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*) This is an interview. It has not undergone the same review-process as the scientific papers.

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FOUND IN TRANSLATION: WORKING WITH ACTOR-NETWORK THEORY IN DESIGN EDUCATION

ANNE TIETJEN

Abstract

Contemporary strategic planning tasks require new, more research-oriented design education methods. Architectural projects are here essentially interventions aimed at unfolding site-specific development potential. Site analysis and design thus become an integrated, creative process. Based on a teaching experiment in landscape architecture education, this paper proposes teaching creative site analysis as a *translation* process of observed site conditions into desirable future site conditions. Guided by actor-network theory, the paper outlines, first, a conceptual framework for creative site analysis. Second, it presents the applied educational procedure, with a focus on the decisive step from inventory to intervention which is the formulation of a design problem.

The teaching experiment shows that onsite studies of spatial controversies in the form of recent physical changes, emerging new activities and uses, and people's ideas and desires for future development can be a pertinent starting point. Furthermore, a clearly defined programming phase where design problems are formulated by different representational media and collectively assessed by students and teachers proved helpful for the students. Overall, the produced design work and the student evaluations show that translation offers an operational framework for teaching a creative approach to site analysis.

Keywords:
design education, landscape architecture, strategic planning, transformation, creative site analysis, Actor-Network Theory

1 Introduction

> *I WILL NEVER TALK ABOUT 'UGLY' OR 'BEAUTIFUL'! Architecture is not about how it fxxxing looks, but about what it fxxxing does (Tredje Natur, n.d.).*

Spatial planning increasingly focuses on the transformation of existing built environments through strategic development projects. This places the architectural professions in a central position with regards to contemporary urban and landscape development. At the same time, questions of how to activate existing resources, qualities, and potential for strategic purposes are stimulating new ways of architectural thinking. The above quote from the Danish firm *Tredje Natur* expresses it succinctly: Rather than being interested in how architecture *looks*, they are interested in what architecture *does*. This interest in the performative capacities of architecture should not be confused with modernist functionalism that prioritised programme over form. Beyond questions of functionality, the architectural professions are increasingly conceiving of architecture as *interventions* – as means rather than ends, and as a part of dynamic development rather than fixed results. They expect architecture to affect economic, social and environmental development beyond the specific project purpose and beyond the borders of the area of intervention. At the same time, they are aware that long term urban development processes with many actors and an uncertain outcome require remaining open to new interests and insights. The overall idea is to steer spatial development in a desired direction through strategic physical and programmatic interventions (see for instance: Oosterlynck, et al., 2011; Carmona, Burgess and Badenhorst, 2009; de Solá-Morales, Frampton, Ibelings, 2008).

This paper adds to the development of design education methods in the context of strategic planning. Designing architectural interventions presents the architectural professions – and ultimately architectural education – with new methodological challenges. Strategic design includes the formulation of a design problem and the delimitation of areas for design intervention based on an evaluation of present resources, challenges and potential. Site analysis thus becomes the first and maybe the most important step in the design process (Sieverts, 2011). This requires more research-oriented design methods. It does not, however, devalue designerly creativity. Design problems are "wicked problems"; they are essentially unsolvable (Rittel and Webber, 1973). Because each local situation is unique, socially contested and constantly changing in relation to many factors at multiple scales, formulating a design problem is interconnected with the process of its solution. Thus, not even the most comprehensive analysis is capable of generating an objectively correct design problem or brief, in the sense of knowing what distinguishes a desired condition from an observed condition. But when

conducted as an integrated, creative process – such as the working hypothesis of this paper – site analysis and design can explore and make local development possibilities probable.

This paper aims to substantiate a teaching approach to creative site analysis for landscape architects. Strategic design is increasingly being included in the curriculum of landscape architecture education, e.g. at the Aarhus School of Architecture, the Oslo School of Architecture and Design, and the University of Copenhagen, where the author has contributed to teaching programmes. Experiences from these programmes show that especially the step from inventory to intervention presents a great challenge for students. While there is a growing body of literature on mapping techniques, this essential step is still little investigated (Braae and Tietjen, 2011; Von Seggern, Werner, Grosse-Bächle, 2008). How to enable students to formulate a design problem will therefore be the guiding question of this paper.

Previous teaching experiences suggest that Actor-Network Theory (ANT) can provide an operational framework for formulating design problems through creative site analysis (Tietjen, 2013; Braae and Tietjen, 2011). A new design studio within the MSc programme Landscape Architecture at the University of Copenhagen provided an opportunity to further develop, unfold and test ANT as a framework for teaching creative site analysis. The first *Transformation – Advanced Studio Course* took place over nine weeks from February to April 2014, with 23 international students from different educational backgrounds ranging from landscape architecture, to architecture, urban design and urban planning. Based on extensive fieldwork, the students first developed their own design brief and then strategic open space projects in the peripheral rural municipality of Thisted, Denmark.

Centred on this teaching experiment, the paper: 1) outlines an operational framework for creative site analysis based on ANT; 2) presents the applied educational procedure and teaching results; 3) discusses the main findings from the teaching experiment and concludes with some further development perspectives.

2 Conceptual framework – translation

With ANT, we can conceive of creative site analysis as a *translation* process. Translation, also called an ANT-account, is a method of describing how complex connections between human and non-human actors are constructed for a certain purpose (Latour, 2005). At the same time, it is a metaphor for research and innovation practitioners' ways of working. According to ANT, new knowledge or technology is not invented *ex nihilo;* it is revealed by translating *matters of fact*, i.e. the researchers' raw findings, into *matters of concern* in the form of interpretative represen-

tations. These representations are called *inscription devices* and they can be text, tables, maps, etc. (Latour, 2011; Latour, 2004).

Originally developed for studying research and technological innovation processes, ANT is being increasingly used in urban studies (Farias and Bender, 2010; Amin and Thrift, 2002; Latour, Hermant and Shannon, 1998) and in design research (Yaneva, 2012; Tietjen, 2011; Yaneva, 2009).

2.1 A relational understanding of site, context and scale

First, ANT provides us with a relational understanding of site, context and scale. With ANT, we can grasp a site as dynamic connections between human and non-human actors: people, their activities and desires, built structures, landscape features, climatic conditions, etc. mutually affect each other by interaction. In this way, they gather into constantly changing interdependent *actor-networks*. For ANT "any *thing* that does modify a state of affairs is an actor" (Latour, 2005, p.71). *Agency* – the capacity to act in the world – is thus not limited to intentional human action, but any person, idea or thing can be a site actor. Precisely because ANT equally perceives things as agents of change, it provides a suitable framework for strategic design, where we are interested in what architecture can *do* to improve a given site.

Understanding a site relationally as dynamic human and non-human actor-networks effectively links considerations on physical structures with considerations on natural and socio-cultural processes. This view also implies a relational understanding of context and scale: Each site relates to its surroundings in terms of the reaches of present actors' interaction; a bus stop, for example, is part of a larger transport system, just as a creek is part of a larger water network. This process-based understanding of context makes it possible to study and design a given site across different scales: locally, regionally, and globally. In conclusion, ANT directs architects' attention to the effects of interaction between human and non-human site actors. Throughout a translation process, these effects of interactions are both studied and translated into future possible interactions (Braae and Tietjen, 2011).

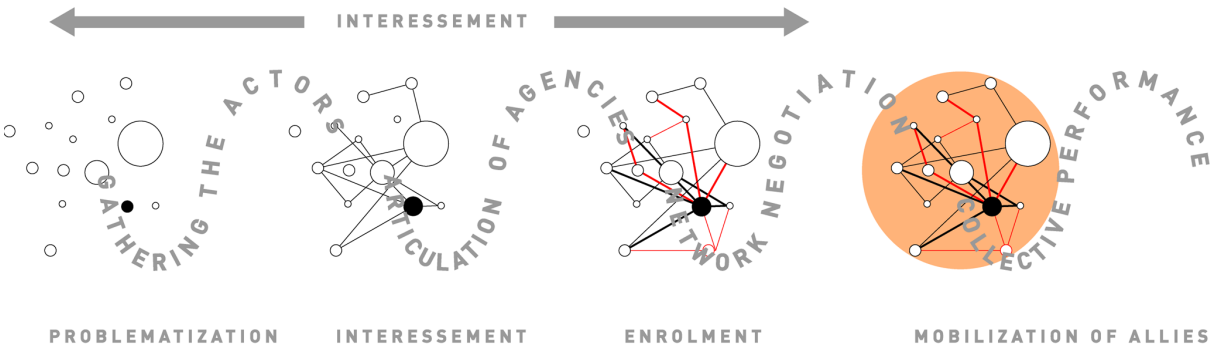

Figure 1
Creative site analysis as translation: The diagram shows how a project (the black dot) develops from the first design hypothesis to the realised project by assembling human and non-human actors (the black circles) until a constraining actor-network has been built.

2.2 Decisive moments of translation

ANT-scholar Michel Callon (1986) has defined four decisive "moments" of a translation process: problematization, interessement, enrolment, and mobilization of allies, which are here applied to a strategic design process (see Figure 1).

The first decisive moment in a translation process is the *problematization* of the task at hand. Here, the design problem, or rather series of negotiable hypotheses about present challenges and development opportunities, is formulated. At the same time, this preliminary problem formulation defines a set of human and non-human actors who are concerned with the problem. In this way, the formulated design hypotheses start gathering the actors who are going to make part of the design project.

The second moment, *interessement,* encompasses the activities "which an entity carries out in order to impose and stabilize the identity of the other actors it defines through its problematization" (Callon, 1986, p.207). In a strategic design process, this means focused site evaluation in light of the formulated design hypothesis and development of ideas. Hereby, the production of so-called "inscription devices" plays a vital role (Latour, 2011). Maps, diagrams, and models enable the transfer of findings from the fieldwork situation to the architect's drawing board. At the same time, they are the tools through which she translates her findings into project ideas. They are *descriptive* instruments that account for observed interactions, while they are also *prescriptive* instruments that suggest possible future interactions between actors who are concerned with the formulated design hypotheses (Tietjen, 2011). The goal of interessement activities is two-fold. First, they should confirm the validity of the established design hypotheses and the actors implied by this hypothesis: the more productive connections between the gathered actors one can describe and thus make probable, the more valid one's hypotheses become. In doing so, they should, second, "enrol" the gathered actors to work for the projected task. Successful interessement thus finalises problematization, while at the same time achieving *enrolment*.

The third moment, *enrolment*, "designates the device by which a set of interrelated roles is defined and attributed to actors who accept them" (Callon, 1986, p.211). In a strategic design process, this will be a concrete design proposal with a clearly defined set of architectural interventions and involved site-actors.

The fourth and final moment of translation, *mobilization of allies,* rarely occurs in the context of academic education. It is achieved when the proposed interventions are implemented and all the gathered actors are made to act as one actor-network.

This model is of course simplified. In strategic design practice, a translation process rather takes on the character of an iterative, recursive process. By working alternately with site analysis and project development throughout the design process, project ideas are tested, gradually unfolded and concretised while areas for intervention are delimited, and physical and programmatic interventions are defined. At the same time, the actors necessary to realise the projected tasks are gathered and committed to the project. Akrich, Callon and Latour (2002) have shown that the interessement activities, which link problematization to enrolment, are central to successful innovation strategies.

2.3 Guidelines for teaching creative site analysis

A translation model provides a number of guidelines for teaching creative site analysis. First, it establishes a clear relationship between project development and the construction of human and non-human actor-networks. The key to creative site analysis is to follow the actors gathered by the initial design hypothesis and to carefully study and map their *controversies* with other actors, i.e. the differences, traces, and transformations they produce through interaction (Latour, 2005, p.53). In strategic design, we are particularly interested in spatial controversies, for example, the effects of recent and on-going physical transformations, emerging new activities and uses, conflicts of interest, and ideas or desires for future development.

Second, translation links site analysis to the formulation of a design problem by perceiving and articulating existing and possible relationships between site actors. Therefore, it is important to conceive of designerly inscription devices – diagrams, models, maps, etc. – as both descriptive and prescriptive representational tools.

Third, translation opens up for new ways of critically assessing design ideas: The more productive interactions between gathered actors an architect can make probable in relation to the projected task, the more convincing the design idea. This assessment approach has the advantage of being transparent, rigorous, and suitable for both evaluative and assertive assessment. By retracing and discussing the observations, analyses and hypotheses on which a design proposal is based, it is not only possible to distinguish more from less relevant problematizations of a given site, but also to revise or further articulate possible interactions, and to integrate new interests or insights throughout the working process.

3 The teaching experiment

Working with Thisted Municipality, the task of the design studio was to develop open space projects in rural areas that preserve and unfold place-based qualities and potential in a shrinking rural municipality. In

this way, projects should aim at contributing to the positive development of living conditions in the rural areas. The success criteria were not necessarily economic or to do with population growth. Rather, projects should strive to support, communicate and strengthen existing qualities for the benefit of locals and visitors.

Thisted Municipality was chosen as a setting for the course for the following reasons: From 2007 to 2012 Thisted Municipality had conducted the strategic planning initiative, *Land of Opportunities* (Mulighedernes Land), which led to a number of physical transformation projects which have stimulated new activities and uses and new ideas and desires for future development. These recent and on-going changes appeared to be a pertinent starting point for an ANT-based approach to creative site analysis. Moreover, working with Thisted facilitated the linking of the course to a current research project, *Developing place-based potential: A new approach to strategic planning in peripheral rural areas*, where *Land of Opportunities* in Thisted is a central case. On a practical level, this provided prior site knowledge and not least contact with municipal planners, local experts and actors that are involved in current development projects. This practical knowledge was valuable for setting up the fieldwork. Also, the course facilitated the testing of methodological ideas developed in the research project and, in particular, the development of strategic projects as a continuation of the previous planning initiative.

3.1 The study site: Thisted Municipality

Thisted municipality is located on the western periphery of Denmark and bordered by the Limfjord and the North Sea (Figure 2 and 3). The municipality has about 44,000 inhabitants and a surface area of 1,069 km^2 (Thisted Kommune, n.d.).

Thisted Municipality is one of the peripheral areas in Denmark that is challenged by population decline, falling house prices, vacant buildings and difficulty in attracting people with special competencies, for example doctors. The rural areas, i.e. settlements with less than 3,000 inhabitants, where more than 70 % of the population live, are particularly challenged. However, Thisted also has distinct potential: long coastal stretches with exceptional wave conditions for wind surfing and unique nature, including the recently established Thy National Park (Sloth Hansen, Møller Christensen and Skou, 2012).

Figure 2
Thisted municipality in Denmark.
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Figure 3
Thisted municipality, overview map.
© GST-DTK/KORT 200

3.2 A sequel to Land of Opportunities

The studio project was called *Land of Opportunities II Thisted* because it followed up on a series of strategic projects that were realised through the previous planning initiative *Land of Opportunities*. Two strategic development themes which stand out from these projects guided the work:

1. *The good life at the seaside* aimed to develop tourism based on the unique wave conditions along the Thy North Sea coast. Initially considered as an obstacle to fishing, these wave conditions have, since the 1980s, become increasingly recognised as an asset for surfing. The coastal stretch from Hanstholm to Agger Tange even received the nickname "Cold Hawaii" (Johnsen, et al., 2007). *Land of Opportunities* worked with three surfing top spots identified by the local surfing community and resulted in small scale architectural interventions around piers and landing places in Klitmøller, Nørre Vorupør, and Krik.
2. *Clearing up and new life in vacant buildings* dealt with the increasing number of vacant and derelict buildings in many villages and in the open countryside. Through *Land of Opportunities*, the municipality developed the so-called Thisted model. Together with local experts and enthusiasts, the municipality identified and renovated "gold teeth", i.e. buildings worthy of preservation due to their architectural, historical or environmental value for the local community, while they identified and demolished "rotten teeth", i.e. derelict buildings (Sloth Hansen, Møller Christensen and Skou, 2012).

With a starting point in these two strategic development themes, the students should explore opportunities for:

- Further developing areas where *Land of Opportunities* had previously realised local projects
- Identifying and developing new sites with potential to follow up on the strategic themes

3.3 Syllabus and organisation of the design studio

Based on the above outlined conceptual framework, the studio was orchestrated in three phases – fieldwork (8 days), programming (2 weeks), and design (4 weeks) – striving to achieve the decisive moments of problematization, interessement, and enrolment at the end of each phase (see Table 1). All in all, there were eight weeks of full time project work and one exam week corresponding to a workload of 15 ECTS.

Each phase resulted in the delivery of one or several products (maps, models, diagrams, etc.) (Table 1). As a final result, the students handed in a poster presentation of their project, including site evaluation, design brief, and proposed design interventions, which they presented individually in an oral exam of about 15 minutes. Moreover, the students produced a print version of their project for a joint publication that was sent to our collaborators in Thisted and other people who had contributed to the course (Tietjen, Laurberg Hansen and Kahn, 2014).

Table 1
Syllabus of the transformation – advanced design studio

Phase	Fieldwork	Programming	Design	Examination
Period	**Week 1 and 2** **February 3–12, 2014**	**Week 3 and 4** **February 13–27, 2014**	**Week 5 to 8** **February 28 – March 27, 2014**	Week 9 April 3, 2014
Aim	Formulating initial landscape related problems by understanding and analysing a complex, existing situation	Spatial programming by means of design, reflecting social as well as biological aspects and thereby–	–develop and communicate design intervention-based answers to the identified problems	Assessment of each student's individual performance in the design studio
Activities	Course introduction Fieldwork (8 days): *Guided tour* of Land of Opportunities projects *Two thematic transects*: observations and interviews *Evaluation workshop:* Collective ideas development *Focused site evaluation* based on first design ideas	Programming workshop: 2–3 days of mapping followed by 1 day of reflective conversation focusing subsequently on the *where*, *what*, and *how* of the design problem	Independent design work Supervision (1 hour per project per week) Three weekly pin ups with external guest critic Final presentation of design proposal	Individual oral presentation and discussion of final poster presentation (15 min. per student)
Products	*Collective evaluation maps* for the two thematic routes *Fieldwork documentation* by each group: 1–2 arranged interviews 3–8 spontaneous interviews (Google) map of investigated route Photo archive	*Where*: Conceptual site model and set of diagrams (PPT) *What*: Revised conceptual site model and set of diagrams (Silent PPT, 5 slides) *How:* Revised set of diagrams (PPT)	*Pin up 1*: Poster presentation of the design proposal including site evaluation and brief (3–5 A0 posters in portrait format forming a coherent visual presentation) *Pin up 2, 3 and final presentation*: Revised poster presentation	Poster presentation of the design proposal including guiding site analysis and brief (3 x A0) Print version of the design proposal (8–10 pages, portrait format)
Who	6 groups of 3–4 students Two teachers and tutor Municipal planners, local experts, local enthusiasts, and local users	6 groups of 3–4 students Two teachers Guest professor A. Kahn	6 groups of 3–4 students Two teachers External guest critics	Individual student Two teachers Internal examiner

Throughout the course, the 23 participating students worked in six groups of three to four students. Two teachers accompanied the fieldwork and conducted supervision on a regular basis. The fieldwork was supported by municipal planners, local experts and enthusiasts, while a

tutor helped with logistics. The programming phase was prepared and conducted together with guest professor Andrea Kahn, adjunct professor in urban planning at Columbia University, New York. In the design phase, guest critics participated in weekly project pin ups and in the final project presentation.

3.4 Fieldwork: making first design hypotheses

After a brief introduction to the project, the conceptual framework of translation and the fieldwork method, we spent a week with fieldwork in Thisted. On the first day, the whole class was given a guided tour of all the projects realised through *Land of Opportunities* by two municipal planners. Inspired by the work of the French urbanists Bazar Urbain, the next two days were structured around two thematic *transects*, i.e. physical crossings of the territory (Bazar Urbain, Contrepoint and Chronos, 2013; Melemis, Tixier and Brayer, 2010). Each student group individually investigated a roughly predefined route which resonated with either the strategic theme *The good life at the seaside* or *Clearing up and new life in vacant buildings* (Figure 4). The students moved around by car and on foot. In parallel with the fieldwork, they investigated current policies, plans and projects along their route.

Figure 4
Documentation of one partial route with the theme *The good life at the seaside.*
© MARIE NAVNTOFT JACOBSEN, MELISSA ELISABETH SVENDSON, SOFIE STILLING, MAXIME CLOAREC

The aim of these transects was to identify catalytic situations for new interventions; i.e. situations that were likely to stimulate positive change. Based on ANT, the teachers expected that studying spatial controversies would be a key to identifying such situations. Therefore, we asked the students to pay particular attention to recent physical changes, new activities and uses, conflicts of interest, and ideas and desires for future changes.

Concretely, they worked with onsite interviews and observations along the prescribed route. Each student group conducted one or two *a priori* arranged interviews with local actors in *Land of Opportunities* projects or related projects. In addition, each group conducted 3–8 spontaneous interviews with people they met "on the road". Here, the students used a map of Thisted to talk about people's daily routes, challenges and pleasures in everyday life, and the places that meant something special to them. While the arranged interviews provided information on on-going spatial controversies and established knowledge on local resources and potential, the spontaneous interviews contributed with insight into a variety of people's everyday life routes and routines and perceived place-based qualities.

Observations along the route focused on three types of situation on all scales: (1) Inside/outside, i.e. spatial transitions from one place to another; (2) front/back, i.e. usages and activities that occur "behind the scenes"; and (3) above/below; i.e. how infrastructural networks and services, which are often invisible "below" a situation, affect activities "above", for example, how a bus stop connects places and people.

Figure 5
Common map of findings from the thematic transect *The good life at the seaside* with catalytic situations (pink), inside/outside (blue), front/back (yellow), above/below (green), visions/project ideas (orange).

Based on the transects, all the groups that had worked with one thematic route, mapped their findings on a common map of their route, identified catalytic situations, and formulated first development visions and project ideas (Figure 5).

Most of the identified catalytic situations corresponded to locations of *Land of Opportunities* projects or related projects or locations with similar challenges or potential, for example, areas that were equally challenged by vacant buildings or located by the seaside. Also, the first project ideas were clearly inspired by the two strategic themes that had emerged from *Land of Opportunities* and more concretely by the local projects, or by follow-up project ideas formulated by the local communities, for example, developing further surf spots or working with the demolition or re-use of vacant buildings and empty lots. However, where the previous projects had focused entirely on village development, the students also looked for development possibilities in the open landscape (det åbne land). On the whole, the thematic transects provided the students with roughly delimited possible project sites and preliminary design hypotheses.

The last two days of fieldwork were spent with focused site evaluation of identified catalytic situations based on the students' first design hypotheses. In addition, the students had the opportunity to conduct prearranged interviews with several local experts on cultural heritage, the development of Thy National Park, and the municipal coordination of bottom-up rural development projects.

3.5 Programming: From inventory to intervention

Back at the drawing boards in Copenhagen, the next task was to translate the fieldwork findings into a more specified design vision, delimit sites for intervention, and define concrete interventions. To support this process, we conducted a two-week programming workshop that alternated between the production of inscription devices (diagrams, models, and text) and reflective conversations in plenum focusing subsequently on the where, what, and how of the students' individual design problem.

For the first conversation, the students had to prepare a conceptual site model and a set of diagrams presented in the form of a PowerPoint presentation. The aim was that the model and diagrams should describe the selected site in terms of its dynamic potential, i.e. what could be achieved at the location in terms of the design intentions and vision for which reasons. Yet, although all groups had previously identified first project ideas, most of the presentations emphasised findings with a descriptive focus on place-based qualities and rather general challenges and potential in the investigated areas. Throughout the conversation, we – teachers and students –discussed the message or story communicated by the presented models and diagrams: What does a certain way

of representing findings tell us about an – as yet unarticulated – design vision? Also, we questioned different representational possibilities and productive communicative gaps between the model and the diagrams: What can be expressed in a model that cannot be expressed in a diagram and vice versa? What different things did you learn by making the diagram and the model (Figures 6 and 7)? Through these questions, we gradually clarified the development potential of the selected sites and shifted the focus towards *what* the students wanted to achieve with the design intervention.

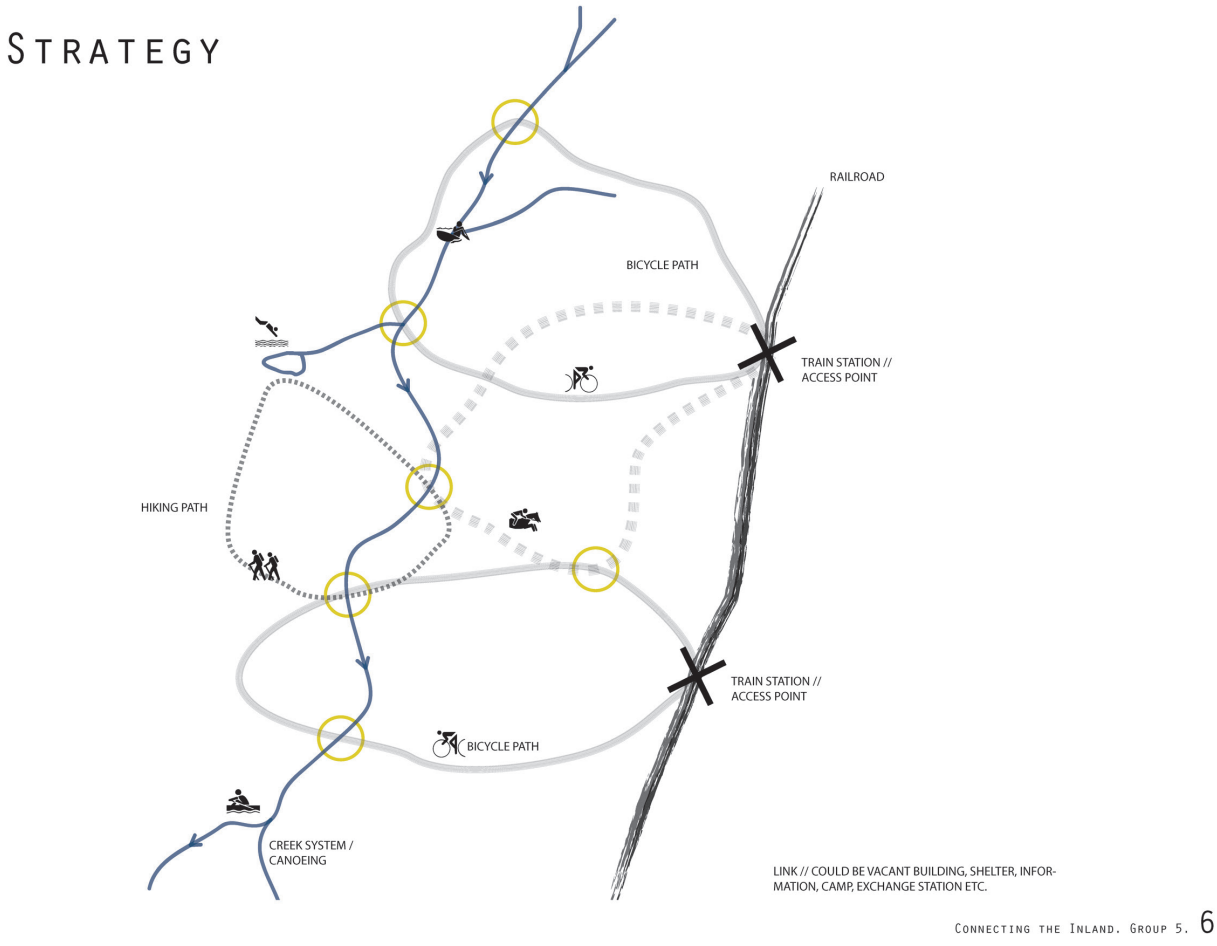

Figure 6
Diagram *Connecting the inland:* The diagram shows a network of recreational routes and highlights the nodes of intersection between different outdoor activities such as canoeing, hiking, cycling, and horse riding (yellow circles). It depicts networks and nodes in an abstract way; thus highlighting the strategic idea of the project.
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Figure 7
Model *Connecting the inland:* The photo shows a conceptual model of the proposed recreational network. In contrast to the abstract diagram, the model highlights the tangible physical elements and in particular the water network that will support a recreational network in this specific location.
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For the second conversation, the students had to prepare a revised model and a set of diagrams presented in a silent PowerPoint presentation of five slides. Each slide had to contain one statement, so that all the slides together told the full story from fieldwork to design vision. In addition, the students had to prepare a revised conceptual model of their site. All presentations showed a site-specific design vision, while most of the revised site models revealed the physical elements with potential for realising this vision more clearly. However, most of the diagrams and models only displayed the identified site actors without showing how they could achieve the formulated design vision. Therefore, the discussion focused on how to relate the gathered actors to each other through design interventions and thus directed the programming process towards the *how*.

For the third conversation, the students had to prepare a revised set of diagrams presented in a PowerPoint presentation with as few slides as possible. The set of diagrams still had to present the full story from site analysis, to design vision, to the proposed design interventions, but with a focus on the latter. This last step to the concrete design intervention was clearly the most difficult step for the students. Only one group managed to present a full story from site analysis to design vision and pro-

pose design interventions. Most of the groups clarified or changed their storyline from analysis to design vision, but remained at the abstract level of design intentions and stuck to the bird's eye view of a large-scale planning strategy, rather than formulating concrete design interventions. At the other end of the spectrum, one group delimited sites for intervention and presented sketches of concrete interventions on these sites without, however, tracing the design decisions back to the underlying vision or to the site analysis. While these were not the intended results, the different ways of failing stimulated a fruitful discussion of the benefits of a clear problem formulation for assessing and further developing design interventions and vice versa.

The students' feedback on the workshop was mostly positive. Although only a few students had managed to achieve a comprehensive design problem formulation, all the students felt that they had benefited from the clear progression of the workshop from site evaluation (where), to design vision (what), and finally design interventions (how). Furthermore, they expressed that the focus on how to represent analytical findings and design ideas had been productive for them. Several students stressed how shifting the media of representation between diagrams, text, and models had helped them in the programming process. The plenum conversations had made them aware of the specific representational potential of each medium for respectively conceptual abstraction, storytelling, and expressing the tangible qualities of the site. Each medium allowed them to articulate a design hypothesis from a slightly different angle and thus helped them to qualify design ideas. Finally, several students said that the focused conversations about selected representations – what they conveyed or failed to convey, and, in particular, what a certain way of representing things can say about as yet unarticulated design ideas – had been very stimulating.

In the last four weeks, the students elaborated a strategic project proposal guided by weekly supervision at the drawing board. Each week concluded with a project pin up with external critics from different professional backgrounds in cultural geography, landscape architecture, or urban planning. The aim of this was to; (1) force the students to communicate their project as a design-based answer to identified local challenges and development potential and; (2) to provide the students with different types of feedback and questions on their projects. For the whole design phase, several student groups stayed in touch with the municipal planners or local enthusiasts they had interviewed in Thisted, while others contacted new local experts or actors. In this way, the students kept introducing new insights to their projects until the final hand-in.

3.6 Project results and feedback from the students

By the end of the course, all student groups had developed a clear problem formulation and design-based answers to the formulated design problem, albeit to varying degrees of complexity and elaboration.

The six strategic projects that resulted from the course present a broad spectrum of design interventions ranging from temporary textile shelters in a new surf spot to large scale landscape design. While the strategic starting point in either the theme *The good life at the seaside* or *Clearing up and new life in vacant buildings* is still recognisable in all projects, several projects expand on and specify their theme considerably. *Living with water*, for example, proposes using the rising sea level for the production of oysters and innovative urban development in a unique water landscape in an around Agger, thus defining new ways for the good life at the seaside (Figure 8). Another project aims to better connect the declining inland to the National Park and the North Sea coast; *Connecting the inland* proposes facilitating and strengthening outdoor recreation along inland creeks and lakes, among other things by building new iconic shelters from material reclaimed from demolished buildings in hands-on construction workshops with design students and local enthusiasts (Figure 9). A third project aims to strengthen *Green living* in relation to energy production and collaborative nature management, among other things by creating a public observation platform for Denmark's largest windmills at the Østerild test centre (Figure 10).

Figure 8
Living with water: oysters' farmers in the harbour of Agger.
© MARIE NAVNTOFT JACOBSEN, MELISSA ELISABETH SVENDSON, SOFIE STILLING, MAXIME CLOAREC

Figure 9
Connecting the inland: a new shelter from material reclaimed from demolished buildings in Morup Mølle.
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Figure 10
Green living: view from the public observation platform for the windmills at the Østerild test centre.
© METTE CAMILLA BRØNDBERG HOLST, SIGNE LILLESKOV NIELSEN, JANNIK NAGLE MIKKELSEN, CINTA GOMEZ MARTINEZ

Overall, the students evaluated the course very positively. Almost all students found that they had achieved the aspired competencies, hereunder formulating a design problem based on site evaluation. Also, they experienced good cohesion among the individual course elements and found the provided teaching material relevant. While most of the students had invested more working hours than scheduled, only few students considered the work load to be much exaggerated. In addition, the students commended some aspects that they particularly appreciated, while they also proposed a few improvements. For the purposes of this paper, it is especially relevant that many students praised the fieldwork, the possibility for independent project development on a large scale, and the programming workshop. Several students highlighted the "freedom to develop adequate representation forms for our project" and working with text and "storytelling" as a design tool. Regarding improvements, the students recommended the inclusion of more "theoretical lectures" and presentations of examples of strategic design by practitioners.

4 Discussion and conclusion

This paper set out to substantiate a teaching approach to creative site analysis with a focus on the essential step from inventory to intervention. What can the findings from our ANT-based teaching experiment contribute to the teaching of creative site analysis and, in particular, how can they help students to formulate a design problem? What worked well, what did not, and what could be further development perspectives?

Based on ANT, we set up a strategic design course as a translation process – starting from the study of spatial controversies and the development of first design hypotheses by fieldwork in a large-scale study area, to the formulation of a design problem for a selected site by mapping and interpreting fieldwork findings, to the design of strategic open space projects as an answer to the formulated design problem.

Overall, ANT provided an operational framework for structuring the course syllabus, formulating learning goals, designing concrete teaching-learning activities, and assessing teaching results. With regard to formulating a design problem, ANT specifically informed the design of the fieldwork and the programming workshop. Therefore, these two course elements will be examined more closely.

4.1 Mapping spatial controversies as a key to creative site analysis

During the course, we used a previous strategic planning initiative as a starting point for fieldwork. The locations of these projects, of similar projects and more generally the two strategic themes that had emerged from the previous initiative provided the students with a roughly defined route for a thematic transect of the study area.

Along this route, the students focused specifically on physical transformations, new activities and uses, conflicts of interest, and new ideas and desires that had emerged from recently implemented local projects. Studying these spatial controversies through on site observations and interviews enabled the students to identify catalytic sites for new open space projects and to formulate first site-specific design hypotheses. In particular, the actor-networks of people that had been engaged in the previous planning process, their local knowledge of resources and potential, and their ideas for future projects provided the students with stepping stones for a more focused site evaluation and a direction for developing new strategic open space projects.

Using spatial controversies that had emerged from a previous planning initiative as a starting point for development in general worked very well with regards to initiating site analysis and design as an integrated, creative process. While the first design hypotheses that were developed during the fieldwork were very close to the project ideas and strategic visions of the studied initiative, the final projects transformed and expanded their initial hypothesis considerably. In conclusion, studying and mapping spatial controversies from recent projects can be a pertinent starting point for formulating new site-specific design problems.

4.2 Focus on programming as a clearly defined course element

The course element dedicated to programming, i.e. to the development of a site-specific design problem, proved to be a success, albeit with some drawbacks.

Guided by ANT, the students used the production of inscription devices to translate findings from the fieldwork into specified design visions, delimit project sites and define design interventions. Using different media including diagrams, conceptual models, and storytelling (text), they had to formulate their individual design problem. The programming phase was divided into three smaller assignments that focused subsequently on the identified development potential of the selected site (where), the design vision (what), and the proposed interventions to achieve the design vision (how). Each assignment concluded with a conversation in plenum. During these conversations, we focused specifically on the capacity of the different media to interpret fieldwork findings and thus link site analysis to project development.

At the end of the programming phase, many students had not achieved a complete problem formulation. Yet, although they did not attain the intended result within the expected time frame, using different types of representations with a successive focus on different aspects of the problem formulation had a good learning effect on the students. The focused conversations about selected representations provided precise feedback and enabled the students to move forward in the translation

process. The students' immediate feedback on the programming workshop showed that they had achieved increased awareness of the different interpretative capacities of different media and how to use them for creative site analysis, while the course evaluation confirmed that the students considered the programming workshop to be a vital course element. Finally, all students achieved a clear problem formulation and design-based answers at the end of the course. Overall, the programming workshop thus did achieve much of the aspired to learning outcomes although it did not achieve the expected product.

The students had particular difficulties with the third assignment: to define design interventions that were clearly linked to a design vision based on identified site-specific challenges and development potential. This meant that articulating what an intervention does to achieve a design vision –and why this is desirable in relation to observed site conditions – required particular teaching and learning attention. One possibility for improving the overall course syllabus, which the students themselves suggested, would therefore be to add more theoretical lectures explaining the conceptual framework of strategic planning and translation as well as presentations of best practice examples from strategic design practice.

4.3 Further development perspectives

In the case of the discussed design studio, the teachers provided the strategic themes, roughly defined the routes for thematic transects, and arranged a number of interviews based on a current research project and in dialogue with municipal planners. For didactic and logistical reasons, this seemed the best way to do it. The didactic idea was to focus on the design process from the fieldwork to the design proposal, and the students had only eight weeks for the entire process. However, with more time, this preparatory work could also be conducted by the students as part of the course. This might also enhance the students' conceptual understanding of a translation approach.

This paper has presented a recently completed planning initiative as the starting point for approaching creative site analysis and developing new projects. However, the resulting student work can also be seen as a strategic evaluation of the earlier planning initiative and will be used as empirical evidence for the research project *Developing place-based potential*. Projects that build on the effects of previous architectural interventions can contribute strategic knowledge to further develop acknowledged visions and development themes. They can also reveal new development opportunities that may modify or create new strategic visions and development themes. The municipal planners in Thisted have, for example, acknowledged the students' ideas for an observation platform at the Østerild windmill test centre as inspiration for a forthcoming architecture competition (Dam, 2014). In a broader perspective,

this type of design studio thus offers possibilities for combining architectural education, research and practice that can contribute to all three fields.

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