# ARRANGED ABSTRACTION

DEFINITION BY EXAMPLE IN ART RESEARCH

CLEMENS THORNQUIST

ILLUSTRATIONS BY ERIKA BLOMGREN

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# ARRANGED ABSTRACTION DEFINITION BY EXAMPLE IN ART RESEARCH

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INTRODUCTION

One has come to think in terms of science and art. That is to say, our thinking has come to establish a division between theory and practice. Such separatist thought, whether from the sciences or from the arts, may be useful in everyday life and may even be necessary in primary school. Yet, it should be put to question if the establishment of two epistemological systems will ever be constructive for the development of knowledge at large. Nevertheless, there seems to be reasons not only for maintaining, but also for emphasising the division between the knowledge of science and the knowledge of art. Some reasons seem political and economic. because of capital and status, while others seem ideological or opportunist, because of ignorance and assumption.

Regardless of the motives behind the formation of the distinction between science and art, one of the more significant events that has concretised this division was the breakup of craft schools into technical institutions and faculties of art. Whereas this split of the craft schools still has a lasting effect on the way universities are organised today, a more recent movement, one that seeks to conserve the distinction between science and art, dominates the discourse in the present formation of arts research and research schools in the arts. One such discourse argues that the knowledge constructed by art is supposed to be unfinished and not formal, as opposed to the formal knowledge of science.

Although these events mark two central events in the separation of science and art, the development toward this speculative conclusion about formal and informal knowledge traces its roots as early as the decision to translate *epistêmê* and *technê* into knowledge and art/craft, respectively (cf. Parry, 2007). These translations hold assumptions about the discrete relationship between theory (science) and practice (craft/art). Translated like this, art is reduced to a tool or a method for science, not science or knowledge in and for itself, which, ironically, also seems to be the main idea in a dominant discourse of "artistic research". The point of artistic research, to quote Borgdorff (2010:44), is "thinking in, through and with art".

What Borgdorff describes is a development in art schools over the past decades, where theorists from humanistic faculties - i.e. art historians. philosophers, and other literary critics that do not deal with the concrete construction of physical acts and artefacts that engage with the material world, or that even reject that concrete material reality (cf. Paraskos et al., 2008; Harman, 2002) - have been invited in order to legitimate art as "academic" and "objective" knowledge. Due to this influence, art research has come to mean different versions of new-mediasocial-science-works (cf. Leavy, 2009; Barone, 2011), where the particular art form is utilized as an alternative media to "point out" and "shed light" on different humanistic concepts and conditions.

Thus, instead of dealing with the fundamental development of the field itself, i.e. the ontology and logic of formal and material functions and expressions in e.g. painting, filming, music, sculpting, performance, etc., these acts or artefacts are rather anxiously used as accessories to the familiar textual analysis. Here the particular art form serves rather to illustrate than to construct and develop various humanistic concepts and conditions in different forms of (e.g. Bugg, 2006; Lima, 2009; Bärtås, 2010).

Such a perspective is based on a rather historical and interpretive perspective of theory in art (cf. Dewey, 1934; Gombrich, 1977) that favours the contextualisation and textualisation of certain experiential issues, rather than the construction of propositional knowledge. One obvious risk with this research strategy in art, are research results that simply echo existing theories from different fields instead of advancing the particular field of art in question. Secondly, this or these movements in artistic research appears to have overlooked millennia of scientific methods, experimental facts in mathematics, theoretical propositions, in physics, clinical developments in medicine etc.: much of which have been explored, discovered, demonstrated and validated in e.g. sculpture, illustration, photography etc. (cf. Kelley, 1955; Armstrong, 2004; Tufte; 2006).

Another problem for the theoretical development of different art form is when the 'artistic process' is made into empirical subject for the artist's own anthropological tendencies or the legitimating of the artistic practice as a scientific method. Instead of focusing on or acknowledging the clinical development of the field itself, this approach often favours lengthy method journals per se, where every effort is spent writing X thousand words in the form of exaggerated process documents, narrating process philosophies without concrete proposal or result. Again, the discourse seems to janore the diverse history of science. overlooking basic experimentation as an common methodology for exploring and constructing generic knowledge, and instead formed its research work in a manner of social science envy.

From a clinical point of view, one may wonder if this way of conducting art research may be nothing else than a vaccine for anxious art schools against the possible critique by art historians and literary critics who are there to legitimate art as a science? Is it not similar to the anxious language teacher who is happy to lend her language to the telling of different stories, but who refuses to accept the making of new words, the invention of new grammar, or the crafting of new poetical figures as not only the fundamental foundation for the development of her field, but necessarily for its survival. Nevertheless, this is not to say that applied work, such as e.g. to communicate a certain issue in an alternative art form, may not result in principle development of the field, the art itself; applications may of course also drive or require principle developments.

However, the development towards textual and communicative issues is problematic because it has made the otherwise so statuesque fine arts engage predominantly in applied activities, e.g. narrating and representing different issues, instead of concerning itself with what is crucial for the development of the field: its own theoretical development. As important as the applied research works in fine art may be for the development of different humanistic issues, it neglects the development of art as a science in itself. And so, this movement continues to reinforce the division between art and science, between theory and practice. placing theory outside of art, making the fine arts become the applied arts.

In contrast with the above perspective on research in art. I would here like to show the formal, i.e. scientific. knowledge of art and the necessary fundament of basic research in art as a field both academic and professional. Thus, whereas I have earlier explored the formal identity of science and art (cf. Thornquist, 2010a), this work rather explores art as a science. That is, I will try to demonstrate the results of basic art research to be universal and precise, as well as valid and rigorous. To do this, I will look into a particular problem that concerns the traditional understanding of art as much as that of science. It is the problem of dress, the *gestaling* of the body. As such, some may consider this to be a case study with the aim to demonstrate the general scientific qualities of art and hence the idea of basic research in art that is necessary for its development as an academic field with its own integrity.

As the concern of multiple disciplines, from physics to philosophy, from sculpture to anthropology, from psychology to economy, dress is both physiká and metá-physiká. However, even though dress is an ambiguous concept, the present science of dress is conducted from predominately similar perspectives. In the humanities dress is mainly understood as media (fashion) for psychosocial expression. In economy dress is mainly explored as a fetish or symbol, a subject of alchemical quality (cf. Simmel 1904: Flügel, 1951: Lévi-Strauss, 1973; Bourdieu, 1993; Bruzzi, 2000, Breward, 2003; Steele, 2005; Bovone et al., 2012). In contemporary art, dress has primarily been utilised as a media for pointing at different humanistic issues in the way described above (cf. Shonibare et al., 2008; Beecroft, 2004; etc.), which as a practice is closely connected to, or derived from applied works in dress such as different forms

of costume design by e.g. Gaultier, McQueen or Victor & Rolf (Loriot et al., 2011; Bolton et al., 2011; Evans et al., 2008). Consequently, the theory of dress is today concerned predominately with understanding dress as a media, a language or code from different aspects of culture and economy (cf. Barthes, 1983). In this way, the development of "the theory of dress" has followed the developments of theory in art (cf. Skjold, 2008), which misplaces 'the theory' of dress outside of dress in 'fashion theory' building a similar relationship like the one between art and art history.

However, when research in science and design is not being star-struck by the communicative (fashionable) aspects of dress, spending its time developing various ways of using dress to encode and amplify different messages (cf. Seymore, 2008; Chalavan, 2011), or being seduced by humanities' study of or fine art's application of dress, it is about the basic development of new techniques, methods and models of dress (cf. Miyake et al., 2001; Kirke et al., 1998: Klanten et al., 2011), Rather than dressing different ideas in fancy clothing, basic research in dress is about exploring the potential of dress through fundamental relationships between form and material, between technique and expression. Thus, instead of promoting empirical research for theoretical descriptions, this perspective suggests change and development through new foundational definitions and theoretical propositions within the field of art itself (cf. Hallnäs, 2010). Here the development in art challenges the institutions of craft through the appropriation of technology; in the same way the development in science challenges the institutions of technology through the appropriation of art.

A few typical examples of this development, based on the appropriation of technology to find new expressions are

Issey Miyake's (1999) work, exploring and defining new methods and models in dress based on new textile techniques for new expressions in dress. Other examples are Zaha Hadid's (1998) and Peter Rice's (1998) development of new structural techniques for new archetypes and models in architecture and, finally, Caravaggio's use of new optical technology for new possible expressions in painting (Hockney, 2001).

Judging from such examples, in which a new vocabulary opens up through a new voice, there is an intricate relationship between science and art, between technique and expression. Hence, the question from the perspective of art is not about the formal differences between art and science but, again, how art is science? From the perspective of science, then, the question is the reverse: how is science art?

Before now, classical philosophy acknowledged an intimate relationship between epistêmê and technê, between science (theory) and art (practice). For example, in Euthydemus (Plato, 1993), Socrates argues that what guides right use of materials in carpentry is the knowledge of carpentry (techtonikê epistêmê). Similarly, in Charmides (1996), Plato argues that the physician's craft (iatrikê technê), is the knowledge (epistêmê) of health, a notion which in The Republic (2007) is expressed through a kind of technê that is informed by the knowledge of forms (cf. Langer, 1957: Parry, 2007), Also Aristotle (1984) refers to technê as a kind of epistêmê itself, because it is a practice grounded in an account, i.e. something that involves a theoretical understanding, which, on the other hand, also gives epistêmê as a universal judgment based on the cause and valid reason that is first understood from technê. In other worlds, before Baumgarten's (2007) modernisation of aesthetics, from

being defined in terms of sensibility, or responsiveness to sensory stimulation, to individual judgement of taste, in the sense and pursue of good and bad art, an intimate relationship between art and science was acknowledged.

Instead of art and science being divorced and instead of art being a pleasurable or displeasureable academic irony, 'critically' pointing out an idea in an act of interpretive conceptual Duchampism (Duchamp et al., 1989), art (technê) has a more fundamentally important role as a sensible, experimental way of determining a priori principles and new knowledge (epistêmê). This means that a particular research result, explored through a particular method, is informed by particular qualities given by its scientific foundation. Vice versa, a particular research method, based on a particular science, also holds particular possibilities, given by its methodological foundation. For example, the expression of a particular sculpture is informed by the scientific foundation - the principle that guided the crafting of its result.

As a postmodern concept, artistic research as something different from scientific research, and in the sense of research through art, is a tautology, since research and new knowledge builds on the interrelation between science and art, between epistêmê and technê. Thus, the questions that need to be explored do not concern new definitions of artistic research, but instead how research in art through art can validate itself as autonomous research? In other words, how can research in sculpture through sculpture, research in dress through dress, or research in film through film express and disseminate its motive, critique and proposition in terms of new knowledge in its own field, based on its own formal logic? To explore these questions, I will start by looking into the ontology, logic and epistemology of dress.

MOTIFS

## Ontology

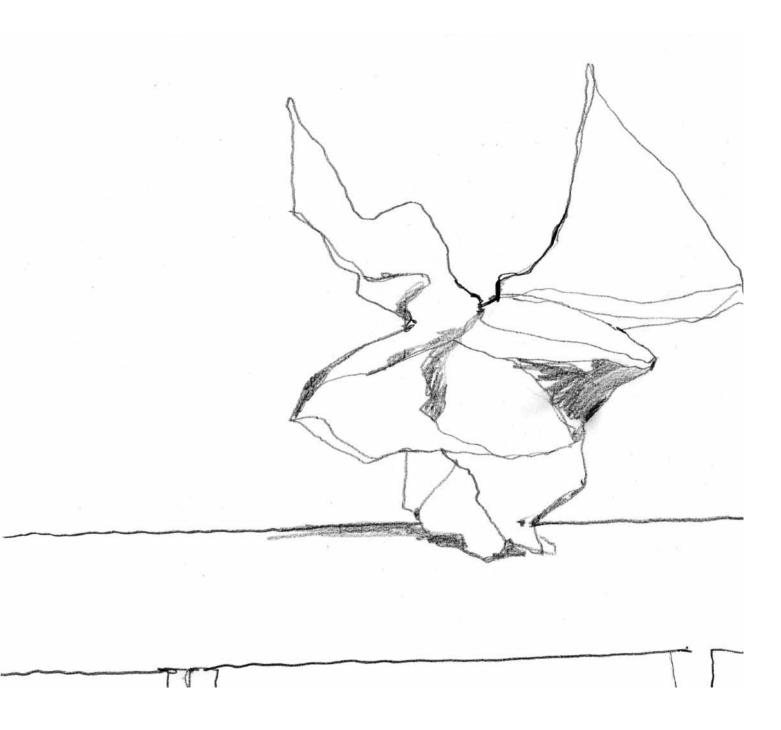
Ontological perspectives in dress are about exploring the nature, existence, reality and being of dress in order to propose new definitions in dress and in the creation of dress. Fundamental concerns are: What is dress? What is a garment? What is the relationship between body and dress? What is the condition of dress? Such questions may involve issues such as:

- The definition of dress

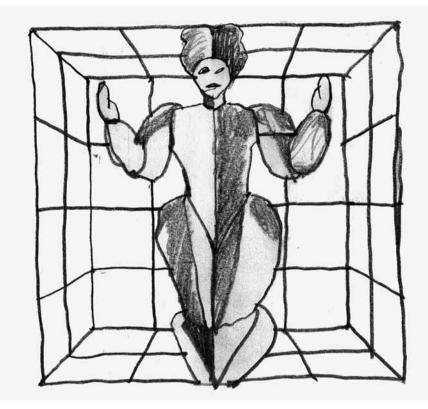
- The function and expression of dress - The relationship between body and space

- etc.

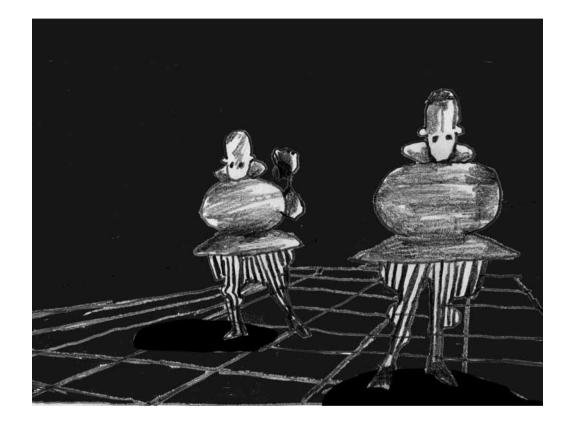
The work *Danse serpentine* from 1891 by Loie Fuller explored the new expressions in dance through technical innovations in costume, movement and lighting. Through improvisational dance techniques using vast veils of silk, animated by long sticks as extension of her arms, together with complex use of mirrors and light, Fuller developed new choreography that transformed her total expression of dance (Garelick, 2007).



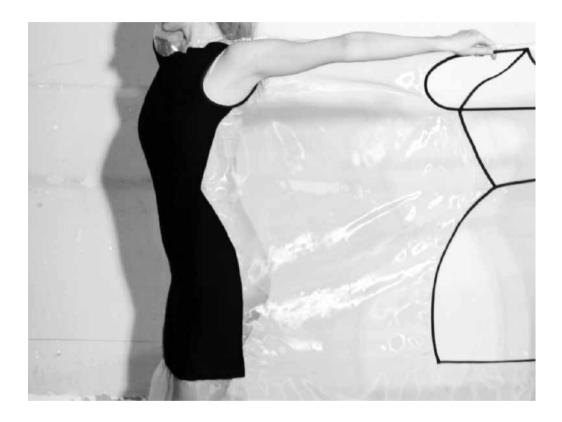
Oskar Schlemmer's Das triadische Ballett from 1922 is an example of explorative research that investigates bodily movement in space. To examine this, Schlemmer started by transforming the body through different wearable objects in order to geometrically abstract the human figure into an artificial gestalt. Then, by adding music and movement, he attempted to synthesize human Dionysian impulsiveness and vitality with Apollonian precision and mechanical reasoning through a choreographed geometry. The work is separated into three parts, where the first is set against a lemon yellow background, the second against a pink background, and the third is set against a black background (Schlemmer et al., 1994; Schlemmer 2003).







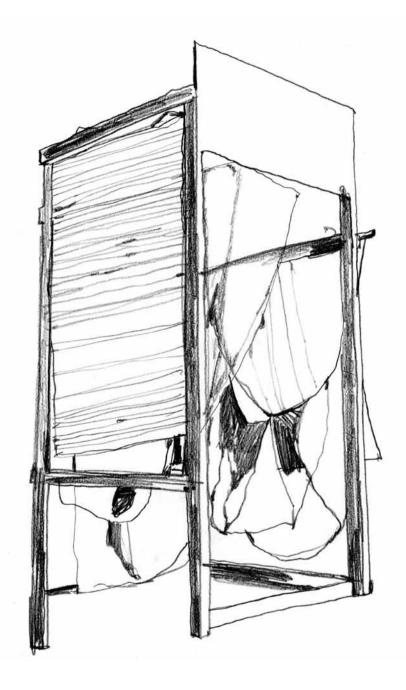
Ulrik Martin Larsson's research (2011) investigates the fundamental definition of dress. Through a series of experiments performed with basic materials and naive shapes, the work examines the interactive properties of garments, with the aim of inventing alternative methods for developing new types of garment for new ways of wearing and performing.







Following De Stijl and the concrete art movement, Hélio Oiticica explored threedimensional colour construction through concrete environmental works. One of these works, conducted in 1964-1968, is the Parangolés, a series of works that explore the circumstantial bodily, and environmental, interaction through different body-art-works. In an attempt to explore and alter peoples' sense of reality, Hélio used geometric shapes and sheets of block-coloured fabrics to emphasise animated and collective movement in order to transform the interaction between the body and its environment (cf. Ramirez et al., 2007).





ORLAN's work from 1976-1977, *Dressed in One's Own Nudity*, explores the relationship between the natural body and its cultural appearance through a suite of skin in the form of a simple printed drape. The naturalistic reproduction of her nude body in the worn image challenges the conception of nakedness and being dressed, both by the wearer and her audience, but also makes nakedness become her disguise (Shepherd et al., 2010).



### Body and space

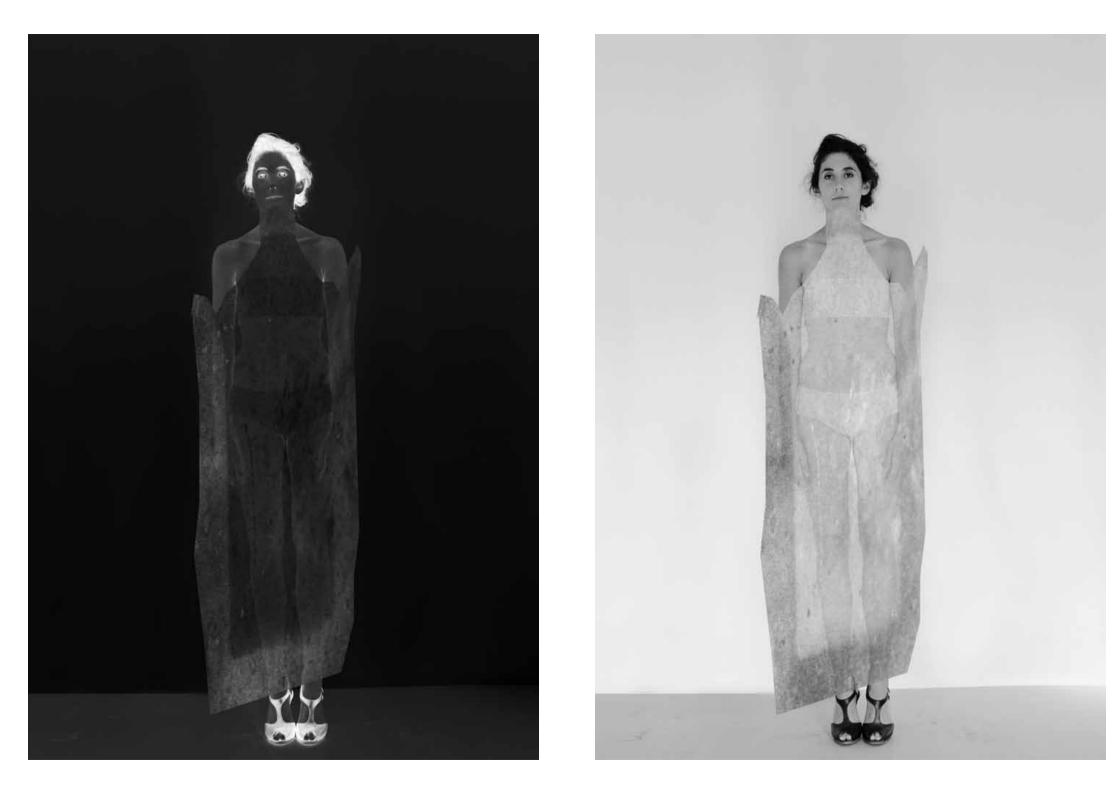
The work *Afterwords* from 2000, made by Hussein Chalayan in collaboration with Paul Topen, is a work that examines the foundations of dress as an integral, mobile part of space. Through a staged performance, in which a few persons dress themselves in furniture made of multiple materials such as wood, metal and fabric, the work examines and also proposes a particular metamorphoses between garments, accessories, interior and furniture (Chalayan, 2011).



Stefanie Malmgren de Oliviera's research (2012) explores the notion of form and silhouette in artistic language. The work is conducted through experimentation with scaled collages and life-sized arrangements of abstract shapes and different textile printing techniques set in relation to the body.



Stefanie Malmgren de Oliviera, 2012. Series 1 of 12.



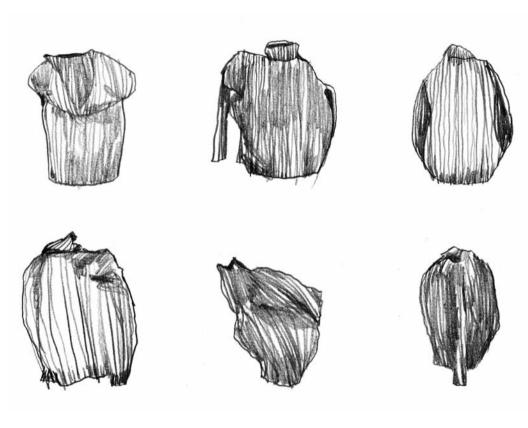
Much of the work by Lucy McRae and Bart Hess explore the human character through physical experiments with the body and different organic and inorganic materials. For example, *Evolution*, 2008, *Exploded view* 2007, *Germination*, 2008 and *Grow on you*, 2007, all explore the aesthetic possibilities in different materials as concrete prosthetics for human enhancement (McRae et al., 2012).







From a dress perspective, Erwin Wurm's *Rote pullowever* (2000) is fundamental research into the archetype of a garment. In a series of experiments, the work breaks up given definitions of a garment through its dynamic interaction with the body. As such, it emphasises an alternative perspective on a particular garment and its relationship to the body while, at the same time, questioning the existing definitions of different garments (Wurm et al., 2004).



Through experimentation with different scales of a particular garment type, Daniel Bendzovski's work (2009) looks directly into the relationship between form and fit in order to challenge our basic understanding of dress and its interaction with the body.



Daniel Bendzovski, 2009. Experiments 1-3 from a series of 5.





Yohji Yamamoto's work explores the relationship between garment and wearer, repeatedly focusing on gender and the question of beauty. To explore these issues, Yamamoto often employs oversized garments, ill-fitting forms, and clothes that seem both unfinished and imperfect in their construction and making (Yamamoto, 2010).







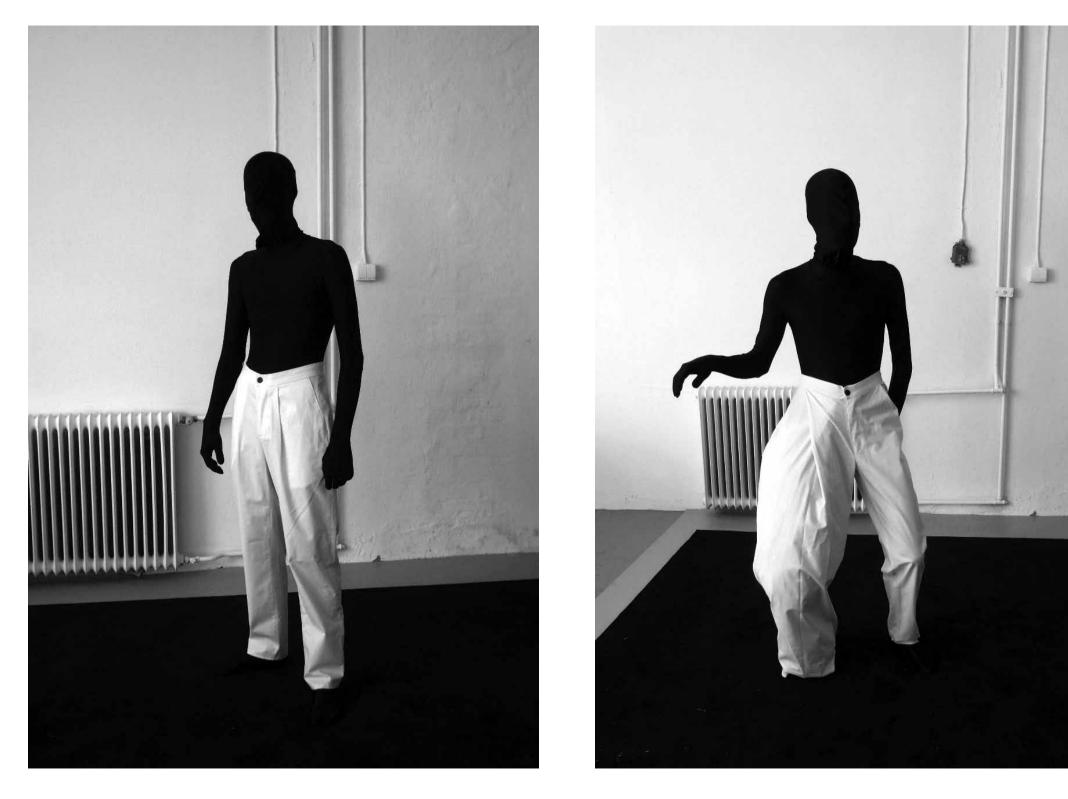
Illustration based on excerpt from Yohji Yamamoto's S/S 2000 collection (Yamamoto, 2002).

Illustration based on excerpt from Yohji Yamamoto's *A/W 1996/1997 Collection*. Photo: Hiroshi Sugimoto, 2007. Courtesy of Asian Art Museum, San Francisco.

Johan Nordberg's experiments (2009) explore the fundamental archetype of traditional formal men's pants. It is a basic examination of garment definition carried out by looking at the pants from a number of concrete perspectives in relation to the body.



Johan Nordberg, 2009. Experiments 1-3 from a series of 3.



In a series of work known as *Nexusarchitecture* and *Body-architecture*, Lucy Orta examines man's fundamental reality and how she produces her own spatial condition in different traditional and dominant social structures. To do this, Orta uses different kinds of textile structures which assimilate space to the body through engaging in different matters of society, culture, politics and economy (Pinto et al., 2003).

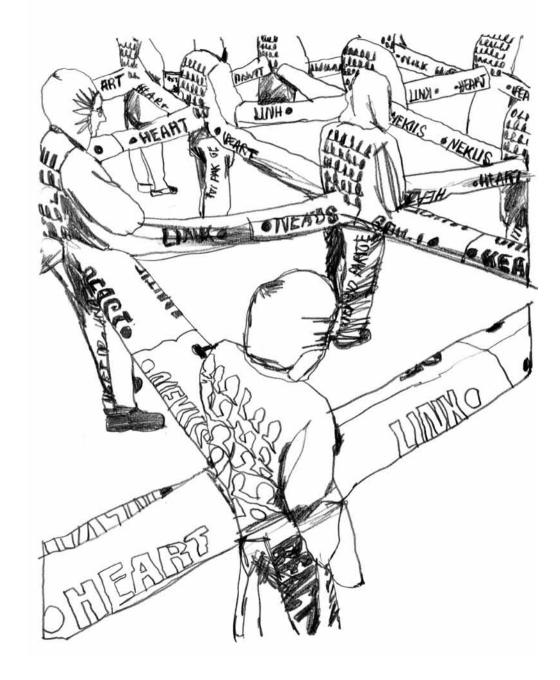


Illustration based on *Nexus Architecture x 50 Intervention*, Köln, Lucy Orta, 2001. Lamda colour photograph, 150x120cm. Courtesy: 2001 USF Contemporay Art Musem Tampa, USA.

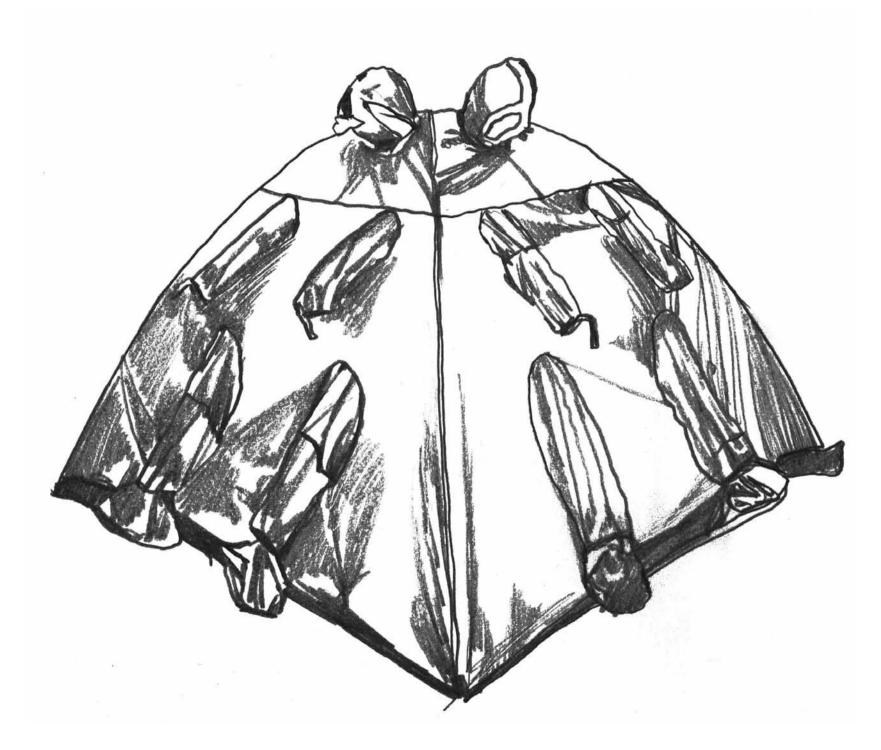
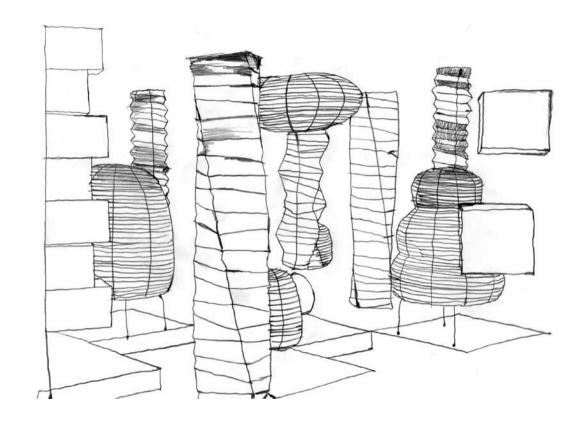


Illustration based on *Body Architecture - Collective Wear 4 persons*, Lucy Orta, 1998. Polyamide, polyester, aluminium, grip soles, 180x180x150cm. Courtesy: Collection Fonds National d'Art Contemporain, La Defense.

Together with Buckminster Fuller, Isamu Noguchi investigated man's relationship with nature and environment through sculptures in different sizes, situations and arrangements. Open to any media and scale, from stool to landscape, Noguchi and Fuller dealt with a broad range of issues concerning space, which resulted in all kinds of architectural works ranging from abstract generic models to concrete applied artefacts and products (Sadao, 2011).



#### Minimalism and dress

Ralph Simons' work for Jil Sander 2010, explores Sander's notion of minimalism with respect to the contemporary field of fashion. It is a basic experimental work that examines, elaborates and proposes an alternative, expressive understanding of minimalism through the study of straight and sharp lines, contrasting volumes, solid block colours and enlarged décors (Blanks et al., 2010).





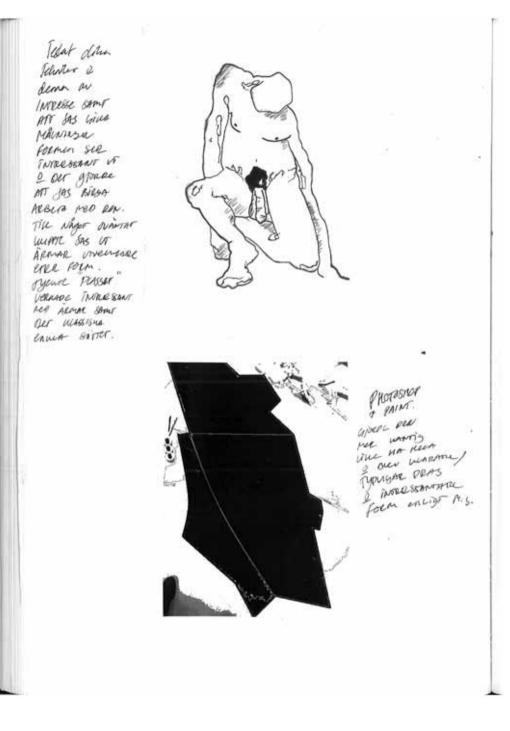


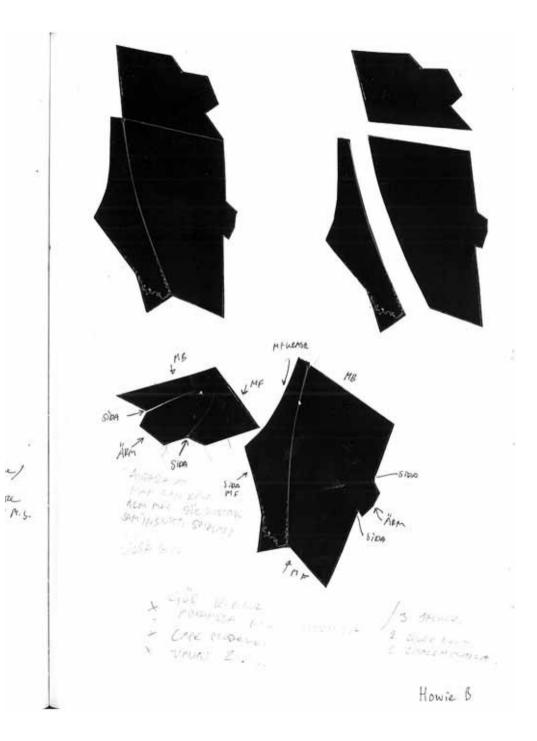




Logical perspectives in dress concern the rational fundaments of dress and its validity. It is about the logic of making and establishing dress, asking questions about the form of technique, construction, methods, systems, processes, manners etc. for the establishment of new formal expressions in dress and fashion design. This may involve:

The relationship between technique and expression in dress
The formal logic of methods in dress
The relationship between material, line, texture, tone, and movement in dress
etc. Andreas Eklöf's work (2009) explores alternative approaches to garment construction by focusing on the expression of the construction method itself. Instead of building on numeric information representing the body as the basis for garment construction, Eklöf's model builds directly on the expression of live drawing for the immediate structure and expression of dress.

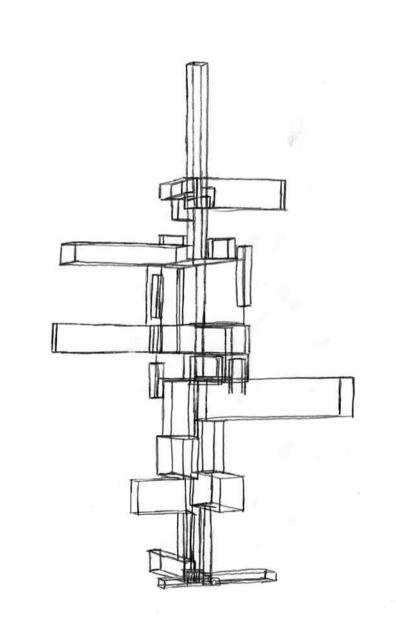


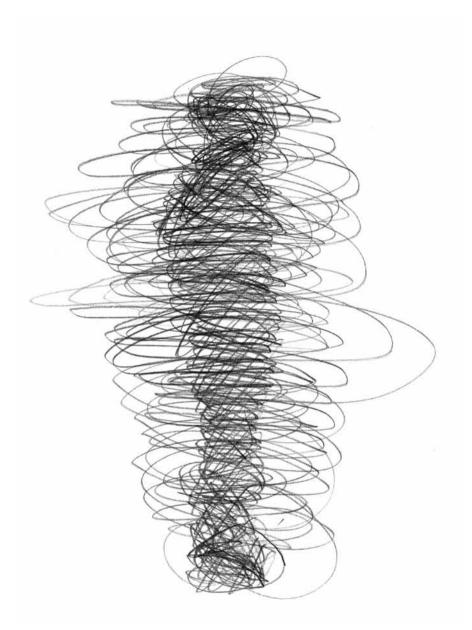




#### Models

The structure in certain sculptural works by Antony Gormley's (2011) propose a certain theoretical perspective of man's being in the world. In such sculptures Gormley explores the possibilities and limits of the human space in space, where the formal experiments explore a particular matter in concrete mechanical rhythms and repetitions across its systematic potential. In this way, Gormley deconstructs the human body and its energy and abstracts from it new and different approximations – models – of the body's relationship in the three axes of the built world.





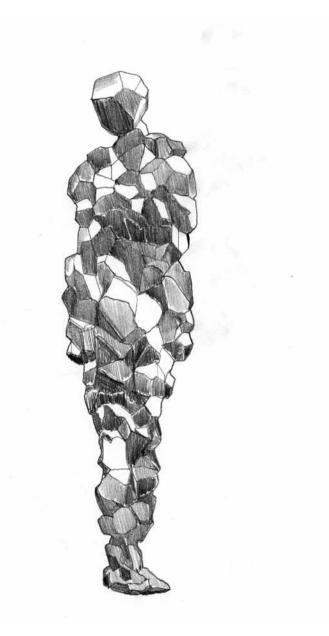


Illustration above is based Antony Gormely's PACK, 2009, 196 x 50 x 32cm. Cast iron. Courtesy of the artist.

Illustration above is based Antony Gormely's FEELING MATERIAL II, 2003, 204x150x165cm. Rolled steel hoops. Courtesy of the artist.

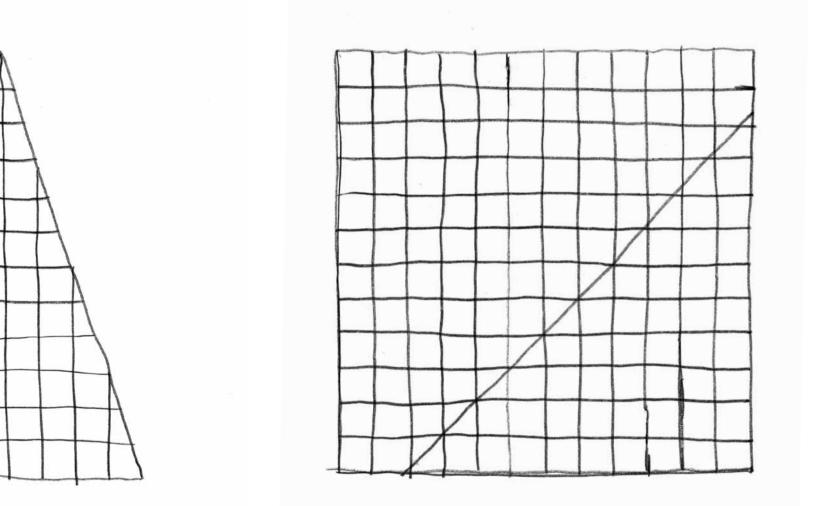
#### Pre-models

As a basis of construction the tailor's manneguin is often an unguestioned a-priori and pre-model for model making, design development and the further sculpturing of the body. On one hand, the "neutral" quality of the premodel in the form of a traditional tailor's mannequin suggests blandness and impartiality due to its formalised size and appearance. On the other, the freedom that may characterise it, is deeply rooted in a certain idealised form of function and necessity. Consequently, there is in a particular tailor's mannequin, a resistance to transformation post by its physicality, as well openness to new development because of its abstraction and disability for closure (cf. Thornquist, 2009). Thus, as a model of the human body, and a pre-model for application and development in dress, the abstracted theoretic - sculptural quality of a tailor's mannequin may be reconceived and refigured - or changed completely into an entire new model - in order to open up for new expressions and functions in dress design.

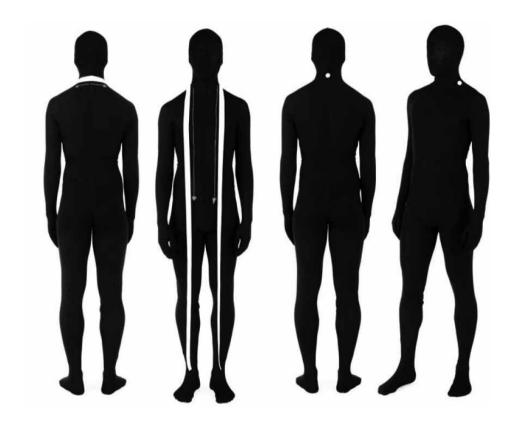


# Cutting and movement

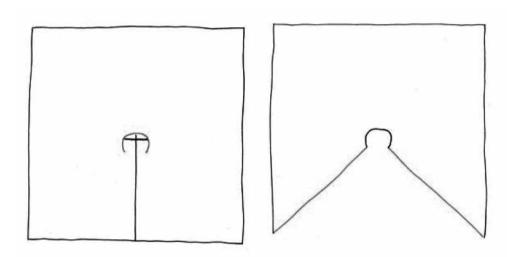
Madeleine Vionnet's work explored the expression of wearing through a certain cutting technique based on the bias cut. Through cutting the textile and dress, Vionnet proposed a different architecture of the body instead of working with dress as a décor, simply hanging on or clinging to the body (Kirke et al., 1998).



Rickard Lindqvist's research (2012) explores the principles of garment construction through focusing on balance and weight across the body in order to propose an alternative model for garment cutting and new expressions in dress as opposed to traditional construction methods based on static block patterns.







Karin Landahl's work (2012) explores new possible expressions in knitting and knitwear based on alternative models for knitwear design. Through experimenting with yarn, knitting techniques and concrete geometrical properties for direct three-dimensional construction, the work suggests new models for the knitted material and its relationship to the body.



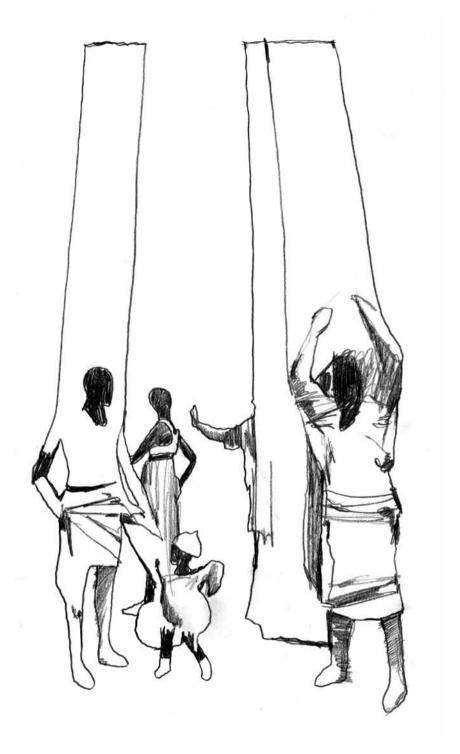




Throughout his career, Issey Miyake and his collaborators (Fujiwara, 2001) have explored the space between body and dress through different textile techniques in order to propose new expressive and experiential possibilities in dress and its relationship to the body. Examples of these explorations are one-piece clothes such as whole garment pleating, the seamless knitting project, A-POC, and the [132 5] project, carried out together with the Reality Lab.



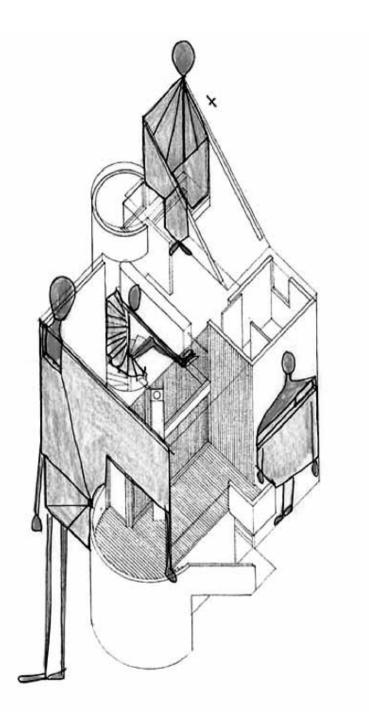
Illustration based on Issey Miyake Inc., *paper trial for pleat dress*, 2007. Photo: Yiorgos Mavropoulos. Courtesy of ATOPOS Cultural Organization, Athens.





The work by Clara Flygare (2012), Nette Sandström (2009) and Sara Torkelsson (2007) explore translational problems between illustration and sculpture, particular focusing on static and dynamic qualities in dress. Through a series of illustrations (experiments) based on different illustration techniques as fundament for different construction techniques their work explore the problems of transformation that occur in using illustration both as a technique to explore and analyse, and as a method to develop and present.



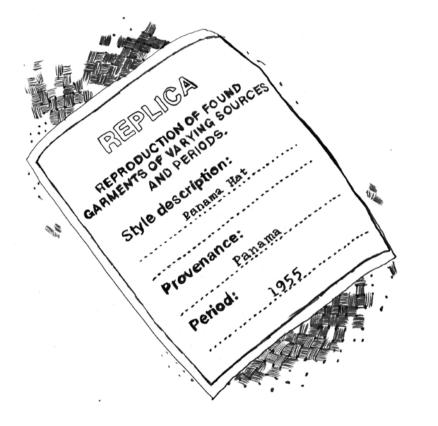


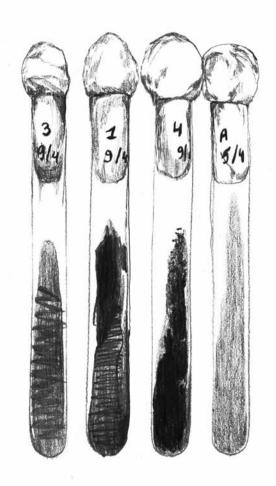


Nette Sandström, 2009.

Much of Maison Martin Margiela's (2008) work explores the generics of methods in art and design. In a series of different projects that work with issues such as deconstruction, collage and replica, Margiela explores the artistic process of making art in respect to modern art.

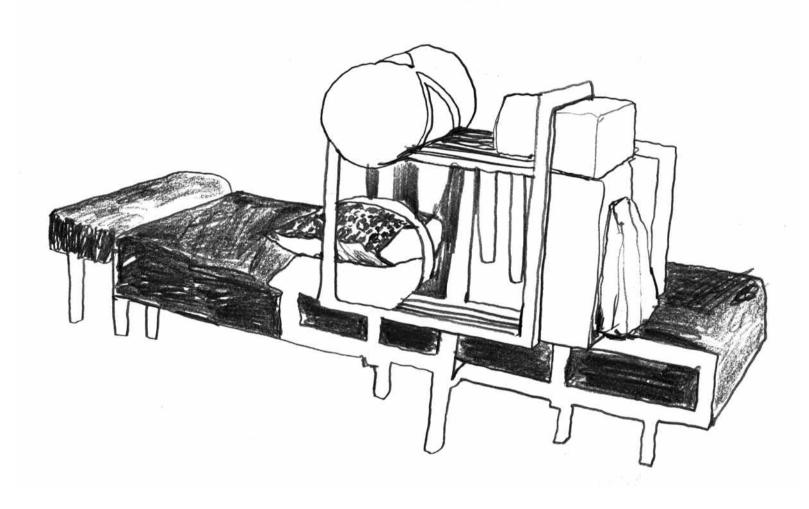






# Craft, industry

The main motive behind Hella Jongerius' (2003) work is to explore craft in relation to the common understanding of industry and technology. By looking into the potential of industrial processes and techniques for creating unique pieces or using alternative materials, Jongerius' proposes new expressions and definitions of industrial design.



In a wide range of theatre and performance work Robert Wilson explores the structure of movement and its non-verbal qualities (cf. Moldoveanu, 2002). To do this, Wilson has developed a distinct method that starts by sketching the outline of the work and developing patterns of movement, instead of using traditional theatre processes which start from a script.

1. Make sketches that outline the entire work.

2. Create a "visual book" from where to build production – not a script.

3. Develop patterns of movement for the character/characters.

4. Refine the visual presentation with the text (Thornquist, 2010b).

Banksy's (2006) works deal with the human condition from a range of social and political perspectives such as war, capitalism, fascism, nihilism and existentialism. In order to be able to finish a work in a public space before being arrested by the police in the act of vandalism, Banksy has developed a stencil technique that both minimizes time and, at the same time, gives his work a distinct expression based on the particular stencil technique.



### Epistemology

Epistemological perspectives in dress concern the construction and dissemination of knowledge in dress. Essential questions may be: What is the nature of dress as knowledge? What is the limit of knowledge in dress? What is the structure of knowledge in dress? What are the conditions for knowledge in dress? Such questions may involve issues such as:

The demonstration and exhibition of knowledge in dress through dress
The argumentation and validation of knowledge in dress through dress
The judgement and critique of knowledge in dress through dress
etc.

Per Axén's work (2010) explores the architectural system of body and dress through a series of body-sculptures based on a defined architectural construction in a certain relationship with the body. The work is concluded in a single model that proposes a formal theoretical perspective of dress and its bodily relationship based on its structural expression. As such, the model is no mere comment about dress. It is just a political statement, a display of technology, or a mere aesthetic artefact in the view of the same logic that is able to make everything into a nail for a carpenter with a hammer. For one informed in dress, the model has a clear point and direction as a generic model of construction and bodily relationship. As such, it formulates, proposes and concludes, just as Kant (1974) would argue, an aesthetic evidence of an unknown universality based upon a set of given particularities.

At the same time the quality of the work also suggests ways of application. Looking closer, the model reveals certain particularities about its construction. How it was made is evident through the simplicity of its composition as well as the roughness of its craftsmanship. And in terms of validation, the question is not so much if it is true, but instead if the model is plausible, reflected and if it works. Hence, the knowledge formulated in this model is no less universal or rigorous in respect to scientific knowledge. Nor is the information in the artefact less particular than linguistic symbols within the formulated syntax of the work. Through its vagueness as a garment, its clarity as a model, and its fit with the body and its referential space, it demonstrates and validates itself as both epistêmê and technê.



Linnea Bågander's work (2009) is an enquiry into the lines and structure of the body through a basic textile body sculpture. It is a sculptural conception of body and dress based on a folded geometrical system. Its fundamental form, shape and line hold a generic model for dress.

Through its fabric, its cut and stitches, and its close affinity with a drape, the work also demonstrates direct applicable gualities for dealing with particular design problems in clothing. Nevertheless, the obvious conception of the drape, like the texture of a building or a motif in a painting, may stand in the way of realising the theoretical quality of the work, in the way in which poor choice of words or the excessive use of words may stand in the way of communicating. Like the decoration of a text with concepts and references, the styling and ornamentation of a thing may become a self-referential reality that veils the essential theoretical motive.

In line with this argument, one view in artistic research or design research is that the result should not be "finished" or too beautiful, so that the applied form of the presentation sets itself in front of the fundamental achievement and - so to say - softens the clarity of the generic proposal. However, this kind of unbeautiful and unfinished results is not to be confused with the ideas of "unfinished thinking" or "unfinished knowledge" (cf. Karlsson et al., 2010). Instead, this notion of the "incomplete" and the open refers to the artistic quality, i.e. to "hold Open the open of the world", to use the words of Heidegger (1971:46).

In Linnea's work, this "Open" is constituted through the bland and vague surface of a fabric in relation to its sharp and precise lines. It is this necessary openness of the work established in the work, its clearly formulated incompletion, that liberates the freedom of the model, its universality, so that this freedom can be established in a becoming truth. And, it is this necessary gestalt, the aesthetic presentation and the poetic precision (cf. Larsson, 1997; Hallnäs, 2010) instead of its hermeneutic representation, that makes every model applicable and functional as a generic theory.



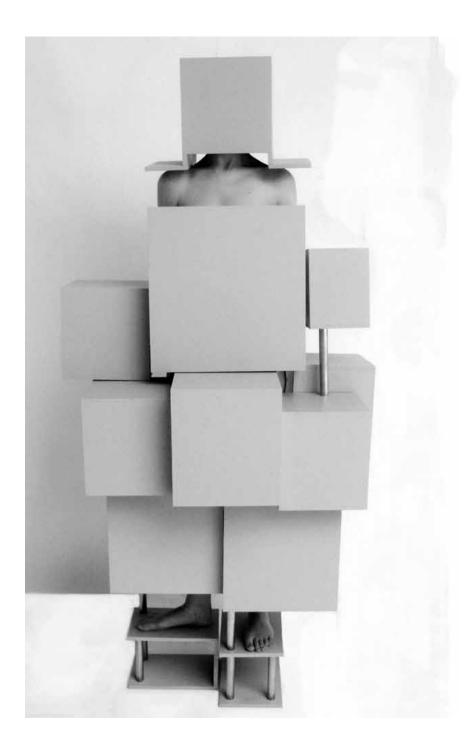
Linda Larsson's work (2010) explores the border between private and public space through a construction that is Embedded in the model is the informed both dress and liveable space. From one perspective it is a construction of an extreme subjective experience, a kind of intimate poetic space such as one described by e.g. Bachelard (1994), or the intense space of bodily presence discussed by Böhme (2003). On the other hand, the work is also an instrumental objectification of a person established in space.

As such, the work negotiates a converging subject and a diverging object through the concrete internal experience it produces and the abstract external rationality it presents. Although this model, like the two examples above, also suggests practical application. its carpentry, wooden materiality and particular 'unrelation' to the body may keep it from direct applications in dress and fashion design, instead making it more theoretically abstract. However, by gradually moving from being installed in the model and informationscape to becoming an observer of the conditions of the model from a distance. its particular conditions transform from implicit evidence to explicit information about a defined material system of construction for further application.

In this way the model is an example of an atlas that shapes the subject as well as the object of science, as Daston and Galison (2007) suggest. It simultaneously cultivates a discrete self wherein knowing and knower converge through an aesthetic process in which form and substance merge through the possibility of both entering and to exiting the model

The artwork is thus not a case of singular knowledge that cannot be generally disseminated. Knowledge and knower converge in the act of looking, as Daston and Galison once again point

out, not as a separate individual but as a member of a particular scientific field. expression of the knowledge (science and theory of dress) that guided. constructed and formed the work in order for it to become understandable for the trained community.



Malin Örde's work (2007) explores the relationship between substance, form and matter through detaching parts of her body and making them into a piece of clothing. To do this, Örde begins by cutting her own six-year-old dread locks. Then she knits the dread locks into a cap that she puts back on again.

Örde's anti-industrial work, which has as much to do with movements in art and craft, advocating economic and social reform, as with the renaissance of sustainable do-it-yourself activities based on locally-sourced organic and recycled materials and hand made products, asks important questions: Where does creation and design start? When deciding to let the hair grow? When felting the hair? When deciding to cut the hair? When deciding to knit the hair into a cap? Thus, as a possible critique of mainstream commercial fashion design, the work explores the fundamental process of creating substance, a principle, through having matter take on form (cf. Aristotle, 1984).

But in this work, the process does not only start with loose matter, the process starts with a substance, the hair, which is gradually destroyed by dissolving the form of the matter, cutting the matter into another category of being: formless matter. By then knitting the loose matter into a new distinct form, a cap, Örde once again moves the matter from one form of being into a new being, based on its new form of construction.

By reinstalling the original substance in its original place, with a similar function but with a different expression based on a certain technique, the process of cutting, knitting and reinstalling body parts on the body demonstrates the intricate relationship between matter, technique and form in the exploration and formation of knowledge. Thus, through its distinct arrangement, from destruction to recreation, the work ridicules discriminating conclusions such as: "Oh, what a good idea! And on top of that, it is also well written!"

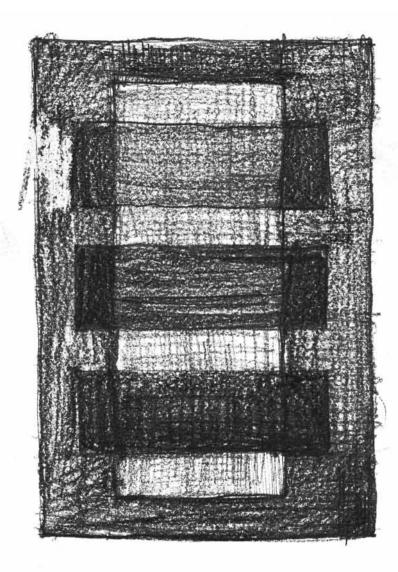
To the contrary, the work proves the necessary aesthetic quality of the self-explanatory demonstration of a scientific substance: its cause, its nature, and its principle. That is to say, substance cannot exist if it is not in the form of something and the essence of the substance of something, e.g. its principle theoretical value, does not become propositional knowledge if it is not in the form of a convincing aesthetic presentation.

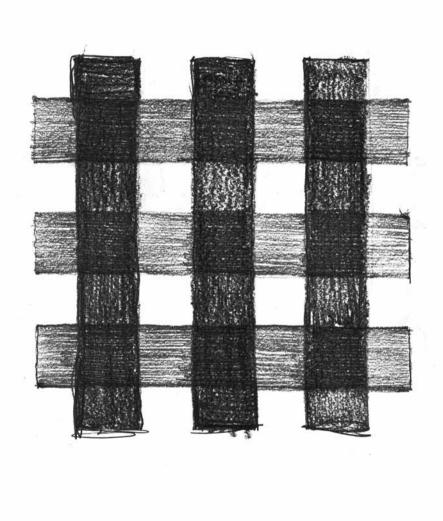


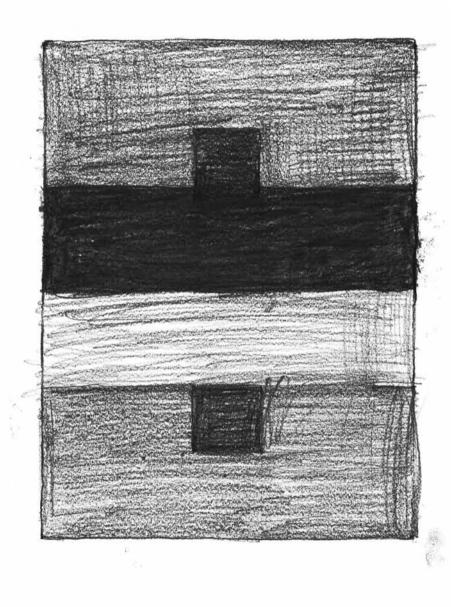
In the work Interaction of Colour Josef Albers (2010) explored his thesis that the discrepancy between visual information received by the retina and what the mind perceives proves that this information is not intrinsic to colour itself, but is dependent on its relationship with its surroundings (Albers, 2009; 2010).

Through the composition of each painting and the arrangement of the entire series, Albers argues for and demonstrates his theory that alterations in the environment will produce changes in the colours. With differently shaped and coloured geometrical shapes which challenge and echo, support or oppose one another, Albers studied this interaction of colours. For example, in the work Homage to the Square, the chromatic interactions are studied with flat coloured squares arranged concentrically, proposing an epistemology based on direct sensory perception.

Presented in this way and under a precise title, the work explicitly declares, motivates and validates a crucial logic of colour in painting, which is valid (objective) in multiple situations and fields (contexts). Moreover, it is only through this direct perception of the concrete matter of the work in its rational arrangement that the logic of colourinteraction becomes accessible and understood through direct experience. That is, the abstracted matter of the work is given by the concrete material itself. In its particular form, the chromatic material directly narrates the idea, background and inference of colour interaction as it represents itself as an existing work: it is image before it represents.







Bach's work *Die Kunst der Fuge*, is a collection of fugues and canons. The idea of the work is to explore in depth the contrapuntal possibilities inherent in a single musical subject (Wollf, 2000). Essentially, it explores the expressive possibilities of a fugue, a compositional technique and polyphonic procedure that involves a certain number of voices in which a single subject is exposed in each voice and gradually transformed as the work develops.

The work develops a subject in alternative ways and perspectives and, through this, demonstrates different relationships in terms of new ideas developed from the existing idea or in counterpoint with it. Secondary subjects are introduced to set the primary subject in perspective. In something like a conversation or a discussion, punctus contra punctum, acknowledging the other part of the main subject, the main subject is turned upside down, mirrored, set in different tempos, mixed with new subjects, etc., all in all to confront and sustain elements of the primary subject, as if it were a critical discussion.

In this way, the artwork reveals a single essence that arises in the relationships between apparently unlike or opposite things (cf. Smith, 1996). Thus, it is not simply a systematic demonstration of contrapuntal theory. It is about testing and presenting the aesthetics possible in a particular technique. As a rigorous and systematic exploration, it is essentially an exploration and presentation of texture, mood, rhythm, sonority and emotion (cf. Black, 1986), framed and contextualised in a systematic and autonomous fourteenpart performance. I-IV are simple fugues. In the first, Contrapunctus I, the main subject is developed in a simple fugue. In II, the main subject is rhythmically varied. In III, the subject is inverted. In IV, the subject is inverted again, but in a different way.

V-VII are stretto fugues, which means that the secondary voice enters before the subject is completely finished. It focuses on overlapping, rather than altering the principal theme. In V, the main subject is varied with its inversion (from III), to show how many times the subject can be used to make a counterpoint to itself. VI is based on a upright and inverted subject, also based on diminution. VII shows how the movement's main subject can accompany itself in altered note values through augmentation and diminution. In the first seven movements, the fugues are constructed based on modifications of the main subject.

VIII-XI are double and triple fugues. Here, a number of counter-themes are introduced. The first triple fugue, VIII, starts with a new subject, which is first developed on its own and then in a double fugue with a second new subject. Then a third subject, a variation of the main, is introduced and combined with subjects I and II in a triple fugue. IX is a double fugue that likewise begins with a whole new subject, although the principal subject also appears here in its normal form. The following double fugue, X, also begins with a new counter-subject, where the main subject enters later, but unlike in IX, in its inversion. Fugue XI is a triple fugue that uses the three subjects from VIII, in both their upright and inverted forms, creating six themes altogether.

XII and XIII form a pair of mirror fugues. In the previous movements, only the subject was inverted. In these mirror fugues, the entire piece is inverted. XII is a serene pair of fugues based on the main subject in <sup>3</sup>/<sub>4</sub> time, where the two voices pivot around the same note, also when turned upsidedown. Then, XIII, is based on an ornate variation of the main subject that is incorporated and inverted into both the original and mirrored versions, and twisted by inverting each fugal voice around a different pivot note.

XIV is a final and incomplete quadruple fugue that integrates the subjects in their upright and inverted forms. Only three subjects are introduced in the surviving manuscript (Ferguson, 2012).

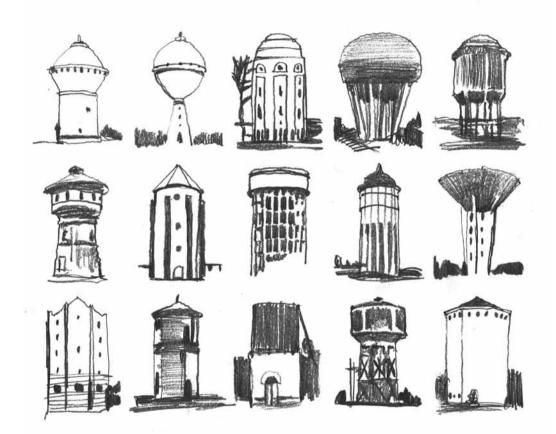
The photographic work of Hilla and Bernd Becher (Lange et al., 2006) explores the cultural dimension of industrial architecture. From an epistemological perspective the work is interesting because of its distinct form of presentation under a precise title. Single images are grouped in grids of six, nine, fifteen, etc., making each image reflect the others from different perspectives.

This image structure makes a formal comparison between regional idiosyncrasies, functional systems and age structures, which furthermore abstracts a scheme of the structural relationship between types, a typology set against European cultural history, that is analysed and realised through cluster analysis (cf. Tufte, 2006). From the perspective of architectural development of e.g. water towers, the Becher's work as such substantiates its own analysis through its interactive typological arrangement. Here individual examples, from the same category of objects, a cluster analysis provides an abstraction of its of substance.

Through trial and error, the Becher's assign and arrange a particular set of objects into a conceptually meaningful group, i.e. a typology or a definition by examples, that share common functions and characteristics and relate different elements across the set. Thus, already the selection and ordering of the results of such an experimental photographic work is as much an aesthetic problem as a pedagogic or didactic one. Certain examples from an experimental research process, representative cluster prototypes, may when presented, by themselves or put together in a particular composition, demonstrate and propose the new definition with more explanatory power through a more fundamental simplicity. Similarly, an appropriate number of experiments that are parameterised, comparative or

carried out with changes in variables such as scale, perspective, texture, tone, situation, etc. will extend and deepen the analysis and reflection, limit and define, and as such increase the rigour of the proposed definition.

From this perspective the significant artistic quality of the Bechers' work is thus perhaps not so much the content of the work itself, but instead its normative and self-instituting epistemological structure (cf. Gronert, 2009). The principle art developed by the Bechers is a photographic clustering method, a visual form of explorative data mining, with its own scientific quality as a referential structure in which the arranged repetition of categories directly abstracts the subject it analyses. Again, and as Stimson (2004) argues, borrowing from Foucault, the Bechers have created an epistemology and a system of dispersion that is "neither a configuration, nor a form" but instead a process or "a group of rules that are immanent in a practice" (Foucault, 1976: 37, 46). That is: it is a research method defined by a particular form of art.



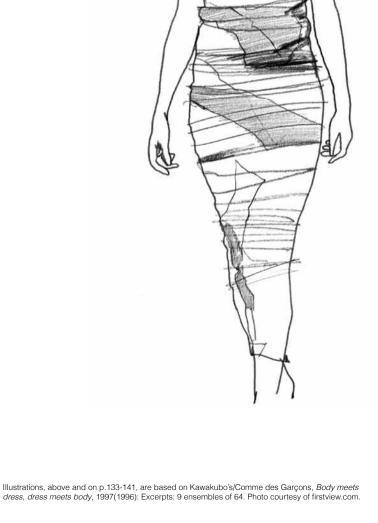
Rei Kawakubo's work *Body meets dress, dress meets body* (Fukai et al., 2010) tries to eliminate the static relationship between body and clothes that stems from the traditional Western approach to dress. Instead, her work combines body and dress in a united conception through a series of physical bodily experiments that proposes an ostensive definition of a new principle of dress by pointing out examples directly on the body.

While the first part of the title, Body *meets dress*, suggests a critique of dress as something abstract to the body, the second part of the title. dress meets body. suggests an alternative model of dress based on the body. However, looking at each element and not at the arranged series of experiments, the rationale of the work is not motivated or explained. For the motivation, argumentation and understanding of the work, it depends on the reflective pattern and critical analysis in the work's internal arrangement. This reflective pattern is established in a convincing argumentation by the principles of the proposed new organic logic set against the traditional western construction logic that appear when expressive examples of both principles meet and confront each other, i.e. are tried and tested, in different positions, from different perspectives, and with different materials, in an extensive series of live body-sculptures.

By exhibiting and pointing at multiple examples to which the proposed principle of dress construction are applied the collective work explains the expression and function of the principle itself through an ostensive definition (cf. Wittgenstein, 1968). That is, the series self-abstracts and validates its own theoretical model, i.e. its new definition of dress, through a resultant that is realised and defined by the range of experiments and proven by live exhibition. From this perspective epistemology is an aesthetic problem of establishing an expressive and functional reflexivity between the form and matter of the issue; one that does not only point at and indicates, but moreover argues, demonstrates, interprets and concludes its own issue. As such the presented work, show, is not only a self-explained theoretical critique; it proposes and demonstrates its principle and applicable qualities in abstract form and concrete garments that are the results of more or less complex experiments.

Through the show, the proposed definition is not exclusively dependent on textual frames and further contextualisation since motive, method, matter and result is demonstrated and defined. In this way, the aesthetics of the live performance is central to the autonomous and ostensive definition and its scientific validation. In other words, and like Dirac argued, a great theory has several characteristics in common with a great work of art: a fundamental simplicity, inevitability, power and grandeur (Farmelo, 2009).

However, the definition of a new principle of body sculpturing/dress construction requires the audience to have sufficient understanding of garment construction and garment cutting to recognize and understand the information that is given analogue by the series of examples and which constructs the definition by being pointed at. Thus, if there is any 'contextual' condition that needs to be fulfilled in order for the definition to be validated, it is an audience with relevant knowledge.



















Bågander's work (2012) is build by a series of experiments that investigate the dynamic expression of body and dress through a number of parameters such as the body, various knitted fabric structures fused with non-textile materials and varying movement patterns. As a series of physical experiments it constitute an ostensive definition, pointing to itself as acted and materialised evidence.

Through a variety of structural combinations, but all based on the same principle structure, the expression of each experiment clearly elaborates and declares its formal logic of construction as well as its principle aesthetic function. In their materialisation, the experiments therefore point back to their physical function, the aesthetic potential for i.e. applied work in art. design etc. As such. a series of experiments in a medium defines rather than narrates its result, as it is constructed to give concrete response when the material parameters are set to interact and respond to each other. As shown here and in the numerous examples above, such physical experimentation is self-informed by and self-referential to its own constructed principle. To paraphrase Paraskos and Head (2008) in their 'new aesthetics', it means that the epistemological quality of basic experimental research in a certain physical medium is the acted or materialised response to the material world that the experiments open up for concrete bodily engagement. In a new definition of dress or a new cutting technique to achieve a new expression, it is e.g. possible, guite literally, to enter the aesthetic principle and its proposed relationship to the body.

Put differently, this means that experimental results of basic research in art are monumental and fundamentally independent from external qualities, which may be associated with them at any specific spatiotemporal location.

Experimental research for foundational development in a particular medium represents itself essentially as a concrete definition or function and not as a secondary story, tied to a particular culture, ideology, style, gender, gallery space site or situation. That is, basic research in art does not need to go to the point of contemporary modes of fine art practices, which take "as their theoretical and practical point of departure the whole of human relations and their social context, rather than an independent and private space" (Bourriaud, 2002: 113), in order to be comprehensible as a research result and to define its theoretical proposition. Nor does a logic definition of a model or design for change rely on the intention to address, at once. the entire global unsustainability or a politicised ideological framework, the way in which some design researchers would have it (cf. Fry, 2010). Neither a most novel intention behind a result, nor an exaggerated contextualisation or historisation around it (cf. Biggs, 2006) will change the fundamental definition that is the result of a basic research.

As shown by Bågander's work and the examples of ontological and logical research above, such as e.g. the development of a cutting system for a new expression or function in dress or the explorations of new materials for new possible expressions in dress, the concrete theoretical development of the fundamental medium itself supersedes its possible applications. In other words, concrete material experiments in a medium are built and constructed. present-at-hand (cf. Harman, 2002), and cannot be exhausted by their physical relationships or deprived of the essential material quality and the definitions they materialise, which is in sharp contrast to the total relativism proposed by artistic research inspired by e.g. Deleuze and other process philosophers.











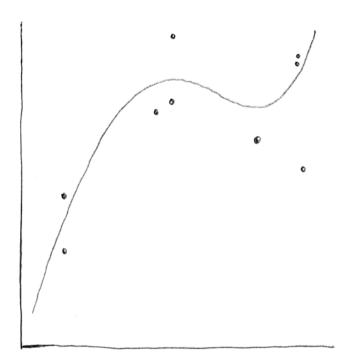


A single experiment may be a vivid example of an expression or a function and as such propose a possible aesthetic actuality. However, the precision and validation of a generic definition of an aesthetic function and expression depends on a critical number of experiments that together cluster around a definition. Hence, research for new aesthetic possibilities in e.g. dress, dance or sculpture may not only define its results through a series of performed experiments in dress, dance, sculpture, etc., it may equally validate its proposed definition on the basis of the material evidence the performed acts and artefacts provide for themselves. The significance of such a validation is however depending on the relative convergence between the expression or function of each particular experiment and the derived principle that the experiments cluster themselves around. As such, a series of experiments for new expression in a media also constitutes, metaphorically, the equivalent of a set of equations, where each experiment is constructed and composed by a particular relationship between a set of parameters.

To illustrate this, a hypothetical equation for the experiments in Bågander's research would be written: e(b)=bmfc, where b=body, m=material, f=form, c=constant and where e(b) denotes the principle function: the expression of the body in relation to form and material. For each experiment. there is then a particular equation based on the particular compositional structure between the parameters in that particular experiment, which taken together produces a series of different equations with different qualities. As such, the experiments are informed acts and artefacts, data objects, which together abstract a principle.

Depending on the range of the overall qualitative fit of the equations to the principle definition, i.e. the way in which the results of the experiments cluster around a clear function, i.e. visualized in a graph, the series of experiments will also prove a more or less precise and significant validation of the derived aesthetic definition and its function. This precision of the definition is important, since a definition, defined by examples or not, has little or no value if it defines its principle idea with too wide, too narrow, or too obscure parameters. For example. a definition must be narrow enough to explain its particular function, but also be wide enough to be applicable to the entire field to which the definition applies. This is the necessary poetic precision that any definition and generic model depends on to function which involves the quality to be at once discrete for its abstract theoretical foundation and indiscrete for its concrete practical applicability.

Thus, rather than relying on mathematical or statistical precision, the precision of results in basic ontological and logical research in an art form may instead rely on the precision of a generative pattern, i.e. the resultant and conclusive direction in and around which the experiments in form and material cluster. That is, the precision of a materialised result is not a matter of linguistic precision that relies on figures and symbols or something that constitutes a linear syntax or conveys literary or narrative meaning. Instead, the precision of such a generative pattern is a matter of dynamic interplay between experimental acts or artefacts that constructs a formal relationship between objects, a functional fit, rather than an affinitive truth.



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