

INCENTIVE TO FORM

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ABSTRACT

The project 'Incentive to Form' has identified a number of thematic attacks on form studies - in strong paper - which create new forms which often contain stronger qualities than the preliminary work. Incentives are, in this context, forms created by folding paper over variations of straight lines and smooth curves, which are contemporary form studies to sculptures or design. The acclaimed form studies that pose the core of our studies were carried out by artist and architect Erik Lyngø, who was also much appreciated in the educational context for his teaching methods. The phenomenological study reveals how Lyngø's sources of inspiration and his intentions with the incentives can be decoded from conserved works and photographic research. The aim of the study of the form studies is to decode and communicate results, since Lyngø mainly chose to express his results of the form studies through dialogue and by oral presentation of incentives. A dialogue about form and the activities in the learning environment were central to Lyngø's teachings. The dialogue and form experiments were combined with encouragement to seek inspiration in nature and science. The thematic attack was based on a tentative taxonomy grouping of Lyngø's surviving incentives and verified by architecture and design students. The Danish designer Andres Nicolai Hansen's and architect Poul Christiansen's many successful designs created as output from incentives, illustrate that incentives created by the folding technique are not only valuable in the learning process but also in a professional practice.

Keywords: Incentives, folding, Erik Lyngø, form studies, phenomena, pedagogy

1 INTRODUCTION

The acclaimed form studies conducted by Erik Lyngø have been spread to many different locations along with his poetic sculptures that will soon be forgotten. This is quite unfortunate, as a lot of valuable knowledge about form studies will then be lost. The art museum KØS's sketch collection has about 140 form experiments in paper conducted by Lyngø (1919-1998). Among these form experiments are models which represent the preliminary work to sculptures at the art museum 'Kunstens' collection. Lyngø's professional experience was based on studies and activities within the following two areas: architecture and art. His studies included the phenomena and concepts which pose the basis of the artistic work with plan, form and space. About, what fascinated in these studies Lyngø said: 'There is this special thing about the plan's transformation into sculpture, that when the movement where the folding proceeds specific in time and space, the plan's identity is preserved, and it is thereby made possible to observe hitherto unsuspected relations between form, plan, line and point. When I refer to these formal phenomena, it is to draw attention to the fact that the sculptural details in the paper figures are functions of each other and in the real sense concrete since the form function and the material function are identical.'¹ The present study takes, as Erik Lyngø, basis in the phenomena we can experience with our senses. The phenomenological study and review will attempt to uncover the relationship between Lyngø's sources of inspiration and his intentions with the incentives in relation to the realizations the sculptures can give rise to. Interaction between the sculpture, the space, the climate, the light and other objects is important to the perception of aesthetic quality. The space is limited to stationary three-dimensional finite frames for the experience of the sculpture and objects in its vicinity. This space constitutes the outer space, in contrast to the space the sculpture defines, which is constituted as the inner space. A sculpture or, as Lyngø called it, a form,

¹ An extract from Lyngø's explanation of the results of his own artistic activities in connection with his application for the research grant he received in 1972.

that is created by a plane that can be characterized as a volume expressed by the boundary between outer and inner space, although the inner space in some cases do not have a definitive boundary.

1.1 Decoding of inspiration and intension

In relation to the decoding of the methodical grip on Lyngge's creative process, we distinguish between inspiration, intuition and intention to determine, what will be possible to decode or to uncover from Lyngge's sculptures.

Inspiration requires an idea that is given in advance, which is discovered or rediscovered, and which means that the idea has a foundation. It is therefore possible to 'post-rationalize' the emergence of inspiration and its general validity [1].

Intuition denotes the idea's emergence as an unfounded insight which makes the owner unable to immediately refer to any prior reason for the idea's origin. Therefore, the basis of the intuition cannot be generated through 'post-rationalization' or otherwise elaborate the idea's foundation.

Intension indicates the idea's extroverted aspects from thought to action through creation of an object. It will therefore be possible to 'verify' the intension and its usability.

The decoding of Lyngge's source of inspiration would thus be possible through a comparison between his sculptures and Lyngge's own photo records, object collections, and common accessible phenomena.

The decoding of Lyngge's intentions would also be possible through action. Because an assumption of the content of action - that is a procedure - in an intension could be ascertained through an outward action. If the result is consistent with what Lyngge obtained, it is very probable that the assumption is correct or at least a viable approach. The templates' folding guides represent such trial procedures.

2 TEMPLATE TO FORM

Many of the aesthetic forms that are suitable as objects of study, are as Lyngge's sculptures available in museums or remote destinations, which means that we only have the opportunity to experience them on rare occasions. Some are available in photographic reproductions, but the problem with representation of objects is that their form is rarely portrayed in more than one solid angle.² This means that a two-dimensional figure does not necessarily offer the three-dimensional object's features. A cube can, for example, be pictured as a square. Based on historian of ideas, Kasper Nefer Olsen's, experience [2], we note that, on the one hand, phenomena change and on the other hand that 'these changes - although perhaps immediately incomprehensible - may once again become comprehensible if we simply assume a space of sufficiently high dimensionality "around" them'. Three dimensional representations of objects also provide valuable opportunities for studying the sculptural effect under varying light and shadow conditions. Variable lighting is a prerequisite for studying the interaction between the form, its materiality, textures and possible its colours. Kasper Nefer Olsen also points out that 'if we stick to the phenomenological given, we have no reason to talk about the abstruse relationship between the invisible and the visible, but only about the quite clear relationship between the unseen and the seen' [2]. We have therefore made it possible to reconstruct three-dimensional forms through measurement and construction of templates of a representative selection of Lyngge's sculptures. The reconstructions are working models that are suitable for use in practical training in assessment of aesthetic quality both with a bodily comprehensive approach and also with focus on assessment of the forms spatial effects in different contexts. Sculptor Erik Heide described these approaches as follows: 'There is change in space and material meetings, whenever we place ourselves in relation to each other - to a railing - to a car or to a house. We are moving, and everything is a little different. We notice the form (sculpture) by hand, with our body: cold and hot, rough and smooth, hard and soft, with our feet we record the slightest change in what we are walking on [3].

² A solid angle can in relation to the photographic record be explained from a starting on the camera lens position, which poses the top point of the solid angle vertex T. This solid angle is formed by all the vertexes, with start in T and which other end intersects the outline of the object, viewed from the camera.

2.1 Incentives and their emergence

The meaning of incentives is something as broad as the multifarious live material of anonymous quantities of objects, images and statements which are always being processed in one way or another, in an effort to identify the basis for an aesthetic expression. Lene Adler Petersen summarizes, what is central in the creative process by 'Fold the halo – polish the hands' [4].

One approach to reaching an understanding of the concepts: point, line, plane and structure is to create incentives of flat surfaces. The basis of the process is paper plans affected by creasing, tearing, cutting, embossing and folding. The impacts on the paper follow straight, curved, broken, continuous, complex or simple lines. During the transformation process, we observe the metamorphosis, in other words, we respond with wonder to the occurring phenomena. It may be phenomena such as tension, contrasts, interferences and patterns. Before the experiment is repeated, it is decided whether the incentives have to be maintained, drawn, photo-recorded or copied. Experiments are repeated from the basis of one or more of the emerged incentives affected, as described in the section 'Form transformation themes' below, so that form variations are developed. The results are then assessed first by comparing one form to another, or by equating multiple forms and then by doing an assessment in relation to structures in the surrounding space. To further boost the development of the form, the participants may continue the process by varying the plans' structures. This development process is based on analysis of the structures the folded lines have formed in the plans generated by unfolding the incentives. The process also allows us to get an understanding of the zeroth, first, second and third dimension as well as the fourth dimension of time or movement.



Figure 1. Inspiration, a learning environment and incentives

2.2 Pedagogical idea

The underlying pedagogical idea is to try to provide a framework for people who experience, orientate themselves, are reflective and creative so that participants can develop themselves (see figure 1). Apparently, the experience and expression are only for the person who expresses himself, and yet the expression can be communicated to and experienced by others whom it may have an impact on. The purely visual, auditory or haptic impressions create new experiences for a susceptible person and through this a synergy arises from creative activity in a common learning environment. Thus, we have an important obligation to stimulate the individual to experience processes more concentrated within the person himself, other persons, social groups or in materials.

It is just not everyone who has an action capacity to create a form or to intuitively shape an overall structural idea in the paper, like Lynge had. He sort of unfolded the idea while he sensed the material's tension and gravity – physically speaking, and through this he let the process irrationally influence by his mental and emotional intellect.

Just as the white paper can have a blocking effect on the writing process, so can the flat surface in the formgiving process. To overcome such blockage, architect Poul Christiansen has revealed that when he works on a new form, he often begins by repeating some of his earlier folded works to get the process started. And designer Andres Nicolai Hansen intentionally repeats some of his folded works sloppily because from an anomaly, a new form may arise. This corresponds to the trick of challenging common knowledge by working from basic forms such as tetrahedrons, cubes, spheres, cylinders and then adding a deformation – making them crooked, so that they get their own characteristics before we try to combine them into new forms. According to artist Niels Guttormsen "you get a confusing form

and are not sure what to do with it, but have every opportunity to create the unique form.”³ Both Christiansen and Hansen have folded many lamp shades for the company Le Klint and likewise created a wide range of furniture in laminated veneer on the basis of the paper folding technique. It has been possible because the veneer and the paper have similar material properties.

Lynge’s pedagogical idea is also based on his own considerations about the incentive’s creation process which he described as: “I grab the material, shaping and transforming it through a series of choices and actions in interaction with a range of reactions or counter reactions that the material gives. During this action process both my “ego” and the material expresses its character. The traces from the action process are the united expression of human and material in a form / incentive. Incentives are not the goal, but an expression of movement (action) and direction. By giving oneself to the work with anyone or anything outside oneself a person’s opportunities becomes unfolded and a man arises.”⁴.

2.3 Form metamorphosis themes

Work or study themes include approaches and methods to transform an incentive into a new form which is an expression for more than just a mirroring, displacement or other similar mathematical operations.

A tentative taxonomy by phenomena which are reflected in the incentives was the starting point for identifying form metamorphosis themes although a definition of parent relationships was uncertain due to lack of dating and conservation of incentives. It will be possible to identify polyphyletic groups that will be appropriate for highlighting particular features of species of incentives, but a deeper treatment of taxonomy issues lies beyond the aims of the present paper.

The theme ‘form interference’ occurs when two phenomena such as mirroring and displacement or rotation are added which literally triggers a metamorphosis of an incentive and a new form is created.

- Constructive form interference occurs when two or more phenomena enhance the form expression.
- Destructive form interference occurs when two or more phenomena reduce or neutralize the mutual effect.

Likewise, the theme ‘form complementary’ appears when complementary form elements are added. Thus, a form metamorphosis occurs, for example when a concave and a convex form are added to a form which will then appear to resemble a crescent moon.

With reference to Johannes Itten’s chromatology [5] we can talk about complementary contrast when the involved form elements represent contrasting forms as a geometric form against a blob shape.

- Constructive complementary form relates to the addition of complementary form elements.
- Destructive complementary form relates to the subtraction of complementary form elements.

‘The cut’ is a theme which in this terminology relates to the destructive complementary forms whose aesthetic effect can be quite equal to the constructive complementary forms, see Figure 2. Lynge’s work with ‘the cut’ theme illustrates how the cut can break a forms triviality.

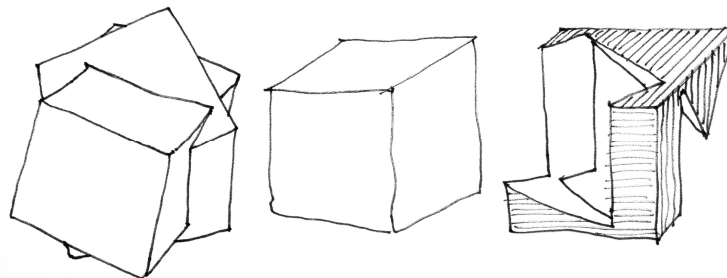


Figure 2. Destructive complementary form

‘The module’ theme which seeks to discover the options available based on an incentive, which generates new forms by joining of several similar forms. This is done quite simply by conglomerating matching form expression, manifested in several scales, or tested with combinatory joints until patterns or shapes. Lynge had a particular awareness of forms where laws occur from pattern

³ From a conversation between Niels Guttormsen and I, 10th September 2003.

⁴ Extract from 'about the school's idea' Erik Lynge & Bear Bråten Maribo 1979.

formations with a repetition direction - from point to point along straight lines, broken lines, curved lines, sinus or spiral lines. Along lines that are closing or radiates radically from a point. Divided into modules - into units - selected for the division of a line, a surface or a volume. The transformations appear in mono, di-, tri- or poly themes, possibly with interference between the themes. The tension theme includes investigations of the effects of linear pull, pull in three directions with an angle of 120° from a common point, diagonal pull and central pull or multi-sided pull. The form's inner tensions are explored with a focus on the plane's curvature resistance, breaking point resistance, piercing, entangling (where fragments entangle together), in addition to this there are the internal material stresses (caused by e.g. rolling) and contrapuntal tensions' activity (several mutual tension influences independent of each other that interact and form micro deformations).

The fourth dimension, time, often makes the micro deformations visible as a result of the material's plastic deformation.

'The weightless gravity' is a theme that revolves around phenomena as the physical space, the gravitational force, the physical balance and that in relation to creation of incentives is based on an assumption that the supporting surface is the form's starting point, see Figure 3.

'The nature theme' is both its own and starting point for the other themes. Decoding of natural forms and phenomena is used as a basis for the creation of incentives as well as pattern and shape construction.

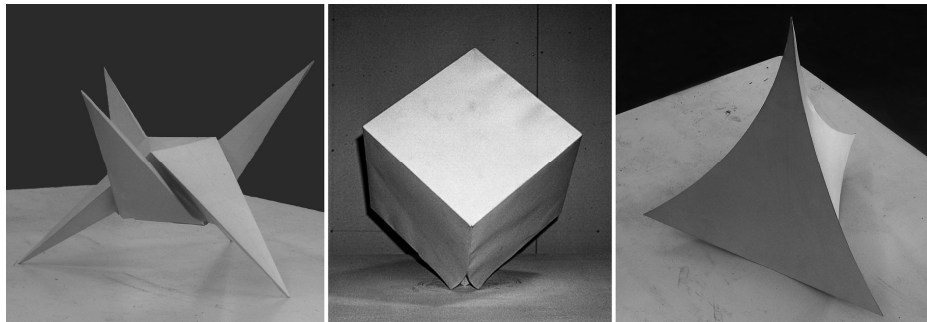


Figure 3. From the support grows the form and balanced by force of gravity

'The science theme' is as 'the nature theme' ancestor to other themes. Lyngé mentioned that inspiration can be found in studies of scientific disquisition. Lyngé was inspired by R. Buckminster Fuller and some of his incentives structures seem to be given by fuller-molecules and Karl Friedrich Gauss' study of curvature phenomena is reflected in many of Lyngé's forms [6].

3 CREATIVITY IN RELATION TO MARKETING

Selling a form - to relate what one is preoccupied with - to show the incentives which are expressing one's creativity, this reveals one's innovative process and it is a necessity for those who make a living creating form, but many obviously have an ambivalent relationship to exhibitions. It is a situation all designers recognize from when they have exhibited in their efforts to find producers. The exhibition is something temporary - a commodity on display - not as in workshop where things can work together and interact whether they turn into something or not. At an exhibition objects must be able to stand on their own and the exhibitor must be able to argue for it. Erik Lyngé formulated his reflections about the demands this makes on exhibited objects in connection with the exhibition 'From Plan to Space': "If there is expressive power on the one hand and impression sensitiveness on the other, which together are strong enough to carry a work, an irrational statement floating on the current between two poles[7]:." As the creators only influence the expressive process, they have no problem exhibiting their design as long as the objects being exhibited are protected by the artistic copyright. Unfortunately it is seldom that design has so obvious aesthetic qualities that designers are not worried if any form of copying can be prevented by a copyright protection. Erik Lyngé did not have problems like these. He tried to market his paper sculptures through the newspaper 'Information' [8] and the home magazine 'Bo Bedre'. [9], [10]. Subscribers could purchase a folded and glued paper sculpture. As an artist and educator Lyngé looked at this dissemination of his works as a means to giving the buyer an opportunity to solve the daily task: 'to experience, to seek inspiration and to create'. Lyngé, however, had no great success in marketing his own works this way, as the material might not have any bearing

on the quality of the aesthetic experience, but the material is of great importance for a sculpture's value as an investment object. However, if Lyngé had acknowledged that his works are incentives for creative designers and not for art investors, he would have been able to direct his marketing goals. Our students have experimented with the use of Lyngé's incentives as a basis for their own creation of form and with this impetus they have created paper baskets, lamps and other objects. Subsequently, the students' creations were exhibited and concluded in a study of how we can gather knowledge about how audiences judge the exhibit's aesthetic values. At the same time, we have experimented with how we can gather knowledge about how exhibition visitors assess the aesthetic values [11].

Several of Lyngé's sculptures are reminiscent of lamps and a few were also attempted to be put into production at Le Klint A / S, but Lyngé could not, as an artist, compromise on the aesthetics and only after Lyngé's death did the company develop a technique to correctly glue the edges of the sculptures.

4 INCENTIVE IN THE FUTURE

Sophia Vyzoviti's books [12],[13] about folded architecture and design, along with books on different modeling techniques [14] are sought involved in teachings and the first mentioned have proved their usefulness in relation to creating a smooth trajectory in multi-storey buildings and the latter in extending processes from sketch drawings to physical models. Lyngé's incentives range from complex aggregate forms to a simple non-figurative expression in forms folded in such a way that a convex - concave balance emerges between surfaces stretched tight as drum and surfaces pressured to slightly swollen. It is the floating lightness of exciting rhythms precisely cut and glued with a special purity, stimulating new experiments with form. The incentives communicate a number of qualities which give the forms particular features which turn them into aesthetic objects. Lyngé's form studies thus offer a different insight than the above mentioned books about paper modeling techniques. Andres Nicolai Hansen's and Poul Christiansen's many successful designs created as output from incentive illustrate that incentive created by the folding technique is not only valuable for the learning process but also in a professional practice.

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