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Cortsen, Rikke Platz; Nielsen, Anne Mette W

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RIKKE PLATZ CORTSEN & ANNE METTE W. NIELSEN

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INTRODUCTION

Academic practices have been going through rapid changes in recent years in the way they operate, as well as their role in society (Hayles, 2012). University students are still expected to acquire new knowledge and think critically within their field of studies while facing new modes of thinking and a more unpredictable post-graduation future (Barnett, 2004). In our teaching we have addressed these changes through multiple intersecting pathways. The ambition is to engage the students as independent thinkers and actors in a continuous and creative inquiry process, where they are encouraged to explore productive failing and new multimodal modes of critical thinking. In this chapter we provide examples of how we framed the processes the students went through and analyse the key components that allowed them to access new areas of thought and acquire new (artistic) strategies to work with.

The way research and education relate in academia have gone through rapid changes in recent years, and the way these academic practices relate to society is changing accordingly (Hayles, 2012). Our chapter offers an exploration of new ways of engaging students as independent thinkers and actors through a discussion of the multimodal academic practices employed in a theory course, 'Practice in Theory', which we taught at the Department of Arts and Cultural Studies, University of Copenhagen in 2014. The course had two main objectives: The first objective was to investigate and understand theories of practice, for example philosophical concepts of practice and the role of practice in the construction of different theories and research methods. The second objective was to expand the students' repertoire of inquiry methods and have them employ multimodal methods anchored in explorative and creative 'makings'.

B. Lund, S. Arndt (eds.), The Creative University, 00–00.

The course followed the threefold conceptual definition of 'making' proposed by media theorist and literary scholar Katherine Hayles in her book *How We Think*:

> The idea of practice-based research, long integrated into the sciences, is relatively new to the humanities. The work of making – *producing something that requires long hours, intense thought, and considerable technical skill* – [emphasis ours] has significant implications that go beyond the crafting of words. Involved are embodied interaction with digital technologies, frequent testing of code and other functionalities that results in reworking and correcting, and dynamic, ongoing discussion with collaborators to get it right. (Hayles, 2012, p.19).

In the quote, Hayles underlines how the ways in which we develop knowledge are embodied and interrelated with—and in fact indistinguishable from—the material processes constituting it. To understand academic work as a work of *making* makes visible how new multimodal and collaborative practices impact our work with text: how we read, write, and ultimately reflect upon the subjects at hand. A growing integration of digital technologies in the Humanities and qualitative Social Sciences involves, Hayles argues, collaboration around collecting, storing, and analysing material in relation to extensive databases, integration of conceptual developments with design, navigation, and graphics, and differentiation of front-ends including e-books, blogs, and research-related webpages hosted by individuals, collaborative research-projects, or whole universities. Drawing upon the work of media theorists Marshall McLuhan, Lev Manovich, Mark Hansen, and Jonathan Crary among others, Hayles thus unfolds the idea that 'we think through, with, and alongside media' (Hayles, 2012, p.1) and convincingly demonstrates a shift in humanistic inquiry across the way we conceptualise projects, implement research programs, design curricula and educate students.

Hayles suggests that these new multimodal and collaborative practices not only integrate new formats of scholarly work, they also make the assumptions and organisational patterns of print visible as media-specific practices, thereby opening up the largely invisible presuppositions of the Age of Print accessible for rethinking and

reconceptualisation. This sudden visibility, Hayles argues, integrates an *expanded* concept of text to her argument of how digital media has extensive theoretical, organisational, and pedagogical implications. This expanded understanding of text does not necessarily involve leaving skills, thoughts, and expressions of print-based practices behind, but opens up an understanding of reading processes in research and teaching as multiple and distinct. Hayles names these differing types of reading *close reading*, *hyper reading*, and *machine reading* (Hayles, 2012, p.55-87). Up until now close reading has been at the core of many humanities subjects, but the appearance of digital media has highlighted how scholars and students frequently hyper read (scanning for patterns, skimming a text for keywords and phrases, reading several texts simultaneously by flipping back and forth between them) and are aided in their pursuits by machine reading (archival searches, search engines, and other big data interpretation by digital programs). Hayles underlines that it is not a question of hyper and machine reading replacing close reading as the core practice shaping research and teaching, but rather that we understand how all three modes of reading impact how we work with text, i.e., how we read, how we write, and ultimately, our possibilities for conjuring up new ideas and reflecting upon the subjects at hand. Adding that code, graphics, animation, design, video, and sound are increasingly important guides in how research navigates in meaning shaping processes, Hayles integrates an expanded concept of text to her argument that digital media has extensive theoretical, organisational, and pedagogical implications.

With an emphasis on the importance of Hayles' nuanced view of reading as threefold, as well as the importance of the act of making in the creation of new thoughts and reflection, we decided to make multimodal production processes an integral part of our reflection and teaching. This put *making* at the centre of our theoretical course as yet another way of discussing how embodied interactions with materials are an integrated part of constructing and understanding theory.

MAKINGS AS WAYS OF 'KNOWING-IN-AND-WITH-UNCERTAINTY'

The employment of multimodal methods anchored in explorative and creative 'makings' meant that the students—apart from multiple ways

of reading—used different artistic strategies to produce reflection *into* the artworks and theoretical texts discussed during the course. This work of 'making' involved a process of decoding and recoding where the students used writing, cooking, drawing, movie making, baking, sculpting, collaging, etc. as processes to pick apart the artworks and theoretical texts and rework them in a way that exposes the put-together-ness of this material.

We suggest that these kinds of 'makings', in close tandem with reflective inquiry, are essential for students to develop the means to think about and act upon the complex world they are part of (e.g., Barnett, 2004). Rather than focusing on specific knowledge and skills, this approach helps students develop sophisticated strategies to examine, take apart, and reconfigure theories, materials, and contexts. Educational thinker Ronald Barnett proposes this direct involvement of students in the academic production of knowledge itself as the main path of future learning (Barnett, 2004). By avoiding the academic 'cul-de-sac' of generic knowledge on the one hand and the purely problem-solving limitations of the so-called 'mode 2 knowledge' (Gibbons et al, 1994) on the other hand, Barnett (2004) turns the educational task towards what he calls a knowing-in-and-with-uncertainty:

> Under such conditions [learning for an unknown future], a double educational task arises: First, bringing students to a sense that all descriptions of the world are contestable and, then, second, to a position of being able to prosper in such a world in which our categories even for understanding the situations in which we are placed, including understanding ourselves, are themselves contested. (p.252-253)

In the quote Barnett argues that 'uncertainty' is no longer something to be done away with, nor a ground conquered through the educational process, but a *groundwork* to interact with in order to meet a future that is unknown. When everything is unclear, the very act of wondering—to step back, to look closer, and to express: *I really don't understand*—becomes desirable.

The way we chose to examine the double educational tasks of bringing students to contest concepts and theories, and at the same time be at ease when embedded in this on-going inquiry process,

included an emphasis on the composite and complex nature of problems and, hence, the need to keep the process of inquiry open. In the course 'Practice in Theory' it meant a continuous rework of the conclusions and preconceived notions through creative explorations. In doing so, we not only want to underline the changing relation of academic practices to society, but also to address the challenges many universities face today in an exceedingly competitive and competency focused university environment. For us, the course offered an opportunity to counteract the push to streamline academic teaching through standardisation, budget cuts, and accountability (e.g. Tuchman, 2009). The students' open-ended makings positioned as an integrated part of their reflective inquiry (emphasising collaboration and differentiation) put forward alternative strategies to teaching for the test. Being comfortable with working in uncertainty and accepting that these creative makings could end up complicating their subject or falling apart made the students accept 'wrong' outcomes as productive rather than as failure. Furthermore, when working with makings, time can expand excessively—through hours and hours of rework and reconnection—but also condense it. This includes how long it takes to access the makings for an external viewer. The massive contrast of the morphable timescapes characterising these processes breaks down the way the ECTS-system divides studies and study-time into hourly-defined components and challenges the idea that a certain amount of learning can be done in a certain amount of time.

PRESENTATION OF THE COURSE

We begin the presentation of the course by introducing one of the main inspirations for the strategies employed in the course—anthropologist and philosopher Bruno Latour. First, we will specify our use of his concept of 'compositionism', and then present his use of artistic strategies. The chapter presents the elements of the course and examples of student 'makings' as well as an analysis of what can be said to characterise student-driven inquiries that use artistic strategies. We conclude in a discussion of the potentials of employing artistic strategies as a way of empowering students to engage with and face uncertainties.

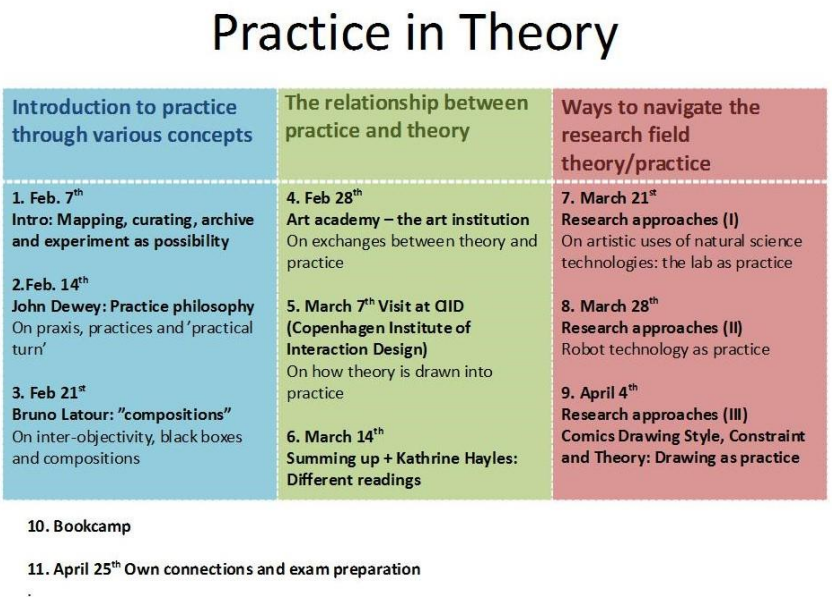
We co-taught the MA course ‘Practice in Theory’ in the spring of 2014 at the Department of Arts and Cultural Studies, University of Copenhagen, Denmark. The MA students at Modern Culture courses hold BAs in a wide variety of subjects in the humanities, primarily from the aesthetic disciplines: literature, art history, music, dance, performance, and theatre. Hence, the student population is a cross-disciplinary group; the department’s focus on the multiplicity of artistic forms allowed us to draw on works, artists, and research from a very diverse area of the cultural sphere, where each student had additional knowledge and input to contribute from their main field.

The ambiguity of the course title ‘Practice in Theory’ was intended, and it emphasised how the two concepts are interrelated and how they informed each other as the teaching progressed. It meant that we discussed practice as a philosophical concept, practice-led research, practice-based research, as well as different forms of artistic research and the difficulties involved in qualifying and evaluating the approaches within the organisational context of museums, universities, and other research and teaching institutions. Simultaneously, we used multimodal artistic strategies to explore, identify, and comprehend complex concepts and relations within the theories we studied, in order to advance the students’ understanding of intricate problems. Through the shaping of materials, visualisations, and the construction of three-dimensional objects, the ‘makings’ permitted the students to spend considerable time analysing patterns and rethinking the mediations. The creative makings allowed the students to try to refine technical skills during the course, as well as when they made an e-book as a final product of the class. The latter provided the students with editorial skills, an understanding of working with images in digital formats, as well as structuring content and preparing it for publication.

We met with the students once a week for three hours over a period of 14 weeks. The classes alternated between lectures, guest lectures, sharing of creative makings, dialogues, field trips, and, finally, a whole day where we, together with the students, produced an e-book with insights and makings from the course. In preparation for each class, the students read theoretical texts, engaged with various artworks, and produced multimodal, inquiry-driven makings into the assigned

theories, concepts, and/or artworks. During class, we held lectures or had guest lecturers present their research, works, and theories to us. By the end of each class, we, along with the students, presented our makings in an 'exhibition', allowing in-depth discussions on the makings, and on the artworks and theories we had explored, often with questions and reflexions involving the guest lecturers present and drawing on their feedback.

Fig 1. Overview of the course 'Practice in Theory'.



INSPIRATION: BRUNO LATOUR AS A *COMPOSITIONIST* PRACTITIONER

A core element in the course was our use of artistic strategies to identify and comprehend complex concepts and relations. This approach was inspired by the work of Bruno Latour. Known primarily for his contributions to the early development of Actor Network Theory (Latour & Callon, 1981); his manifold, artistically inspired inquiries into the organisation of the social are often overlooked. This is regrettable since these multimodal explorations form the stepping stones for many of his major written works.[1]

Latour's use of artistic strategies includes mappings, re-enactments, and curatorial practices, all of which emphasise how he understands new theories and concepts as experimental ways of *presenting* or studying the world rather than revealing it. Hence, one of Latour's main points in *The Pasteurization of France* (1988) is that 'to discover is not to lift the veil. It is to construct, to relate, and then to "place under"' (Latour, 1988, p.81). This radical understanding of academic scholarship as embedded in the construction of the social is later developed by Latour in the essay *An Attempt at a 'Compositionist Manifesto'* (2010). Here Latour suggests that critique as a privileged access to the world of reality has been a utopian construction relying 'on the certainty of the world *beyond* this world. By contrast, for compositionism, there is no world of beyond. It is all about *immanence*' (Latour, 2010, p.474-475). This replacement of critique with compositionism has three important implications for this chapter.

The first aspect is the impossibility of 'the discovery of a true world of realities lying behind a veil of appearances' and, instead, the necessity to assemble the world and compose it (Latour, 2010, p.474). Latour here defines social order not as an already existing and certain given, but as a process that requires constant reworking or 'translation', involving the interaction of multiple actors. Researching these interactions emphasises how the social organises, produces, stabilises and globalises practices. The second aspect is how composition (from the Latin *componere*) 'underlines that things have to be put together' thereby underlining both heterogeneity (the diversity of composite materials) and elusiveness (compositions are fragile, revisable) (Latour, 2010, p.473). Part of this second aspect is that compositions can always be decomposed, taken apart, and put together again (involving repair, care-taking, reassembling, and stitching together) in a new configuration or constellation. The third aspect refers to the artistic and musical dimensions of the concept introducing a focus on 'the crucial difference between what is *well* or *badly* constructed, *well* or *badly* composed', thus underlining aesthetic processes as reliant upon the possibility of redoing failed compositions: 'a composition can *fail*' (Latour, 2010, p.474).

THREE EXAMPLES OF LATOUR'S USE OF ARTISTIC STRATEGIES AS *COMPOSITIONISM*

In our course we introduced compositionism as a way to give form and compose, but also as a way to deduce or underline relations or associations proposed in theories and concepts, hence perceiving them as scholarly 'makings', which is to say, something that also has been given shape or has been composed (Hayles, 2012). We presented the three artistic strategies inspired by examples from Latour's work: mapping, re-enactment, and curating. The three examples share certain qualities in that they all explicitly *compose* the object of study: they take apart, reconnect, and reconsider the compositions. As Latour notes, artists are always concerned with *how* to represent and *through which medium* to represent the powers that be and the connections between things, people and situations (Latour, 2005, p.16). As such, the redoing of the work at hand is at the centre of all three strategies, but each of them employs a different approach to putting things together.

Mappings: Paris: Invisible City (2006, first published in French in 1998)

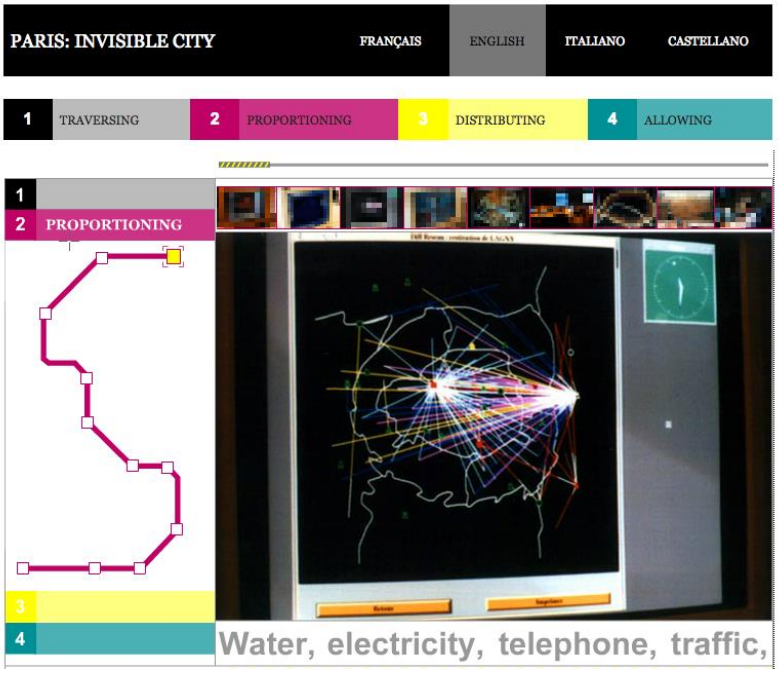
The first example by Latour is his *Paris: Invisible City* (2006), a web-collaboration with the photographer Emilie Hermant. Through an interactive mixed media inquiry into the city of Paris, they create a layered portrait of the invisible networks that make Paris liveable: 'Our photographic exploration takes us first to places usually hidden from passers-by, in which the countless techniques making Parisians' lives possible are elaborated (water services, police force, ring road: various "oligopticons" from which the city is seen in its entirety)' (Latour, 2006, p.1). The aim of the work is to enable the reader or viewer to take a new look at the city at the same time acknowledging that it is not possible at a single glance. In the quote above Latour introduces the concept of *oligopticon* (from the Greek *oligo* meaning 'little'); hereby underlining that any effective overview is defined *not* by seeing the whole (as in Bentham's idea of the 'panopticon') but instead by seeing *little* (and seeing it *well*).

This seeing *little and well* involves spatio-temporal orderings that extract, leave out, and establish boundaries. The spatio-temporal

orderings are constituted, formed, or *composed* through a multiplicity of materials, relations, and scales we called *mappings*. Not a mapping which plots places within the usual cartographic co-ordinates of latitudes and longitudes, but the kind of mappings which make different types of connections (powers) visible. In the introduction of mapping provided to the students we focused on the parts, the linkings, and the visibilities that the oligopticon's 'seeing little, but seeing it well' allows. We introduced the approach of artist and cartographer Dennis Wood, as developed in his book *Everything Sings* (2010), where he focuses on how mapmaking changes what can be seen and what cannot be seen. Mapping helps build the world by showing certain connections, putting elements together in particular constellations. Maps can make things and connections visible or disappear. When Denis Wood maps the jack-o'-lanterns in his neighbourhood he is not just showing representations of pumpkins but highlighting socioeconomic differences and patterns that point to the way the community is put together, and in turn, what might take it apart.

Working with *Paris Invisible* and *Everything Sings* together, we introduced our students to creative mappings as a way to get to know, make visible, and produce the places, theories, artwork, and things we encountered in class: that is, how to see little, but see it well.

Fig. 2. Latour 2006, Plan 20.



Re-enactments: The Tarde Durkheim Debate (2007)

The second example by Latour is his *The Tarde Durkheim Debate*—a performance concerning the nature of sociology and its relation to other sciences. It staged a debate between the two sociologists Gabriel Tarde and Emile Durkheim at the Ecole des Hautes Etudes Sociales in 1903. The performance is composed as a montage of quotes from the written works by Gabriel Tarde and Emile Durkheim, since nothing had been preserved from the original debate except for a brief summary. Even if Latour did in one sense completely reinvent this particular debate, he did, in another sense, just assemble paragraphs Tarde and Durkheim *had* in fact written, but put forward in a way that suggests Tarde as the 'winner' of the debate (thus replacing Durkheim as the father of sociology).

This way of retracing events, situations, theories, artworks, or other assemblages that allows the elements to be composed differently with different results we called *re-enactments*. In re-enacting the Tarde

Durkheim debate, Latour alters the order of events in the history of science (in the case of sociology) while at the same time showing the reversibility of it. Hence, re-enactments help answer questions of how assemblages are put together, what the connections (powers) that hold them together are, and how they might look different—not at random, but as consequences of a recomposition of particular elements. As with the first strategy, re-enactments focus on the remaking, the representing of processes where the thinker (Latour), the artist, or—in our case—the students go back over material that is then reconfigured. The point of the re-enactment is *not* to redo a thing, a situation, or a line of events precisely, but to allow for another understanding of the studied object through the recomposition of its parts. In class we presented this approach through artist Pia Arke's ethno-aesthetic explorations of the individuals appearing on old photographs from Greenlandian village Scoresbysund, her family's home-village (Arke, 2010). Arke had stumbled upon the photos in archives in Washington D.C. and brought copies back to Scoresbysund to identify (and name) the then anonymous 'village-members' and reprint them as part of her oeuvre. This re-enactment of the photos by explorers and employers of the colonial era were put into writings by the students during the first class as an act of translation. This provided them both with a sensibility towards media-specificities and let them explore re-enactments as a recomposition of material. The writings also allowed the students to experiment with ways of sharing their explorations and reflections with the rest of the class.

Curatings: Making Things Public (2005)

The third example by Latour is *Making Things Public*, an exhibition by Latour and artist, art theorist, and director of Zentrum für Kunst und Medientechnologie (ZKM) in Karlsruhe, Peter Weibel. Just like *Paris: Invisible City*, the exhibition at ZKM aimed to explore a hidden geography; but while the *mapping* of the multimedia project involves orderings that extract, leave out, and establish boundaries, Latour states that in the exhibition they 'simply want to pack loads of stuff into the empty arenas' (Latour, 2005, p.17). In this creation of a public space 'thick with things, crowded with objects' Latour draws on philosopher John Dewey's concept of the public as a non-institutional,

not pre-existing space where agents (humans as well as non-humans) get together to solve those matters of concerns that institutions and organisations are not able to solve (Dewey, 1927). By bringing matters of concern together in the same space, the public can listen to other voices, share knowledge and—maybe—come to an agreement.

This way of gathering differing assemblages we called *curatings*. It is characterised by confronting the challenge of renewing politics not through solving or explaining problems, but through allowing disagreements and agreements as coexisting in an ongoing, multi-voiced recomposition of the matters of concern. To speak politically in Latour's sense thus describes 'a risky and tentative set of experiments in probing' (Latour, 2005, p.14). Just like politics revolve around problems that people are implicated in, the exhibition involves the spectator in various and not always directly traceable ways.

> At times the relation will be traceable in a sort of one-to-one connection ('I did this, and here is what happened'), but at other instances the whole effect will be entirely lost ('I did nothing, and here is what happened'), while at some other times the effect will be direct but on some other visitors. (Latour, 2005, p.38-39)

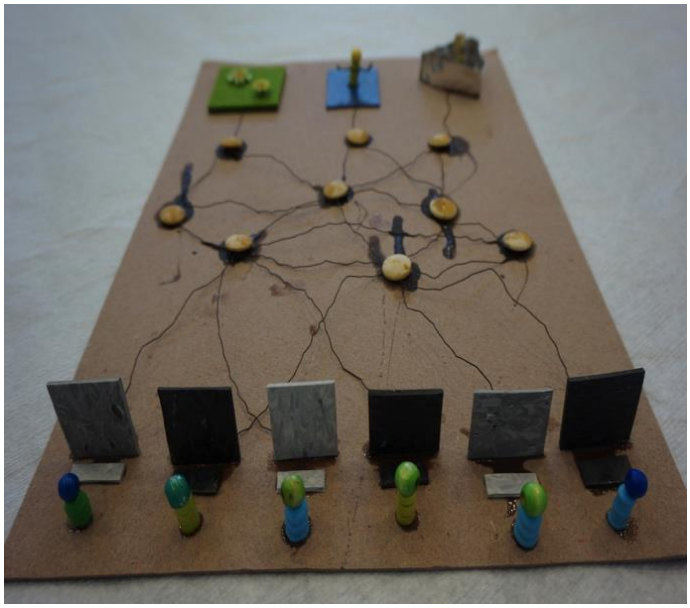
Performing politics as relational and sometimes phantom-like emphasises curatings as a composition strategy focusing on the multiple ways objects (both things and people) can come together in agreement and disagreement to examine the matters of concern. We put forward this approach through what we called a 'curated assembly' with inspiration from author and museum director Peter Seeberg and his curatorial practices at the small regional museum of Viborg (Seeberg, 1975). In his juxtapositions of everyday objects, Seeberg unfolded complex stories of life accompanied by a text—often in the shape of dry registrations or (seemingly, but not quite) ready-mades (e.g. his overviews of genealogies). By letting the students experiment with curatings as ways to have objects and voices come together they explored makings, not as defined and already settled assemblages, but as probings into how matters of concern can be examined.

In class we introduced these three artistic strategies, mappings, re-enactments, and curatings, as multimodal inquiry strategies to identify and comprehend complex concepts and relations within theory and artworks. In the introduction we used both the above-mentioned works of Bruno Latour, and the works of a variety of artist-theorists, between them Wood, Arke, and Seeberg, to broaden the perception of the students.

At a first glance, it might not be immediately clear how the makings that were made by the students in class (e.g. crochet pieces, baking, building a sculpture, drawing, or making a flavoured jelly block) can further their independent thinking, support critical reflection, and enhance their ability to engage in complicated inquiries. However, this variety of creative methods and explorations are characterised by sharing the approach of compositionism: analysing works and advancing the understanding of intricate problems by putting together and taking apart materials and allowing the possibility of failed assemblages (which is such a crucial aspect of compositionism) in order to understand a given problem, artwork, situation, or theory. For a more in-depth description and discussion of what characterises the way we employed mappings, re-enactments, and curatings as multimodal methods in class, we offer two concrete examples presented by the students as responses to assignments in class.

The Cardboard Project

Fig. 3. Photo of cardboard project made by student as part of class exercise.



> A piece of cardboard lies on the floor, a strong smell of glue surrounds it. I sit next to it and try to keep three beads together while the glue between them dries. The drying provides me with a break to think, which I hadn't planned on. But it allows me enough time to restructure the plan for the cardboard project. (*Quote from the e-book produced at the end of the course, see Fig 1)*

The first example of a student 'making', the cardboard project is a study of three robotic artworks: Ken Goldberg's *The Telegarden* (1995-2006), Ken Feingold's *Where I can see my house from here so we are* (1993-1995), and Stelarc's *Fractal Flesh* (1995-). In addition to reading a number of academic articles about the works, this student created the cardboard project to explore how these artworks stage net-based interactivity. It was made for a session where the robot art researchers Gunhild Borggreen and Elisabeth Jochum visited our class to present and discuss their research into robotics, performance, and art.

In the above description of putting beads, cardboard, glue, and a number of other components together, the student underlines her

inquiry as a practice where different elements are connected. By making a composite sculpture, she is able to take the different artworks apart, make selected components visible across the three works, and thereby understand their mechanisms and relations. It is a process that decodes and recodes the object. Crucial in the quote is how the very act of making provides her with both time, material and technical skills to step back, go through her analysis again and realise that the components had to be connected differently. The elements had to be recomposed.

What the student introduces here is an understanding of *mapping* as an active and changing coproducer of the world (Kitchin, Perkins & Dodge, 2009, p.21). The student is not trying to represent the artworks or reveal a certain truth behind them but rather to examine how they are put together by paying attention to the elements and connections that comprise them.

This kind of *productive* mapping highlights, as Latour puts it, how 'all these unusual visits' make it possible 'to take a new look at a more theoretical question' (e.g. Latour & Hermant, 2006: Level 4). In line with the strategies employed in *Paris: Invisible City* this mapping aims to represent the theories and artworks as assemblages, i.e. a multitude of spatial-temporal orderings, and explore, not what they mean, but rather what elements in these assemblages have not had sufficient attention paid to them, and what becomes visible when we emphasise *this* aspect? By highlighting certain elements, connections, and aspects through the cardboard project ('seeing little, but seeing it well') the student discovers that the act of composing is a continued process of reworking (regrouping, revisiting, failing and recomposing) that makes the interactions of a constellation visible and, thus, accessible to other map-readers (e.g. the class).

Knitting the Concept

Fig. 4. Photos of crochet pieces done by student as part of class exercise.

Another student used crochet to retrace how theory and practice were interrelated in a theory of practice-based research, by participatory arts professor Brad Haseman (2006). The student used coloured yarn to present the various elements of the theory and their interconnections. She used the visual materialisation to decode and represent how various strands of theory and practice might interweave, take detours, and make unexpected turns. The example is particularly interesting because it involves two makings, since the student realised—during the process of crocheting—how the theories would appear differently if some of the elements had been connected differently, thus having to recrochet the conceptual combinations in a new composition. This making was produced for a class with comics artist/researcher Simon Grennan. He discussed the importance of sketches and controls in the work, with comics drawing as artistic research, much like the crochet project has both a sketch (or knitting recipe) as well as a theory behind it that was redistributed and recomposed through the process of crocheting, and recrocheting.

In her examination of a theory, this student went through a sophisticated series of events closely re-enacting Haseman's description of the relation between theory and practice. She used this crocheting re-enactment to realise and share the elusiveness of how an assemblage was put together. She went through another re-enactment,

which recomposed the elements in a way that made the important parts of this particular theory visible—hence allowing for another understanding (appearance) of the theory.

'THICK WITH THINGS, CROWDED WITH OBJECTS'

While the cardboard project and the crochet pieces are examples of individual student makings, we also made sure that the students shared and discussed their explorative works and findings throughout the course. These instances of collaborative thinking we defined as *curatings*; in which the students could present their makings, i.e. which matters of concerns they had examined, the challenges and obstacles they had stumbled upon, the way they had made certain elements visible, and what their compositions had made them wonder about. The first type of curated 'assembly' was held by the end of each class, where we (students as well as teachers) presented our makings. We laid out the work on the tables or hung them on the walls in the classroom. If external lecturers were visiting, they would attend and we would use this exhibition-like area for discussing interpretations and doubts, as well as questions prompted by other students' work, perspectives from the lecture, or links to previous classes and makings. From the beginning the multimodal approach of the makings allowed students from very different backgrounds to engage in whatever performative, narrative, visual modes they preferred. It meant that the students were able to introduce and share the specific knowledge they had acquired during their various BAs or elsewhere. This kind of heterogenous public made room for agreements and disagreements of readings and interpretations that became very valuable for the way the students saw themselves as co-creators of the course and the knowledge produced in it. The second type of curated 'assembly' was part of the mid-term evaluation (*Summing up* Fig. 1), where we, together with the students, created a blackboard overview of the first five classes. Each class was summarised on sticky notes by a group of students using their notes from class, the readings and artworks involved, and their own makings as references. During the presentation of each class, the other students and ourselves, as teachers, brought in new perspectives or drew linkages to other classes. The summing up paved the way for a presentation of the rest

of the course, allowing us to introduce connections between the first part of the course, and the major theories involved, to the latter part's concrete examples of practice-based research (Fig. 1). The third type of curated 'assembly' was the collaboration on an e-book at the end of the course. The students chose one of their makings from throughout the course, and the day started with an exhibition where the students introduced the work they had chosen to students from another class. This creation of a broader 'assembly' meant that our students had to make the linkages (the agreements and disagreements) between their explorative inquiries accessible to students who had not been part of the course. The next step was to create a small text to accompany each work, decide upon the order of works, peer review and edit each other's contributions, choose or make illustrations (scans or photographs) of their makings, and write an overall introductory text to the e-book. Apart from sharing their work and reflections among themselves and with a wider public, the e-book served as a point of reference for the individual oral exam they had to take in order to pass the course.

WHAT CHARACTERISES STUDENT-DRIVEN INQUIRIES USING ARTISTIC STRATEGIES?

The examples discussed above show a number of key components characterising the teaching modes we have been engaged in. During the course we noticed how artistic strategies further four specific key components through which the students were able to push themselves both further in their own thinking and in critically challenging established theories and concepts.

The first key component we noticed we call *material reflection*. The concrete engagement with the materiality of making cardboard projects, crochet pieces, videos, or drawings allowed the students to reflect on what they were doing and how they were composing their inquiry into the theory, problem, or artwork. The act of shaping the material forced the students to spend time with the material and go back over it, reread the theoretical text, or take a closer look at the artwork, repeat their process, and step back to see if the composition was 'well or badly composed'. When the student with the cardboard project waited for the glue to dry she had time to reflect upon what she

was doing and use her own composition to make certain aspects of the works she was analysing more visible (and hence more accessible) to herself and, later on, to the rest of the class. Being involved with the material nature of wooden pearls, cardboard, and glue made her able to do a retake of what she was doing and reconsider, revise, and recompose her initial mapping. Sometimes, the materials resisted and 'talked back', forcing the student to pause and reconsider, unravel and recode the yarn as in the case of the crochet piece.

Students often struggle to spend time enough with assignments,—they do not always archive the desired process of stepping back, looking closer and wonder. The process of composing the makings and the way the materials resisted garnered insights and knowledge of how to explore complex matters of concern.

Furthermore, the experiments and productions allowed for the students to share misreadings or failures and discuss 'the crucial difference between what is *well* or *badly* constructed' in class, while introducing their work to the rest. The curatings also allowed the students' reflections to be shared in a much more convenient and accessible way than if we had exchanged written essays. This way of presenting invited us all into a situation where the works could be discussed and even redefined in a shared space. The concrete interaction with physical materials highlighted two aspects of the theoretical discussions: the importance of material reflection in the process, as well as in the sharing of knowledge.

The second key component we call *extended and different modes of attention*. Following Katherine Hayles, we worked with ideas about different modes of attention involved in research and learning (Hayles, 2012). As unfolded in the introduction, Hayles points to how technology has afforded modes of attention that differ from the classical print-based virtue of close and deep reading, where attention is paid to detail. By shaping their multimodal makings, the students experienced several types of attention where they had to close read texts, closely study artworks, and closely observe others' works but also where they took in the whole, skimmed the artworks, and got a sense of overall patterns in large and complex works. Working with the artistic strategies allowed them to scale a problem and discuss it with different approaches. The multiple ways of composing the works

that happened both individually and collectively (during the curatings and the work with the e-book) all contributed to new ways of decoding and recoding, which promoted different modes of attention. Shaping materials and sharing this process in plenum helped expand the students' abilities to think thoroughly about very complicated challenges concerning mediations. This furthermore challenged the students' previous experience with the humanities as an unquestioned bastion of print-based knowledge.

One of those aspects had to do with sight as the dominant aesthetic way of structuring along the way print tends to organise arguments in certain ways. The concept of compositionism makes visible the plurality of aesthetic codifiers involved in scholarly inquiries and emphasises how the engagement with and exploration of indeterminate situations can integrate different aesthetic approaches as a core aspect of both research and teaching.

The third key component is *productive failing* as a major force in *knowing-with-and-in-uncertainty*. As we have already made clear, the materiality of the makings often emphasised a temporality that supported reflection. A big part of this was the room it afforded for failure. Productive failing has been increasingly erased from university teaching and the students are encouraged to get it right the first time (Biggs 2003). Nevertheless, there are very important aspects of failing that make the student better versed in the material at hand because they have taken apart and put together the elements several times. This, in itself, makes the students more skilled and helps them build repetition as a way of bettering their work. The technical skills involved in the makings are refined through reworking and strengthens the students understanding of how materiality influences our way of thinking, while at the same time adding to their individual skillset. When things go 'wrong', it is possible to spot the potential for other connections and ways of reworking the material. The surprising twists and turns prompted by a material making process can make new avenues of inquiry visible or make preconceived notions more tangible.

We find that not knowing, not understanding, and, most significantly, *being comfortable in and with uncertainty* to be incredibly important abilities when engaging with complex problems

and unstable challenges. Thus, the confidence that comes with being able to navigate uncertainty is one of the most notable qualities we found as a result of the course. Through failing productively on their own and sharing it collectively in class, the students experienced, in an embodied way, how their inquiries could be of interest and lead to further discoveries, even if they at first sight looked wrong or misguided. Rather than stating: 'that is wrong', we try to say: 'That did not show what we wanted, why is that?' Drawing a concept in a wrong way makes us realise what the concept is comprised of and allows us to re-evaluate our understanding of it. Makings make our own mistakes visible and therefore much easier to correct, rearrange, and understand.

The fourth and final key component we identified is *collaborative thinking*. Most of the makings done by the students were individual, but, as mentioned earlier, the sculptures, drawings, short writings, and collages allowed for easy access to discussions of the works. The regular exhibitions at the end of each class created little publics and, hence, supported the experience of inquiry as an overall collaborative and heterogenous effort of agreements and disagreements. Thus, the course was inspired by Latour's translation of Dewey's concept of little publics as spaces and arenas that enable us to get involved in complex matters of concern. A number of the concerns we engage in with students at MA level are issues that cannot be solved or agreed upon from the blackboard but require an emphasis on wondering and not knowing. We could also call it *not-grasping-alone*, emphasising agency as relational and hereby teaching students to take the problems and matters of concern into the common. In that sense, this kind of teaching, artistic strategies, and composition also become crucial conditions for education as the democratic experience so thoroughly discussed by Dewey (1934).

CONCLUSION

We suggest that mappings, re-enactments, curatings, and other artistic strategies can be productively introduced in a variety of courses as ways of enhancing students' engagement in material reflection, extended modes of attention, productive failure, and collaborative thinking. These aspects can be understood through Dewey's main

argument in *Knowing and the Known* (1960) where he underlines the importance of furthering a kind of inquiry-driven teaching that states the exploration of a problem also involves the very composition of it. Interacting with written text and artworks, as well as reflecting upon them through multimodal formats, are valuable paths for rethinking future scholarly teaching. However, the approach requires consistent use of different strategies and should not be treated as just another 'fun gimmick' or 'engaging take' on teaching. First, the introduction of this approach in traditional academic institutions might cause resistance from students or be quite challenging for them, since it breaks with a number of the roles and rules of teaching within traditional humanities and social sciences. Second, qualifying the individual inquiries requires discussion and clarification (what is 'well or badly composed') in different group sessions (here defined as curatings). This poses an immediate problem in today's higher education environment; the time-consuming nature and lack of clear measurement or 'correct' path.

However, this does not prevent artistic strategies from being taken from studies of aesthetics and modern culture and into other disciplines. Here they can provide a critical reflection model not oriented towards judging or revealing a truth, but towards what art theorist Irit Rogoff defines as 'a cultural inhabitation that performatively acknowledges what it is risking without yet fully being able to articulate it' (Rogoff, 2003). We found that artistic strategies enable us to work with student imagination and creativity, supporting two interconnected shifts in higher education's critical thinking and pedagogies: Both examples of student makings call attention to the experience of being able to keep the process of inquiry open and take a step back, reflecting upon and readjusting their initial analysis—a moment so critical to scholarly inquiries and so hard to reach during class. The examples also emphasise learning as a way of interacting with the world, here formulated by Biggs: 'As we learn, our conceptions of phenomena change, and we see the world differently' (Biggs, 2003, p.13).

Compositionism as involving creative makings and artistic strategies then becomes one of the possible answers of how to make

students familiar with navigating unpredictable post-graduation future(s) and uncertain world(s).

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NOTES

[1] E.g. the multimedia online project *Paris: Invisible City* (1998/2006) laying the ground for the later work *Reassembling the Social* (2005), where Latour unfolds his theory of assemblage.

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AFFILIATION

Rikke Platz Cortsen, PhD
Lecturer in Danish
University of Texas, Austin

Anne Mette W. Nielsen, PhD
Assistant Professor
Centre of Youth Research
Aalborg University, Campus Copenhagen