal to the healing qualities of the natural environment by highlighting mandatory access to healing and rehabilitation gardens, thus using the intersection of nature and technology as the key driver to progress human health and its facilities.

Thus, the project uses interdisciplinary design knowledge to solve problematics in their various scales and to increase efficiency in population and territorial management relative to public health, via data.

³ ETH Board, PHRT. (2017).

Process

Method description

The project's research method is a context-led inquiry. Through qualitative, quantitative, historical, typological, topographic and territorial data, the heuristic technique of mapping is used to organise, process and discuss findings. In terms of organisation, the research is organised in a linear and horizontally conical manner. By using increasingly smaller frames, this allows to continuously refine the research.

The frame of reference at hand is enmeshed in the territorialisation and topographies of the greater North Sea region. In this light, the architectural research is set up on a territorial scale. Considering the breadth of the scale, the project illustrates the findings through exercises in mapping, programmatic diagrams and architectural drawings.

When considering the research's intention, the frame of intentionality(ies) is dual. On one hand, the unweaving and deconstruction of territorial processes and elements is carried out, with analytical scrutiny, to understand the functioning of the e-Health's physical and socio-political systems relative to the North Sea territory. On the other hand, an assemblage of information layers (often widely differing) is exercised to find or confirm the relationships making up the very systems (people, urban health, data, migration trends, etc.).

Mapping is the first tool as it allows for multiple analytical strategies to be used under its helm: layering/addition, zooming/refining and exclusion (as a commentary)/subtraction. The other research methods include, research by designing (iterative), interviews (process-based inquiry), historical research and programme/typological studies to anchor the project within realistic projections.

Literature and general practical preference

Literature:

Williams, R. H. (2002) *Retooling : a historian confronts technological change*. Cambridge, Mass.: MIT Press.

Castells, M. (2000) *The rise of the network society*. 2Nd [rev.] edn. Oxford: Blackwell (The information age, vol. 1).

The Naked Society, Vance Packard.

Castells, M. (1999) *The informational city: information technology, economic restructuring, and the urban-regional process*. Oxford: Blackwell.

European Commission Data Protection Legislation

Cavanagh, A. (2007) *Sociology in the age of the internet*. Maidenhead: McGraw Hill/Open University Press (Sociology and social change).

Castells, M. (2008) "The New Public Sphere: Global Civil Society, Communication Networks, and Global Governance," *The Annals of the American Academy of Political and Social Science*, 616(1), pp. 78–93.

Castells, M. (2010) "Globalisation, Networking, Urbanisation: Reflections on the Spatial Dynamics of the Information Age," Urban Studies, 47(13), pp. 2737–2745.

Battisto, A. Et al. (2020) Architecture and Health: Guiding Principles for Practice. Routledge. Taylor & Francis.

Ulrich, Roger. (1984). View Through a Window May Influence Recovery from Surgery. Science (New York, N.Y.). 224. 420-1. 10.1126/science.6143402.

GXN Innovation (3XN). (2019) Building a Circular Future. 3XN Architects. 3rd Edition.

Gordon, R. Et al. (2017) The hospital of the Future: How digital technologies can change hospitals globally. Deloitte Development LLC.

Korver de, F. (2019) The Digital Health Market in the Netherlands and Switzerland: Opportunities for collaboration in digital Health. Embassy of the Kingdom of the Netherlands in Berne, Switzerland.

Mapping: Netherlands Satellite Portals

<https://satellietdataportaal.nl/>

<https://www.pdok.nl/viewer/>

Reflection

1. What is the relation between your graduation (project) topic, the studio topic (if applicable), your master track (A,U,BT,LA,MBE), and your master programme (MSc AUBS)?

As the studio considers the changing nature of the territorial project intersected with the strategic role of architecture and spatial planning in fine tuning the changing interrelations between natural processes and societal practices, the project is nestled within the problematic of the territorial impact of healthcare. In considering healthcare as both a societal practice and a natural process (in ensuring the human species' survival), the project aims to alleviate its territorial footprint through reducing the sprawl of its associated typologies. Therefore, architecture is used a tool for territorial stress-alleviation via strategies of programme reconfiguration, digitisation and typology combination. As it is based in rigorous analyses, it is therefore a project allowing for future projection based on current trends and not speculation based on imagined scenarios.

The later point firmly anchors the project with the architectural master programme's desire to question convention and suggest innovation and allows for a challenge of my own knowledge systems.

2. What is the relevance of your graduation work in the larger social, professional and scientific framework?

In considering the current condition of territorial speculation, a significant amount of planning and decision-making is being carried out by IT firms and data scientists embracing the possibilities of smart cities, territories and mobility. In an effort to reclaim the design of inhabited space by architects and urban designers, the project positions itself as a challenge of the current techno-centric programmes and instead pushed for an amalgamation between human-centred and techno-centred design.

Relative to the world of healthcare, the graduation work challenges the current trends in healthcare for increased randomised decentralization and associated sprawl of affiliated typologies and instead advocates for controlled growth of patient centres with programmes adjusted to current digital developments and patient needs. The project positions itself at the intersection of health, architecture and technology whilst probing the health of the future of urbanity.