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The Language of Textiles

Description and Judgement on Textile Pattern Composition

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Abstract
Homlong, S. 2006. The Language of Textiles. Description and Judgement on Textile Pattern Composition. (Det Textila Språket. Beskrivning och bedömning av textila mönster). Acta Universitatis Upsaliensis. *Digital Comprehensive Summaries of Uppsala Dissertations from the Faculty of Social Sciences* 19. 90 pp. Uppsala. ISBN 91-554-6699-0.

The present study concerns ways to describe, judge and discuss aesthetic qualities of designed textile patterns. Specific aims were to study how colours and compositions used in Old Amish Quilts can be systematically described, to study how simple and complex patterns in printed textile fabrics are perceived and expressed verbally and to study judgements, concepts and values in relation to designed textile patterns as expressed by schoolchildren, consumers, teachers of textile handicraft and designers.

The study design is qualitative in order to collect concepts used by subjects from different user groups when describing textile patterns and of the reasons for their judgements of the designed patterns. A modified Repertory Grid Method was used. Describing colour design and composition using graphic models was also attempted.

The experience of aesthetic qualities in designed patterns is complex and not possible to describe using clear-cut concepts. Descriptions and choice of words are part of different language games outside the field of textile design and their contents are found in a dynamic interplay between a number of experiential contexts. The dominant inner contexts of individuals, basic perceptual patterns of apprehension, direct experiences of the surrounding world, and influences from the cultural context all give different and complex structures of attention. Different structures of attention lead to different perceptual choices and different descriptions, judgements, notions and values concerning designed printed patterns.

The present study shows that subjects make their judgements on the basis of formal, functional, cultural and emotional contents. These content categories are related to the multiple contexts of different dimensions of experience. For judgement and communication in the process of design and in design education, mutual understanding calls not only for concepts and notions in the field of design, but also consideration of conditions of experience and communication in life.

Keywords: Textile, Pattern, Design, Amish, Quilt, Aesthetic Qualities, Repertory grid method, Natural Color System, Sloyd, Implicit knowledge, Communication, Structure of attention

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List of papers

This study concerns description and judgement of aesthetic qualities in textile patterns. Starting point is descriptions of visual properties in pattern, colour and composition in some traditional Amish quilts and in some designed striped printed fabrics, all of them with abstract, non-figurative patterns. The thesis consists of a licentiate report and two articles:

I   Homlong, Siri. (2000). *The Old Amish Quilt. Et forsök på transformering av en tradisjon.* Uppsala University: Department of Domestic Sience. Licentiate report. (Paper I).

II   Homlong, Siri. (2006). Beskrivning av tygers estetiska kvaliteter. In *Lärandeprocesser genom skapande arbete i vetenskaplig belysning.* Ed. Christina Nygren-Langärds, Kajsa Borg. Vasa: Pedagogiska Fakulteten, Åbo Akademi. Rapport nr.21/2006. (Paper II).

III   Homlong, Siri, Christina Fjellström, Lillemor Abrahamsson, Edith Skjeggestad, Ulf Klarén. *Choosing printed textile patterns of different complexity. Aesthetic judgements and values.* (Submitted). (Paper III).

Contents:

Abbreviations

FSF	Föreningen Svensk Form
	Society of Crafts and Design
GBS	Grunnleggende Begreps-Systemer
	Basic concept systems
NCS	Natural Color System
R & D	Research and Development
SIK	Swedish Institute for Food and Biotechnology
SOU	Statlig Offentlig Utredning
	State Commission of Inquiry
™	Trademark

PART I

Introduction

In the syllabus for sloyd[1] in the Swedish compulsory school system, teachers are obliged to form opinions on pupils' aesthetic expression. Hence the curriculum stresses that, in everyday life, demands are constantly present concerning the appreciation and evaluation of design and function. The aim of sloyd lessons is to create awareness of aesthetic values (Skolverket, 1996). Because the compulsory school is to provide general knowledge for everyone, awareness of aesthetic values is viewed as highly educational. In a broader perspective, it is a matter of taking part in a public discussion on quality and, as a consumer, being able to make conscious choices.

Colour, visual form and composition are important elements in design and handicraft education in the schools as well as in the training of handicraft and design teachers. The value of having practical experience in working with concrete materials must not be underestimated. Because there is a subject field of design and a design process, it should be possible to evaluate the results of design education. Evaluation may be based on the content and aims of the subject, on reflections made by the pupils/students during the working (sloyd) process[2] and on their comprehensive understanding of this process. The point of departure of the present thesis is my experience as a practitioner in the textile design education field and some problems I have encountered and reflected upon. When teaching textile handicraft at the Department of Domestic Science, I have experienced students who claim that it is impossible to give rationally justified opinions about aesthetic qualities in textile products because aesthetic judgements always are subjective. Moreover, teachers sometimes mention having problems with providing objective judgements about aesthetic qualities in students' work. They also tend to

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[1] Sloyd, or crafts, is a subject in the Swedish compulsory schools in which pupils work with textiles, wood and metal.
[2] Eggleston (1976:21) describes the difference between the design process, which is framed by technical criteria, and the process of technology. Both processes are based on the idea that divergent and convergent thinking work together during the design process: divergent thinking when ideas are developed, convergent thinking when limitations on ideas are made; divergent thinking when testing ideas, convergent thinking when decisions for production are made. Borg (2001:117-124) gives some examples of the non-linear structure of the sloyd process and how the process is described in different ways.

respect established designers' judgements when giving aesthetic opinions and underestimate their own competence, experience and ability to make their own aesthetic judgements.

Therefore, an important aspect of textile design is when and how aesthetic judgements are made. The whole process of designing – from ideas and visions to finished product – includes aesthetic judgements: In the first planning phase, several sketches are made that can later be changed, adjusted and further developed. Already at the beginning of the manufacturing process important decisions must be made so that the intended aesthetic expressions in the finished product can be achieved (Farstad, 2003; Lawson, 2001; Landqvist, 1994). In the handicraft process, adjustments are often made during the course of the work, while in industrial manufacturing, most of the decisions must be made in advance. When a product is finished, further judgements are needed: designers and artisans evaluate the result of their efforts, teachers judge the works of pupils or students and purchasers or consumers judge the suitability of the textile based on their particular needs. Thus, it is important to reflect on how we can describe visual qualities – verbally or visually using graphic models (for example, colour systems) – and to discuss the premises on which people with different backgrounds describe and express their opinions of textile fabrics and patterns. In order to see and attend to attend and catch sight of available design elements, it is important to get a good insight into the preconditions for communication about aesthetic qualities. This is important in education and research and development (R&D), and not least in concrete design work. Well-defined verbal notions, conceptual models and a general insight into the preconditions for description and communication – possibilities and limitations – contribute to our understanding of the surrounding world and help us imagine future design solutions.

As a consumer, textile artisan, teacher in textile design and researcher in the field of textiles, I am trying to find ways to describe and evaluate textile design. Establishing a special language to communicate about textiles is not an end in itself. Being able to communicate distinctly about aesthetic qualities is, however, essential in teaching, in professional work and in R&D in the field of textiles. This kind of communication is also important in our daily life. For example, an international system of special terms with underlying qualities has been developed to describe characteristic tastes of different wines (Nygren, 2004). These terms make it easier to imagine the characteristic taste of a wine, but they also help us discover and determine characteristics as well as choose the product we are looking for. In the field of provisions and in the food industry, sensory studies have been developed into an international field of research (Kihlberg, 2005; Meilgaard et al., 1991; Sensorisk Studiegruppe, 1997). Methods have been developed to describe how

consumers use their senses to form opinions on, for example, food. Sensory methods are also used in other fields, but in the field of textiles, such studies are limited in number and scope.

According to Dormer (1993), it is more important for designers than for artisans to be able to communicate their ideas. Artisans make the products themselves and do not need to translate their intentions to others. A designer, however, "must make his or her intentions explicit – communication is at the heart of industrial design" (Dormer, 1993:9-10). Communication in the field of design is a problem in industrial production. Several professional groups are responsible for different parts of the design process. Systems and models to facilitate communication are under development (Le Pechoux et al., 2001A+B). Through observations and interviews in 20 tricot companies, Eckert et al. (2000A+B) have studied ways of communicating about knit-wear design. The results showed communication problems between design-ers and technicians. The problems arose from cultural, educational and pro-fessional differences (Eckert et al., 2000A). Communication was better within designer groups, where it was based on illustrations and common frames of reference. New ideas were communicated with reference to earlier design and to how these garments could be changed in different ways. Eckert et al. call this source language. Knitwear designers used source language to describe the new design they were planning and supplemented their descrip-tions with mood boards[3]. The verbal communication consisted of adjectives and descriptions of how the new design should be varied from the inspiration source and of references to style and expression. The procedure of realizing these ideas was not communicated. It was implicit in the group. They also did not use established systems to describe exact colours and shapes[4].

Borgen (1998) has studied how participants describe their products in a competition aimed at calling attention to Norwegian arts and crafts and handicrafts during the Olympic winter games. The competition was open to both amateurs and professional artisans. The products had to be unique handicrafts in wood or wool (knitted products), but at the same time con-nected to Norwegian traditions of form and pattern. Artisans had to provide a description of their sources of inspiration and of the working process from vision to finished product. Borgen analysed and compared these descrip-tions[5]. She found that the difference between amateurs and professionals was less than expected, although the professional group used more professional artistic terms in describing aesthetic qualities. They also had a larger and

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[3] A collage showing the emotion that the product is supposed to express. It can include pieces of fabric, a colour mood, photos, etc., but usually no exact illustration.
[4] For instance Natural Colour System (NCS) or Shape Grammar (Stiny, 1980).
[5] There were 210 participants, 200 knitted products and 83 objects. Every participant was allowed to send in 3 products.

more distinct field of artistic references. In the amateur group, more references were made to concrete experiences. Hence, when reading the amateur descriptions, it was easier to imagine what the products looked like (Borgen, 1998:106-108).

Grøndalen (2006) criticizes teacher training in Norwegian Art and Crafts; it does not prepare prospective teachers for making aesthetic judgements of students' work with concrete materials. She claims that there are certain universal elements of design and that knowledge about colour and form is essential. The students will get this kind of knowledge especially by working with colour, form and handicraft techniques using different materials, where analyses and evaluations are an intrinsic part of the sloyd process – i.e. the working process – from idea to finished product. She says that it is necessary to develop and strengthen teachers' verbal competence to enable them to communicate judgements and opinions; teachers must master certain appropriate concepts if they are to instruct pupils. Well-defined terms describing aesthetic qualities are presented and used in some student literature, for instance in Skjeggestad (1996), but Grøndalen points out that the terms are not used frequently and consequently enough to be of any help to the student teachers. Grøndalen also considers that teacher training must include more information about aesthetics. The teacher must be able to instruct and to form opinions on their own work as well as the work of pupils.

According to the Swedish syllabus for sloyd, in order for pupils to pass, teachers must evaluate their sense for aesthetic values and qualities, as they are expressed during the working process and in the finished product. The teacher also has to form an opinion of the pupil's ability to appreciate his or her own work and to see the consequences of different choices, for example from a functional, aesthetic, environmental, communicative or economic point of view (Skolverket, 1996:71-74). The aims and purposes of the subject of sloyd are to contribute to pupils' overall development by training their creative, manual and communicative abilities (ibid.). The compulsory school curriculum states that sloyd contributes to the development of concepts relevant to the subject itself as well as to other school subjects, for example through mathematical applications as a basis for an understanding of proportions and geometry. When pupils listen to instructions and document, present and evaluate their work, these activities contribute to the development of reading and writing (ibid.:72). The teacher, therefore, must be prepared to communicate with pupils and to make aesthetic judgments of their work, and in order to promote a constructive dialogue, the concepts used must be comprehensible to pupils. Nyborg (1986) claims that children without a basic conception of, for example, spatial understanding will have problems with reading, writing and arithmetic, areas in which directions and structure are important elements. Nyborg takes a stand on Vygotsky's ideas

and has made a teaching model for development of concepts for children: Grunnleggende Begreps-Systemer (GBS) (*basic concept systems*). According to this teaching model, children are trained in understanding concepts by using examples and specific experiences; the teacher associates concrete examples with concepts or the children themselves use concepts and reiterate them in connection with different examples. Nyborg's classification of what he considers to be basic concept systems is interesting. His categories are: colour, form, pattern, positions, functions, numbers, size, location concepts, direction concepts, speech sounds, materials, qualities of material, surface, temperature, taste, scent, weight, change, time, value, speed and units of measurement (Nyborg, 1986). Many of these categories have distinct associations with concepts used to describe visual design (Juul & Skjeggestad, 1992; Skjeggestad, 2001; Mørk, 1994; Wong, 1993) and the material properties of sloyd products. Mørk considers, as does Nyborg, that personal experience is essential to conceptual understanding. Mørk also points out that:

> The reality of the school day is dependent on a common language, which is valid at least at school. It is important to find verbal expressions for all actual formal relations, because we learn to handle problems of form through our language proficiency. Concepts leading to new knowledge, understanding and insight are based on personal experiences and impressions. When we convey our own opinions, they influence our linguistic usage, but if these are not subjective interpretations, descriptions of facts, so-called descriptive statements, as well as normative statements, will have to follow the rule of objectivity. The purpose of aesthetic training is namely to exercise objectivity and analysis of formal relations (Mørk, 1994:19, my translation).

Here, Mørk discusses the need for a common language for analysis of form in pictures and objects, but this may also be true of all kinds of aesthetic expressions: colour, texture, composition, etc., even of aspects of function. Mørk points out that educators need verbal concepts to explain aesthetic structures, both for evaluation and description. Language proficiency is necessary in education if we are to discuss problems of form. Focusing on concrete design elements and well-defined concepts of expression would promote a more objective – and less subjective – way of discussing designed objects and the design process. Hence, development of and attention to verbal concepts and other methods of objective description are important both to the sloyd subject and to other school subjects (Nyborg, 1986; Skolverket, 1996).

Sibley (1959) differentiates between the aesthetic and non-aesthetic concepts used by critics; as an instance of aesthetic concepts, he mentions *graceful, delicate, handsome, elegant,* etc. Aesthetic concepts can also be metaphors, such as *dynamic, balanced, vitality,* etc. Aesthetic concepts are often described indirectly through what Sibley defines as non-aesthetic concepts;

delicate because of its pastel shades and curving lines (Sibley, 1959:424). Hence, the non-aesthetic concepts are words describing the elements of the composition. He stresses that there is no standard connection between composition, colour features, etc., and when using aesthetic terms, it is necessary to apply them to samples and examples, as there are no rules that result in a specific aesthetic concept; pastel shades and curving lines per se do not make a work of art delicate. Sibley also argues in favour of teaching people to understand aesthetic concepts, and he suggests that this could be done by helping people see the features of objects and apprehend and attend to the visual dimensions of objects. To be comprehensible, concepts used to describe aesthetic qualities should be metaphorical, related to common meaning and linked to non-aesthetic notions. According to Sibley, this is the normal way of introducing a child to the meaning of concepts; children gain experience of the external world through their senses, and they hear people talk about things and features using aesthetic notions such as *lovely, pretty* and *ugly*. Sibley regards these situations as starting points from which we extend our aesthetic interests to wider and less obvious fields, gradually mastering a subtler and more specific vocabulary of taste[6] (Sibley, 1959:449). He stresses that, to help us see aesthetic qualities, critics should support their judgements by using common non-aesthetic words that point out the key features of objects. I find Sibley's approach to be about what Grøndalen (2006) and Mørk (1994) are calling for, and that Sibley's way of describing how concepts are established in children corresponds to Nyborg's (1986) ideas about how concepts generally come about.

In her thesis, Johansson (2002) found that children learn sloyd in a social context and in an interplay with other pupils and the teacher. She found that the communication between teacher and pupils was on a low pedagogical level; the dialogues should have included more expansive features to challenge pupils' understanding of working with crafts and design, not only directions on how to make a product. As stated in the sloyd syllabus, reflection on aesthetic qualities in material and design is an important part of the sloyd process. In educational situations, it is necessary to have a common language when discussing design (Mørk, 1994). The question is, then, what should be discussed? What are the aesthetic qualities? How do we talk about them? From which perspective should they be evaluated? These questions are posed in the present thesis.

Teachers are supposed to provide specific knowledge about and to form opinions of different aesthetic expressions during pupils' and students' design process. Consumers have to appraise aesthetic expressions of products in the market. In different areas of handicraft and textile production, teach-

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[6] Sibley defines the taste concept just as he does the aesthetic concept (Sibley, 1959:424)

ers, researchers, purchasers and others must judge the final product based on different factors such as function, aesthetics, taste and so on. It is of interest to find out what people experience in a specific fabric and on what basis aesthetic judgments are made. This may result in a better understanding of how aesthetic properties are described and judged. In textile studies, it is also important to have methods for categorizing and analysing textiles' aesthetic qualities. Therefore, in the present study, I have tested different methods of describing textile patterns, and looked at the underlying reasons for judgements of textile patterns.

Aim

The overall aim of the thesis is to study how aesthetic qualities in textiles are communicated and perceived. Specific aims are:

- to study how formal qualities, colours and compositions used in Old Amish Quilts can be systematically described.
- to study how simple and complex patterns in printed fabrics are perceived and expressed verbally.
- to study judgements, concepts and values in relation to designed textile patterns as expressed by schoolchildren, consumers, teachers of textile handicraft and designers.

Research strategy

The study is interdisciplinary. It concerns perceptual aspects of individuals' visual impressions and how these impressions are understood and can be verbally expressed. The study involves cognitive, psychological, perceptual, aesthetic and cultural aspects. Each of these aspects constitutes a special area of research. It is impossible to delve deeply into all of these areas in this study. I limit myself, therefore, to such literature, theories and trains of thoughts that I have found to be distinctly applicable to the interdisciplinary area of textile research dealt with in this study.

Figure 1 illustrates the research strategy. The starting point of the survey of Old Amish Quilts constitutes a personal and subjective impression of the quilts and my wish to find a way to describe and explain the visual content of the Amish quilt patterns. The study of the Old Amish Quilts was based on an analysis of objects, interviews and literature studies, conducted in order to describe the context of the creation and production of the quilts. In my continued research efforts, the aim was to study how individuals with different experiences of textiles apprehend, describe and evaluate aesthetic qualities

of patterned fabrics. My assumption was that it makes a difference whether a person is familiar with textile design – that different experiences influence preferences as well as justifications when judging the aesthetic characteristics of textiles. I have studied how knowledge and experiences are reflected in statements and judgements of professionals and laymen in the field of textile design. In this study, didactic aspects of teaching about aesthetic qualities in textile design have been further developed. They were also included in the study of The Old Amish Quilts.

Personal aesthetic experience of textile patterns: The Old Amish Quilts	What is the basis for people's aesthetic experience?
Study I: Principal descriptions of formal aesthetic qualities, colours and compositions used in Old Amish Quilts. Craft work inspired from the Old Amish Quilt.	Study II & III: How do people experience designed striped textile patterns with different complexity?

The Language of Textiles.

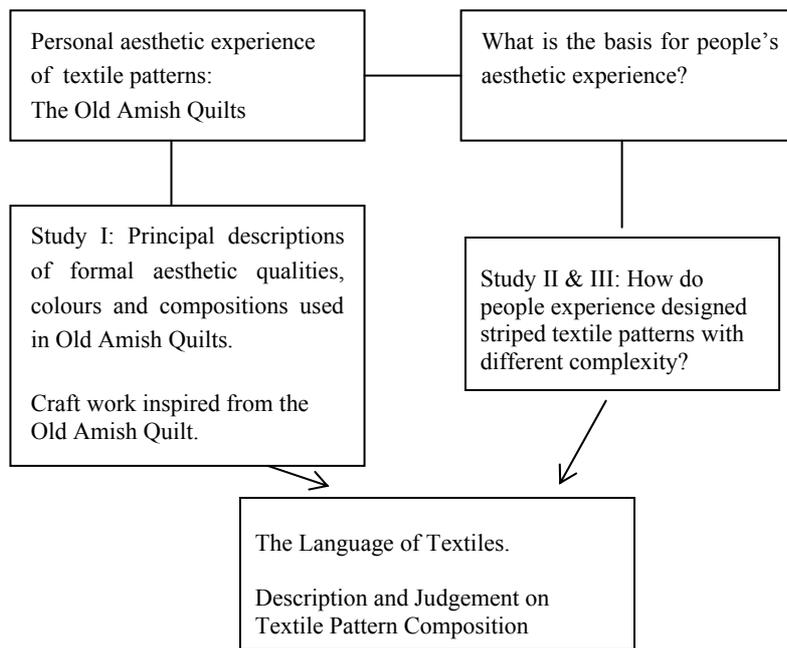Description and Judgement on Textile Pattern Composition

Figure 1. Research Strategy.

In all kinds of textile education as well as in the professional field of textile design, traditional patterns and products from our own or from other cultures are sometimes used as inspiration when planning new products. [7] In the study of the Old Amish Quilts, I discussed ways of transforming traditional forms and patterns from different cultures into modern design. This part of the study caused me to pay particular attention to the demand for descriptions in

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[7] This is my own experience from different courses in textile design. During this study, I also asked eleven designers how they got inspiration for their design, and some of them mentioned traditional design as one of the starting points for new pattern design. Stensman (1994) gives some examples from the past two decades in Sweden, for instance IKEA's eighteenth century project in 1994 and Rahoult's stripes inspired by old bolsters, produced in linen by Klässbol (this collection received the Excellent Swedish Design award (Utmärkt Svensk Form) in 1992).

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the field of aesthetic qualities. Attention to aesthetic qualities and the ability to describe and mediate typical structures of colour, shapes, expressions, etc., are of great importance both in the area of design and sloyd education and when designing products for commercial purposes.

Disposition

The thesis is divided into four parts: The first part introduces my interest in pursuing studies in the field, the aim of the research, definitions of concepts used and the limitations of the study. Some of the background theories on visual appreciation used in the study are presented in Part II. In Part III, the empirical studies are described and discussed. The reprinted licentiate report (Study I) and two articles presenting parts of the results are found in the appendices (Study II and III). In Part VI, the main focus is on reflections on describing and judging textile patterns. These reflections are based on what is described in Part III. The thesis ends with a conclusion section.

Terms and concepts used in the thesis

Textile patterns

The patterning of objects derives from a will to decorate and draw attention to surfaces. The Latin word *decorare* means to decorate or embellish. In addition to patterns making things more beautiful, significant symbols have been used for decoration in order to communicate special meanings or to be used in ritual contexts (Juul & Skjeggestad, 1992). The word ornament (Latin: ornare) has the same original meaning as the word decoration. Today, however, it has a more specialized meaning: It is a motif of decoration used separately or as a detail that can be repeated in a pattern following special structural rules. This kind of motif may also be called a form element. Juul and Skjeggestad define pattern as a "part of the decoration that is based on repeated form elements /…/ used in order to form a border, a surface pattern or a separate motif" (Juul & Skjeggestad, 1992:11). In Swedish, this kind of repetition is called rapportering – which means repetition of pattern elements[8]. This kind of repetition of pattern elements is built up in more or less distinct systems (Juul & Skjeggestad, 1992; Wong, 1993).

The present study focuses on the description and judgement of patterned surfaces. In the Amish quilt, a surface is made of square form elements of

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[8] Wong (1993) calls this repetition of unit form.

different sizes, composed from the centre outward. In the study of striped fabrics, form elements – stripes – are repeated all over the surface.

Aesthetics qualities

The notion of aesthetics derives from a Greek word for perception. It refers to sensory or sensuous experiences, commonly to visually pleasing qualities. Aesthetics is associated with ideas of creativity and intuition, in contrast to reason and logic. Aesthetic experience is not necessarily related to sensuous apprehension of objects. It can also appear when playing or telling a story, when reading a book or reflecting on the beauty of nature. Hence, aesthetic emotions are based on impressions that are captured by our senses and filtered through our experience. In the 18th century, aesthetics was defined as a philosophy of intuitive understanding of the world. Later, however, it has primarily been used as a theory of experience of art and literature. Today there is a wider appreciation of aesthetic experiences, and even researchers outside the institutions of art and literature now take a special interest in aesthetic theories (Feagin & Maynard, 1997:3-10).

Today, the notion of aesthetics is often used more as a term describing a sensuous way of looking at things, involving special values, attitudes or lifestyles. The Swedish National Encyclopaedia presents five definitions: (1) the study of beauty, (2) theory of senses, (3) philosophical studies of problems, concepts and basic conditions concerning art and art experiences; "art" here used in the broad sense of the word, including visual arts, literature, music, film, theatre and other kinds of aesthetic objects, (4) empirical studies of factors influencing aesthetic preferences and experiences of beauty and (5) apprehension and understanding concerning appearance and expression in art, nature and everyday environments, etc. (NE, 060731). (1) is the classical definition of the notion of aesthetics (Tatarkiewicz, 1972). (3) and (4) have aroused interest among ethnologists (Valeri & Nordström, 1996). (4) is what this study is about: How do individuals perceive and understand visual appearance in textile patterns and how and to which extent can their experiences be communicated? Farstad uses the concept of 'applied aesthetics'[9] (Farstad, 2003:71) to describe everyday aesthetic experience.

Hermerén (1988) classifies five kinds of aesthetic qualities: emotion qualities, behaviour qualities, gestalt qualities, taste qualities and affective qualities. The gestalt qualities are central to textile design education when making pattern compositions using such aesthetic elements as colour, forms, points and lines, building surfaces with different textures, using different materials and techniques (Albers, 1987; Skjeggestad, 2001; Wong, 1993). How we use

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[9] Anvendt estetikk

and combine aesthetic elements depends on what expression we want the pattern to have, thus whether we want the pattern to be harmonious/disharmonious, balanced/unbalanced, dynamic/stable, express rhythm, movement, calmness, excitement, chaos, illusion, etc. (Skjeggestad, 1996:34ff, 2001:41-55; Wong, 1993). The creative design process involves sketching, experimenting, selecting and putting together aesthetic elements leading to an aesthetic composition. In textile design, the use of different material and technique combinations also influences how the textile fabric drapes and feels to the touch. Textiles include several of the aesthetic qualities classified by Hermerén; the aesthetic qualities in textiles are both visual and tactile. Aesthetic appreciation of objects emanates from a manifold of aesthetic experiences.

Leddy (1995) divides aesthetic qualities into positive and negative aesthetic qualities. Aesthetic qualities are perceptual qualities that either please or do not please us when we are apprehending them; they are related to aesthetic experience. Leddy and Sibley (1959)[10] stress that there are similarities between everyday surface aesthetic qualities and the special qualities that traditionally have been called aesthetic, and that these similarities should not be neglected. Leddy (1995) finds, for instance, that the items in Hermerén's list of gestalt qualities (unified, disorganized, coherent, tightly knit, complete, simple, balanced, harmonious and integrated) and items from other lists (neat, messy, clean, dirty, sloppy, filthy, ordered, cluttered, cleared, blemished, attractive, pure and the opposite, for example, disorder and not cleared) could all be defined as everyday surface aesthetic qualities. What is noteworthy about these qualities is that they are frequently found in everyday life even when used in the visual arts, for example, to describe elements or structure: clean lines, muddy colour, neat construction and cluttered space (Leddy, 1995:259). Leddy claims that these terms could be used both as metaphors and in everyday usage, i.e. both perceptually clean and washed clean.

The first study (Study I) in the present thesis was a survey of aesthetic qualities of some old Amish quilts. In focus were studies of colour and form and the way in which they were visualised in the quilts. A quilt contains three layers: a top piece, which is often patterned, batting and a backing piece. These three layers are most often sewed together in a systematic pattern that may be figurative and/or a system of lines and grids. This is called quilting. Thus, a quilt always has a texture, owing both to the structure of the fabrics and to the quilted patterns that hold the three layers together. To limit the survey, no analysis of the textural effects of the studied quilts was made.

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[10] Sibley (1959) does not provide a definition of aesthetic qualities, but his point of view will be presented below in connection with concepts used to describe aesthetic qualities.

This limitation was also made in the study on description (Study II) and judgements (Study III) of printed textile patterns, where texture was excluded as a variable. Variables such as texture, tactile character, softness and drape are important parameters when studying textiles. In the future, I hope to have the opportunity to study these qualities. In the present survey, however, the character of patterns is studied. The purpose of this study is to focus on personal aesthetic experiences and aesthetic judgements of objects in the surrounding world, here textile pattern composition. The study is limited to visual aesthetic qualities in design. Hence, here, the notion of aesthetic qualities is defined as patterns of colours and shapes. Professional and everyday notions used to describe the impression of the patterns will be noticed.

Design

Design is both a noun and a verb; it refers both to products and processes (Lawson, 2001:3). The process of design includes a great number of intentions, considerations and plans, from initial ideas through manufacturing, distribution and marketing (Farstad, 2003; Lawson, 2001). The word design is also used to mean giving form[11] (Wiberg, 1996:244, footnote 40). Below, when the word design is used as a verb, it means to give form, and when it is used as a noun, it refers to the result of giving form (for instance a pattern).

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[11] In Swedish: formgivning.

PART II

Theoretical approach

The process of cognition allows the human organism to be aware of the surrounding world. Eisner calls the sensory system our information pick-up-system (Eisner, 1997A:66). Initially, cognition is concerned with awareness. Aspects of visual perception of aesthetic qualities are central to the present study. It is not possible to describe all dimensions of perceptions of the outer world, but my assumption is that we can express verbally what we are able to attend to. To attend to something, we must have some kind of concept about it, and to describe it, we must have well-defined verbal concepts. Below, different aspects of perception and possibilities to use verbal concepts to describe visual experiences are presented. Different approaches to aesthetic appreciation are discussed. Appreciation has many sources; it may be based on perceptual ability or on culturally influenced emotional experiences of good or bad "taste". Beauty is traditionally associated with feelings of delight. Appreciation is also associated with order; one old and abiding view is that order contributes to a greater significance (Feagin & Maynard, 1997:4). My intention is to show that visual appreciation is caused by a dynamic interplay between all of these sources, which are indivisible when we try to describe the reasons for appreciation or aesthetic preferences. In Sweden, preferences for simplicity have been discussed[12] and questioned during the time of my study, and some elements of these discussions have therefore been included here.

Categorical perception

The elementary perceptual principles mean that reality, as we perceive it, is divided up into distinct units. A technical term for this is *categorical perception* (Gärdenfors, 2000:40; Harnad, 1987; Klarén, 2006:289). Categorization is a basic cognitive activity. It is involved in any task that calls for differential responding, from operant discrimination to pattern recognition to naming and describing objects, etc. (Harnad, 1987).[13] Spatial perception, basic per-

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[12] See below under Cultural influence.
[13] More texts about categorical perception: www.ecs.soton.ac.uk/~harnad/cp.html

ception of outlines, distinctive colour combinations, shape, balance, etc., are all based on categorical perception. Categorical perception is innate in some respects, but for the most part it is acquired early in life when the child starts to sort visual and other sensory impressions from the surrounding world. Visual perception does not operate like a camera just registering impingements from the outer world. Seeing involves grasping some outstanding structural features of objects (Arnheim, 1974). To perceive something, we need "perceptual concepts"; perceiving is an active and creative process. The same mechanisms operate on both the perceptual and the intellectual level; not only pure categorical perception, but also terms like concept, judgement, logic, abstraction, conclusion, computation can be applied to the process of perception. Arnheim claims that

> "(Vision is) a creative activity of the human mind. Perceiving accomplishes at the sensory level what in the realm of reasoning is known as understanding. Every man's eyesight anticipates in a modest way the justly admired capacity of the artist to produce patterns that validly interpret experience by means of organized form. Eyesight is insight" (Arnheim, 1974:46).

Arnheim mentions works of art: Forms, colours, composition, etc., can here be looked upon as patterns, the meaning of which depends on what we understand. This is not only true of artistic works, but of all experience of the external world. Arnheim refers to experiences that show that memory traces of familiar objects may influence the shape we perceive and make it appear to us in quite different ways. Examples of this phenomenon are the figures of an old woman that may also be perceived as a young woman, and the illustration of a duck that may also be perceived as a rabbit. However there must be a structure in the shape (or pattern) that makes the connection to perceiving – a structure of attention (Arnheim, 1974:49). There has to be a structure in the outer world that is possible to attend to and to connect to experience. It is not possible to see a pattern if there is no structure in the outer world that evokes such a pattern. You cannot, as Arnheim says, see a giraffe in a simple cube. But Arnheim adds that these experiments do not prove that seeing is determined entirely by what we have seen before (Arnheim, 1974).

Independent of culture and all over the world, simple geometric shapes have been used throughout the ages to decorate surfaces. According to Langer (1979), one reason for this may be fulfilment of universal preference for ease of perception demands for perception without hindrance. In that case, the emotional content of elementary form symbols would be valid always and for everybody. Langer considers it conceivable that elementary forms such as parallel lines, triangles, circles, spiral forms, zigzag patterns and symmetry may have an instinctive cause in the basic principles of perception (Langer 1979). Thus, they may be easier to perceive and relate to than are

more complex structures. Referring to studies in Gestalt psychology[14] showing the ability of human beings to form perceptual structure and order, Gombrich (1979), in *The Sense of Order*, analyses different patterns. Gombrich argues that there is also a link between the logic of structure and the ease of perception. He says that a pattern with many details is easy to perceive if it has a systematic and logical structure, i.e. a distinct order. During the process of handicraft production, elementary schematic patterns are gradually adjusted by means of the artisan's aims, choice of materials, methods and functional needs. During the working process, complexity will be balanced and easier to take in if there is a basic system from the very beginning (Gombrich, 1979:9).

According to Gestalt psychologists, the basic law of visual perception can be described as follows: *Any stimulus pattern tends to be seen in such a way that the resulting structure is as simple as the given conditions permit* (Arnheim, 1974:63). Simplicity in patterns can be identified by how easily or rapidly we can imagine and remember them and also by how easily they can be described in words, but, according to Arnheim, not by counting the number of elements. Arnheim supports the latter reservation using examples from experiments in which patterns containing many elements were judged as simpler based on the structure of the elements than were figures with fewer elements (Arnheim, 1974:55 ff). In his examples, lack of symmetry negatively influenced perception of simplicity.

Aesthetic appreciation

Aesthetic appreciation is an intuitive preference for an object. It also implies a judgement. Many researchers have studied preferences for simplicity and complexity. Below I present some empirical studies on preference of form that support or discuss the hypothesis of the precedence of perceptual simplicity. In two studies, Eisenman (1967) has found that subjects respond

[14]The most basic rule of Gestalt is the law of *prägnanz*, which says that we try to experience things in as good a holistic way as possible. In this sense, "good" can mean several things, such as regular, orderly, simplistic, symmetrical, etc. The other gestalt laws are: <u>Law of Closure</u> - our mind adds missing elements to complete a figure. <u>Law of Similarity</u> - our mind groups similar elements of an entity. Similarity depends on relationships based on form, colour, size and brightness of the elements. <u>Law of Proximity</u>: regional or chronological closeness of elements are grouped by our mind and seen as belonging together. <u>Law of Symmetry</u>: symmetrical images are seen as belonging together regardless of their distance. <u>Law of Continuity</u>: the mind continues a pattern, even after it stops. <u>Law of Common Fate</u>: elements with the same moving direction are seen as a unit. <u>Figure-ground Law:</u> our minds have an innate tendency to perceive one aspect of an event as the figure or foreground and the other as the ground or the background. According to Gestalt theory, these laws not only apply to images, but also to thought processes, memories, and our understanding of time (Carlson et al., 2000).

favourably to symmetrical shapes and are unlikely to choose complexity. But they do not necessarily prefer the simplest shapes. Thomas (1969) concludes, based on three tests with children age 7-19 years, that all ages respond primarily to the complexity of the stimulus. They are relatively insensitive to pattern variability, but become more sensitive to variability when they are older. Berlyne (1963; 1966) exposed undergraduates to pairs of complex and less complex patterns at four different durations: 0.5, 1.0, 3.0 and 4.0 seconds. He found that the complex patterns were chosen more often if the exposure time was 1.0 second or less, and the less complex pattern were chosen more often if the exposure time was 3.0 seconds or more. He suggests that longer exposure time allowed ample time to investigate the more complex figure, which satisfied people's curiosity, and people thus chose the less complex pattern as a matter of aesthetic preference (Berlyne, 1966).

In another study, Hutt and McGrew (1969) found that 5-year-old children viewed simple figures longer than complex ones, and that the 11-year-olds did the opposite. The 8-years-olds showed no difference. The younger subjects tended to fixate longer on patterns they could relate to familiar forms, thus, patterns to which they could attach a label, and these patterns were more often symmetrical, simple stimuli. In a later study, Hutt and Aitken (1974) gave children age 3-10 years the choice of viewing and ranking simple and complex polygons. They found that the older children (9-10 years) were able to provide different reasons for their preferences in terms of finding them *interesting* or *pleasing*, in the manner of adults. The rankings of both *interestingness* and *pleasingness* increased linearly with complexity in the 9- to 10-year-olds. Like adults, the 9- to 10-year-olds tended to find less complex patterns more pleasing than patterns they found most interesting. The younger children were just asked to rank according to which patterns they *liked*. After six years of age, their preferences were for increasing complexity. The majority of the 5- to 6-year-olds, however, preferred the less complex patterns. Hutt and Aitken explain this result in terms of the transitional stage occurring at 5-6 years when children move towards concept-guided symbolic learning. They propose that children of 5-6 years exhibit a preference for stimuli they can somehow organize in terms of classes and concepts. The older children, who are beyond these conceptual transitions, may not have the same need for such verbal support.

Rentschler et al. (1999) examined the effects of category learning on 20 adults' (20-30 years) preference judgements of unfamiliar images. They found that complexity and bilateral symmetry were two distinct factors that were determinants of preference judgements. The effects of the complexity factor varied with object knowledge acquired through category learning, but the impact of the symmetry factor was proven to be unaffected by learning

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experience. These and other tests show that, under some conditions, there seems to be a preference for symmetry, at some ages a preference for simple forms and patterns and that learning experience may affect preferences. But as the results indicate, even the exposure time may influence preferences. In most of the tests discussed above, polygons[15] or geometric shapes were displayed and no connection to products or function was made during the tests.

Emotions and feelings

Another factor influencing our visual perception and aesthetic appreciations is emotions. In design work, one of the aims is often to express a certain feeling through objects, or to try to make people responding emotionally to them (Buchanan, 1989; Desmet, 2003; Farstad, 2003:71ff; Wong, 1993:13). Aristotle was among the first philosophers to develop a cognitive theory of emotion. He defined emotions as feelings accompanied by certain beliefs or thoughts (Feagin & Maynard, 1997:276). This means that emotions have cognitive content connected to perception that helps us distinguish one emotion from another. Damasio (2002) stresses the significance of feelings for consciousness. He separates emotions from feelings and defines emotions as objective physiological responses to perceptions of the world. According to Damasio, perceiving something entails spontaneous arousal of previously experienced mental patterns, followed by a bodily reaction (emotion). This emotional reaction recorded by the brain causes a stream of thoughts and feelings associated with the emotional reactions. In the feelings, intuitively direct experience of the external world, emotions (bodily reactions) and memories of an experience of a coherent whole coincide.

Damasio (2002) considers that experience of the surrounding world is related to emotions. Damasio emphasizes especially two levels of consciousness, which he believes are essential to establishing permanent knowledge of the world. The Core Self, which has a genetic basis, is constructed by our direct contact with the world. The Core Self has a transient memory. To acquire individual, lasting and organized knowledge, another level of consciousness is needed: The Autobiographical Self. Based on autobiographical memory, the Autobiographical Self constitutes what is normally called experience. A cognitive approach to emotions implies that understanding emotions presupposes understanding how judgements of the surrounding world come about. From this point of view, a judgement is regarded as an intuitive process, in which the focus is on meaning apprehended by the individual – i.e. on appraisal – and not on stimuli. Hence, different persons appraise the same objects in different ways because their experiences are different. Perceptions based on and connected to different structures of experience give

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[15] Birkhoff's polygons were often used (Birkhoff, 1933).

rise to different emotional responses, which evoke different feelings – and result in different appraisals.

Langer (1979) describes artistic patterns as symbols of "experienced life". She describes such symbols as *expressive* (analogous). Expressive symbols are made up of sensuous structures. Colour combinations that coincide with our sensory or sensuous experiences of the outer world can be used as expressive symbols, for example the characteristic colours of a winter landscape, the sunset or autumn leaves. The expressive symbols exemplify by demonstrating a sensuous structure. They are not arbitrary as are the abstract, discursive symbols we find in verbal language and mathematics, where symbols are conventional and have defined meanings. Unlike discursive symbols (such as when a certain colour is named *red* or a certain shape is called *round*), expressive symbols do not primarily refer to something beyond themselves. In a way, expressive symbols constitute their own content by demonstrating their structures in a concrete form. Many such sensuous structures may refer to intuitively recognizable experiences common to many people (Langer, 1979). Langer claims that it is these sensuous (in the present context, visual) experiences that make people "see" feelings even in an abstract pattern of sensuous qualities, as if these feelings were part of the pattern itself.

Semiotic theory focuses on "product appearance" (Oehlke, 1990). Here the appearance of a product refers not only to the gestalt and all the perceptible properties and elements of the product, but also to the "product concept" with reference to the idea, experience and values of the product (Oehlke, 1990:e4). Product semantics looks at design as a kind of language, a form of communication, and this communication is largely based on aesthetic qualities (Giard, 1990). Buchanan (1989) also talks about design as communication, but his argumentation has a rhetoric perspective. The designers communicate with their intended audience through objects. Buchanan divides design rhetoric into three elements that to some degree are all included in every design argument: *logos, ethos* and *pathos*[16]. He calls *logos* technological reasoning, reasoning about composition, construction and material aimed at a user, and also reasoning based on the attitudes and values of potential users and the physical conditions of actual use. *Ethos* is the character of the design. The character can be connected to the designer or trademark, but also to traditional or contemporary style, etc. Buchanan calls the third element, *pathos*, emotion. It emanates from physical contact with objects or from active contemplation of objects before, during and after use. Buchanan says that pathos emotionally connects the object to the mind and is therefore a powerful and persuasive element of design rhetoric.

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[16] Buchanan's classification of design rhetoric is based on traditional rhetorical terminology.

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The emotional perspective is sometimes an intrinsic part of design work (Buchanan, 1989; Desmet, 2003; Farstad, 2003:71 ff; Wong, 1993:13). Designers often present their new collections on mood boards[17], which mediate the emotional expression of their ideas (Eckert et al., 2000A:529; there will be more about mood boards below). Some years ago, Swedish fashion designer Elisabet Yanagisawa used fashion pictures to present her clothing collection by not showing the entire garments, but just details, for instance how the bottom of the skirt touches the legs, how the collar meets the neck, etc. The purpose was to focus on the emotions her clothes could elicit when they are worn, when they are touching the body. Her printed advertisement material provided potential consumers with no information about the clothes, i.e. how they looked and how they were cut. Emotional responses can inspire customers to select a special product, and more and more producers are encouraging designers to manipulate the emotional impact of their design (Desmet, 2003).

Because the emotional aspects of a design are often difficult to discuss – given that they are often based on intuition – Desmet (2002) has developed a computer program to guide designers in controlling emotional responses to their design. Through successive empirical refinement, Desmet has developed a model of relations between emotions, concerns and products. He started with 347 emotions collected from different lists. He used different criteria to classify, for example, notions that were "uncertain", " indistinct", "relevant", etc. He ended up with a model containing 14 distinct emotions that he found to be relevant to products: desire, fascination, admiration, satisfaction, pleasant surprise, inspiration, amusement, contempt, boredom, disgust, indignation, disappointment, dissatisfaction and unpleasant surprise. He classified these emotions into five groups: instrumental, aesthetic, social, surprise, and interest emotions (Desmet, 2003). The model is based on the cognitive perspective, in which an emotion can be categorized after an appraisal. The judgement is described as a match of a stimulus in relation to a preference. If a stimulus matches a certain preference, there will be a response in the form of a corresponding emotion. Designers have found this model to be an effective means to communicate, argue for and defend their ideas when dealing with non-designers involved in product development (Desmet, 2002).

Eisner (1997A) states that feelings and emotions serve cognitive purposes and that aesthetics heightens feelings. This is the basis of aesthetic choices and results, for instance, in the statement "this feels right". Eisner has stud-

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[17] A collage showing the emotion the product is supposed to express. This may include pieces of fabric, a colour mood, photos, etc., but usually no exact illustration.

ied art and crafts education, and claims that education in the field of aesthetics develops consciousness, systems of meaning and forms of thought. It develops a feeling for aesthetic judgements. He compares the difference between verbally expressed knowledge and feeling to the difference between looking and seeing. Eisner (1996B) also makes a distinction between judgement and preference, where judgements can be expressed and explained, but preferences not so explicitly accounted for.

Cultural influence

The original definition of culture is cultivation, but in research perspectives the concept is used in different ways (Halvorsen, 2004:25). Ehn and Löfgren (2001:9) define culture from the perspective of human behaviour. Culture is studied as human behaviour, as operational experience, skill and bodily dispositions. They claim that this definition corresponds to what Bourdieu (1984) calls *habitus* (below). Daun (2005) focuses on the relationship between culture and nature in his studies of human behaviour and says that *"the world of man is given its conceivable form in interplay between the coherence he creates and the individual himself as a physical and psychological creature"* (Daun, 2005:38). He refers to Murray (1938) and claims that humans share certain needs and capacities generated during processes of adaptation, and that these needs and capacities are developed on the basis of already given psychological predispositions. These predispositions determine possibilities for, but also restrictions on, human life, for example how fast humans can run, how well they can see in the dark, etc. They cause humans to behave and experience things in different ways; they influence perception, cognition, memory, behaviour and emotions. Daun claims that all human beings make their decisions both based on mental structures rooted in the past and based on direct experience of their own bodies and the surrounding world. At the same time, every individual is more or less enclosed in his or her own special cultural context. This does not mean that it is impossible to deviate somewhat from current cultural rules or to develop a personal variant of a dominant pattern of behaviour. But it is impossible to ignore basic needs, even though Murray (1938) points out that there are differences in how strong these needs are. Murray considers that order is one of the secondary psychogenetic[18] needs. The need for order is practical: creating patterns of coherence in life and keeping things in the household in order so they can be easily found. The need for order also has aesthetic and even sociological aspects, for example the desire for paintings to hang straight, for symmetrical and uniformly well-laid tables, etc. (Daun, 2005:66). Depending on the practical circumstances, the need for order will vary from one individual to the other.

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[18] Psychogenic needs have to do with mental or emotional satisfactions (Murray, 1938:77)

In modernistic design, the use of elementary forms is an established design tradition in our culture (Sommar, 2003). In the contemporary public discussion, the well-known 20th century phenomenon of Swedish Grace[19] – with its characteristic features of simplicity, strictness, order and clarity – has been said to be the result of conscious indoctrination intended to reduce the taste of the Swedish nation to a uniform level; everything Swedish was to be made with the same good taste and the clean, functional line and light colour design was to become "the right way" (Ahl & Olsson, 2001; Rampell, 2003). Bourdieu (1984) claims that this kind of indoctrination, or influence, is conceivable. He describes the structure of society as "fields" in which a struggle for power moves individuals ahead. It is necessary to know and understand the rules, or at least to have intuitive knowledge, a feeling for them. Knowledge and understanding of the rules are distributed to the individual through a given context of economical, cultural and social frames – the individual's cultural capital. Individuals learn and feel what is proper, correct and right; what Bourdieu calls habitus. A child is born within a basic society/culture, in his/her own family system and in the "field" in which the family is situated. Children gradually accept the basic codes and unconsciously assimilate the current traditions, rules and rites of the field. Rhedin (2004) claims, as Bourdieu does, that the child is encouraged and rewarded when he/she shows mastery of the codes. Conformity, adaptability and recognition are keywords in a socialization process that results in a strong feeling of loyalty to the family culture and its system of values, including judgements of taste. Bourdieu (1984) states that it is difficult to change the (power) position given on the social and cultural playground, and claims that aesthetics influences the individual's feeling of social and cultural belonging; thus, taste is dependent on social class and education. Hence, different kinds of education give rise to different kinds of taste and feelings of belonging, and this, in turn, influences choice of friends and social intercourse. If one is to avoid becoming an outsider, a certain kind of taste is needed to participate in conversations with educated people. He classifies three types of taste: *the legitimate taste* found among those with the most cultural capital, *the conventional taste* that predominates in the group of people with the most economical capital, and *the popular taste* of the working class. Lifestyle can be identified through taste in clothing and home interior design. Hence, different kinds of professions also give rise to different kinds of taste and feelings of belonging, which influence choice of friends and social intercourse. Thus, within a certain social class, this concerns more than what is looked upon as beauty or ugliness. In this case, aesthetics is not related to categorical per-

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[19] British journalist Morton Shand introduced the term Swedish Grace in an article about the Swedish art industry in Architectural Review 8, 1930 (Ericsson, 1994).

ception; it is not about basic perceptual categorization based on harmony, balance etc., but about form associated with social context and events.

According to Bourdieu (1984), consumers are bound to the culture of the social class they belong to and especially to their position in the economic space. The consumer need not have personal experience of industrial products or even a positive attitude towards them. The product is understood and appreciated through one's habitus, which is defined as an objective ability. An analysis of a given individual in the social space is complicated. The social position of the individual is determined by many kinds of social, cultural and economic variables. Hence, according to Bourdieu, an individual's educational level is just one indicator and cannot be the sole basis for classification. Bourdieu describes any given position as a field of possibilities offered by a special agent. The given position in a field implies that the individual has certain dispositions, and between social positions and individual dispositions there are strong connections, i.e. trajectories leading to a position. Thus, certain dispositions confer possibilities to reach certain positions. An individual's given position in the field can be changed during collective crises, if the individual has contact with someone outside his/her own field, depending on how satisfied he/she is, for reasons of age, etc. Even the whole field can change. Bourdieu also talks about deviations from the collective trajectory. He describes such a deviation as setting out on an individual trajectory. We may have a need to be recognized as individuals or demands for independence, and even if we are influenced by our social context, we can still demonstrate such needs by not adhering to certain behaviour patterns.

With regard to taste, Bourdieu describes it as the tendency and ability to acquire a coherent number of distinctive preferences. He claims that taste makes people have what they like, because they like what they have. He describes habitus not only as the ability to produce behaviours and products that are possible to classify, but also as taste defined as the ability to make distinctions and evaluate them. Through this kind of production and evaluation, the space of lifestyles is constructed, i.e. the represented social world. In this social world, which he calls the social space, there are agents in different positions who formulate questions and make considerations and eventually express their intentions to change or preserve the given order. When there is a change in social positions, thus when the conditions that have produced habitus deviate from current conditions, feeling for the necessary or feeling for luxury rules and the economic conditions are out of command.

A few years ago, there was an especially intensive discussion in Sweden on normative "taste" at the national level (Ahl & Olsson, 2001; Rampell,

2003[20]). In the field of design, Ahl and Olsson (2001) claimed that the issue primarily concerns something other than good or bad design; it is about who has the power to make the decisions and rules. Good taste means following these rules, bad taste means breaking them. They also claimed that *Good Taste* only belongs to a few people. Their critique was directed at the Swedish Society of Crafts and Design[21] (FSF), which, according to Ahl and Olsson, has supported this approach through their general activities and in particular through their annual award Excellent Swedish Design[22]. In the first decades of the 20th century, the Swedish Society for Industrial Design[23], through such well-known names as Gregor Paulsson and Ellen Key, made propaganda for functional and "more beautiful products for everyday life" (Paulsson, 1919; Key, 1913). The State Commission of Inquiry: "Governmental achievement for Form and Design"[24] (SOU, 2000:75), emphasizing the importance of maintaining the "Image of Sweden" in Sweden and in the international market, may be regarded as a follow-up and a commercial extension of this project. Rampell (2003) regards the Commission as support for the idea that education in taste – "aesthetic values" – should be financed by the government and managed by FSF. Their critique does not mention the influence of aesthetic education in the public schools on common taste. The curriculum for the Swedish compulsory school, however, states that, in sloyd education, pupils should gain insight into the impact of attitudes and group pressure on making choices (Skolverket, 1996:71).

Valeri (1996:9-11) suggests that empirical ethnologic studies on what she and her colleagues call "Aesthetics of everyday life"[25] should discuss cultural theory in the context of sensuous experiences and in the wider perspective of creativity, judgement of taste and principles of selection. Klausen's definition of culture is useful in the present study. Klausen defines culture as the way of living of a group of human beings: their ideas, values, rules and norms, handed down from one generation to the next – often gradually changed (Klausen, 1981:10). Klausen's definition includes cultural content and describes cultural processes. Culture is something we have to cope with in design work. Both design of objects and evaluation of designed objects are related to tradition and (social) culture. They also influence what is to be passed on to future generations. In the present study, Bourdieu's concept of habitus is used when discussing *taste* as a way of making distinctions and evaluating textile patterns connected to cultural fields of subjects' everyday life.

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[20] Summary in English p.761ff
[21] Föreningen Svensk Form
[22] Utmärkt Svensk Form.
[23] Svenska slöjdföreningen
[24] "Statens insatser för form och design. Slutbetänkande från Form- och designutredningen"
[25] Vardagslivets estetik.

The Space of Experience

As shown above, some researchers claim that human perception is in some respects universal and that it, therefore, gives preference to certain kinds of elementary shapes, sensory structures, etc., i.e. that there are basic and elementary perceptual and cognitive structures of experience. Others argue that direct experiences and indirect social and cultural aspects are dominant elements of our apprehension of the world. From my point of view, however, apprehension of the surrounding world must be accomplished through an interplay between direct and indirect experience and early acquired or innate perceptual categories. Figure 2 constitutes an attempt to give a comprehensive description of factors influencing aesthetic apprehension and judgement. It is based on ideas about reasons and conditions for aesthetic valuation as described in previous research and scientific discussions about the perception and understanding of aesthetic qualities. It is not meant be complete, but to give an idea about the complexity of the sources of aesthetic judgements. The different factors in the figure are studied in several fields of scientific research, and many of areas of research can be listed under each of them. However, even if we, for practical reasons, must have different and distinctive perspectives and areas of research, to the individual, construction of the outer world is always an integrated whole. In aesthetic intuition many kinds of perceptual capacities and experiences are involved, and we cannot discuss aesthetic apprehension without having these circumstances in mind.
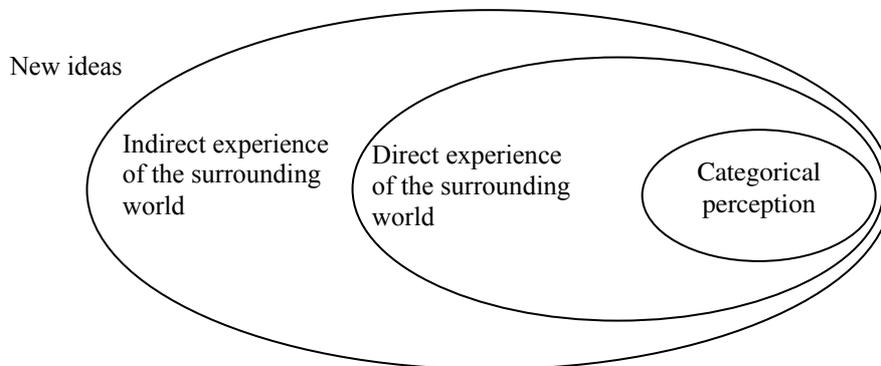

Figure 2. The Space of Experience.

(1) Categorical perception refers to basic principles of general apprehension of the outer world "*which means that a reality without well-defined borders is divided up into distinct units by our perceptual mechanisms*" (Gärdenfors, 2000:40, my translation). Categorical perception is in some respects innate, but for the most part acquired; interplaying with natural dispositions, it is based on early and general spatial experiences of colour, light and darkness, discrimination of borderlines, vertical-horizontal orientation, etc.

(2) Direct experience of the surrounding world includes more advanced sensuous experiences intuitively understood as part of a coherent significant and natural outer world, e.g. direct experiences of cold and warmth, weather and wind, tactile experiences of special materials, etc.

(3) Our indirect experience of the surrounding world classifies experiences made in connection with cultural influences and expressions not only as advanced art, music, theatre and architecture, but also as everyday behaviours, ways of thinking, colour and form of environments and objects; indirect experience includes all traditions and values that are varyingly explicitly demonstrated by cultural expressions in society.

 "New ideas" represent experiences of the temporary influences of new or deviating cultural patterns contending for a place in the more stable culture.

Even if individuals grow up in identical cultural contexts, they do not necessarily develop the same sets of values or the same structures of attention. Basic perceptual structures, personal sensuous experiences and experiences of temporary cultural expressions can relate in many different ways to experiences of the current culture. In this way, a personal concept of the world and sensuous dispositions to valuate are constructed. As a personal structure of attention, they give the individual a feeling for aesthetic values. Structuring our perceptions is a basic need and a universal human ability (Murray, 1938:80). The ability to intuitively classify our impressions, to see similarities and to make sensuous distinctions, is part of categorical perception. Categorical perception helps us experience coherence and "harmony" in visual patterns. These kinds of basic aesthetic experiences are simultaneously connected to personal structures of attention and cultural influences.

Communication about aesthetic experience

When we wish to communicate and discuss, we primarily use verbal language. Verbal language is based on mutual agreements about the meaning of words and on conventions concerning how words should be understood in different contexts. So-called tacit knowledge occurs frequently in arts and crafts education, and the term has been analysed by many researchers interesting in learning processes in the area of aesthetic education (e.g., Johannessen, 1999; Molander, 1993; Polanyi, 1966; Rolf, 1995). The primary aim of language is to break down our sensory impressions into parts and groups, to reduce them to a system that can make reality *"...concievable, memorable, sometimes even predictable /.../. Language and imagination grow up together in a reciprocal tutelage"* (Langer, 1957:71). Hence, language proficiency is not only important as a means of communication, but also as means of examining, understanding, and generalizing the continuous flow of sensuous impressions.

Implicit knowledge and communication

Tacit knowledge concerns sensuous experience and unconceptualized knowledge, which we cannot or do not communicate verbally. There are different opinions about whether, to what extent and in what way tacit knowledge is possible to communicate verbally. Starting from Wittgenstein and Molander (1993), Johannesen (1999) remarks that there is a distinction between what they call functional tacit knowledge, i.e. knowledge that cannot be verbally communicated, and knowledge that is possible to communicate with words. Polanyi (1966) has more confidence in the ability of verbal language to express tacit knowledge. It is of great importance to cultural traditions and heritage that knowledge be formulated in words. By trying to verbally approximate tacit knowledge and thereby expose it to critical reflections, it may be recaptured as personal knowledge. This is, he says, how cultural, collective knowledge becomes personal knowledge. When used to acquire other knowledge or as means to do things, personal knowledge functions as tacit knowledge. According to Polanyi, tacit knowledge is functional knowledge founded on experience and practical attainments (Polanyi, 1966; Rolf, 1995). This definition coincides with that used by Gärdenfors (2005) to define what he calls *implicit knowledge.* According to Gärdenfors, intuition is based on implicit knowledge. Implicit knowledge is related to cognition and experience. It is difficult to explicitly describe. Gärdenfors claims, however, that through reflection it is possible to explain parts of the intuitive experience, although it does not always have to be the correct interpretation. If implicit knowledge is based on cognition, this explains why an expert with advanced education and long experience can be described as having a "trained eye"; *"experts combine information in larger coherent structures, they filter irrelevant information and rely on a great number of mental models"* (Gärdenfors 2005:80, my translation). Experience – intuitive knowledge – makes it easier for the expert to attend to, combine and filter information; for the expert, the intuitive "truth" appears with seductive ease, as if there were no underlying cognitive process. Gärdenfors means that the visual language of inner images and spatial thinking play an important role in intuition. He refers to art historian Sandström (1996) and remarks that perception and communication have different aims. Visual knowledge is based on perception, while verbal knowledge can be communicated verbally. According to Gärdenfors (2005), our consciousness has a spatial structure, and further cognitive processing is needed when intuitive knowledge is to be communicated and given verbal form. Johannessen's (1999) definition of tacit knowledge has three components: skill, knowledge by acquaintance and ability to judge. According to Johannessen, tacit knowledge is knowledge of a perceptual and expressive nature. It is concentrated on action. We find it in handicraft work, but also in other fields of activity. Johannessen's hypothesis is that this kind of tacit knowledge must be looked upon as a combination of

experience-based ability to judge and a capacity for analogous thinking. In this perspective on knowledge, subjective, cognitive knowledge is put into different contexts and areas of activities and our behavioural reactions are regarded as the basis for construction of our concepts. In one article, Johannessen describes the aspect of judgement (Johannessen, 2002). Here, he once again remarks that analogous thinking is essential to the construction of concepts connected to judgements. Concepts are constructed through judgements of practical examples or in real situations. To function in communication, developed or used concepts must be analogous, but not static. Johannessen compares the process with functions in the judicial system, where certain sections of a law and previous verdicts form the basis of new trails and the judge can always emphasize other aspects or deliver another judgement.

Wittgenstein, who gave up on the idea that there should be a uniform solution to language problems when describing reality, talks about related concepts or "family similarities" (Wittgenstein, 1992:43, my translation). Like in families, where it is possible to see distinct similarities in outlook and temperament, it is also possible in language to see similarities even when words are different. For a special purpose, it may be necessary to limit the meaning of a word without changing the openness in how the origin concept is understood. Wittgenstein says that concepts are used in different *"language games"*, and explains this by referring to other games; there are similarities that make it a game, but different rules for different games (Wittgenstein, 1992:42 ff.).

Research on aesthetic qualities in textiles and patterns

Very little research has been done on preference, the use of concepts and experimental methods related to aesthetic judgement of patterns and textiles. Below some of these are presented.

In an investigation on textile pattern preferences in school children, ages 6 to 15 years, results showed that the older children and children in a group that came to The Cleveland Museum of Art every Saturday (=Specials) showed a mild preference for geometrical patterns, thus entirely abstract patterns were met with no interest whatsoever (Horovitz, 1939). The 521 children were presented with 127 original textiles and facsimiles of textiles, and showed a distinct preference for a few patterns. One pattern with elephant heads was preferred by all age levels, including the Specials, but the Chinese floral and Indian patterns that were preferred by many children were not preferred by the Specials. The reasons why the children liked a pattern best were, generally speaking and in order of importance: object represented in pattern, subject of pattern, colour, arrangement and design, technique, general reasons

such as "pretty", "interesting", "nice", line, shape, and size of motifs, associations and emotional reactions, originality (difference from others), repetitions in design, material and texture, familiarity with the pattern (knowledge), curiosity (leading to analysis of the pattern), usefulness and the last: modernistic aspect of pattern.

Broman (2000) studied consumer preferences for different wood features and what properties of wood they found important. The aim of the study was, among others, to develop methods of measuring people's preferences for the appearance of different wood grains. The study examined consumers' feelings and preferences for Scots pine wood surfaces. The wood displayed had varying features of texture and knots. Broman classified the terms used by consumers to describe and justify their preferences into six groups: Spirit, Nature, Purity, Temperature, Exclusiveness (Value/Interest) and Feeling (Broman, 2000:64). The preference findings showed that the most important factor when composing a wood surface containing knots seems to be to avoid a state of disharmony. Reasons for disharmony were a poor overall blend of wood features as well as divergent features that mismatch on the surface, too much of something or a poor mixture of knot shapes, divergent texture or colour or a few large knots clustered together in a surface.

Research on taste in the field of food and wine has been going on for many years. A number of methods of sensory analysis have been applied (e.g., Kihlberg, 2005; Jonsäll, 2000; Nygren, 2004). There are different kinds of sensory analysis, which can be broadly grouped into descriptive tests and discrimination tests (Meilgaard et al., 1991; Sensorisk studiegruppe, 1997). In the field of food and in the food industry, sensory analysis has been developed into an international field of research. Sensory analysis concerns developing methods of investigating sensory perception among consumers – how consumers evaluate food using their senses. Some studies are aimed at estimating preference in consumer groups. In other studies, trained sensory panels are used. Members of a taste panel must have the same ideas concerning the content of the terms/notions used. Therefore, the panels are trained and tested before the evaluations are made. Methods of sensory analysis are applied in other fields of research as well to evaluate aesthetic qualities, e.g., aesthetic qualities of paper, textiles and wood. Sensory analysis methods have been applied to evaluate car upholstery, tights, knitted materials, various finishing processes for textile fabrics, etc. Textile qualities such as elasticity, heat-keeping, and even qualities of interaction between skin and textile materials can be measured using other methods, but this is often not considered in enough detail to describe the consumer's experience of a material (Philippe, 2002). When applying sensory methods of analysis more than one sense is involved; the term hand is used to describe the tactile qualities of textile materials. At Laboratoire de Physique et Mécanique Textiles in

France, the panel came to an agreement on 21 terms (terms such as rough, elastic, warm, cold, etc.) when describing a cotton fabric that had been finished in eight different ways (Philippe, 2002). Other surface qualities of textile materials evaluated by the laboratory panel include knitted textiles in different silk/wool blends (Chollacup et al., 2004). Some examples of terms that have appeared and later been used in sensory analysis of textile materials and paper at the Swedish Institute for Food and Biotechnology (SIK) are airy, firmness, stretchability, friction, rough, fuzzy, uneven, density, resistance, hot, loudness, compressibility, softness, smoothness. (Wendin, K., Manager Sensory Evaluation, SIK, personal communication in September 2004).[26]

In design and handicrafts education, work with form, colour and material is an important element (Wong, 1993). Juul and Skjeggestad (1992) and later Skjeggestad (2001) have structured the design elements especially directed towards textile design. Skjeggestad presents a map of the design elements, including examples, divided into inspiration/intention, composition[27], aesthetic and formal artistic effects and how to combine them, character and communication aspects (Skjeggestad, 2001: 55).

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[26] When ordered by commercial companies, the results of such studies are not available to the public.
[27] Skjeggestad (2001) means actually objects when she says composition here.

PART III

Study I-III

Different research methods have been used to find ways to describe the aesthetic qualities of textile patterns and the reasons for aesthetic judgements. In the study of Amish Quilts, graphic models were tested as a means of describing the typical structure of colour and form. In the study with printed patterns subjects' perception and notions of the patterns was in focus. In the following, the results of these two studies are presented. See also Paper I, II and III.

Study I: The Old Amish Quilt

The study of The Old Amish Quilt is documented in the licentiate report entitled *The Old Amish Quilt. Et forsök til transformering av en tradisjon*[28] (Homlong, 2000; Paper I). The first aim of the study was to find a principal way to describe colours and pattern compositions used in Old Amish Quilts in order to identify general principles of Amish textile design. The second aim was to test how these sensory qualities could be used as an inspiration in modern design work.

Methods

Study I is primarily qualitative; it is a phenomenological analysis of some antique quilts made by Amish women in Lancaster County, Pennsylvania, USA, during the period 1860-1940. The study includes empirical analysis of quilts. The aim is to identify characteristic traits of colour and form design. The analysis resulted in a hypothesis concerning the basic principles of colour and form design of old Amish quilts. The hypothesis was tested using computer simulations. Following the colour and form principles of the Old Amish quilts, new patterns were proposed and different parameters were systematically tested and compared with the general impression of the Old

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[28] The Old Amish Quilt. An attempt to transform a tradition. This report includes a study of the same name at Oslo College University, 1999 (Hovedfag) at the Faculty of Art, Design and Drama.

Amish quilt. Literature studies and on-location interviews about Amish Society and Amish women's work with quilts were conducted to gain an understanding of the social and cultural context of the Old Amish quilt.

Literature studies

There is quite a lot of American literature on the Amish people and their quilts. Books intended for quilters often start with a historical view of the Amish and describe how they live today. My introduction to Amish quilts was "*Amish The Art Of The Quilt*" (Hughes, 1990). The book presents colour photographs of 82 Old Amish Quilts from "The Esprit Collection". Douglas Tompkins, who together with his wife launched the company *Esprit de Corp* in 1962, bought the Old Amish quilts with the intention to decorate the company's new factory in San Francisco.[29] One of the interesting things about this book is that the three authors describe in three different ways why so many people find The Old Amish Quilt so fascinating. Douglas Tompkins chose the quilts for aesthetic reasons; he calls them "masterpieces of design" (Hughes, 1990:7). The American art critic Robert Hughes regarded them as art. Julie Silber, the curator of the collection, looks at them as textile evidence of the Amish women who made the quilts and the culture in which they lived. These different views were of importance for my reflections on the quilts, and these perspectives were discussed in the licentiate report (Homlong, 2000; Paper I).

Interviews

During February 1998 in Lancaster County, USA, three interviews were conducted with members of the Amish society, one with a salesman of Amish quilts and a telephone interview with an author of many books about Amish society and quilts. The author had been raised in Lancaster County, belonged to the Mennonite church and made quilts herself. She was also the curator for The People's Place Quilt Museum in Intercourse, Lancaster County for many years. In Sweden I had three additional interviews with one designer and two other informants about how to use traditional craft, colour and form as inspiration in new design.

Material

The sample of the quilts studied comprised five antique Amish quilts from Lancaster Heritage Museum and The American Quilt Study Group in San Francisco, fifteen antique quilts from The Esprit Collection and eight new quilts made with traditional patterns and colours. Unfortunately, I did not have access to The Esprit Collection's original quilts, but had to analyse these quilts from photographs in the book "*Amish The Art of The Quilt*"

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[29] The Lancaster Heritage Museum got The Esprit Collection in 2002. From September 2006 a rotation of the quilts will be exhibited at the new Lancaster Quilt & Textile Museum.

(Hughes, 1990). The book, however, provides high quality photographic registration and great efforts were made so that the photographs would correspond with the original quilts.

Colour analysis

For colour analysis, the standardized Swedish Natural Colour System (NCS)[30] was used. NCS is a perceptive colour system based on the visual experience of colours (Hård & Svedemyr, 1995). In the NCS, each colour experience depends on relatively similarity to the elementary colours: yellow, red, blue, green, black and white. The system describes colours using the variables hue, chromaticness and blackness. The four chromatic elementary colours are arranged in a colour circle with scales of hues in between them. Each hue and each chromatic elementary colour is part of a colour triangle that describes the relations between them and the black and white elementary colours; the location of a colour in the triangle defines the nuance of the colour. Together, the colour wheel and the colour triangles form a 3-dimensional colour body, the NCS colour space.

In the present study, an NCS fan with colour samples and an NCS album with detachable colour samples were used – both including 1750 notated NCS colours. The quilts were analysed by mapping the colours in the NCS space – in the colour circle and colour triangle. The colour samples were put on the quilts and the photographs of quilts. Colour samples corresponding with the colours of each quilt were noted in the NCS space; the notations were combined to form a graphic structure in the NCS space that describes the basic colour codes of each quilt. The colour mappings were the basis of the experimental survey of pattern colour design described in the second part of the study. The results of the colour analyses showed that the colours of Old Amish quilts are represented in an area in the NCS space that corresponds with colour descriptions used in the reference literature. Therefore, the quilts analysed can be regarded as representative of Old Amish quilts in general. Selected quilts from The Esprit Collection were the basis for the experimental part of the study. A limitation was made to the three simplest kinds of quilt patterns *Center Square, Center Diamond* and *Bars* in Figure 3 (Pellman, 1984).

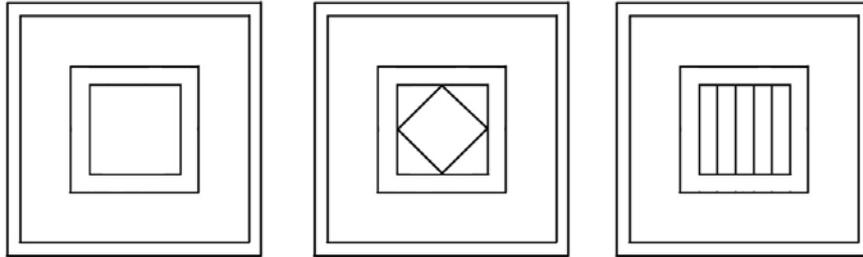[30] For more information of NCS: www.ncscolor.se

Figure 3. Traditional Patterns in Old Amish Quilts: Center Square, Center Diamond and Bars.

The results of the survey revealed aesthetic qualities that were used in experimental design studies on computers and tested in some modern style textile products. The computer programs used were Adobe PhotoShop 5.0 combined with NCS-Palette.

Result

The Amish people consist of religious groups that follow rules rooted in "Die Ordnung". These rules keep them isolated from modern society and in contact with God and the earth made by Him. They are also called The Plain People, as they live a simple life in which unnecessary things are forbidden (Kraybill et al., 1994; Strai, 1995). The quilts traditionally made by Amish women are to be used in bedrooms (Pellman et al., 1981; Granic, 1989). The Amish learned to make quilts when they immigrated to America, but they did not follow the Victorian quilt tradition of blocks, built up by smaller pieces of coloured and patterned fabric, repeated all over the surface. The religious frameworks in which the quilts were made can partly explain the design and process of making them. The Amish consider artwork unnecessary, but all homes need many bed quilts, as Amish families usually have many children. However, in quilt making, the artistic woman had an opportunity to express herself and show her artistic ability. From the present visual study of antique Amish quilts, some principals of Amish quilt making were observed. The reasons for these principals were sought through literature studies and interviews.

Pattern design

In contrast to the Victorian quilt tradition, the antique Amish Quilt patterns in this study are not composed of repeating blocks. The quilts are big enough to cover a bed, normally 75x75" – 80x80"[31], and most pieces of fabric are bigger than those used in Victorian quilts. In the middle of these patterns

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[31] Ca.2x2m. This information is based on studies of quilts presented in the literature and at Lancaster Heritage Museum.

there is a plain square, a square with a diamond, or a grid (bars). The centre is framed by a border that may have small squares in another colour in the corners (corner blocks). This first border is then framed by another, wider border that also may have corner blocks. A narrow binding finishes the quilt. It is easy to see that the pattern design of The Old Amish Quilt feels balanced and symmetrical. The patterns design coincides with Arnheim's model for balance in a composition (Figure 4).
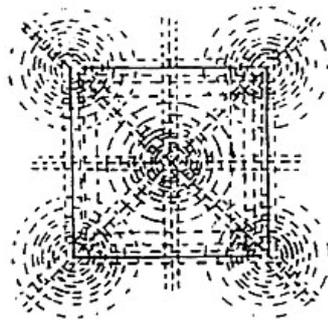

Figure 4. The structural skeleton of a square (Arnheim, 1974:13).

Arnheim (1974:10ff) describes the perceptual reasons for this sort of balance. The figure illustrate how a pattern creates a perceptual "power field" when we look at it. The different elements of the pattern design are kept within this power field. The locations of the pattern elements balance each other when placed on the lines in Figure 4. The pattern elements of The Old Amish Quilt are not only found on the lines in Figure 4, they are also symmetrical, which gives the design additional balance. [32]

Colour design
The results of the colour mapping showed that colours used in the Old Amish Quilts are mainly to be found in the marked area of the NCS colour circle and colour triangle in Figure 5.

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[32] In the licentiate report (Homlong, 2000), definitions of aesthetics focusing on definitions of beauty, balance and harmony were in focus, as this was the judgement of my own impression of the Old Amish Quilts. I tried to find ways to objectively describe the visual elements of the quilts, but I must make clear that this does not mean that the visual aesthetic qualities described make the quilts objectively beautiful.
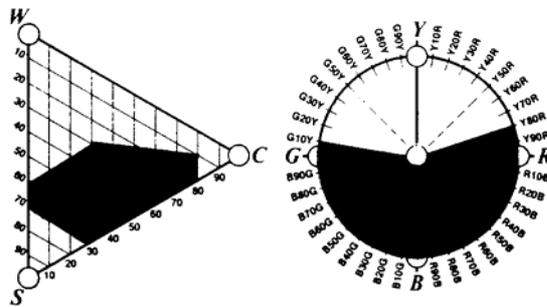
Figure 5. Characteristic colours in the Old Amish Quilts.

Within the "Amish colour code", there are not only possibilities to work with hue and nuances close to each other in the colour circle or triangle, but also to work with contrasts. Based on the quilt analyses and the experimental work on the computer, three principles of colour design seemed to be important:

- Distinct borderline. Whether using contrasts or not, it is of importance to keep the severe simplicity characteristic of Amish pattern design.
- Low chromaticness. The use of nuances with a relatively high degree of blackness is of importance to the expression.
- Colour. Nuances with a great degree of chromaticness are of importance to the expression, but do not need to dominate. It is the combination of the greyish nuances and the more coloured features that give the tension and surprising effect that is so characteristic of The Old Amish Quilt.

The balance in the pattern design and the unity of the colour design result in a harmonious expression of the patterns even when these principles are used in smaller products. This effect is strengthened by the size of the quilts and gives a contemplative, sacred impression. The reason why a colour Gestalt is perceptively maintained is not as obvious as the reason why a pattern gives a coherent impression. A harmonious colour Gestalt contains colours that have one or more colour qualities in common (e.g., redness, blackness, chromaticness, etc.).

Cultural explanations for Amish pattern and colour design
The reasons for this simple pattern design, which deviates from quilt making outside the Amish community, may be explained by the rationality of the culture. Use of larger pattern elements reduces the time spent on sewing the pieces of fabric together (Boynton, 1985). This may also reduce the decorative effect, as fewer details are included in the quilts. It should be mentioned here that the Amish wish to avoid decorative effects and are therefore forbidden to use patterned fabric in their quilts; they use plain fabrics.

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All colours have some degree of grey- or blackness, as in the colours of the Amish clothes used at home. Pure black is most often only found in smaller elements or the narrow binder that surrounds the quilts. In an interview with an old Amish woman named Nancy, she said that this is the way they use black in quilts even nowadays (Nancy, February 1998). Black is not used so much in the quilts made by Amish women in Lancaster, although it is common among Amish in the Midwest (McCauley & McCauley, 1988). Reasons for why black is not used so much in quilts were not given, it simply seemed to be a custom. Granic (1989) says that the Amish in Lancaster County cannot remember any rules for the use of colour in quilts, but they all noticed that yellow and white were not good colour choices. Yellow is largely not used in quilts from Lancaster County. Nancy said firmly "*Hochmut*" when I asked why yellow is not used in Amish quilts from Lancaster County. However, yellow is used in quilts and on the roof of the Amish horse wagons in Ohio, yet Nancy said "but that is not our way" (Nancy, February 1998). The Amish people are supposed to be plain and not expose themselves. For instance, the Amish subjects were not to be photographed, as this would make them more visible. They are supposed to cultivate the land of God, not themselves. It seemed that bright yellow is still a colour considered too intensive to be used, while nowadays white is often used in Amish quilts in Lancaster County. I also noticed that pink and pastels were colours used in quilts from the Midwest, but not in Old Amish Quilts. The literature says that pink was popular in dresses in the nineteen thirties and that the use of pastel colours became popular during the nineteen forties (McCauley & McCauley, 1988). Nancy did not understand the question when I claimed that pink was not common in quilts. She said that pink was used in dresses for young girls and perhaps dresses used when working at the field. My interpretation is that fashion introduced the pink and pastels from the nineteen thirties and nineteen forties, and that Amish Society found no reasons to avoid these colours. A clear red colour found already in quilts from the eighteen seventies was confusing, because this colour diverges from the softer colours used in clothes. According to one Amish woman, the reason for this is, that peddlers made packages of assorted fabrics that they sold at lower prices. They put fabric that was difficult to sell into these packages. The red colour was too bright to be used for Amish clothes, but if the women had just thrown it away, the package price would not have been especially low (Pellman & Pellman, 1984:25). Because the colour could not be used for clothes, it ended up in the quilts. From the nineteen twenties, this red colour has been used in larger parts of the quilts.

The reason for the Amish colour code was connected to cultural rules. Some exceptions were allowed, probably because the quilts were used in the inner parts of society: the bedrooms. The Amish women have their own under-

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standing of the habitus (Bourdieu, 1984) in Amish society to cope with when choosing colours and putting them together. They had at hand fabrics in limited colours and were supposed to combine them in a special pattern. Moreover, they probably wanted to make a quilt that did not look like the ones they had previously made. They were conscious both of their own habitus for quilt design, of the habitus of other Amish groups (e.g., in Ohio) and of how quilts are made outside Amish societies, but could for the most part not explain the reasons for the existing limitations on colours and patterns.

The Amish are at present strongly influenced by the rest of the American quilt tradition, and make nowadays rarely quilts similar to those in The Esprit Collection. Plain fabric must still be used, and some colour codes exist, but the patterns are much more complex and made up of more and smaller pieces of fabric. White background colour is common. In the paper (Paper I), I discuss that the reasons for these changes are to be found in the influence from the American quilt tradition, because the Amish culture has become popular for tourists[33] and, today, the growing Amish communities cannot isolate themselves as they did earlier, although some restrictions remain. The Amish quilters find inspiration from the American quilt tradition and can also make repeated block quilts with patterned fabrics for sale, but the Amish people are not allowed to use these quilts themselves (Amish Woman Nancy, February 1998; Amish Quilter Hannah, February 1998; Quilt salesman Kim Hondares, February 1998).

New design inspired by Amish form tradition
The second part of the Old Amish quilt study is about how a manifest colour and form tradition can be used as an inspiration in contemporary design; different methods of "transposition" and transformation of colour and form traditions are tested, and the ethical implications of using colour and form traditions in new contexts are discussed. In the experimental part of the study, the didactic possibilities of using tradition as an inspiration in an educational context were also considered (Paper I). Some textile products, e.g. wall hangings and pillows, were developed quite close to traditional quilt patterns, but made of more fashioned materials, sometimes using non-traditional textile techniques. The clothes made were inspired by the Amish colour code and in simple (plain) style, with decorative details such as diamonds and coloured buttons to add "artistic flavour". Printed fabrics were also laminated into trays. Thus, the colour code, form elements and cultural elements of the Amish were used as inspirations for both textiles and other craft products.

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[33] Seven million tourists visit Lancaster County every year (Ohlsson, 2006)

Study II and III: Striped patterns

Methods

The same research methods were used for Study II and III. Seven printed fabrics were displayed to subjects, and their descriptions and judgements of the patterns were analysed. The study is qualitative and limited to a survey of concepts used by subjects when describing and judging textile patterns.

Textile material and colour choice

Seven textile patterns labelled A, B, C, D, E, F and G were presented to the subjects. The patterns were printed with blue colour on white cotton fabric. They were all stripes, systematically designed and developed to result in patterns of different complexity. All of the patterns were developed from the basic pattern A. Pattern A is composed of 10-mm-wide stripes (Figure 6). In pattern B, every second blue stripe has been removed. Pattern D is the same as pattern B, but the colours are in reversed positions, which has the effect that more of the blue colour is shown. In pattern C, two thinner stripes have been added on each side of the blue stripes in pattern B. Pattern E is the same as pattern C, but the colours are in reversed positions, which has the effect that more of the blue colour is shown. In pattern F, the basic pattern A has been made more complex by adding a thinner white stripe in every second blue stripe. Pattern G is the same as pattern F, but the colours are in reversed positions, which has the effect that more of the blue colour is shown.
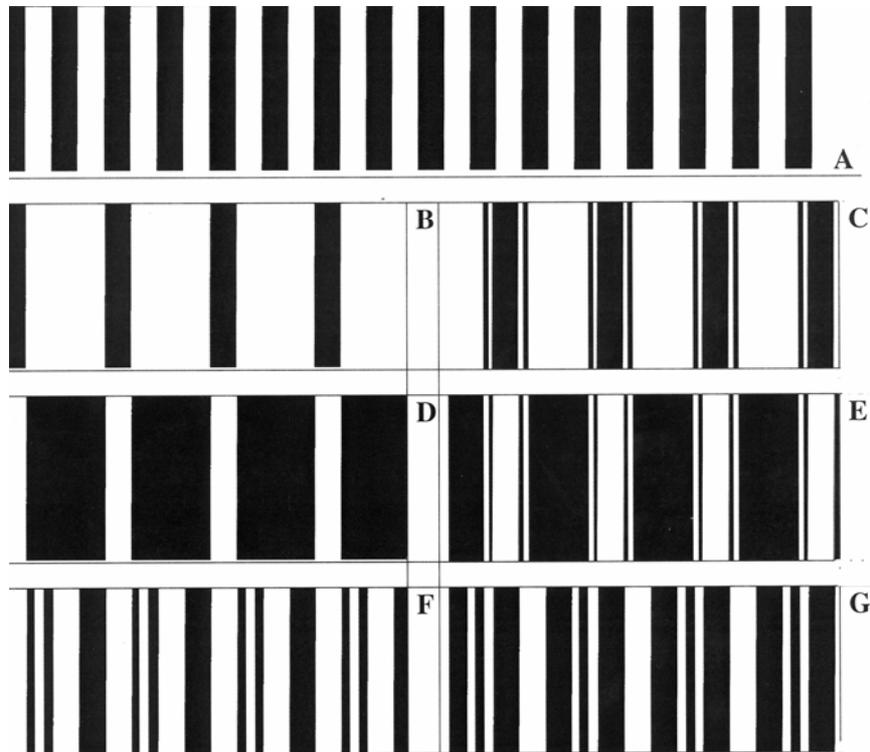
Figure 6. Patterns printed on canvas. All patterns are developed from pattern A, which is composed of 10-mm-wide stripes in blue and white.

The choice of using striped patterns in the research was made to avoid figurative and naturalistic patterns. Variations in number of stripes and width of stripes were made to investigate subjects' attitudes towards simple and more complex patterning. In the analysis, as compared to the stripe of the basic pattern A, patterns B and D are defined as *simple*, C and E as *medium in complexity* and F and G as *complex*. Patterns B and D have the fewest stripes: based on the principles of textile printing. Patterns F and G have the most stripes and were considered the most complex patterns. Patterns C and E were considered medium in complexity. Patterns C and E have – in my opinion – a *formal* complexity intermediate to patterns B/D and F/G. In this analysis, patterns C and E were regarded as a choice of simplicity in a triad with pattern F and pattern G and as a choice of complexity in a triad with pattern B and pattern D. Pattern A was difficult to describe in terms of complexity or simplicity and was therefore excluded from this part of the analysis. I am aware of Arnheim's (1974: 55-56) comments that simplicity cannot be defined by counting pattern elements, but in these symmetrical patterns developed from the same starting point (pattern A), I find these definitions possible.

The research focused on characteristics of patterns, thus the sensory or sensuous qualities of texture in the fabrics were not included in the study. Thus, all fabrics were of the same textile quality: plain-woven fabric in 100 percent cotton.

Choosing the colour blue

The stripes were screen-printed by hand using premixed pigment paint for fabric; Preussian blue[34] from Screentec mixed 1:1 with binder emulsion to make the paint more transparent to reduce contrast towards the white in the ground material. The choice of colour was made after studying stripes in traditional Swedish bolsters, where this blue colour is frequently used (Rahoult, 1996). Blue is also a colour preferred by many people in Sweden (Jacobsson, 1990; Sivik, 1989). Many experiments on colour preference have been conducted during the past century, and although most researchers have pointed out that the experiments differ in many ways, many results show a preference for the colour blue (Ball, 1965). Pastoureau (2001) claims that blue is a highly preferred colour for people in the West. Eysenck (1941) claims that this is not restricted to Europeans, but also found among other non-European races. Although results showing a preference for blue have been based on different coloured surfaces – coloured paper pieces or fabric, coloured light, colour combinations, etc., or colour words, more or less isolated from the context and not preferred by all subjects – blue seems to be a colour that many people like. The choice of printing blue stripes should cause subjects to focus on the patterns and reduce the influence of colour preference on pattern judgement. Black and white could have been used for this purpose, but because the colours were of interest in the study of Amish Quilts, the blue colour related to the Swedish colour tradition was chosen. Blue also gives a good pattern effect on a white background.

Repertory Grid Method

A modified version of the Repertory Grid Method (Kelly, 1955; Shaw & McKnight, 1992) was used to study descriptions and judgements in relation to textile patterns and to analyse reasons for choices. The Repertory Grid Method is a qualitative method of inquiry primarily used to survey notions, values and ways relating to the surrounding world, to everything from products to situations in life. The Repertory Grid Method works in two steps: (1) in order to map notions describing the objects of inquiry, three different alternatives are presented, at the same time, to the subjects. Kelly (1955) calls these groups of alternatives triads. In each triad, the subject has to choose one alternative, reject another and justify the choices made. The criteria of selection may be the same for all of the triads or different for different triads. The subjects are asked to compare, and thus they are helped to describe and

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[34] NCS: 3065-R90B

justify chosen and rejected alternatives. The third alternative is commented on for the purpose of comparing. Because the alternatives are repeated in a number of triads, all alternatives will normally be commented on. (2) Following presentation of the triads, the notions chosen by the subject and their antonyms are used as ends of a scale, on which alternative notions are graded in relation to these endpoints. The Repertory Grid Method has been used as a tool for mapping cognitive structures in a variety of settings. Two Nordic surveys have a connection to the field of this study: Karppinen (2001) used the method when discussing artistic aspects of children's artwork. She tried to describe children's ways of thinking and feeling when drawing pictures. Lindström and Ulriksson (2001) used the method in a study of adult students to elucidate competencies in crafts education (sloyd) and uncover what is sometimes called tacit knowledge of the profession of crafts.

The Repertory Grid Method was chosen because comparing could help subjects find arguments for their choices. In the current study on textile patterns, a modified version of the Repertory Grid Method (Kelly, 1955; Shaw & McKnight, 1992) was used. Only the first step of the Repertory Grid Method was used in this study, because the aim was to discover reasons for judgements of patterns and how the patterns were described, not to rank preferences or visual expressions of the patterns.

The subjects were shown seven different textiles patterns, three at a time (in triads). For each triad, the subjects were asked to choose one of the textile patterns, to reject another one and give reasons for their choices. They were also asked to tell whether they were thinking of a special product or product type, for example clothes, interiors etc., when they made their judgements. No patterns were to be shown together more than once. Thus, each pattern was presented three times, but in different triad constellations. In order to capture even more descriptive notions and developed preferences, at the end of the interview subjects were asked to describe what a textile fabric of their own choice would look like.

Subjects
The subjects were from four different categories; Designers (n=10), teachers of textile handicrafts (n=15), Consumers (n=13) and Children (n=32), altogether 70 individuals. The ambition was to have a balanced mix of females and males and of individuals of all ages. However, in the category of teachers of textile handicrafts, this ambition was difficult to achieve, as this profession is female dominated. Thus, one male was interviewed. The category of teachers of textile handicrafts consisted of teachers from different parts of Sweden. They taught at different levels in the educational system, from compulsory school to university level. The designer category consisted of

educated and established designers with different specialities. Some textile design students, close to graduation, were also included in the teacher and designer group. Teachers and designers had higher education in colour and form and experience in designing different kinds of textile products. Because there are few people working in this line of profession it could be easy to recognise the informants (designers and teachers) by giving them codes with age, sex and profession. Therefore I have decided only to refere to them as profession and sex.

The children were divided into two categories: Children age 15 years (n=12) and Children age 7- 12 (n=20). The children came from different schools, but most of the interviews with the children age 7-12 years were organized in one school, and with the children age 15 in another. For the consumer group, the ambition was to find subjects with a capacity for verbal expression, and with an interest in textiles, but without a textile education. The subjects in this group were selected using *snowball sampling*, which means that during the interview period, names of other possible subjects to contact were collected (Silverman, 2000:159). Hence in the consumer and children groups, subjects had no professional education in design or textile, but varying experiences as consumers of textiles.

Interviews in the Repertory Grid Method

The printed fabrics were cut into 40x60 cm pieces and fastened onto neutral grey cardboards with pins in three corners of the fabrics. This allowed subjects who wanted to assess the fabric's quality to do so in the unpinned corner. The grey cardboard framed the fabric 40 mm all around. The triads were presented in different rooms to different subjects, on tables or floors, a little aslant on the same white ground and white background and with the same lamp directed at the triads. In order to give all subjects the same impression of colour, a halogen lamp with a white spectral light was used. The subject sat or stood in front of the triad at a distance of about 1.5 metres. The triads were displayed in the following order and positions from left to right: A/B/F, D/A/G, E/C/A, B/C/D, G/B/E, C/F/G, D/E/F. The interviews were tape-recorded. The choice of patterns and some of the descriptive notions used during the interview were recorded on a computer during the interview.[35] Afterwards, the interviews were transcribed verbatim and analysed using the computer programme Maxqda[36], a computer package designed to aid in structuring qualitative textual data. The subjects' descriptions and explanations were sorted and organized into different categories during this analysis.

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[35] The exception is most of the interviews with the children. I found that their interest in what was being entered into the computer disturbed their focus on the triads.
[36] www.maxqda.com

Selected sequences of the text were elaborated to give a better focus on the originally oral material.

Study II: Result - Describing Striped printed patterns

Concepts emerging from all interviews can be found in Table 1, 2, 3 and 4. Despite the fact that the subjects in the consumer and child groups presumably were not as used to describing textiles as were those subjects working with design, they most often found ways to explain their choices. Sometimes, however, this was not so easy. Here is an example from the first triad ABF, when the subject chose pattern F and explained:

> Triad ABF: /.../F is very nice. /.../ Because it – I think it could work as a window curtain. It would be a nice colour. And then I think it could be used for an apron. And the sort of pattern is very different, but the others only have one thing and you know a bit more, sort of – what can I say?... Em... Yes, it's nicer, like (girl, age 11; my translation).

The subject explained that she chose pattern F because she found the fabric usable and also because the stripes had different widths. When trying to analyse the pattern and explain why it appealed to her, she gave up and repeated that it was nicer than the other patterns. When informing about the study and while introducing the triad session, I described the fabrics as *striped*. Most subjects used this concept, but especially in the group of children (age 7-12), several subjects used the concept strokes instead. Some subjects also said lines. The younger children talked about thick and fine stripes, sometimes large and small. The composition of the stripes was described by one girl (age 9) as pressed together, but most of the younger children commenting on the composition of the stripes said that there was a varyingly large distance between the stripes, or many/not so many stripes. Some children (age 15) used concepts such as structure, even/uneven pattern, order, balance and symmetry. Adult subjects also used these concepts. Professionals more often used concepts for the composition, for example rhythm, variation (in stripe width), contrast, balance, distinct, etc. The professionals also used professional terms such as block stripe, archetypical, large patterned and descriptions of technique (printed stripe). However, the professionals often used terms that occurred in the other groups, e.g. "more is happening".

In some interviews with adult subjects, concepts connected to sensuous experiences other than the visual occurred. Subjects described, for example, the pattern as soft, calm or sticky. Pattern F could be described as disordered or grill-like (flickering) within all adult groups, while the concept clean was often used for patterns with wider stripes. Referring to cleanness, the de-

scription calm or harmonious could follow. Some subjects, especially in the designer group, added expressions such as power and airy:

> Triad ABF: Chose B: Yes, I found it had a sort of airiness that gave energy (female designer; my translation)

> Triad GBE: Chose B: B is most fun. It's a bit… a little overdone. What can I say. It has some…more character, in a way. It is more daring, more…powerful, in a way. Because it's large – larger patterned than, than E and G, /.../ (male designer; my translation)

The sense of taste and concepts of temperature were also used to describe a pattern's character, like in the following examples from two designers:

> That little acidity that I like in C. /.../ Acidity, yes, with that little, little thin stripe (female designer; my translation)

> Triad DEF: Chose D: because it, it gives the bluest impression and it's clean and it's, it's powerful, and it stands for what it is. And it doesn't try to, to warm up till something using small stripes somewhere, but it's there. And like I said earlier: The blue dominates the white, that's why I accept it most (female designer; my translation).

The colour choice blue and white resulted in a relatively great light contrast between the stripes. The colour choice could also result in choices based on preference (or not) for blue or white. The subject above always rejected patterns in which the white colour dominated, and preferred the bluer patterns, like in pattern D. Other subjects found pattern D too dark, and could ascribe the pattern properties such as increased weight and thickness caused by the blue colour. The subject below almost personified the pattern:

> Triad DAG: Reject A: No, it is nagging and boring (small laughter)... (female consumer; my translation)

The professional groups did not use the concept nice as frequently as others did, thus here the word of honour was interesting or exiting, a concept also used by some children (age 15). Connections to traditional styles or products or contemporary trademarks and designers were also made by subjects to describe the pattern's character.

Analysing the descriptions

Sections from the interviews that described the visual impressions of the patterns were analysed and organized into three categories.

- Concepts based on categorical perception of a formal gestalt.

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- Concepts based on culture and experience of the surrounding world, i.e. concepts based on the subject's own valuation of pattern character, and connections to cultural experience and/or style (semiotic connections).
- Synaesthetic concepts – subjective sensory impressions, when the visual impression of the pattern is experienced as connected to other senses.

Concepts based on categorical perception of a formal gestalt

Form element concepts were organized into words describing pattern elements and concepts describing the pattern composition. Words used to describe pattern elements can be found in Table 1.

The words used to explain the stripes are the same in all groups except for one child who calls them "stretch". The widths of the stripes are explained in quite the same way within all groups, but in the designer group they used a more similar set of words. One of the children (age 15) described the stripes as ordinary, another child (age 10) called the colour unnatural, which are concepts that may be related to a cultural experience of other stripes. Two older children (age 15) used colour names related to cultural phenomena: cornflower blue and sailor colour. Adults, but no children, talked about contrasts and described the colours as warm and cold. These concepts are often used in design education and literature on colour theory. Most concepts can be easily understood in a communication situation among adults, with the exception of colour descriptions such as *rich*, *glorious*, *unnatural* and the stripe description *ordinary*. The children may have heard about warm and cold colours and contrasts, at least the older children (age 15) during their art lessons at school, but these do not seem to be natural concepts for them to use.

The pattern structure was described using the concepts gathered in Table 2. The subjects educated in design used concepts in professional terms such as block stripe and basic stripe, and placed the pattern in traditional positions: archetypal, uniform. The younger children (age 7-12) were not as precise in their descriptions of structure, but the older children (age 15) like the consumers used terms such as structure and symmetry. The consumer group seemed to have a good analytic capacity, but it should be mentioned that three of the consumers were used to analysing aesthetic expressions (not textiles) in their professions and this was manifested in their vocabulary and ways of thinking during the interviews.

Concepts based on culture and experience of the surrounding world

Concepts used to describe the expression/character of the patterns are gathered in Table 3. The designers tended to describe the expression of the structure, while the teachers focused more on pattern composition. Here, more

professional concepts were found in the educated groups: they talked about balance, distinction, "surface tension", that the surface is elaborated, etc. Other descriptions of the patterns' expressions are a matter of categorical perception: simple, muddled, pale, etc.

Subjects also presented semiotic signs to describe the patterns. In Table 4, the semiotic connections to the patterns are gathered. Semiotic connections were made to, for example, trademarks, products and the Finnish flag, but also more generally to classic or historical style, handicrafts and traditions or even more personally to a feeling of being "at home". Connections were made to Swedish pattern traditions such as bolster stripes and Gustavian style, as well as to French traditions. Mostly adult subjects made these connections, but also two children (age 15) connected patterns to the nineteen seventies and Marimekko. Connections were also made to seasons, personal memories, to striped products such as awnings and "hammocks". The colour composition and the stripes caused many subjects to associate the patterns with the sea, summer, and Finland. The younger children (age 7-12) did not make as many connections like this. This result indicates that increased experience from the surrounding world gives rise to more associations based on visual impressions, and trade knowledge made it possible to connect to designers' names or associate to characteristic, traditional styles. One of the older children (age 15) used two word I have never heard of: *slange* and *Wexén*. These word may be internal to this pupil's environment, and the association made according to his experience.[37]

In all groups, connections to summertime and maritime associations are found. This is probably because stripes are often seen in summer textiles, pillows, parasols, awnings, etc. Pastoureau (1998, 2001, 2003) claims that the use of striped shirts worn by sailors has roots from at least the fifteenth century. Throughout history, stripes have had a negative connotation, as they were used in clothes to separate good people from prisoners, prostitutes, etc. However, during the nineteenth and twentieth centuries, stripes became very popular in European society. After the discovery of sea bathing and the pleasures of the beach, the "maritime" stripe was used in bathing suits and canvas tents and seats on the beach. Women's dresses and parasols, children's clothes, etc., were all striped. Pastoureau also claims that, after a period of "snobbery" during the 1900-1920s, stripes have retained a reputation for elegance and good taste despite the mass spreading after the Second World War. The stripes in white together with another colour give the pattern a special "chic" value and a quality of freshness and neatness. Even though the popularity of stripes declined during the nineteen seventies and

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[37] Another possibility is that the boy was joking. The group of children age 15 were directed by their teacher to participate in the study.

eighties, they are still used to give an elegant, youthful, gay and summer-like air to clothes, interiors and exteriors, and have even become much used within sports (e.g., football shirts) and other leisure activities (Pastoureau, 1998, 2001).

Synaesthetic concepts

Subjects also used concepts related to other senses: soft, cool, airy, heavy, sticky etc. One designer talked about a stripe as acidic and one consumer said that she felt satiated with one of the patterns. Almost only adult subjects used concepts that could be connected to senses other than the visual. One child described a pattern as *loud* (boy, age 15). Other synaesthetic concepts were: Warm, cold, soft, rigid, hard, floating, tight, all used by adult subjects. Other concepts emerged that may be connected to bodily experiences, e.g., light, heavy, living, floating, sticky.

The subjects showed distinct differences in their ability to talk about expressive dimensions in the patterns. The children (age 7-12) were the largest group (n=20), but used fewer descriptions concerning the expressive dimension of the patterns. In design education, the expressive dimension is central when making patterns, and judgements of the expression are normally part of the design process (Wong, 1993).

Individuals in the professional groups used more diverse concepts than did subjects in the other groups to describe their formal aesthetic reasons for choices and rejections in the triads. Especially the younger children (age 7-12) described more concretely how the stripes were placed in relation to each other when describing pattern composition. Design educated subjects to a higher extent used more principal descriptions such as wide striped, uneven striped, etc. Designer subjects most often used these kinds of summarizing pattern descriptions, while teacher subjects also described the patterns more concretely. Structure, symmetry, rhythm, mirrored/reflected are all concepts used in the professional literature (Juul & Skjeggestad, 1992; Skjeggestad, 2001; Wong, 1993). The first two were used in all groups, except among the youngest children (age 7-12), and rhythm was used by all adults. But the designer who used the concept mirrored here did not use it in the way described in the literature, as in mirrored on an axis (Juul & Skjeggestad, 1992:40). Wong uses the concept reflection in this way and points out that symmetrical forms cannot be reflected, as the shape will not be changed (Wong, 1993:54). When the designer used the concept mirrored in the present study, he did so in the sense the literature terms positive/negative, meaning that the colours change position. One male consumer used the word inverse for positive/negative, which is the word used in Adobe Photoshop for changing the colours from foreground to background.

Same pattern – different descriptions

Analysis of the pattern descriptions revealed that the same pattern was not only judged in different ways, but also described in different ways. A closer look at pattern A, the pattern with 10-mm-wide blue and white stripes, shows that it was described in different ways. Descriptions of pattern A are gathered in Table 5.

Table 5. The subjects' use of concepts when describing pattern A.

Descriptions based on categorical perception	Basic stripe, Block stripe, Not all straight stripes, Homogeneous, Uniform, Same structure all over, Similar, Even pattern, Nice proportions, Simple, Full of contrast, The stripes form a pattern, Pattern pressed together, Balanced, Stable, Distinct, Straight, Clean, Clear, Harmonious for the eye, Comfortable to look at Super striped, Annoying to look at, Disordered, Flickering/vibrating/(grill-like?), Muddled, Restless, Messy, The stripes flow together, Blurred, Fuzzy, Flickering, Vibrating, Fluttering, The stripes are bouncing, Visually dancing, Disturbing optical phenomenon
Cultural/experienced judgements	Pleasant, Attractive, Fresh, Good looking, Fine, Favourite pattern, Deviating, More fun, Ordinary, Normal, Unimaginative, Predictable, Makes its stripes (as usual), Uninteresting, Uncomplicated, Calm, Lacking in action, Nothing in it. Least harmonious, Stressful, Loud, Annoying, Too much stripes
Synaesthetic concepts	Warm, Soft, Rigid, Sticky

The same pattern is described as distinct and stable, as well as muddled or restless. The pattern was described as clean, classic, stable and ageless, a safe choice at all events, but also as uninteresting, unimaginative and boring. The synaesthetic concepts used to describe the patterns were warm and soft, as well as rigid and sticky. Some subjects commented that they were inconsistent when they, in one triad, chose a pattern and highlighted its positive properties, while they, in another triad, rejected the same pattern using negative terms to describe its properties. Hence, the context in the triad also influenced the impression of the pattern in relation to other patterns.

Study III: Result - Judgements of Striped printed patterns

Interview sequences including explanations of subjects' choices were ana-
lysed. Focus was put on justifications for patterns that some subjects always
chose when displayed, and patterns rejected irrespective of triad combina-
tion. These justifications were mainly based on the characteristic qualities of
the patterns, explanations related to subjects' positive or negative experi-
ences, or that the subjects found the fabric usable for concrete products, etc.

Analysis of subjects' judgements, notions and values

An analysis of the subjects' reasons for their choices and rejections, i.e. the
judgements and notions they experienced when looking at the designed
printed patterns, was made by coding the material to form categories
(Silverman, 2000). Four justification categories could be observed: (1) For-
mal content: Colour and pattern composition, including simple or complex
expressions, (2) Functional content: ideas related to products (3) Cultural
content: Cultural and social associations and (4) Emotional content: feelings
and emotional associations.

Formal content

The colour design resulted in relatively great light contrast between the
stripes. The choice of colour also meant that colour preferences could influ-
ence the choices. Those who liked blue very much preferred the bluest varia-
tion of the patterns or the bluest pattern. One boy (age 7) always chose the
bluest pattern and explained his choices remarking that */.../ there is more
blue here* (boy age 7). Others found the pattern too dark when the blue col-
our was dominant, and expressed the impression of the fabric as heavier or
thicker due to the colour. One subject rejected pattern A, saying that she
found it messy and dull. She added that *It has a lot to do with the colours. If
it was black and white I may have made another choice* (female consumer).
Many of the subjects in the designer group had considerable experience of
textile pattern design in industrial production. Most of the designers, in some
triads, related their choices to the market value of the fabrics. One of the
designers stated that *the Swedish people love blue. If you want to be com-
mercial you have to use blue* (female designer). Some subjects in the de-
signer and teacher group presented ideas about how one could develop some
of the patterns, but they had nothing against choosing a pattern even if they
would have given it a better design. Talking generally about pattern when
rejecting pattern A, one female designer meant that there had to be some-
thing more in a stripe than just two colours and stripes of the same width.
One designer preferred pattern G to the reversed coloured pattern F: *(F) feels
a bit boring. It feels too Gustavian, I think. The other one is a little…a little
more unexpected. G is a little more unexpected (male designer)*. One con-
sumer also said that she had this distinction in mind when she made her

choices: *...the first you think of is that it should be something you like, then you have to think of something else that is a bit conspicuous* (female consumer). This consumer seemed to first make an intuitive choice, then corrected herself by looking for "something special" in the design.

Simple or complex expressions were seen. Simplicity, also described as clean or pure, was something that many adults regarded as preferable. Among the younger children (age 7-12), however, many preferred more complex patterns and found the simplest patterns boring, but even adults could find the simplest patterns relatively uninteresting. Table 6 shows how many subjects who chose and rejected specific patterns of different complexity did so irrespective of triad combination. The reasons for their choices are those presented above. Notice that subjects may have consistently both chosen and rejected specific patterns.

Table 6. Percentage of informants who chose and rejected specific patterns of different complexity irrespective of triad combination.

n=70	*A* *%*	*Simple Patterns* *B+D* *%*	*Medium Complex* *C+E* *%*	*Complex patterns* *F+G* *%*
Always chose	7	24	23	13
Always rejected	12	19	1	39

The complex patterns were chosen by fewest informants and were also most often rejected. No children age 7-12 are found among the 27 subjects who always rejected these patterns. The medium complex patterns were rejected by only one person and were chosen equally often as the simple patterns. There was no great difference between the proportion that consistently chose and rejected the simple patterns. A greater proportion of the group always rejected than always chose pattern A.

Some subjects always chose the simplest or the most complex pattern in each triad. Table 7 shows to what extent subjects always chose the simplest or most complex patterns. In the designer and consumer groups, the simplest pattern in the triad was chosen by almost half of the subjects. Many of the oldest children (age 15) also chose the simplest pattern, but none of the twenty younger children (age 7-12) did so. Six of the younger children always chose the most complex pattern, which just two designers, one teacher, two consumers, but none of the 15-year-olds did.

Table 7. Choices of the simplest or most complex patterns and inconsistent choices in each triad within each subject group (number of subjects).

Subject group	Simple patterns	Complex patterns	Inconsistently
Designer (n=10)	6	2	2
Teacher in Textile handicraft (n=15)	5	1	9
Consumer (n=13)	6	2	5
Child age 15 years (n=12)	5	0	7
Child age 7-12 years (n=20)	0	6	14
Total (n=70)	22 (31%)	11 (16%)	37 (53%)

One of the younger children explained why he rejected pattern B: */.../ there should be an in between number of stripes. There should not be too many, there should not be too few. G has too many stripes, but…too many stripes are better than too few* (boy, age 12)*.* Another boy who preferred pattern F said that compared *with the other fabrics (*pattern A/B in the triad*) it's like everything is within the same fabric"* (boy, age 10). While the younger children liked that the pattern had more stripes and stripes of different width, many of the adults as well as the older children (age 15) had a purist or minimalist ideal, which they thought they found reflected in patterns with fewer stripes and less variation in the width of the stripes. One 15-year-old girl who rejected pattern C in a triad with B and D said that pattern C was */.../ much messier than the others. I want order. I want it to be quite even. Simple* (girl, age 15).

Many of the subjects who preferred the complex patterns explained their preference by comparing with simpler patterns in the triads. They found the simpler patterns dull and boring, for instance pattern B and pattern D had just one kind of stripe. Some subjects wanted more action in the pattern. A common way of justifying the choice of simpler patterns was to describe them in relation to the other patterns: Too much is happening in the other patterns of the triad. The simpler patterns were chosen because they were found to be pure and calm. Judging triad G/B/E, one consumer chose pattern B, explaining*: Yes, because here it seems most pure, because the others are…feel almost a bit messy – or messy, it's difficult but – in a way it feels like "too much". And then I turn towards the calm in B, the pure…* (male consumer). One teacher said *Oh, how calm and nice* (female teacher) when she saw pattern B for the first time.

Except for the designer group, somewhat half or more of the subjects in each group made inconsist choices (Table 7). In triads without possible favourites, they made different choices in each triad, and the subjects could choose a pattern in one triad that they had rejected in another. The context seems to be

important for judgements. Some of the subjects commented that they were not consistent when choosing a pattern in one triad and emphasizing the positive form qualities of it; they had described the same pattern in negative terms in another triad.

Functional content

Many subjects, even the younger children, had ideas about objects the patterned fabrics could be used for: clothes, interiors such as pillows, curtains, beddings as well as wall hangings. Some subjects always had this in mind when they made their choices. Professionals reflected more than others did on the function of the material or pattern in relation to proposed objects. Reflecting on function, professionals also discussed the patterns as combined with other objects or fabrics. The reason for this result is probably that professionals are more used to making these kinds of considerations. They may also have focused on the patterns as such as suitable patterns for objects, independent of textile material or technique. A designer discussed during the whole interview how the patterns he had chosen would complement each other in a collection. With regard to possible functions of the fabrics in practical life, many of the designers and teachers also presented ideas for improving the patterns, the colour design and the textile materials of the fabrics. Their implicit knowledge influenced their judgements, but they also knew how to improve the pattern or fabric quality for better usability. In this case, the displayed pattern was viewed as a design proposal.

In contrast to Horovitz's (1939) results, in the present study, younger children (age 7-12) more often used function as a reason for their judgements, probably because all subjects were asked to tell whether they were associating their choices with special products, and because most children were interviewed during their sloyd[38] lessons. In the professional groups, fabric quality and pattern effect were discussed in terms of possible use, and sometimes changes were proposed.

Cultural content

Choices made based on culture and emotions were often integrated and difficult to separate, both in the analysis and in subjects' reflections. Therefore, these two disparate phenomena will be integrated in the selected sequences. Cultural associations were related to traditional styles and special objects such as the Finish flag, awnings and traditional bolsters. General associations also occurred such as summertime, marine style, the Swedish west coast, Greece and café. As mentioned above, reasons for judgements were often integrated, deriving from more than one category, as in some of the following examples: One consumer always preferred pattern C because of its

simplicity, and it gave him *really (a) summer feeling* (male consumer). Many adults associated patterns F and G with domestic handicrafts: *I choose that one, I don't know why, I get a sort of handicraft feeling from those* (with) *different* (stripes) - *that when the stripes are different widths - but that's how I feel* (female consumer). Associations with well-known trademarks such as IKEA, Polarn&Pyret, Gudrun Sjödén, Marimekko, etc., also occurred, mainly in the adults' remarks (Table 4).

Subjects made associations to different products, personal memories or were influenced by the direct context of the patterns when looking at the triad. Their associations could be negative or positive. One teacher reported that as a child she had wallpaper in her bedroom similar to pattern B/D. She could not neglect her negative associations to the pattern and always rejected it when displayed. One boy (age 10) chose pattern A because he had a similar fabric on a sofa at home. These reasons are examples of individual cultural and emotional experiences that influenced the judgments. Sometimes subjects who had made the same choice appeared to have completely different justifications for their choices. Their reasons were dependent on different cultural or artistic focal points and disparate individual experiences. This was probably the case for two distinguished designers: one of them found that pattern D was connected to *Swedish cultural heritage* (female designer), the other regarded D (and pattern A) as *ageless* and */--/ not at figurative, so to speak* (male designer). One of the youngest children made the same association to *ski tracks* as did one of the oldest designers as well as a female consumer, but with different patterns and with different reactions: The girl chose pattern B because *it looks like…ski tracks…/…/. I like skiing very much* (girl, age 9). The designer rejected pattern F and said that even if she liked skiing very much, she thought the pattern looked *too much like ski tracks* (designer). The female consumer rejected pattern G because it remained her that she should go out skiing, and obviously this was nothing she was looking forward to.[39]

Many subjects, even the younger children, seemed to be conscious of their own taste. In both the children and adult groups, subjects justified their choices by saying that the pattern was/was not to their taste, or they described their overall taste during the interview session. Most of the designers also referred to their personal taste when explaining their choices, but it is obvious that skill and professional experience influence judgements. The following may serve as an example:

> Triad BCD: Well, the question is whether you should make a choice based on emotions or intellect. (…) I think that if I were to make my choice based on

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[39] The sequences above are at the same time examples of emotional content.

emotions…I believe I would choose D. But if I were to make my choice based on intellect, I would choose B. And why? Well, I think D points more towards our cultural traditions, in a way. That is to say that there is something that is deeply rooted in our…an intrinsic part of our heritage of patterns. (…) But B is something that we work with as designers in some way (laugh). In a way it is – it is very interesting to observe this. If you try to separate….that is, the intellectual self from the emotional self, then you often make really different choices (female designer).

Emotional content
The same subject reflected in the same way later on in the interview with regard to triad D/E/F: based on emotions she chose pattern D, based on her knowledge and intellect she chose pattern E. She developed her reasons for choosing D by explaining how that pattern was connected to her childhood. Another designer said that pattern A *feels soft and nice in a way. And warm* (designer). The reason for this emotional reaction to the pattern was that it reminded her of some sheets her brother had as a child.

It might be possible to approximately map emotions using Desmet's categories of emotions (Desmet, 2002), if we accept the notions spontaneously used by the subjects as expressions of emotions connected to products. Desmet (2003) suggests five categories: instrumental, aesthetic, social, surprise and interest emotions. *The Instrumental Product Emotions* – desire, satisfaction and disappointment – are connected to the goals or purpose of a product. These emotions were expressed when justifying choices and rejections of patterns or when the subjects had ideas about pattern improvement. Satisfaction and dissatisfaction could be expressed in terms of pattern composition, sometimes as compared to other patterns in the triad, but also in terms of the function of the patterned fabric. *The Aesthetic Product Emotions* – attraction and disgust – correspond, according to Desmet, with our attitudes. The attitudes are dispositions of liking or disliking something and may be both inherited and learned. Attraction and disgust were often described in connection with subjects' image of their own taste. *Social Product Emotions* – admiration and indignation – are connected to standards concerning how we believe things should or should not be. They are closely connected to the cultural field (Bourdieu, 1984), and in the present study, were often expressed particularly among the more professionally experienced groups of designers and teachers when they connected their descriptions to the work of established designers. One designer who clearly said she did not like any of the striped patterns also expressed indignation. But this statement can be defined as an individual as opposed to social product emotion. *Surprise Product Emotions* concern a feature that is appraised as new, sudden and unexpected. In the current study, pleasant and unpleasant surprise were expressed by subjects when new patterns were displayed, and when they found that the character of the pattern changed in the different triad contexts. *Inter-*

est Product Emotions – fascination, boredom and inspiration – all involve an aspect of (or lack of) stimulation. The negative emotion boredom was often indicated as a reason for rejecting a pattern. Even if all groups of subjects in some way discussed how displayed fabrics could be used, some in the professional groups also emphasized getting inspiration for their own design from the triads. Fascination was sometimes expressed when the character of the pattern changed in different triad contexts, which was previously mentioned under examples of Surprise Product Emotion.

"A nice fabric"

At the end of the interview sessions, subjects were asked to describe a fabric that they especially liked and their reasons for liking it. The "nice" fabrics described were mostly concrete, patterned or unpatterned fabrics they had seen and often also touched. Some subjects, especially from the professional groups, described more than one fabric. Thirty-eight of seventy-six descriptions were of fabrics the subjects owned themselves: fabrics in clothes, interiors or piece goods. About half of the interior textiles described were selected from their own or their parent's bedroom. Subjects had observed the other fabrics at school or work, in shops or other places: in home interior or in clothes. Eight of the adults, mostly from the professional group, mentioned the name of a designer, e.g. Josef Frank, Carl Johan de Geer, and contemporary designers and trademarks such as Liberty's and early patterns by Marimekko. Ten of the adults (six consumers, four professionals) associated the fabrics with a special style or cultural tradition, e.g. Asian style, nineteen-seventies and nineteen-eighties, English style and Gustavian style. None of the children mentioned trademarks or the name of a designer when they described a fabric they liked. They also did not make associations to a special style or tradition. Twenty-four subjects, mostly adults, gave principal descriptions of fabrics in relation to a description of their own taste. Two of the younger children described textiles that did not exist.[40] Some of the descriptions were about emotions tied to direct, physical contact with textiles; eleven of the 67[41] subjects used terms such as soft, smooth and comfortable to explain their reason for liking the fabric.

Analysis of notions associated with a "nice" fabric

An analysis of the subjects' notions associated with a fabric they liked can be discussed within the same four categories as above: (1) Formal content, (2) Functional content, (3) Cultural content and (4) Emotional content. But

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[40] One of them described a flimsy material for curtains, and it appeared that the pattern was from her computer desktop picture (girl, age 10). Another girl described a vision of a pattern for trousers (girl, age 11).

[41] Three of the children (boys age 7, 12 and 15) did not complete this part of the interview.

with regard to these descriptions too, the reasons for their positive notions were integrated parts of these categories.

It was necessary to describe the colour, composition and textile material, as the interviewer had not seen the fabric. The professionals could give more details about textile material. However, some subjects could not describe the material used or details of the pattern. One male consumer described a patterned fabric he had found after searching some years and had used to re-cover two sofas at home. But he could only describe the overall impression of the pattern, not the details of the pattern design. This confused him a bit, as he thought he knew the fabric so well. Other subjects (24), mostly adults, were varyingly clear in their descriptions of the principal patterns, styles or materials they said they liked. Some consumers and many of the professionals described piece goods they had at home that they had bought because of fabric fascination and for which they had no functional plans.

Many of the "nice" fabrics already had a function; they were observed when used in different objects. Remarkably, many fabrics were from the bedroom, their own or their parents. The fabrics were used in beddings, bedspreads and curtains and on pillowcases decorating the bed. The bedroom may give some special possibilities for studies and sensuous reflections on fabrics and patterns. Three of the consumers had just moved and described fabrics they had just bought or planned to buy and use for curtains or decorative pillows in their new homes. Among the children, many subjects described fabrics used in clothes they had worn at parties, admired from fashion shops or had seen on others.

Almost all the described fabrics were part of the subjects' surroundings: their own or relatives' or friends' homes or clothes, their working place/school or in shops, fabrics they had designed themselves or fabrics with high cultural status. Some subjects described textiles that did not correspond with their own taste as expressed by their personal preferences. One consumer subject described a textile she thought was a breach of an accepted cultural code of taste. She repeatedly said that she knew she had given up her prestige and presented a fabric she thought did not correspond with common taste.

Emotions with regard to the texture of fabrics were also of importance for some subjects' notions, mostly those from the children groups. The most common description was that the fabric felt soft and/or pleasant when touching or wearing it. Examples are descriptions of how linen and a specific jeans fabric feels to wear, a lime green pillow, probably in velour, lying on one boy's (age 15) bed, and the leather on a chair that another boy (age 10) found soft and pleasant to sit on.

When they appear in different contexts and have different functions in the surrounding world, the same patterns can be associated with many kinds of feelings and inner images. Hence, many diverse feelings and inner images can be triggered by the same pattern. If the pattern is simple enough and abstracted from possible contexts in the outside world, the individual is free to try or choose possible contexts and thus influence possible apprehensions of the pattern: general experience results in general feelings, specific experience results in specific feelings. Even if apprehensions of patterns based on categorical perception are relatively stable, they may be understood in different ways when used in interaction with sensuous intuitions that are based on implicit knowledge of the surrounding world.

PART IV

Discussion:
Methodological aspects

In the present study, both methods used to describe textile patterns are usable in different ways, but they do not completely describe the visual aesthetic expressions and impressions. The graphical systems used to describe The Old Amish Quilt do not describe the visual impression of the pattern, only what causes it. The Repertory Grid Method gave no clear-cut picture of the look of the pattern, or concepts describing each pattern. The reason for this is that the background for perception comes from many different sources: biological, cultural and individual.

Because the concepts used for descriptions are often based on judgement, and because judgements are based on structures of attention (Klarén, 2006; Arnheim, 1974) and implicit knowledge (Gärdenfors, 2005), it is only possible to structure concepts under different headlines to a certain extent. I am aware that the structuration of concepts may be discussed. Broman (2000) organized concepts used to describe subjects' opinions on knotted wood surfaces into six categories: Spirit, Nature, Purity, Temperature, Exclusiveness (Value/Interest) and Feeling (Broman, 2000:64). Many concepts used to describe wood surfaces were also found in the subjects' descriptions of textile patterns in the present study. However, Broman's categorization of concepts was not used in the present study, where categorization was related to: (1) Concepts and justifications based on categorical perception of formal gestalts, (2) Concepts based on culture and experience of the surrounding world, and (3) Synaesthetic concepts. Skjeggestad (2001) organized elements of design as follows: Aesthetic and formal elements, Principals for use of the former elements, Character and Communicative aspects. These categories could also have been modified and used in this study, adapted to create the following: (1) Form element concepts, (2) Composition concepts, (3) Expressive concepts and (4) Semiotic concepts. (1) and (2) contain concepts describing formal gestalts, e.g. form elements, composition of stripes, size relations, etc., based on categorical perception. Concepts in (3) are based on the subject's own notions of pattern character; expressions in the composition based on direct or direct experiences from the surrounding world and in

(4) connection to indirect experiences of the surrounding world (Figure 1). Thus, there remains a great deal to discuss regarding how to categorize concepts and name categories.

The Repertory Grid Method (Kelly, 1955; Kelly, 1955; Shaw & McKnight, 1992) functioned well for mapping concepts. The comparable method helped subjects in describing chosen or rejected patterns. The fact that every pattern was displayed three times in different contexts caused further concepts and justifications to come to light. It functioned well to use greater differences between the patterns in the first triad (pattern A/B/F); this made it easier for subjects at the beginning. In the present study, the second part of the Repertory Grid Method – grading each pattern according to concepts found – was excluded, becausethe main focus was not put on comparing pattern properties. However, this could be an appropriate method to use when analysing differences and similarities in texture, pattern, etc., in systematic surveys of empirical material within the area of textile craft and design.

Note that subjects in the present study had to choose among the displayed patterns. This means that even if they, in other contexts, would have been very positive or negative towards all patterns in the triad, in the present study they had to chose and reject one of them. A few subjects expressed quite clearly that they actually did not like striped patterns at all, some said that they did not like any patterns in a specific triad, others that they did not like the colour composition and therefore none of the fabrics. Others said that they had problems making their choice in some triads because they liked all patterns. It is possible that even subjects who did not make such statements also had this as their starting point. Thus, the method may be suited to descriptive and comparative studies, but cannot answer questions about preferences for concrete patterns. However, the method is founded on choosing some of the displayed elements, and most subjects chose to relate to preference even though they were instructed to come up with their own reasons for choosing and rejecting. Yet part of the result is presented from a preference perspective, as the exposed patterns were designed to represent more or less complex pattern characteristics to allow observation of how the subjects related to these characteristics. The aim of the study was otherwise to map reasons for judgements, not necessarily the judgements themselves.

During the interviews, the original plan was to use a computer to record choices and rejections, and if there was time for it, also to record concepts and reasons for judgements. When interviewing the first children, they showed a great interest in the records on the computer, so I decided to record only the patterns that were chosen and rejected. Concepts and motivations were recorded on a computer during the other interviews. These notes were needed when the quality of the tape-recording was inadequate. The time

used to record concepts, etc., on the computer also gave the subjects extra time to think about and explain their judgements.

The interviews with the children diverged to some extend from the adult interviews. The child interviews were often shorter, and at least the younger children (age 7-12) were less likely to develop their explanations or to discuss aloud how they were thinking, which the adults often did. Karppinen (2001) had the same experience from her interviews with 5- to 6-year-old children about their own works of art. She found it difficult to elicit constructs, because children's vocabulary or knowledge of certain concepts is limited, even if they were lively storytellers when talking about their own creations. Her experience was that children, for different reasons, have a tendency to answer, "I don't know". At this point, it becomes a problem to avoid leading questions (Kvale, 1997). The younger children in the present study all showed interest in participating in the study, which should imply a will to do what they were asked to do. When their explanations for their choices were rather scanty, I remained silent so they would have the opportunity to say more, and after a while I repeated what they had said and asked whether they could come up with any more reasons for their choices. This was the method use for all the subjects who did not develop their explanations.

Subjects

The survey was based on interviews with 70 Swedish subjects. As the design of the study is qualitative it was planned to involve ten subjects of the following four cathegories: Educated and working textile designers, educated teachers in textile handicrafts, consumers of textiles without textile education and children from compulsory school. The children's group was later divided, as the results showed great differences, especially in preferences for material as a function of age. The five subject groups were not of the same size. The children's group became larger because so many of the younger children wanted to join the interviews and I found no reason to exclude anyone. The group of teachers of textile crafts also became somewhat larger, because I wanted to interview teachers from different parts of Sweden, and also found it interesting to include some nearly graduated students in this group.

NCS as a mapping tool

The method used for object analysis of Amish quilts functioned well because it gives a visual picture of the principals for the quilt's composition and colour design. Colour classification in areas of hue and nuances makes it possible to give the survey a comprehensive structure. However, mapping the

colours' positions on the NCS colour wheel and the triangle does not give a clear picture of the concrete colours used. The colour mapping in two separate figures also made it necessary to adjust the model to obtain a clearer picture of the real use of colour. During the experimental work based on the result of the object analysis, more principals for the quilts' design emerged. Because the NCS material includes a colour fan with 1950[42] described surface colours, colour mapping can be carried out at the object's location, and thus, there is no need to move the object.

A problem could arise when the actual colour was not included in the NCS. An estimation of the NCS number was then made. Another problem with older textile material was that the colour could vary on the surface. In these cases, the NCS number was estimated based on a judgement of the whole coloured area. However, I find that the principals for colour design are not dependent on exact NCS numbers. An object's colour impression is never absolute and will vary in different lighting, when viewed at different distances, etc. The colour survey of concrete quilts and photos of The Esprit Collection agree to such a great degree that I find the reliability of the result to be good. What might weaken the reliability of the colour analysis is that the shadow effect caused by the quilting makes the colour surface less clearcut. In the end, however, this is still a matter of holistic appreciation of a coloured surface, and the definition of the surface is always a matter of appraisal.

NCS describes the colours' visual character in a logical manner. It is, therefore, easy to learn the system. When using the system, one becomes more conscious of colour features. One critique of the colour samples is that they have no texture, which is a problem when working with textiles. Still NCS is used a great deal within the textile- and fashion trade, even though textile colour samples would be preferable. However, textile colour samples that maintain standards of precision are expensive to produce. Therefore even colour samples are usually used, especially early in the design process and when predicting future colour trends (Hård & Svedemyr, 1995). Making colour appraisals with even colour samples can be a part of the analysis that helps in generalizing the result. The problems associated with the single coloured even surface on NCS colour samples can be compared with similar problems in determining musical notes. The musical note system mainly indicates the relative height and duration of notes and gives no information about the instruments' sound quality.

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[42] The system is increasing; when the study of Amish quilts was carried out, NCS included 1750 colour samples.

The Language of Textiles - Aesthetic perception and communication

Structure of attention

Categorical perception gives a basic structure and order to the outer world (Gärdenfors, 2000; Harnard, 1987; Klarén, 2006). In interaction with the surrounding world, the individual acquires dynamic, coherent and significant patterns of perceptive experiences, some of them more important to the individual than others. Direct experience of the logic of the outer world contributes to development of structures of attention. Such adapted principles of perception – conscious or unconscious – cause us to attend to special aspects of the world. They are the basis of implicit knowledge and serve the same purpose for perception that a theoretical perspective does for scientific research.

When the subjects in Study II and III made judgements about the textile patterns, they did so using different structures of attention (Klarén, 2006; Arnheim, 1974), based on individual implicit knowledge (Gärdenfors, 2005). They could even use different structures of attention during the same interview session. Some subjects' attention was directed towards the function of the patterns: What could this pattern be used for? Others directed their attention towards formal content, cultural content or emotional content, but judgements were often based on more than one of these categories. In the adult groups, curiosity quite often led to an analysis of the pattern similar to that used in Horovitz's (1939) study. That this occurred in the professional groups is not remarkable. They are used to analysing the effect of composition of form elements. Consumers too wanted to find out how the form elements influenced their judgements – especially when changing the context (triad) in which a previously chosen/rejected pattern was displayed changed their judgement.

The design of the striped textile fabrics aroused different structures of attention. The subjects were asked to compare different patterns in each triad, and reasons for judgements based on formal content were often connected to their own taste: they liked the bluer patterns, the simple/complex patterns, etc. All the striped patterns had a systematic and logical structure – a kind of distinct order that, according to Langer (1979) and Gombrich (1979), makes patterns easy to perceive. Many subjects, however, found that especially pattern A flickered. Pattern A was disturbing to perception and often rejected. [43] Some of the designers knew from experience – from implicit

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[43] The flickering effect of pattern A was commented on in all groups, but this did not necessarily cause professional subjects to reject it. A teacher questioned whether the position in the

knowledge – how they could avoid that kind of flickering in a pattern design, and could therefore be more positive to the pattern as such.

The preference for complexity/simplicity found in previous research and presented above was not so pronounced in this study. The fact that the children (age 7-12) judged the complex patterns more positively than did the adult subjects and older children (age 15) corresponds with the experiments of Eisenman (1967), Thomas (1969) and Hutt et al. (1969; 1974). Berlyne (1963; 1966) found that increased exposure time resulted in a shift towards preferences for simpler patterns. Younger children used less time to make their choices. This may have influenced their judgements. In this study, however, judgements were connected to textile fabrics. The subjects' judgements often had different rhetorical directions (Buchanan, 1989); they had functional (logos), cultural (ethos) and emotional (pathos) contexts, which may have influenced the form preferences. This assumption corresponds with Rentchler's (1999) findings that learning components influence preferences; implicit knowledge of textile materials and techniques, of pattern composition and of functional aspects influences the choice of structure of attention. As mentioned above, polygons are often used in studies of preference for simplicity/complexity. Hence, subjects are obliged to make judgments primarily based on basic perceptual structures. One observation was that the older children, already at the age of 15, judged the complex patterns more negatively than the younger children did and more like the adults did. It is not possible to tell, based on the present study, whether this has a biological basis, is caused by cultural influences (Rampell, 2003; Ahl et al., 2001; Bourdieu, 1984) or is related to the fact that the subject group was rather small and homogeneous. The present study, however, was not a preference study; the subjects were always obliged to choose one and reject one of the three displayed patterns in the triad. It did not provide answers about preferences for striped patterns. Broman's (2000) preference findings indicate that the most important factor when composing a wood surface containing knots seems to be to avoid a state of disharmony. Harmony was important for many of the subjects in the present study, but because all patterns were symmetrical, they all had the structure needed for harmony, according to Arnheim (1974). Broman (2000) found that questions about harmony, easiness to look at and balance are important to wood preference. These reasons for preference were seen in the present study too, in addition to some subjects' desire for "something special".

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triad influenced the flickering effect of pattern A. But as all patterns were displayed three times in different positions within the triads, she concluded that this could not be the explanation. She also tried to look at the pattern with and without glasses, which did not help either. One suggestion is that an individual's vision may influence to what degree pattern A flickers.

Some of the subjects always attended to the functions of the patterned fabrics. They found them usable for clothes, interior design, etc., and they sometimes had ideas about how they could use combinations of patterns towards these purposes. Some of the designers focused on how the patterns could be combined in a collection or on how colour choice could make the fabrics more marketable. The designers' remarks above are clearly connected to knowledge of habitus (Bourdieu, 1984). The extent to which the other subjects' proposals were connected to habitus is not explicitly expressed in the interviews.

Design communication

In the subjects' judgements based on cultural content, implicit knowledge was a clear factor of recognition of semiotic signs in the designed patterns. In the child groups, the semiotic content – "product appearance" (Oehlke, 1990) – was not observed or understood. Obviously they did not have the kind of perceptual experience needed to notice the semiotic dimension of "appearance"; they lacked the structures of attention needed to recognize this dimension. At least they had no verbal notions to describe it. Giard (1990) claims that designers are more visually literate. In the current study, the designers were adaptors, not designers, and as "readers" of the design, they understood the semiotic signs. Most adult subjects understood these signs, however, although they were not professionals. With the exception of some of the 15-year-olds, the children did not connect the patterns to a specific design or cultural heritage. When the subjects described a "nice fabric", their choices were closely connected to their own lives. Subjects described fabrics from familiar surroundings; they mentioned interiors of their homes or their own or friends' clothes. To a great extent, professionals described textile fabrics by referring to established designers, to trademarks or to their own design. They did have a personal relation to these kinds of fabrics. They were part of the professional culture they belong to.

Buchanan (1989) discusses design as communication between the designer and the intended audience – the consumers. He classifies communication into three rhetorical categories: logos, ethos and pathos. Logos refers to formal and functional content, ethos to cultural content and pathos to emotional content. As Buchanan claims, pathos (category of emotion) seemed to be a strong rhetorical element. It is notable that the designers let their good memories of objects from childhood guide their choice of patterns, the teacher who was guided by very negative emotions towards pattern B/D, and three subjects at different ages and from different groups formed emotional associations with skiing when judging the patterns. When describing a "nice fabric" of their own choice, the emotional content was tied to direct contact

with textile materials. When choosing among the striped patterns during the interview sessions, the feeling of the material was not as essential to the judgements. In the perspective of Desmet's model (Desmet, 2002, 2003), most of his 14 PrEmo was expressed when judging the striped patterns. Thus, it would be possible to use Desmet's 14 PrEmo as a way of basically categorizing emotions and mapping emotional concepts to obtain a general view at the end of a study. But the emotional structures associated with aesthetic judgments are too complex and dynamic to be described using elementary maps. It is important to comprehend the complexity as such.

Implicit knowledge

The judgements were based on implicit knowledge (Gärdenfors, 2005) of different kinds: direct experience of physical and practical conditions, "know-how", cultural and emotional experiences. Some designers wanted the designed printed patterns to be "something special", and they knew from their education and professional experience how to make a pattern more conspicuous. The designers demonstrated their explicit or implicit knowledge of the conditions that must be included in habitus (Bourdieu, 1984). Experience and awareness of habitus is part of the designer's profession. A statement by one female consumer indicated implicit knowledge concerning her own habitus: for some reason not trusting her first impression, she checked to see whether there was "something a bit conspicuous" in the pattern that allowed her to choose it. Another consumer found her own choice of "nice" fabric to be dissociated from the taste accepted in society. One female designer also made clear that her choice in some triads would be different if she made the choice as a professional or as a private person. One teacher was very surprised when she found that she loved a pattern – a medallion-pattern –, which was not what she would describe as her "normal taste". These examples may illustrate the – more or less conscious – influence of habitus, the common rules of taste that the consumer obviously knew she was breaking. The teacher seemed to view her own taste as something stable, but her fascination with the medallion-patterned fabric represented another taste. She may have been influenced by a trendy innovation, or just looking into the taste of another cultural field, as the fabric was too expensive for her.

Gärdenfors (2005) claims, as Polanyi (1966) does, that reflection and time enable description of parts of intuitive knowledge. The *Autobiographical Self* is constructed by experience (Damasio, 2002). It is the personal inner context that connects our experiences and our perceptions of the surrounding world. The personal context influences how and to what extent implicit knowledge can become explicit. Subjects in the professional group had a "trained eye" (Gärdenfors, 2005:80) and were used to talking about designed

objects and sensory qualities. Further cognitive work is needed if intuitive experiences are to be communicated and verbalized. In the present study, this was shown through varying use of concepts describing visual experiences and more developed justifications for judgements. Subjects in other groups also showed analytic ability and described associations from their experience, even though they had no special knowledge of textiles, design education or the field of professional design. Reflection in connection with practical experience results in what Polanyi calls qualified personal knowledge (Rolf, 1995). This kind of reflected practical knowledge is part of the design process when professionals make decisions about material, technique, colour, form, texture, etc. In the present study, many educated designers and teachers of textile handicrafts had more developed concepts of pattern character than did the other participants. They could give better and richer explanations as to why a special pattern character was preferred. The explanations could sometimes be quite simple: "too many stripes", "dull", etc. It is not surprising that the youngest children (age 7-12) did not use a great many different concepts and could talk of strokes instead of stripes; this has to do with their linguistic development. Descriptions of visual structures were complemented with perceptual properties to a greater extent by adult subjects, especially by those with design education. Borgen (1998) found that there were more similarities between amateurs and professionals than she had expected. The difference might be that professionals more often used abstract artistic terms about aesthetic problems, and had a wider overview of the field of art. This was observed in the present study too. Although concepts from most categories were used within all groups, children and consumer subjects more often referred to life experiences, while professional subjects more often used specific professional concepts such as block stripe, archetypes, decorative elements, etc., and more precise formal aesthetic concepts such as high contrast, balanced, stable, etc., and referred to specific pattern traditions within the area of design and textiles. In these descriptions, the verbal concepts functioned as trials to frame different aspects of an experienced whole.

Language games

The organization of concepts that appeared in the interviews in different categories can be discussed and concepts were grouped in different ways during the analysis. It was sometimes difficult to decide the limits between the categories. Some concepts may also be interpreted in different ways: for example, when one subject said that the pattern gestalt was simple, it may describe the same aspect that another subject called uncomplicated. That the pattern gave one subject a restless visual impression may mean the same as when another subject felt the pattern was flickering. In the descriptions of the striped patterns, concepts used in the sensory studies presented above

also emerged. In sensory analysis, different, and often more senses are used, and the concepts may therefore have another meaning when visual properties are described. Examples of concepts used in sensory analyses of textiles both at SIK and Laboratoire de Physique et Mécanique Textiles, and that emerged in the present study, were: warm, cold, airy, fuzzy, uneven, density and softness. As these concepts can also be related to textural, tactile properties or other material properties, their meaning is not necessarily the same. Thus, the concept is not exact enough to describe a phenomenon. It depends on which *"language game"* is being played (Wittgenstein, 1992).

Dormer (1993) says that the need for a professional language is more important for designers than for artisans. However, in educational situations, there is a need for a language that can be used to communicate design questions (Mørk, 1994). Concepts for form elements, how they can be used, and the communicative aspects of design need to be verbally expressed in educational situations. Mørk claims that descriptive statements have to follow the rule of objectivity, and the purpose of aesthetic training is to exercise objectivity and analysis of formal relations. A common language, valid at least in the school, is therefore needed for this communication (Mørk, 1994:19). Leddy (1995) and Sibley (1959) claim that common words should be used to describe aesthetic qualities[44]. These common words, used in the everyday life, can be used to explain aesthetic concepts or expressions. In the present study, subjects mostly used common words to describe the designed patterns. Thus, it should be possible to use selections of these words in educational contexts, to describe design and to define aesthetic concepts. The visual systems used in the analysis of the Old Amish Quilt – NCS circle and triangle and Arnheim's model (or other graphic models) for visually describing the composition and colour design – constitute another way to explain and communicate the principles of patterns and compositions. Such analysis and descriptions of pattern and colour gestalt may be used to give a picture of characteristic and structural properties in traditional design and may function as a starting point for experimental design based on inspiration, as in Paper I.

Educational reflections

During sloyd lessons in the Swedish compulsory school, pupils are to develop their awareness of aesthetic values (Skolverket, 1996). This can be done by teaching pupils to see features of objects, and to apprehend and attend to aesthetic dimensions of the designed objects (Sibley, 1959; Leddy, 1995; Mørk, 1994; Grøndalen, 2006; Johannessen, 2002). Johansson (2002)

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[44] When Leddy (1995) talks about everyday surface aesthetic qualities, he means concepts, not qualities.

would like to see sloyd instruction that gives pupils a more overall understanding of the sloyd process; thus, they should not only be told what to do step by step. Discussions about textile design and aesthetic qualities could be part of an education that develops pupils' structures of attention and helps them become aware of both formal design as well as cultural influence in design – traditions and trends. In these educational situations, concepts can be learned in connection with concrete objects – in the pupils' own sloyd process and objects in the surroundings – and in connection with pupils' experiences. This is how Nyborg (1986) considers that concept learning is accomplished: in direct contact with examples. Picture analysis has been a part of art education in the Swedish compulsory school since the syllabus of 1969; its inclusion is justified by the importance of everyone understanding the strategies used in visual commercials and films (Aspelin et al., 1977). This perspective could also be set on aesthetic qualities in sloyd work, in relation to objects in our surroundings. Such educational communication situations will probably also enable expression of more "tacit" or implicit knowledge, thus making such knowledge explicit (Gärdenfors, 2005; Polanyi, 1966; Rolf, 1995; Molander, 1993; Johannessen, 1999), which is important in design and sloyd teacher education.

Closing the thesis

When starting this study, I had an idea that it could be possible to establish a foundation for a "language of textiles", a means of communication of aesthetic discussions on textiles. I found that the concepts used to describe the patterns were quite common; just a few technical terms were used. The diversity was in what the subjects apprehended when regarding the patterns. The more you know about something, the more you can see in it, but what you know is just as important. Pre-comprehension, implicit knowledge, based on individual experience influences both descriptions and judgements. The descriptions depend to a great extent on the judgements.

The Swedish government has declared that knowledge of aesthetic values is important for all people in Sweden, and therefore this topic is part of the sloyd subject in the compulsory school (Skolverket, 1996). Thus, it is important to find methods to communicate about aesthetic values. When discussing the results of the present study, Nyborg's (1986) GBS system of concept development was pointed out for me. I find in Nyborg's ideas possibilities for further studies that can focus on and develop the didactic potential for sloyd as a basic school subject. Structural concept systems for aesthetic qualities within (textile) design have been developed and can be used (Skjeggestad, 1996; 2001; Mørk, 1994; Wong, 1993) in an educational context. These concept systems concern both form elements and composition

principals. Skjeggestad (1996/2001) also includes intentions and communicative aspects of design in her survey of design elements, and includes therefore further aspects to discuss when judging design.

Establishing a permanent professional language for communication on textiles is not a goal in itself, but clear communication about aesthetic qualities is necessary in education, professional life and research (Mørk, 1994; Eckert et al., 2000A+B). It is also of interest in private life. The area of wine tasting was mentioned above, where international concepts describing taste and character have been developed (Nygren, 2004). These concepts help individuals imagine the taste of a wine, but also discover its character and more consciously choose among products. Sibley (1959) argues in favour of education in understanding aesthetic concepts, and he suggests that this could be done by helping people see the features of objects, and apprehend and attend to their visual dimensions. This concerns becoming aware of which structures of attention form the basis of aesthetic apprehension, and this gives us the opportunity to educate people in this kind of awareness. Yet education that makes people conscious of aesthetic qualities may be normative. This does not necessarily mean developing a special taste. Instead, the aim is to help people make their own decisions based on aesthetic knowledge of their own taste. In this work, it is of course important to avoid indoctrination for preferences. The focus should instead be on helping people become aware of the aesthetic dimensions. There is a distinction between asking whether something tastes salty or too salty. I cannot deny, however, the complexity of these issues, as school is part of the culture and cannot possibly fail to have an impact, just as do other actors in the cultural field.

A language system helps in communicating knowledge, and such systems are created in a social fellowship in which subjective implicit knowledge becomes culturally mediated personal knowledge. It is within this context I find it possible to make aesthetic judgements explicit, communicable and socially valid. This, of course, leaves some communicative and didactic implications that are interesting to discuss. Important is to understand that the experience of design is complex and not possible to describe using clear-cut concepts, although everyday concepts can be used. When discussing aesthetic qualities this must be done in different ways based on:

- Awareness of the fact that implicit knowledge, education and experience in the field of textiles influence our impressions
- Awareness of the role of cultural context and its influence on our impressions
- Awareness of the significance of individual experience for our impressions
- Awareness of the fact that there are biological and physical limits and basic human needs that influence our impressions

The present study and related theories indicate that all these levels influence what we see and how we understand what we see. Knowing this results in a pre-understanding that may increase the quality of communication about design. This knowledge makes it easier to direct questions and give instructions, but also to listen to pupils' and students' thoughts about aesthetic questions. These concepts and the power of imagination are of importance both in implicit and explicit formulations of reality, i.e. both for communication and for our personal understanding.

Conclusion

The descriptions of aesthetic qualities in the present study include mostly common words from everyday language. These are related to the judgements and used in a kind of aesthetic language games determined by different dimensions of experience. When individuals have different aims and experiences, they perceive the world differently. One person may ignore what another pays attention to. Awareness of aesthetic qualities is developed through experiences in life, and can therefore even be learned. The dominant inner contexts of individuals, basic perceptual patterns of apprehension, direct experiences of the surrounding world, and influences from cultural context all give different and complex structures of attention. Different structures of attention lead to different perceptual choices and different descriptions, judgements, notions and values concerning, for example, a designed printed pattern. In this context verbal descriptions of aesthetic qualities in textiles has to be understood. The present study shows that subjects make their judgements on the basis of formal, functional, cultural and emotional contents. These aspects should be in focus in design work and design education.

Acknowledgments

At the exhibition "Lapptäcken – en kulturskatt" at Liljevalchs Konsthall in Stockholm, in 1993, I saw for the first time some Amish quilts from Lancaster County, Pennsylvania, USA. The beauty of these old Amish quilts deeply impressed me. My appreciation made me curious as to the aesthetic qualities that resulted in this sort of aesthetic experience, which I was not alone in having. I wondered whether it would be possible to describe these aesthetic qualities and explain the aesthetic experience. If I could find a way to describe the aesthetic qualities, this knowledge could be used when designing new textiles of different kinds. The results of this survey were presented in a licentiate report (Homlong, 2000; Paper I). Thus, the starting point was my own aesthetic experience. In the further study, the aim was to find out how individuals with different experiences of textiles describe and judge aesthetic qualities of textiles. In this study, some systematically designed striped patterns were printed and displayed for different people, and their descriptions and judgements of the patterns were recorded.

The present academic study began in 1997 and has taken me on a long journey. Sometimes – like in the middle of the night waiting for a train in Gävle, or when lugging the wagon with striped patterns over snow heaps in Gothenburg – I felt like the Norwegian Ivar Aasen who in the middle of the nineteenth century travelled around Norway collecting words for a New Norwegian language (nynorsk). I was looking for the Language of Textiles.

As this trip comes to an end, there are many people to thank for support of different kinds. First and last, I wish to thank Lillemor Abrahamsson and Ulf Klarén, who have been close by me all along the way and made the study possible. As prefect at the Department of Domestic Sciences, Uppsala University, Lillemor Abrahamsson actively supported, for many years, the initiation of research in the textile area, and gave me the possibility to study Old Amish Quilts in cooperation with Oslo College University. Ulf Klarén stayed with our beautiful children, Oda and Henrik, when I periodically jumped on the night bus in Stockholm for studies in Oslo. Thanks to Eva Dahlgren, Anne Linnet and Lisa Ekdahl for the nice music I listen to during nights of travelling in uncomfortable busses through the woods of Värmland. In Norway, my parents Inger and Steinar Homlong are to be thanked for their warm encouragement and lack of demands.

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Table 1. The informants' descriptive notions of seven fabrics with blue and white stripes.

Notions describing parts of the pattern	Designers	Teachers	Consumers	Children age 15	Children age 7-12
Stripes	Stripes. Strokes. Lines.	Stripes. Lines.	Stripes. Lines.	Stripes. Strokes. Lines.	Stripes. Strokes. Stretch. Lines.
Describing the stripes	Thin. Little. Wide. Fine.	Even width. Wide. Fine. Little. Uneven. Not straight. Print-stripes	Wide. Fine. Simple. Thin. Thickness. Strong. Different width. Similar. Even size. Double-track. Many.	Large. Small. Simple. Thick. Fine. Similar. Even. Ordinary.	Different fine/thick. Thickness. Size. Large. Small. Short. Wide. Same height.
Describing the colour	Deep. Dark. Cold. Pale. Hard contrast. Little/a lot of colour. Pale ground. Large blue fields. Deep blue colour. Mostly colour	Coloured. Dark. Warm. Contrasts.	Pale. Dark. A lot/most. Dominates/Dominant. Colourful. Bright contrasts. Radiant. Warm. Rich. Moderate.	A lot. Colourful. Dark hue. Strong. Cornflower blue. Sailor colour.	A lot. Little. Unnatural. Strong. Dark. Gorgeous.

Table 2. Pattern Composition: The informants' descriptive notions of seven fabrics with blue and white stripes.

	Designers	Teachers	Consumers	Children age 15	Children age 7-12
Notions describing the patterns design	Basic stripe, block stripe, archetypal, rhythm, structure, proportions, homogeneous, uniform, pronounced, full of contrast, wide striped, large patterned, sparse patterned, positive/negative, reversed, the stripes build a pattern, even/uneven stripes, less striped, lot of stripes, worked up, variation/less variation, blue impression	Block stripe, bottom stripe, rhythm, structure, symmetry, proportions, simple, sharp, even/uneven stripes, narrow striped, group striped, more/many lines, variated: stripe width/between narrow and width/between dark and light, greater interval/different relation between the stripes, different width on stripes, stripe in the striped pattern, wide stripe calm down the surface, dark blue stripes on wider white ground, the white breaks the wide blue, stripes emerge, background/foreground, combination of dark and light, white/dark dominates, weight towards blue, more colour, dark colour design, light/lightness, one colour dominates.	Rhythm, structure, clear, strict, sharp, simple, disordered, vibrate, optical phenomenon, inverse/reverse, pale, feeling of depth, varied, irregular, compact, includes more variation, adjusted proportions, the blue and white melt together in a shimmer, narrow lines attack strong blue lines.	Structure, symmetry, repeating, a lot of stripes, even stripes, similar stripes, not so dense lines, simple lines, big/small lines, thick/narrow lines, different thickness on lines/stripes, small lines, a lot of colour, different colours, blue/white background, most white, less blue.	Broken, same, system, has pattern, more pattern, no pattern, everything is in it, as big/wide, one sort of stripe, every second narrow/thick stroke, a lot of/not so many stripes, white strokes go away from each other, pattern pressed together, like 1 cm thick lines white and blue, other shapes, more sizes, thick strokes cover the white, white and blue are combined, most blue, less white, combination in colours, change colours, white background.

Table 3. The informants' descriptive notions of seven fabrics with blue and white stripes.

	Designers	Teachers	Consumers	Children age 15	Children age 7-12
Describing the impression of the pattern	Balanced/unbalanced. Harmonious. Stable. Stability. Stringent. Simple. Clean. Distinct. Strict. Plain/blurred. Static. Balanced space. Complex. Messy. Grill-like/ flickering. Muddled. Flickering. Annoying design. Softened. Worked. Developed stripe. Airy. Not warmed up by small stripes. Something happens in the pattern. Warm. Soft. Stiff. Hard. Acid.	Clean. Clear. Plain/blurred. Harmony. Balance. Whole. Distinct. Uncomplicated. Lucid. (Not) jumping out. Intense. Pushy. Excitement. Life in the surface. Something happens in the pattern. Messy. Muddled. Grill-like/ flickering. Restless. Untidy. Blurred. Fuzzy. Wishy-washy. Flutter. Flicker. Optical. Vibrating impression. The stripes are floating together/around. Finished fabric/pattern. Takes up small space. Worked. Strong expression. Power between the stripes. Lighting up. Airy. Gentle. Gives weight. Heavy. Cool. Cold. Lively. Floating.	Clean. Harmony. Calm. Resting. Keeping still. Goes on with stripes. Lively. Radiant. Vivid. Restless. Messy. Muddled. Grill-like/flickering. Confusing for the eyes. Visually dancing. Perceptually disturbing. Pricking. Dominant. Kills the surroundings. Neutral. Blurred. Thin. Thick. Heavy. Narrow. Soft. Becomes satiated.	All the same. Harmonious. Calm. Simple. Balanced. Enough. More happens. Radiates a lot. Messy. Glaring. Light. Pale. The colour doesn't show so well.	Calm. Radiant. More visible. Bright coloured. Messy. Causes stress/stressful. Super striped. Blurred.

Table 4. The informants' semiotic connotations when describing seven fabrics with blue and white stripes.

Designers (n=10)	Teachers in textile handicraft (n=15)	Consumers (n=13)	Children age 15 (n=12)	Children age 7-12 (n=20)
Classical stripe	Classical pattern design	Classical	Classical	"Archipelago"
Associated with our cultural traditions, pattern heritage	Bolster stripes	Handicraft feeling	"Upper class"	Boat feeling
Ageless	Country feeling	Polarn&Pyret™	Natural	"Ski track"
Traditional	Eighteenth century style	IKEA™	Pure in style	Modern
Gustavian	Stripe by P&P™	Nursery period	Stripes with style	
Bolster stripe	Gudrun Sjödén™	Lack of character	Old	
Polarn&Pyret™	IKEA™	Anonymous	Nineteenth century	
IKEA™	Marimekko™	"Sailor qualities"	The nineteen seventies	
Marimekko™	Marine	Resemblance to trees (birch)	Marimekko™	
Marcier St.Pierre™	Finland	Summer atmosphere/	"Finland"	
Aboda™	Connotes summer, sun, water	Summer feeling	Summer	
"French fisherman-sweater"	Connected to hand-weaving, kitchen, at home	Lazy and summer-like	Marine feeling	
At home	Well adapted	Air	Sailor style	
Feels old	Functions as accent	Café feeling	"Hammock"	
Outdoor feeling		Organic growth	Bars	
"Awning",		Evening darkness under the white	Slange (=?)	
"prison", "bars"		Autumn	Wexén (=Last name?)	
"ski tracks"		Musical feeling		
Has its own character		Dancing		
Characteristic				
Obvious stripe				
Always a safe choice				

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