

# PERVASIVE ECOLOGY OF FLOWS

## Architectural Research Methodology

Student

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Chair of Transitional Territories, "North Sea Landscapes of Coexistence: A Topography of Chance"

Thesis "A pervasive ecology of flows"

## I DEFINING RESEARCH METHODOLOGY

Throughout carrier, each architect tries to define and form one's own design process. Starting at architecture school, where firstly, guided by tutors each student redefines one's approach until finds one's own way of expression and method that works best for one. As Schön wrote in *The Reflective Practitioner*, that for an architecture student of and in the field this variety of voices might be confusing and compound<sup>1</sup>. There is neither a one right answer nor shortcut to this struggle. However, by trying out different approaches and heuristic techniques to creatively address given design task one might be lead to nonobvious results. Moreover, awareness and deeper understanding of one's creative process and way of proceeding towards a concept enables an architect, to select better tools used along the design development and to use them in a more conscious and controlled way. Thus, they may serve and enhance the final outcome. At that point, research methods play a crucial role, as they shape a vision and perspective. Methods that feed one's imagination help to define and advance a design.

In opposition to theoretical research, for an architectural process representation might be one of the delineating aspects. Besides being stimulating for imagination, representation also provides a designer means for head-hand communication. Often a selected technique of visual representations like pencil, coal drawing, chalk, digital collaging or modelling stands for the character of designed building. In Transitional Territories Studio the way to combine theory and visual representation is an act of mapping, which is a conscious act of heuristic research.

The Lecture Series on the Research Methods acknowledged me with a wide variety of research methods that could be applied during a design process. Moreover, the mandatory readings, attached to the content of each lecture filled the gap between the theory and practical application within architectural practice today. Furthermore, the course enhanced the importance of specific terminologies and their use in academic and professional design career. Due to the fact, that they enable architects to verbalise a research question as well as communicate an outcome. In particular, the lecture focusing on typology, by juxtaposing a connotation of model and a type, helped me to shape further my individual process. At last, the process of writing this essay, as a summary of all the lectures and additional readings about the theory and practice, opened my eyes the most. It underlined the significance of an early complete reflection on personal research methods to structure the theory of my design and personalize a methodology further alongside the project of interest.

The research method of mapping is defined and structured within the group phase in the Transitional Territories studio. The main theme 'North Sea Landscapes of Coexistence: A Topography of Chance' drew our attention to the greater region of the North Sea. Which is placed as a phenomenological and geopolitical centre of Western Europe. Our group thesis was focused on one of six lines of enquiry, namely 'A pervasive ecology of flows'. More specifically, we studied the flows of energy, fishery, logistics, migration, data within the defined region. In this given framework, I personally focus on migration flows, studying current and past trends. Following characteristic for the studio qualitative approach, the research is oriented towards defining spatio-temporal transitions in lowlands territories and the everchanging interrelations between natural processes and human influence within.

## II RESEARCH-METHODOLOGICAL DISCUSSION

Following our principal line of enquiry, we proceeded to accumulate and position information through maps, diagrams and satellite images. Through a deep overview of these flows within the European context and in an attempt to give a clear direction to our research, we chose migration as the lens through which to assemble our collection of findings due to its principal

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<sup>1</sup> Donald Schön, "Design as a Reflective Conversation with the Situation," in *The Reflective Practitioner* (New York: Basic Books, 1983): 80. from kindle version

consideration of the flow of people. As the principal cause of change in our Anthropocene era, the flow (movement, growth, shrinkage and stagnation) of individuals and groups drives and accelerates the alteration of territories. Henceforth, this flow forms the binding matter throughout the analysed conditions. It furthermore remained a consistent point of reference as the boundaries between the conditions blur due to their strong inter-relations. Therefore, we centred our probe on **how the overall conditions for logistics, energy, data and fisheries - through trends in population migration - influence, affect and change the Greater North Sea region's territory?** The entire probe was observed within a spatio-temporal framework highlighting four important socio-economic and migratory events affecting recent European history: 1990, 2008, 2015 and 2018.

The aim to create collectively an atlas became a tool for research as well as representation of the assembled conclusions. Following the thought of Gerardo Mercatore<sup>2</sup>, one of the pioneers of cartography an atlas blends image and imagery, figure and prefiguration, cataloguing and providing the base for future project, construction and knowledge, humanism and geography. Within the atlas, subjects and tools coexist. The physical - representation of the observed circumstances, objects and subjects in the cartographic space were a starting point for further research. Followed with a written description, a narrative that names observed phenomena. Therefore, the created map develops into the project and the common ground for all tensions, contrasts exposed by correlation with other elements.

Due to the complexity of the subject matter, its dynamic character in time and space, it required a detailed strategy. Therefore, the research was divided into three phases:

1. Cartography (the process of mapping) - creating the catalogue, overview of studied aspects, geography;
2. Deconstruction (Analysis of findings for catalogue purpose);
3. Projection (The Project Brief) - visualisation of expected future changes.

At the same time, I decided to adopt a combined strategy named by the writers of the publication *Architectural Research Methods, Mixed – Methodology Design*<sup>3</sup>. The latter stands for a comprehensive combination of two (or more) research design methods. What is more, in the role of researcher I was able to execute both methods parallelly in proportionate sequences with relatively comparable degrees of emphasis. This aspect was crucial having in mind the complex theme studied by our group.

During the research, we aimed to clarify and identify the relationship between selected flows in historical and current conditions. Moreover, we needed to find an effective way of representation of the intangible flows and connect them with the territory on the map. Therefore, we found the correlational research<sup>4</sup> method really helpful, especially in the second phase of Deconstruction. At this point we looked for emerging patterns of relationships between observed flows, taking into account all the factors involved in the flows taken under study. Concluding that it is impossible to divide and study completely separately each flow. What is more, to pinpoint the source of each one, not taking into account the whole probe.

### III RESEARCH-METHODOLOGICAL REFLECTION

Addressing my research question to the methodology, my intention was to combine various resources. The book by Linda Groat and David Wang's *Architectural research methods*<sup>5</sup> will serve me as a foundation for further described methods adopted in my work. Their comprehensive descriptions and explanations of practice-based methods and examples built my awareness and deeper understanding.

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<sup>2</sup> N. Crane, Mercator: The Man Who Mapped the Planet, The New Geography (Orion Publishing Group, 2003), 322-330

<sup>3</sup> David Wang, Linda Groat, *Architectural research methods* (Hoboken: Wiley, 2013), 446.

<sup>4</sup> David Wang, Linda Groat, *Architectural research methods* (Hoboken: Wiley, 2013), 269.

<sup>5</sup> David Wang, Linda Groat, *Architectural research methods* (Hoboken: Wiley, 2013).

In addition, studying Mixed-Methodology Design I reached to Judith Schoonenboom and R. Burke Johnson *How to Construct a Mixed Methods Research Design*<sup>6</sup>. In particular, focusing on the complementary use of multiple research strategies and ways of implementing them. Especially, the Point of Integration at which the qualitative and quantitative components are brought together.

In the course of the studio assignments, as a part of a group I carried out an extensive qualitative and correlational research, based on the grounded theory strategy of studying academic papers, articles, gathering GIS data and mapping. Followed with an analysis and reflection on the collected and mapped data.

In the book *Architectural Research Methods* Linda Groat<sup>7</sup> mentions the studies of Whyte and Kim as the examples of the correlational research method. Both researchers were investigating the correlational patterns comparing two or more variables. William Whyte's studied in 1970s urban plazas in New York City, while Kim in mid-1980s focused on comparison of "New Urbanist" or "Neo-Traditional" neighbourhood design. None of these examples reaches the scale of the North Sea region. However, within Whyte's study, it is the flow of people that is one of the defining aspects of the conducted enquiry. In this case, interesting conclusions came from unobvious relations of data. Surprisingly, other aspects besides logical correlation turned out not affecting the final results of the study.

One of the greatest advantages of correlational strategy is a possibility to study not only the range but also the extent of numerous variables<sup>8</sup>. On the other hand, as a consequence, it might be difficult to get a deeper understanding and grasp of each agent. This disadvantage is the reason why in the next stage, I will need to study my subject of interest with deeper understanding and look at the main actors with greater accuracy. Moreover, Ray Lucas mentioned the aspect of depth and focus in publication *Research Methods for Architecture*, underlining that by narrowing down number of interests one is able to study in depth the subject. Therefore, the research outcome may be treated with higher credibility<sup>9</sup>. However, as we had a tight research schedule, it was also an essential decision that we had to make at the very beginning of the research and accept its consequences.

Due to the fact that while using the correlational method researcher starts the study first collecting data from various sources and allows the theory to emerge from it, all stages of the research are closely linked to each other. Therefore, during the process we adjusted our research questions several times, parallel with the development of the conducted study, reviewing our assumptions and initial approach.

Nowadays, while conducting correlational research architects tend to use way more complex tools. Often technologically advanced sensors, visual recognition programs, 3d projections and use of a wide spectrum of data. It becomes a crucial element of design research. Data extends opportunities in the field of Data Mining and Big Data, where unobvious correlations can be drawn and might be followed with creative, tailored solutions. Adam Greenfield describes various technologically advanced methods used by designers in his book *Radical technologies The Design of Everyday Life*<sup>10</sup>.

The second method I followed is Qualitative Research. Its roots go back to the 1960s and 1970s when two sociologists namely Barney Glaser and Anselm Strauss defined the approach of grounded

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<sup>6</sup> Judith Schoonenboom, R. Burke Johnson, *How to Construct a Mixed Methods Research Design* (Kolner Z Soz Sozpsychol. 2017; 69(Suppl 2)), 107–131.

<sup>7</sup> David Wang, Linda Groat, *Architectural research methods* (Hoboken: Wiley, 2013), 263.

<sup>8</sup> David Wang, Linda Groat, *Architectural research methods* (Hoboken: Wiley, 2013), 309.

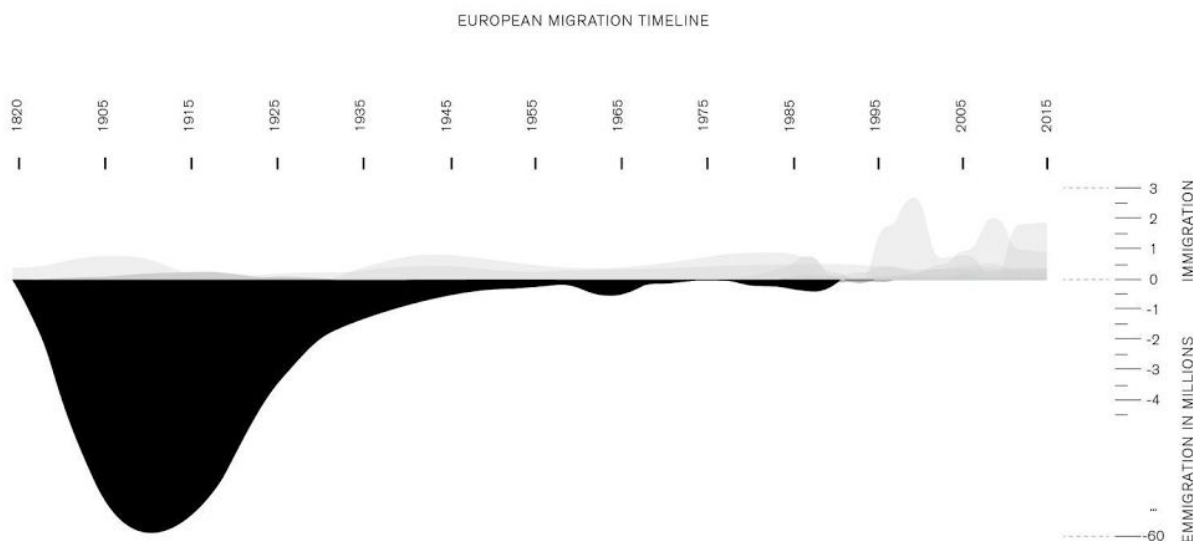
<sup>9</sup> Ray Lucas, *Research Methods for Architecture*, (London: Laurence King Publishing Ltd, 2016), 11.

<sup>10</sup> Adam Greenfield, *Radical technologies The Design of Everyday Life* (London: VERSO, 2017)

theory. Similarly to correlational method data collection, followed by analysis, and eventual theory stand in close relationship to one another. Therefore, the researcher lets data speak for itself and conclusions evolve with the study. Essential for grounded theory is in-depth, open-ended, and comprehensive development that at the same time involves data collection, coding (data analysis), and memoing (theory building)<sup>11</sup>. The latter should be a critical reflection that allows for the transformation of data compilation into actual design information.

One of the strengths of qualitative research is the flexibility of the whole process that allows adjustments along the way. Secondly, the ability to absorb rich and holistic aspects of real-life circumstances (really important for migration flow study). Thirdly, the sensitivity to processes and human activities. On the other hand the it challenges researcher with vast quantities of data, firstly a vague structure and direction that evolves during a study.

Due to the specificity of the human migration study, there was a need to reflect not only on the pure statistical data but also on the socio-cultural aspect including the historical context. For example, if I would narrow the focus to recent years one could be lead to very different conclusions about the scale of the Migration Crisis in 2015, than in the situation when I represent data about European colonisation. This kind of socio-cultural approach often connects historical and qualitative research strategies.



#### IV POSITIONING

The research question we asked following our line of enquiry is investigating an extremely broad and complex field of studies. What is more, both correlational and qualitative research methods are flexible and enabled us to adjust them to the study needs. It is this aspect of flexibility that makes it especially challenging because it is difficult to avoid subjectivity and plan the whole research beforehand.

The problem of subjectivity was touched upon the lecture by Marieke Berkers on praxeology. During the conducted research on migration in the North Sea region, I had to select the extensive collection of data, statistics, articles etc. I aimed to look for information from various sources and compare it to obtain objectivity. However, with limited time and amount of studied material it is impossible to avoid subjectivity especially with limited accessibility of resources. Alluding to ‘danger of representation’,

<sup>11</sup> Linda Groat, *Architectural research methods* (Hoboken: Wiley, 2013), 235.

that was mentioned during the same lecture, that representation might become researchers idea about the issue rather than the actual situation if not studied properly<sup>12</sup>. During the mapping phase, I was focused on the territorial projection of the confirmed data and clear representation. All along my study, I was examining the migration movements and trying to understand the political, social and economic trends that influence, affect and change the Greater North Sea region's territory in the context of migration. However, it is the most dynamic, constantly changing system that is difficult to monitor - especially when it comes to illegal migration where I needed to rely on assumptions and rough numbers.

Secondly, the specified matter of complexity is one of the main challenges that Transitional Territories studio students are challenged to face. The central question of the studio is how biophysical, socioeconomic, cultural and political changes (and related risks) in maritime, riverine, and delta landscapes around the North Sea can be addressed with innovative designs<sup>13</sup>. Due to the fact that it is a cross-domain studio, it brings urbanism and architecture students together. Therefore, the design responses to observed issues differ in scale and type. Starting from urban and landscape planning to architectural singular designs. Moreover, the majority of studied lines of enquiry need to be observed within spatio-temporal context to present their sources, current appearance and future expected changes. The above-mentioned are the reasons why within our initial group research question we decided to determine three time frames within recent history. In addition, that determined the methodology I have chosen to follow along in both my own and group research.

In the abovementioned book by Linda Groat and David Wang<sup>14</sup>, the authors articulate that researcher who is applying more than one method is capable of achieving a higher level of sophistication within this particular research methodology in comparison with a conventional application<sup>15</sup>. As far as I am concerned, besides the familiarity with different approaches and methods, the biggest challenge lies in the point of connection between both strategies. Especially when the aim is to make them complementary and coherent rather than competing.

Nonetheless, informed by the above-named literature and examples, directed by the masters of science within the field of architecture, I firmly believe that I managed to describe how I understood, applied and reflected upon the selected research methods in a comprehensive manner to conclude followed approach of my research. Selected methodological approach has more advantages than disadvantages, considering the fact that the research question has a high level of complexity and multiplicity of involved agents.

Lastly, the complexity of each flow taken into the group study of the North Sea region is a challenge in its singular appearance. Comparison is even more convoluted when one realises that each flow has different agents and dynamics, as well as different scale and economic aspects. Adapting two

<sup>12</sup> Andrea Kahn, Representations and Misrepresentations, On Architectural Theory (Journal of Architectural Education, 1984-).  
<https://deltaurbanismtudelft.org/2015/04/23/ttstudio/> (Accessed Nov. 30, 2019)

<sup>14</sup> David Wang, Linda Groat, Architectural research methods (Hoboken: Wiley, 2013)

<sup>15</sup> David Wang, Linda Groat, Architectural research methods (Hoboken: Wiley, 2013), 447

## Bibliography

- N. Crane, *Mercator: The Man Who Mapped the Planet, The New Geography*, 322-330. Orion Publishing Group, 2003.  
 Greenfield, Adam, *Radical technologies The Design of Everyday Life*. London: VERSO, 2017.  
 Groat, Linda, Wang, David, *Architectural research methods*. Hoboken: Wiley, 2013.  
 Kahn, Andrea, *Representations and Misrepresentations, On Architectural Theory*. Journal of Architectural Education, 1984-.  
 Lucas, Ray, *Research Methods for Architecture*, 11. London: Laurence King Publishing Ltd, 2016.  
 Schoonenboom, Judith, R. Burke Johnson, *How to Construct a Mixed Methods Research Design*, 107-131. *Koerner Z Soz Sozpsychol*, 2017; 69(Suppl 2).  
 Schön, Donald, *Design as a Reflective Conversation with the Situation, in The Reflective Practitioner*, 80. New York: Basic Books, 1983.  
<https://deltaurbanismtudelft.org/2015/04/23/ttstudio/> (Accessed Nov. 30, 2019)

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methods within the research we managed to find migration as a lens to look at all the flows affecting the North Sea region. Mapping was a challenging representation tool especially in cases of political and intangible conditions. I believe that we managed to relate them to each other and find correlations thanks to overlaying the data and looking at defined time periods.