Reflections on Architectural Story Telling as Future-making

Reflection Paper for *Flotta: A Bruck-Mining Saga*, 2019-2020

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TU Delft
Transitional Territories Graduation Studio
North Sea Landscapes of Coexistence
A Topography of Chance

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Flotta: A Bruck-Mining Saga

'Once upon a time in a land far, far away…' Why does the archetypical story always tell of places that are so far away, both in time and space? Clearly, there is something about remote, distant places that stimulates the human imagination. The bookshelves of humanity are lined with volumes from the annals of history, and with tales from far flung lands and seas. Hollywood is much the same- an assemblage of films telling stories of the unusual and the exotic, of characters with experiences somehow different from our own. Perhaps we are drawn to them because in the telling they become a new reality. We relate to the unrelatable. Even as individuals wandering through the maze of life, we seem to tell of our childhoods and holidays much more frequently than is justified by their temporal importance in our lives. Why? Because they are distant, remote- in time and in space. Once upon a time in a land far, far away…

Hold that thought.

Fig 1: The Territory and the City (drawing by author)

1 Why?

1.1 In defence of the territory

Architecture is an anthropic practice. Cities are consequently the primary concern of architects, with the territory taking a metaphorical backseat. Walter Christaller's notion of 'Central Places' reinforces this understanding.[1] Thus, the city is widely understood as 'Central', while the territory is remote.

Meanwhile, the development of communication networks (road, rail, ship, air and digital) essentially shrinks time and space. 'Time-space convergence' means that 'Central Places' are now more closely connected to each other than their respective territories.[2] New York is 6.5 hours from London; the remote Orkney Islands off the north coast of Scotland are over 14 hours away- if you time it perfectly. Global urbanisation is of course a product of this reality. Thus, the city grows, and the territory declines. 'Once upon a time' has no place in this world.

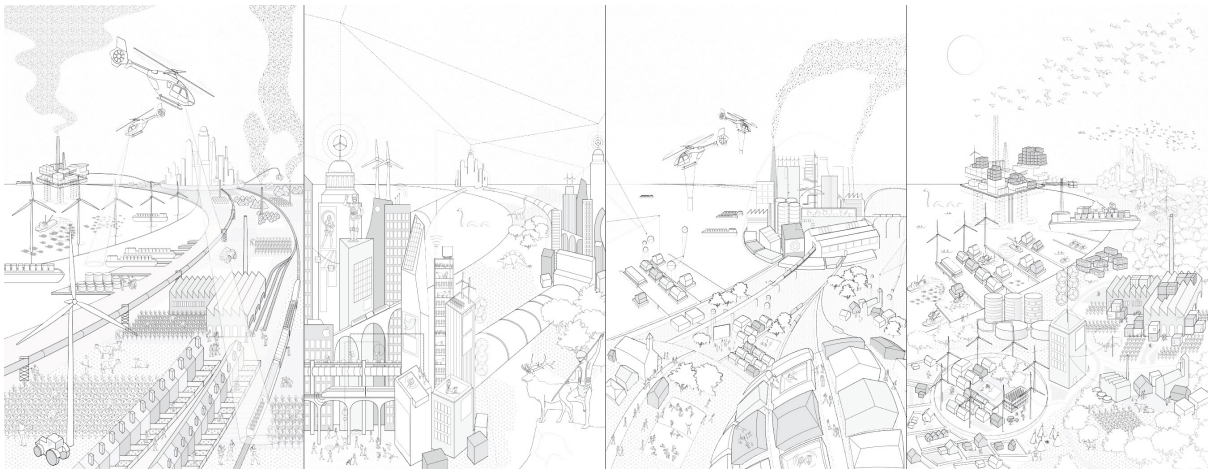


Fig 2: Literature inspired scenarios for the future of the North Sea (group work with Stefano Agliati, Daniele Ceragno and Petra Grgic)

However, cities do not exist in isolation. Indeed, cities were only able to emerge thanks to surpluses provided by the territory- surpluses of food, labour or fuel, to name but a few. Architects are of course welcome to speculate how this may or may not change. Yet regardless of that speculation, we must acknowledge that the principal actors who shape global (often invisible) processes conduct their research and design on an entirely different scale from that of architecture. This scale is typically reserved for geographers, anthropologists, linguists, political scientists and so on. When we add a temporal axis, historians enter and the canvas on which architecture acts becomes yet more complicated.

Simultaneously, there persists a casual perception that broad, complex challenges such as 'Waste' or 'The Energy Transition' (in capital letters) are in turn primarily a technical undertaking. It is also easy to believe that such a transition takes knowledge acquired in the natural sciences and engineers solutions around this knowledge- leaving little place for the social sciences.

Yet in today's political, ecological, economic and cultural climate, it seems increasingly apparent that such broad, complex problems and global (invisible) processes are inherently intertwined. Indeed, aspirations for tackling Climate Change (as exemplified by the Paris Agreement) must note that the transition to renewable energy (requiring electricity to transmit that energy) is crucially different from previous transitions (from one fuel to the next). Fuels could be easily transported with relatively little infrastructure, which strengthened the case for 'Central Places' and once again weakened the importance of the territory as anything other than a place to be exploited. Yet renewably generated electricity requires a continuous infrastructure from the point of harvesting to the point of delivery.

[1] Walter Christaller, *Die Zentralen Orte in Süddeutschland* (Jena: Gustav Fischer, 1933).
[2] Stephen Codrington, *Planet Geography* (Sydney: Solid Star Press, 2005), 516.

Furthermore, the point of harvesting and the point of delivery are often very different places. Suddenly, the city is no longer an isolated centre, but must coexist with the remote, renewably rich territory. Perhaps the territory deserves architectural attention after all.

For me personally, these relationships are fascinating. Consequently, I feel the case for a dialogue between natural scientists, engineers and social scientists (including architects) is strong.

My background prior to coming to TU Delft has of course greatly influenced my fascinations and views of the world- which has in turn greatly influenced the direction my project has taken. Growing up in the highlands on the Scottish coast and having previously worked on and around the sea as a yacht captain and sailing instructor has left me with an appreciation for ways of life that are not urban. Notions of (maritime) territory and remoteness- particularly when positioned amidst the vast, complex processes of globalisation- are therefore very close to my heart and mind.

1.2 Relationship between research and design

With this in mind, and with the 'research by design' approach emphasised by the unique Transitional Territories studio environment, I see the notion of research and design as inherently intertwined. Research is not something that merely precedes design. Indeed, I believe research IS design. By choosing where we focus our interests and attention, we are (intentionally or otherwise) beginning to shape our actions as designers. I believe this to be a vital understanding as it allows designers to shift between scales and explore cause and effect between global/international systems (some might call this 'research') and between local actions (this might be termed 'design'), as well as vice versa. If we do not see these as interconnected, then 'design' cannot purport to have any meaningful impact on the wider world, and 'research' cannot have any impact on local design. This would clearly not be a desirable outcome. Instead, as already mentioned, I see research as design. If we must separate them, research and design are concurrent processes which continually inform the other.

1.3 Relationship between graduation project, the studio topic, the architecture master track, and the Master of Science in Architecture, Urbanism and Building Science programme

The project thus critiques architecture's preoccupation with the city and its frequent impartiality to the identity of the territory as something 'other' from the city. It defends the view that human inhabitation of the earth is dependent upon interrelated systems, flows and phenomena that cannot be simply compressed into a single formula for inhabitation (Rem Koolhaas' *The Generic City* springs to mind[3]), but rather that a symbiotic relationship should and must exist between the life, story and fable of the city and of the territory. This view is considered particularly appropriate for societal aspirations for a transition to renewable energy and a circular economy that are prevalent around the North Sea seascape. Change (both predictable and unpredictable) to that seascape is at the heart of the Transitional Territories Graduation studio- the North Sea is in a sense a Topography of Chance.

To this end, the project also argues for the case of interdisciplinary science. As scientific knowledge expands, and as phenomena appear often increasingly interconnected and thus increasingly complex, I feel that actors engaged in the shaping of the world must seek to transcend their narrow disciplines, and that architects are such actors. Consequently, the project also acknowledges (and indeed embraces) themes of transition and of uncertainty as necessary forces within conscious, aspirational design- in the full knowledge that the resulting Design (in capital letters) can never be perfect or indeed complete.

[3] Rem Koolhaas, *The Generic City* (The Netherlands: Sikkens Foundation, 1995).

2 How?

As indicated by its title, the Chair of Transitional Territories proposes a territorial approach, viewing the North Sea and coastline at varying scales. This encourages mapping, deconstruction of that mapping and a fictionalising of cross-border themes and actors upon the North Sea. Cycling between these scales (both zooming in but also repeated zooming out) is crucial to the proposed studio approach.

My graduation project is perhaps unusual in scope- sitting at the juncture between global waste/energy contexts and territorial identity expressed through the stories of a declining island community. It is also temporal in its concern, positioning itself within a period of ongoing (and indeed uncertain) transition- both at the scale of North Sea waste management flows/energy transition and at the scale of an island and its unique community. It is interdisciplinary and requires knowledge of history, flows, systems, site and culture. Therefore, the territorial framework set out by the studio has been extremely helpful in seeking to navigate these different scales. For this reason, a number of methods have been necessary in order to conduct research and to begin design. Furthermore, revisiting of certain methods with new knowledge has also been necessary to manage interdisciplinarity as the project progresses. In doing so, the project makes the case for interdisciplinary working in architecture and science beyond.

The assembly of tutors from diverse backgrounds and of students from architecture, landscape and urbanism (along with the North Sea context) is what drew me to the studio. The value of interdisciplinarity is therefore very much embedded in the studio, and I believe has very much informed my approaches to research/design.

2.1 Scenario Building (A Topography of Chance) and Literature Studies:

The project began with a collective mapping and projection phase alongside a simultaneous literature study. The collective phase analysed the development of the current condition as a result of historical transitions and the increasing disconnect between the city and the territory. Scenarios were constructed in which this phenomenon was pushed to various extremes. The literature study drew my attention to the often-inverse relationship between renewable energy-rich territories and renewable energy-poor cities, in particular to the problems this poses for remote territories. It also fixed the chosen site broadly on the Orkney Islands.

At this point, I faced one of the greatest challenges of the process. Our modern understanding of energy is inherently intertwined with fuels- an idea reinforced by literature studies of previous energy provision and transitions.[4] Fuels are energy storage mediums, and can thus be harvested/mined and transported to Central Places[5] (i.e. cities) with relative ease. Renewable energy relies upon an energy transmitting medium (electricity). This requires continuous infrastructure between the point of harvesting and the point of use. For a time, I struggled greatly to appreciate that this difference has enormous spatial consequences: renewable energy is most effective when NOT transported across huge distances to Central Places because this requires vast infrastructure, and entails cumulative losses through electrical resistance.

[4] Richard Rhodes, *Energy: A Human History* (New York: Simon & Schuster, Inc., 2018); Dirk Sijmons, *Landscape and Energy: Designing Transition* (Rotterdam: nai0101 publishers, 2014).
[5] Christaller, *Die Zentralen Orte in Süddeutschland.*

2.2 'The Comparative Method' (after Jared Diamond):

I was able to appreciate the spatial consequences of energy transmitting mediums (and thus unblock my research by design/design by research pathway) through the use of the comparative method. The comparative method (a form of reference analysis) was vital to help articulate the transition from pure research towards the design of a project brief; from global issue towards the scale of infrastructure and architecture. I identified how from a brief period near the beginning of the industrialised era there arose examples of industrial architecture which were specifically connected with their territory because the energy harnessed could not be conveniently translocated to the nearest city: *'Falling water is the oldest source of industrial power other than muscle.'*[6] This realisation allowed me to propose that a successful transition towards renewable energy implied the ability to use that energy as close to source as possible.

Fig 3: Matrix analysis of selected examples of industrial territorialism (drawing by author)

Using the comparative method, I also studied industrial examples which have by choice been located in a specific territory (rather than the city) in the more modern world. I argue that despite many of my examples being separated from today's world by time,[7] they are in fact the best 'precedents' for what the role of architecture can be in and beyond a transition to *Energy at the End of the World*.[8] By assembling the results in a matrix, they provided an insight into successes and failures of different strategies and relationships between industry, community, territory and the city. These insights were in turn used to help shape a project brief.

[6] Rhodes, *Energy: A Human History*, 185.
[7] Jared Diamond and James Robinson, eds., *Natural Experiments of History* (Massachusetts: Harvard University Press, 2010).
[8] Laura Watts, *Energy at the End of the World: An Orkney Islands Saga* (Cambridge, MA: The MIT Press, 2018).

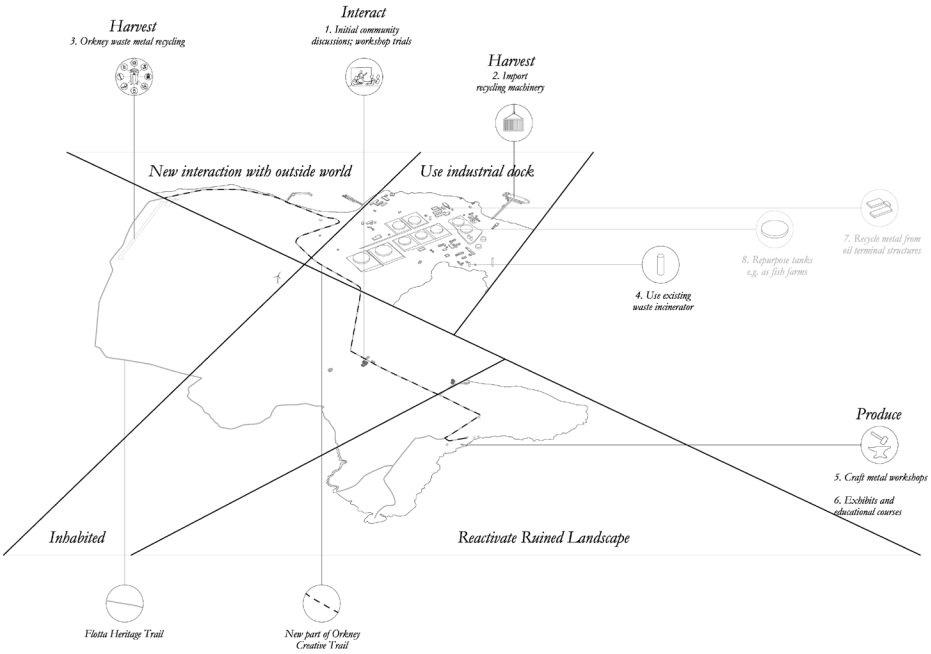
2.3 'The Agency of Mapping' (after James Corner)

At the same time, the context of remote territory>island condition>Orkney archipelago>Island of Flotta was continually explored. Continuous literature studies, interviews, a week-long site visit and consultation of (admittedly limited) existing mapping was used to build an extensive written documentation of evidence, some of which at times felt quite random but which was included as nonetheless potentially valuable. This was gradually grouped under various headings and subsequently mapped as a series of 'layers' which have the capacity to 'speak' to/interact with one another.[9] By deconstructing evidence (everything from written stories to images to verbal quotations) and then reconstructing it through mapping, I was able to identity different forces and characteristics of the island of Flotta, and consequently begin to understand heuristically the plural meanings of 'Island Culture'. The Agency of Mapping allowed me to see that there was much more at stake than a mere global energy transition: There was entire way of life on this remote island that is about to be lost to history. That way of life is not just to be lost to the inhabitants of the island, but to our wider storytelling humanity. The stories of Flotta have given rise to at least three novels, extensive poetry, a popular piece of pipe music and even a BAFTA winning film- complete with soundtrack by Mark Knopfler, the frontman of the world-famous rock band Dire Straits.[10] The physical island itself is remarkable within the Orkney context as a landmark, with the flare of the Flotta Oil Terminal visible across much of the archipelago and even memorialised in a stained glass window in Orkney's cathedral.

Once upon a time in a land far, far away… Flotta is important- not just because it is energy rich, but as a source for storytelling. It is a place where hard, natural sciences and softer social sciences coexist. If (as I believe and as I have argued) architecture should be about connecting different scientific disciplines, then seeking to connect these on Flotta was crucially important for me.

[9] James Corner, 'The Agency of Mapping: Speculation, Critique and Invention', in *The Map Reader: Theories of Mapping Practice and Cartographic Representation*, 1st ed. (Hoboken, New Jersey: John Wiley & Sons, Inc., 2011), 89–101.

[10] George Mackay Brown, *Greenvoe* (London: The Hogarth Press, 1972); David Sinclair, *Willick o'Pirliebraes: Tales of Flotta*, 1st ed. (Kirkwall: Orkney Press, 1981); David Sinclair, *Willick and the Black, Black Oil* (Kirkwall: Orkney Press, 1994); David Sinclair, 'Jamie Hay, The Bard of Flotta', *Lurdy, Flotta* (blog), 14 June 2011, https://lurdy.wordpress.com/2011/06/14/jamie-hay-the-bard-of-flotta/; 'Flett From Flotta – the Man of the March', pipes | drums, 6 February 2016, https://www.pipesdrums.com/article/flett-from-flotta-the-man-of-the-march/; Bill Forsyth, *Local Hero*, Comedy/drama, 1983.



Flotta: A Bruck-Mining Saga

Proposed Interaction, Harvesting and Production

After James Corner and "The Agency of Mapping"

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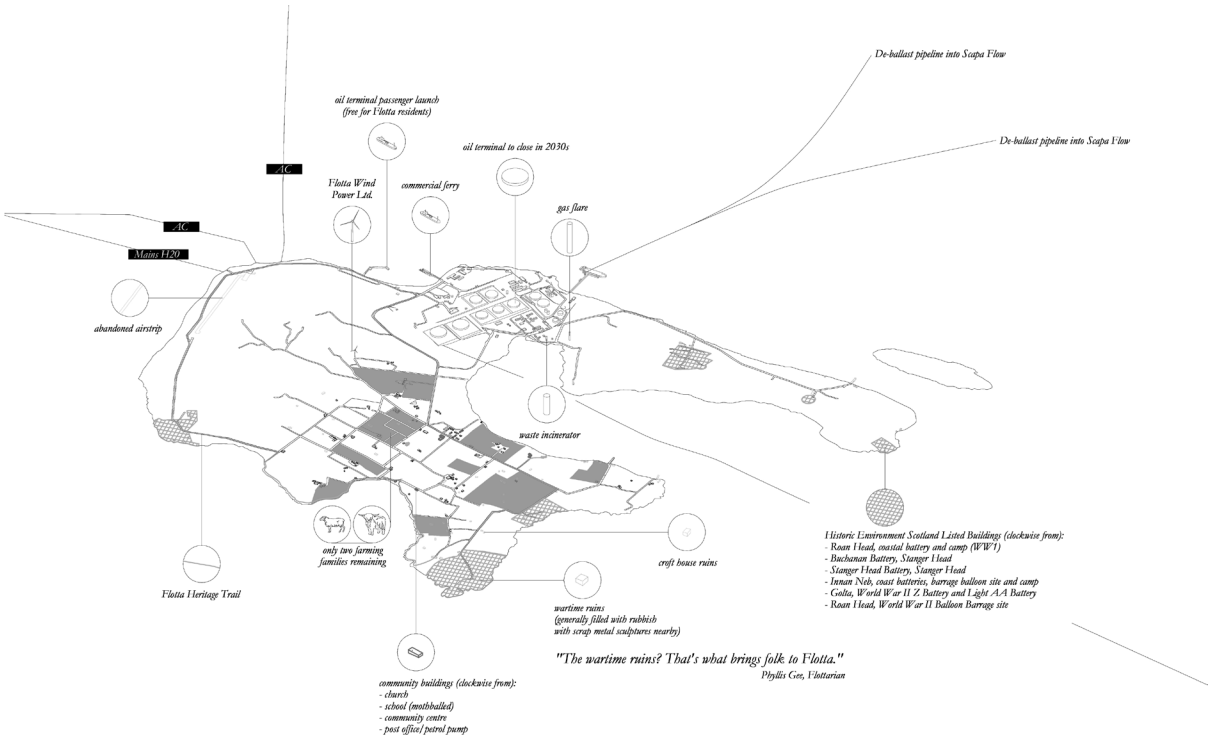

Flotta: A Bruck-Mining Saga

2020 Landscape Deconstructed

After James Corner and "The Agency of Mapping"

1:20,000 @ A3

Fig 4: James Corner's 'The Agency of Mapping' applied to Flotta (drawing by author)

3 Looking back, now the mist has cleared

Navigating the various scales and themes of the project has been extremely challenging, but also extremely rewarding. This complexity has been possible only through the combining of multiple approaches which have overlapped- rather as interdisciplinary science fields might overlap. The journey through these approaches is not something I could have predicted when I began. Rather, research by design/design by research at each scale was a little like wandering through the mist. Every so often, it would clear to reveal a door to a further avenue for design and research.

3.1 Infrastructural Scale

The journey began with an instinctive attraction to remote locations- which is clearly a consequence of my childhood and experiences prior to arriving at TU Delft. From this rather romantic, idealised standpoint I began to explore how an infrastructural logic for life in a remote territory (rather than the more typical architectural attraction to the central city) could coexist in symbiosis with the wider world and even support some of its needs (such as moving towards an energy transition and circular economy). Through the exploring of renewable energy, I discovered the work of Professor Laura Watts and learned how the Orkney archipelago off the north coast of Scotland was already generating 130% of its electricity needs through renewable technologies, but was limited in its ability to export that surplus because of the limited network connection.[11] It became apparent that the Orkney case is in fact representative of the struggle faced by wider aspirations for a transition from fuels (energy storage mediums) to renewable energy (requiring electricity- a transmitting medium). Being home to Orkney's (declining) oil terminal, the island of Flotta emerged from the many others because it highlighted the energy transition in question and the potentially negative impacts this transition could have on local ways of life.

These understandings of systems flows were achieved primarily through extensive review of literature, which I feel was vital in order to grasp the complexity of the issue. By building upon the thinking of others such as Laura Watts, I believe I have been able to advance my conceptual argument at the infrastructural scale to a much fuller extent. This is the point I had reached by P1.

3.2 Island Scale

Beginning to translate this conceptual argument to the scale of architecture was, as I have already mentioned, probably the greatest challenge I faced throughout the graduation project. Before being able to focus in greater detail on island scale, I first had to overcome the understanding of energy as something merely to be transported. Thus, while the extensive precedent study into what I have termed 'industrial territorialism' (as counterpoint to the existing term 'industrial urbanism'[12]) might seem like something of a digression, it was absolutely vital for me to make the cognitive leap to imagining how renewable energy could be used close to the point of harvesting. With that in mind, I compiled a list of energy-intensive industries, and was able to identify metal recycling as one of the most suitable to the Orkney context (intensive aquaculture might have been the other). This conclusion was reached through an analysis of waste flows from Orkney, from an appreciation of the rising waste from the declining oil industry (primarily metal) and from the site visit which revealed just how widespread metal waste is- especially on Flotta. Metal recycling is particularly appropriate as most Orkney waste is incinerated to provide heating in neighbouring Shetland. Metal, however, is shipped to mainland UK for recycling- often as far south as the south of England. This of course happens alongside efforts to export the renewably generated electricity from Orkney to mainland UK. On Flotta, the problem is especially acute, because the waste must first be shipped to mainland Orkney before being shipped south. Therefore, metal waste is often simply left to rust away in fields. By proposing to recycle the metal from Orkney (perhaps in time from Shetland and the north of Scotland) on Flotta, the project proposes a new form of industrial territorialism which seeks to future proof the island's economy against the decline of the oil industry and the closure of the Flotta Oil Terminal in the coming decade, as well as to provide continued revenue for the whole archipelago with the coming disappearance of oil revenue.

[11] Watts, *Energy at the End of the World: An Orkney Islands Saga.*
[12] Tali Hatuka, 'Industrial Urbanism: Typologies, Concepts and Prospects', *Built Environment* 43, no. 1 (March 2017): 1–24.

These conclusions were reached through reference analysis, further literature review, and through the study of more local systems flows. This was vital to land the project in reality- moving it from the abstract 'remote territory' to the specific territory of Orkney and Flotta. Through this range of research by design methods, I believe I have been able to propose an infrastructural logic which is appropriate to the island scale of Flotta. This is the point I had reached by P2. What was clearly absent at this point was the connection to the local needs extending beyond infrastructure. This was correctly pointed out by my mentors in the lead up to and during the P2.

3.3 Architectural Scale

Thus, from P2 onwards I explored in quite some detail a wide range of material relating to Flotta. This included further reading- this time of fiction that had arisen from the island- discussions with local residents both via email and in person during the site visit, and through extensive and continued consultation of any and all online material I could find. In particular, I must pay tribute to the late David Sinclair, whose extremely detailed blog of the island's history[13] has been of unimaginable help in acquiring an insider's view of the story of Flotta. David was of course also the creator of the 'Willick o' Pirliebraes' character- the hero of two novels which told stories from Flotta around the time of the arrival of the oil terminal in the early 70s. David sadly passed away in June 2019, just prior to my beginning the graduation year in TU Delft. I did not know he existed until a few months ago, but without him, I would likely never have completed the graduation project which I did.

This research felt at times like an impossible, never-ending task, and my mentors were extremely patient with me during this period as I sought to find my way through the sea of information. They also pushed me at the right times to make the leap from designed research to researched design, especially in the lead up to P3.

Nevertheless, the research allowed me to acquire without question a revelatory appreciation of the value of 'island culture', and a quite personal desire to propose something which really spoke to and of the people of Flotta and their rich tapestry of stories. For this reason, I sought to record architecturally some of the existing but vanishing tales of Flotta's past and intertwine them with this new tale of metal recycling. I sought also to humanise the infrastructural scale of metal recycling through the extension of the already existent 'Creative Orkney Trail' to the island of Flotta through the establishing of craft metal workshops within a series of wartime ruins. This proposal is an attempt to breathe new life and new stories into the island's declining community, while still ultimately connecting it with the stories of the past. Ultimately, I feel the architectural scale has been the strongest part of my research by design process, and I have done my utmost to translate these ideas into meaningful architecture. Whether I have achieved it (or not) must of course be decided by the viewer.

[13] David Sinclair, 'Lurdy, Flotta', A record of an Orkney island's history, accessed 6 January 2020, https://lurdy.wordpress.com/.

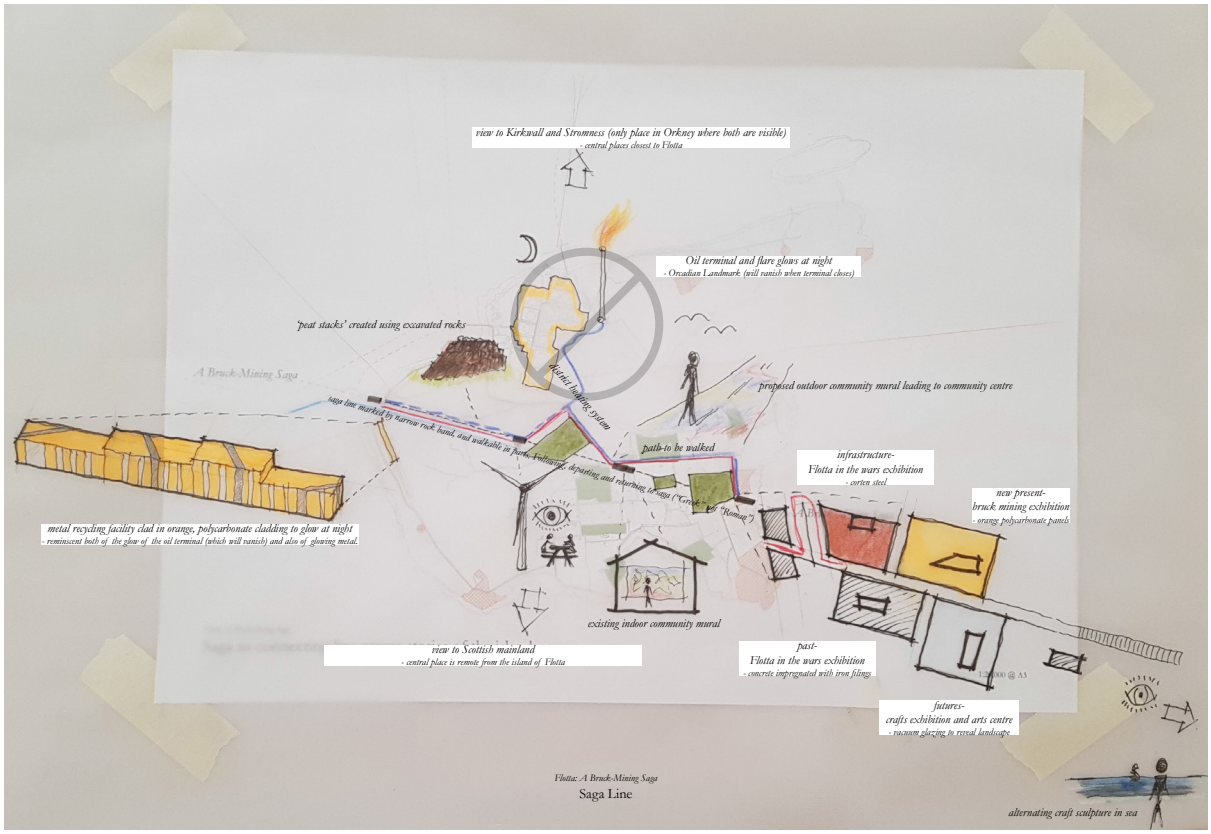

Fig 5: Infrastructural, island and architectural scales as part of a territorial approach to research by design (drawing by author)

4 Looking forward again, into the mist

4.1 Ethical issues and dilemmas

Rather obviously, this is a university project. There is only the tiniest of possibilities that it might ever be built- even in part. Yet the project ultimately rejects the notion that a dream world is an entirely urbanised world- which feels at times contradictory for an aspiring architect. This is clearly an ethical issue that I have encountered not just in the research/design for this project, but at various times throughout my university career and my year of work as a trainee architect. To be clear, I do not see human inhabitation of the landscape to be bad in and of itself. Rather, I see the unchecked expansion of cities and the building of projects (by architects) for the sake of building them to be the problem. Translated to practice, this is of course also a financial issue- the architect must earn a living. There is clearly always a balance to be sought between meeting the immediate (sometimes selfish) needs of individuals or small groups, and seeking to improve the wider world for people over a longer time period. Less is perhaps truly more. Big is not always best.

Added to this challenge is exactly the opposite problem. When considering a remote, rural landscape (some might use the word 'unspoilt', though this notion is of course quite naïve), there is in postmodern thinking sometimes a fear of doing anything at all. Thus paralysed, we run the risk that *Preservation is Overtaking Us.*[14] Recognising what is valuable and what is less so is always a challenge, and of course different people may have different opinions on it. Navigating these two opposing ethical dilemmas (the risk of doing too much versus the risk of doing nothing at all) is of course a continuous challenge- one made even stronger in this case where I have sought to design a very personal project for a very specific island community, while not being of that island community myself. I can only hope there is also sometimes value in being an outsider looking in.

4.2 Relation between the graduation project and the wider social, professional and scientific framework (with a brief note upon the transferability of the project results)

The above dilemmas and conclusions are of course particularly true for my project, which proposes a reasoned but nevertheless 'utopian' alternative (at least from my perspective) to the gravitational pull of globalisation and global urbanisation. The project argues for the democratic right of individuals to choose where they live, work and play- whether that be in central cities or in remote territories such as Flotta. It sees the telling of stories to be of central importance to the human condition, and consequently to the anthropic practice of architecture. It understands the origin of stories to be commonly found in remote territories. It therefore sees the continued inhabitation of the remote territory to be vitally important to humanity as a whole. It tries to connect global aspirations for a transition to renewable energy and for a circular economy with the identity and stories of the remote island territory of Flotta.

Does the project manage to convey that importance? It must seem questionable whether architecture (even of the very best kind) is able to achieve all of this. Especially if the architecture is 'only' a university project.

[14] Rem Koolhaas, *Preservation Is Overtaking Us* (New York: GSAPP Transcripts, 2014).

4.3 Graduation, lifelong learning and storytelling

However, that university environment offers (and indeed encourages) the possibility to dream. By dreaming, the university project I've proposed tells a story of a possible world- a world in which we humans manage to overcome the gravitational pull of globalisation and global urbanisation and live as we choose. In my world, we manage to make the transition to renewable energy, and we develop a circular economy. The gravitational pull of central cities does not absorb remote territories, but rather those territories are held in place by a centrifugal force. Other remote, renewable energy-rich territories might undertake other forms of industrial territorialism- aquaculture, chemical manufacturing, data centres, paper manufacturing, cement production… They will also have their own stories to tell. In my world, cities and territories coexist in symbiosis. Surely dreaming is the first step towards reality. What is the role of architecture in all of this? It is the telling of that dream. It is a story, a saga. It is future-making.

I think this is perhaps the most important thing I have learned during the graduation year, and which I am desperate to hold onto as I prepare to leave the university environment behind. I hope never to sacrifice quality for quantity. I intend to keep dreaming, to keep learning. I hope for my architecture to continue to tell stories. This project tells stories (both real and imagined, and as I have perceived them) of the remote island of Flotta: a saga of bruck-mining. There are of course others- other territories, and other stories.

Once upon a time in a land far, far away…

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