The Life and Death of Great Finnish Fashion Phones

--- A Periodization of Changing Styles in Nokia Phone Design between 1992 and

2013

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Abstract

Visual aesthetics is an essential part of our experience of mobile devices, but the ways

in which it is accounted for in design have largely been overlooked. We investigate

whether an aesthetization of mobile design is taking place and, if so, how it is being

pursued through institutional practices in organizations. We conduct a visual analysis of

all Nokia phone releases between 1992 and 2013 complemented by an interview series

with key actors. The study reveals a continuous increase in aesthetic variation between

1998 and 2008, which is visible in the variation of colors, forms and materials. The

period between 2003 and 2008, which we term the Grand period, marks the peak of

aesthetization of Nokia's devices. It exhibits great variation, and is visibly similar to

aesthetics in the fashion industry. With the introduction of the slate form, we see a decrease in visual variation between 2009 and 2013. The interviews reveal how the visual design was driven by organizational strategies, such as customer segmentation in general, and an orientation toward the fashion industry, e.g. in the creation of a fashion segment. The study reveals how aesthetic variation is weaved into a complex innovation system with sometimes conflicting demands deriving from e.g. technology and user interaction.

Introduction

Many studies of everyday use of mobile devices in mobile communication research, e.g. studies of mobile youth culture, unpack how this technology is used to express identity and desire in a way similar to how people use clothing (Ling 2003; Skog 2002; Katz and Sugiyama 2006). In this article, we juxtapose such a fashion orientation among young mobile phone users with a postulated general trend towards increased aesthetization (or aestheticization) in society.

According to many scholars (Santayana 2002; Postrel 2004; Featherstone 2007), we are witnessing an increased orientation toward visual aesthetics in society. Postrel (2004) suggests that there has been an ongoing trend of aesthetization of objects since

the 1990s, i.e. increasing design variation of the same type of products. On a more abstract level, Featherstone (2007) argues that a progressive "aesthetization of everyday life" has taken place during the last century, during which the boundary between art and life has become increasingly blurred. These observations motivate a detailed empirical study of the increasing availability of visual aesthetics in everyday objects such as the personal and ubiquitous mobile phone. Although discussions of mobile phones have mainly compared their use with clothing consumption, there is a theoretically established relation between the latter and aesthetics in fashion studies. Fashion is "an aesthetic vehicle for experiments in taste" (Wilson 2003, p. 8). Recent institutional theory within this area tells us that both consumption and production are connected to fashion and beautification (Kawamura 2005). A few studies in mobile design have discussed how mobile phones began to be marketed to appeal to female consumers (Shade 2007). The trend is explained as driven by political considerations or the increasing social status of women (Hjorth 2009). What has been lacking, however, is a detailed account of how the aesthetics change over time, and of the role of fashion in mobile design as a concrete practice.

We present a thorough study of visual styles and their variations in mobile design. The research questions are: *Is an increasing aesthetization of mobile design taking place? And if it is, how is such a trend realized through concrete institutional practices in organizations?* We employ the concept of aesthetization, defined as

increased variation in visual design (Postrel 2004; Eskilson 2002), in conducting a qualitative content analysis. We perform close inspection of photos to reveal the visual expression of each model, and then use a qualitative approach to group the releases into more generalized categories, which we term "manifest forms". This approach is motivated by aesthetic theories that view beauty as a feature of human perception (Kant 1998) or as socially constructed (Dickie 1997). Furthermore, proponents of an increased aesthetization of everyday objects (Postrel 2004; Eskilson 2002) interpret the increasing visual variation as driven by socially constructed institutional arrangements supporting "design".

We chose Nokia as a case to study because the company was one of the earliest and largest producers of mobile phones in the short history of this technology. It is also recognized as a pioneer in making phones stylish (Djelic and Ainamo 2005). Our approach reveals a short, yet varied, history of changing visual aesthetics in Nokia phone design. In order to unpack the broader trends, we analyze all Nokia's releases, and generate a periodization, making the history easier to describe by breaking it into smaller units (Hollander et. al. 2005). We identify four periods: the Candy-bar period (1992–1997); the Color period (1998–2002); the Grand period (2003–2008) and the Slate period (2009–2013). Each is characterized by different aesthetic features. It might be too dramatic to use the vocabulary of "death and life", as in Jacobs's description of city-life (Jacobs 1992), but what we see is the rise and fall of aesthetization and fashion

in mobile design. Since the events identified are very recent, we have been able to interview key players to better understand the underlying motivations that led to the transformations.

Fashion in Mobile Phones

Considerable research in the field of mobile communication has been devoted to understanding the relation between fashion and mobile phone use, as a way to unpack the cultural implications of such devices. First, because of their portability and closeness to the human body, mobile phones are considered as an extension of body and self. For instance, Katz and Aakhus (2002) emphasize how communication technology is a symbolic tool and physical extension of the human body and persona. This has inspired researchers to link mobile devices to fashion. Fortunati (2005) argues that the similar locations of accessories and mobile phones on users' bodies have led to an increased interest in beautifying phones. It is also suggested that the mobile phone is an embodied object (Caronia and Caron 2004) and a taste object (Abeele 2016), apart from its communication functions.

Second, phones are used, especially among young people, to express personality and contribute to modern identity construction in ways similar to clothing practices (Ling 2003; Katz and Sugiyama 2006). The visual aesthetics of mobile phones becomes a source for everyday production of culture and identity (Caronia and Caron 2004),

reflecting both personal style and group membership (Ling 2003; Skog 2002). The interest in the linkage is natural, as fashion is the most extensive and intricate communicative system for human bodies (Fortunati 2013).

However, within fashion studies, fashion is also viewed as a set of institutional arrangements involving various actors (Blumer 1969; Kawamura 2005). This theoretical understanding of the nature of fashion has increased the interest in unpacking "early" parts of the system, such as production and design, to see how they contribute to the overall system.

When it comes to mobile design, a few studies discuss technological production and beautification. The orientation toward beauty in mobile design is generally explained as driven by gender structures. For instance, Shade describes a feminization within mobile design, with the creation of features and accessories for women or branded phones from high-end fashion designers (Shade 2007, p. 179). Hjorth (2009) discusses political and social structures, such as government policies and the increasing number of women in the workforce, which influence the feminization of mobile design in the Asia-Pacific. Apart from the gender perspective, research on mobile fashion has generally underestimated the role of design, and more studies are needed, as Fortunati (2013) recognizes. In sum, previous studies identify some forms of an ongoing aesthetization in mobile design. We expand on this interest, with an empirically grounded and detailed study of visual aesthetic trends and their connection to

organizational work.

Aesthetization in Everyday Life

The relation between fashion and aesthetics is already established in fashion studies. Fashion typically centers on the visual aesthetics of clothing. It is "an aesthetic vehicle for experiments in taste" (Wilson 2003, p8), which "molds our concept of what is considered beautiful" (Kawamura 2005, p79). Today, there is an increased orientation toward visual aesthetics in the design of many other products than clothing.

The philosopher Santayana states "the sense of beauty has a more important place in life than aesthetic theory has ever taken in philosophy" (Santayana 2002, p. 1). Whether or not this is true for philosophy, it seems at least to be a reasonable description of "life", given that other scholars argue that an interest in visual aesthetics is extending to the design of many products.

Culture critic Postrel (2004) suggests that there has been an ongoing trend of aesthetization of objects since the 1990s, i.e. increasing design variation of the same type of products. There are heterogeneous and constantly changing manifestations of beauty (Postrel 2004). Design researchers Cushman and Rosenberg (1991) argue that aesthetics has become a critical dimension in product attributes, providing sensory pleasure that affects quality of life. Such a trend is visible in the stylistic variation of a single consumer product, e.g. color variation. The mid-1920s saw an explosion in the

use of color with interior fixtures, kitchen appliances and automobiles (Eskilson 2002).

On a more abstract level, sociologist Featherstone (2007) argues that an "aesthetization

of everyday life" has occurred during the last century. The boundary between art and

life becomes increasingly blurred, which is visible in the increased attention given to

images in media and the growing significance of aesthetic perception in everyday

consumption. Cultural studies have already emphasized the importance of studying

everyday life in general (Williams 1989) and the "aesthetization" of everyday products

in particular (Featherstone 2007). The need to better understand everyday life and the

argument that aesthetization is growing in importance within it motivate us to conduct a

detailed and empirical study on visual aesthetics in mobile phone design. We have

chosen to study mobile phones because they are among the most personal and

ubiquitous consumer products. To investigate this form of aesthetization, we first need

to tease out what we mean by aesthetics.

Our study of the occurrence and variation of visual styles highlights an aesthetic

of diversity. Such an approach diverges from aesthetics understood in terms of inherent

objective beauty, as argued by proponents of rationalist aesthetics (Baumgarten 1750),

who instead would look for universal principles of mobile design. Our approach is

closer to an understanding of beauty as a feature of the human mind, as claimed by

empiricist aesthetic philosophy (Kant 1998), or as socially constructed (Dickie 1997).

These two views seem more useful when accounting for large variations in style.

Moreover, the idea of an increased aesthetization of objects (Postrel 2004; Eskilson 2002) views the increased visual variation as driven by institutional arrangements that support "design". The production of everyday objects is influenced by people with design competence who drive the variation; hence it is socially constructed.

Periodization of Visual Styles of Mobile Phones

There are only a few studies describing the history of mobile phones, none of which focus on visual styles. The most common periodization, strongly supported by the industry, draws on the standardization of the radio technology. For example, Fling (2009) observes that the evolutions are often termed "generations" or simply "G", which refers to the maturity and capabilities of cellular networks. In order to unpack the overall trends in the appearance of Nokia phones over the two decades studied, we built a corpus comprising the models released between 1992 and 2013. We visually analyzed each model and grouped it with similar looking releases into what we term "manifest forms". Finally, we mapped these groups on a timeline to generate a periodization of visual features in the company's design history. Periodization, i.e. "the process of dividing the chronological narrative into separately labeled sequential time periods", is a commonly used method in historical investigations for summarizing and structuring empirical material (Hollander et al. 2005). It emphasizes key features and turning points, and raises questions regarding structures and actions that drive variations and evolutions.

To reveal periodic patterns, we needed to build a corpus and collect empirical materials, such as the picture and release year of each Nokia model. Such information is widely available on the Internet, making our analysis possible even when the actual objects are absent (Flick 2009). In order to facilitate validation of data, we did cross verification from various sources. The first source was an official Nokia overview with pictures that chronologically presents their releases between 1982 and 2006.[1] The second source was the "Nokia Museum" website that aims to build a virtual museum of Nokia phones.[2] The third source was the "GSMArena" website, where editors gather information on mobile phone releases from manufacturers' and phone vendors' websites.[3] Fourth, we used the "Imei" website, which "offers expert opinions and many other services related to mobile phones".[4] The online images are representations of the physical phones. This does not affect the analysis of the forms of phone models, as their visual features are accurately conveyed in the photos. We selected 1992 as the starting point of our investigation, since it was then that Nokia's phones were miniaturized and made portable. The data collection per se was done in 2014, so the corpus included phone models up to 2013. In total, we identified and collected data on 627 models.
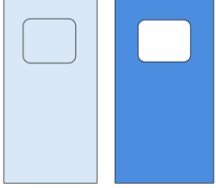
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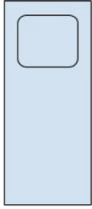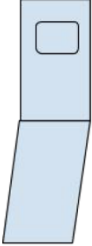
[1] tinyurl.com/26zxet (Accessed June 10, 2014)
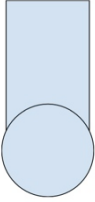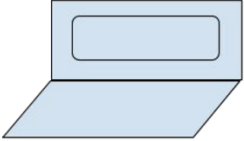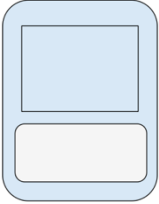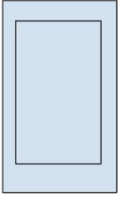
[2] nokiamuseum.info/. (Accessed Mar. 6, 2015)
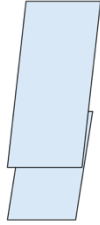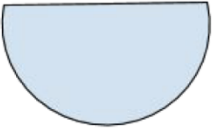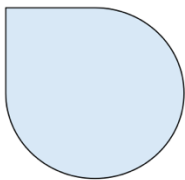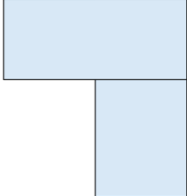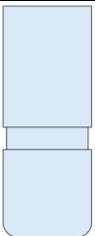
[3] tinyurl.com/7ewvbya. (Accessed Aug. 23, 2014)

[4] www.imei.info/about/. (Accessed Sep 10, 2014).

The data was aggregated using a combination of a quantitative method and qualitative interpretation. We analyzed visual features of each item by visual inspection of the pictures (Atkinson 1998). We then grouped them into generalized "manifest forms", which include several models with similar forms, or just a single model. In total, we identified fourteen manifest forms that cover all models in our corpus. The following table shows the look and features of these forms and representative models.

Name	Form	Features	Iconic model
Candy-bar		Long, rectangular, bar shape Length: ≥100 mm Width: ≤50 mm. Physical keys	Nokia 101
Candy-bar+ Xpress covers		A candy-bar phone is equipped with interchangeable covers.	Nokia 5110
Clamshell		Two parts; could be folded like a clamshell.	Nokia 7200

Circular Key		Candy-bar plus round keypad	Nokia 3650
Horizontal Fold		Looks like a candy bar when it is folded; Opens like a notebook	Nokia 9000
Lipstick		Looks like a short stick	Nokia 7280
Mango		Round corner on one side of the top; round corner on the opposite side of the bottom	Nokia 7610
Qwerty-board		Slate form with full Qwerty keyboard	Nokia E62
Slate		Slate form Touchscreen or keypad Width>50mm Thickness ≤15mm.	Nokia Lumia

Slide		Two parts; the keyboard could be slid out.	Nokia 6111
Taco		Taco shape	Nokia N-Gage
Teardrop		Teardrop shape	Nokia 7600
Twist/Swivel		Two parts; twist or swivel to open	Nokia 7370
Zippo		Shape like a zippo lighter	Nokia 8800

Table 1. Name, form, features of each manifest form and representative model

We apply a quantitative method to analyze the empirical materials (Rose 2010). In our study, we counted the occurrences of each manifest form for each year between 1992 and 2013. This is visualized in a diagram (Figure 1). We counted the number of

manifest forms for each period and measured their percentage in each period. The diagram visualizes trends in importance and predominance from year to year and reveals overall trends.

Unpacking Nokia's Changing Styles

Figure 1 provides an overview of both the variation of forms and the quantity of models released with a manifest form each year. Differently styled columns represent different manifest forms. The number of models in each manifest form is represented on the y-axis. The figure does not, however, tell us how many phones of an
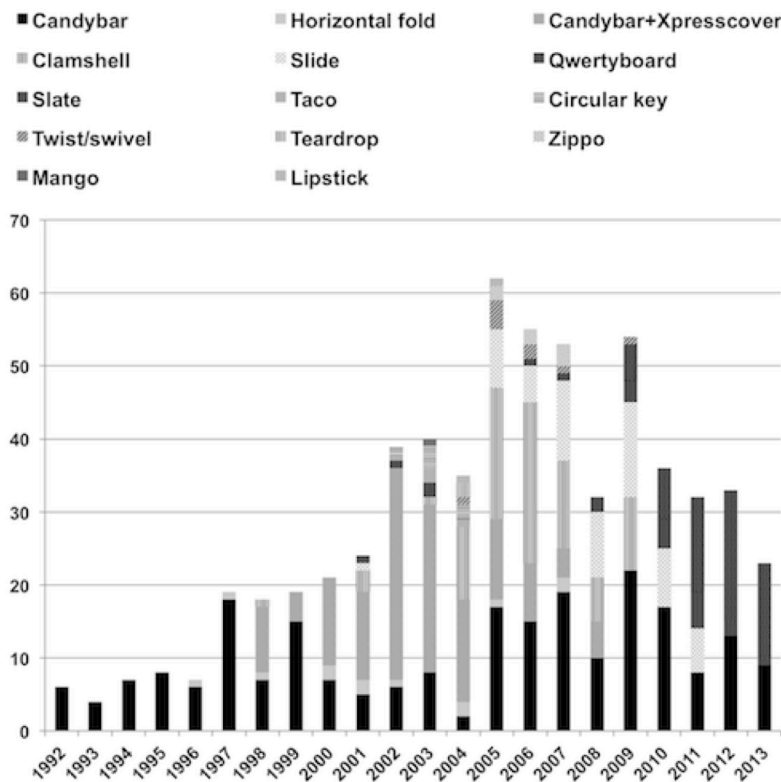
Figure 1 Numbers of Nokia phone models with manifest forms between 1992 and 2013

individual model were manufactured. Based on the statistics, we further divide the Nokia releases into four periods (see Figure 2). The periods are qualitative constructs that account for novelty, dominance and amount of visual variation.

We term the years between 1992 and 1997 the "Candy-bar" period, since 49 out of 51 models had an extended rectangular shape, similar to that of a chocolate bar. The devices had a physical keypad, and came in black, silver and grey. The Nokia 101, released in 1992, was the first device with this form in the entire mobile industry.[5] It was so influential that it defined what a mobile phone should look like in the
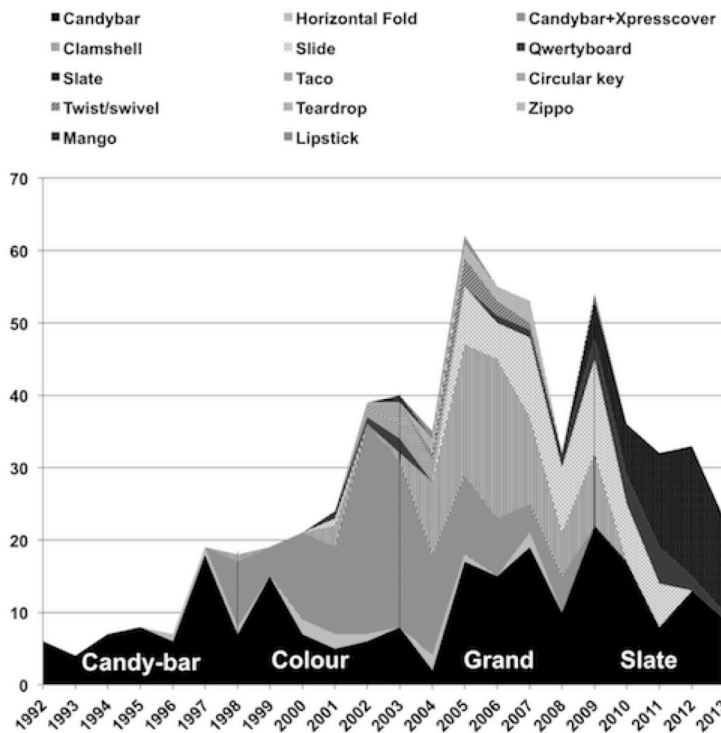
Figure 2 Grouping the manifest forms into periodization categories

[5] tinyurl.com/jaeyqsj (Accessed Oct. 10, 2014)

1990s (Fling 2009).

We call the period between 1998 and 2002 the "Color" period. In 1998 the grey-scale colors were complemented with changeable cases, which drastically altered the visual aesthetics of mobile devices. During this period, 66 out of 121 models, i.e. more than half of the models released, provided color variation with such technology. Nokia 5110 was the first of its kind to have, what was officially named "Xpress-on covers" that allowed easy and quick shifting between variously colored cases.[6] The ability to change colors was claimed to be a "game-changer" in mobile design.[7] During this period, the total number of manifest forms increased to eight, including a few new shapes with only a few models for special markets. For instance, at the end of this period, Nokia did a small-scale release of clamshell phones on the Korean market, i.e. Nokia 8877 and 8887,[8] pre-empting the radical increase in the variety of visual aesthetics that would come next.

The period between 2003 and 2008 is termed the "Grand" period. It stands out in this historical analysis, especially in terms of its large number of manifest forms. The defining aspects of this period are four-fold: first, it introduced new manifest forms with

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[6] tinyurl.com/jjxedqq (Accessed Oct. 24, 2014)

[7] tinyurl.com/zcu23c8 (Accessed Oct. 20, 2014)

[8] tinyurl.com/jp7xh3e (Accessed Oct. 24, 2014)

a large number of models, e.g. the clamshell phones. Second, it contained seven other manifest forms, each of which included a single or small number of models that only existed for a short time. Third, there was a continuous increase in the number of manifest forms during the period, reaching thirteen in total. The 2004 release of altogether nine manifest forms marks the peak of visual variation in Nokia's history (Figure 2). Fourth, the phones exhibit a visible orientation toward the fashion industry.

We have selected two iconic phones to represent the period. The first is the clamshell phone 7200, which was released in 2003, drawing on the success of a few previous local attempts. Altogether 74 models in this shape were released during the period. It makes up about 35% of all models released during that time (Figure 2). Some of the clamshells had highly distinct visual features and integrated new materials; e.g. Nokia 7200 featured fabric covers[9]. By incorporating such soft material, which is mostly used in garment making, the phone cast off the constraints of hard materials traditionally used for mobile production and became more like clothing. The second iconic phone was picked from among several manifest forms with small numbers of models and short production periods, e.g. the taco, circular keyboard, teardrop, mango,

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[9] tinyurl.com/hzgjc6t (Accessed Nov.10, 2014)

lipstick, zippo, twist and swivel (see Table 1).[10] In 2004, Nokia 7280 was released. It was shaped like a lipstick with a high-gloss finish complemented with leather and mirror accents (Table 1). The fabric tag, which was attached to the edge of the phone, blurred the boundary between a technical device and a garment. The graphic patterns, composed of white and red lines on a black background, were influenced by Art Deco style, an important trend in clothing fashion at that time.[11]

In sum, this period featured a creative explosion in the visual design of Nokia phones. The seven manifest forms, released with a small number of models, were dramatic and short lived; and some models were visually related to fashion trends.

Finally, we identify and define a "Slate" period, occurring between 2009 and 2013. It was characterized by a decrease in the number of both model releases and manifest forms. The number of models dropped from 54 in 2009 to 23 in 2013. The number of manifest forms was reduced from six in 2009 to three in 2013. In 2009, Nokia released the slate smart phones (Table 1). Altogether 56 models had this form, amounting to almost a third of all models released during this period. In 2013, all the

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[10] The names Swivel and Zippo were found on Nokia's official website and we have used them in the same sense as there; Circular keyboard, Mango, and Teardrop were named by us for their shape; Lipstick is a name given by media, e.g. in CNET and GSMarena.

[11] tinyurl.com/z2byefo (Accessed Apr. 10, 2014); tinyurl.com/h9xpfjw (Accessed Apr. 10, 2014).

Nokia models either had the candy-bar shape, which had survived since its first release in 1992, or the slate form, with the exception of one Qwerty-board model.

In 2011, Nokia started collaboration with Microsoft. From then on, all Nokia smart phones ran the Windows operating system. This type of phone was named "Nokia Lumia". Some models were equipped with exchangeable shells so that users could easily change covers, resembling the Xpress-on covers from the 1990s. The first such slate phone was Lumia 610, released in 2012 with changeable covers in five colors. There were altogether ten slate models with changeable covers. This shows a continuous orientation toward providing visual variation. But the number of models with this type of shell was very small during this period.

In sum, this section presents a quantitative and qualitative analysis of the variation of visual form elements in Nokia phones from 1992 to 2013. It identifies specific periods that articulate key features and turning points. The history, as read in the pictures of the devices in our corpus, reveals a continuing increase in visual variation during the Color period. This trend grew stronger during the Grand period, which displayed variation in both form and color, and a visible fashion orientation. The advent of the slate form led to a decline in the variation of visual aesthetics. If aesthetization is understood in such quantitative and qualitative terms, then the history of Nokia phone design reveals that aesthetization seems not to be a continuous process,

but something that varies over time, and which recently seems to be decreasing. Furthermore, it reveals a concrete linkage between the aesthetization of mobile design and fashion trends.

Unpacking the Rise and Decline of Aesthetization

The above analysis gives an outside view of the visual variation in Nokia design, but it offers scant understanding of the reasons for these empirically available changes. Fortunately, we were able to interview key persons about the motivations and activities that resulted in the changes. We were particularly interested in the events that led to the high visual variation during the Grand period, as well as the succeeding downturn. The interviews were intended to reveal tacit knowledge, experiences and objectives of past events (Mårtenson 2012). The interviewees were selected by the "snowball sampling" method in which a participant recommends another person for us to interview (Grey et al. 2007). We interviewed Tapani Jokinen, who joined the company in 1995 and was Head of Mobile Phones Design Portfolio Planning from 2013 to 2014; Grace Boicel, who joined in 2001 and worked as Head of Mobile Phones CMD Design from 2013 to 2014; Tanja Fisher, Design Director from 1997 to 2007; Yanyan Ji, Head of Marketing Planning and Strategy between 2005 and 2009; and Frank Nuovo, Global Vice President and Chief of Design from 1995 to 2006. The selection is valid despite only covering a small number of people, because of their critical roles in the company. The

interviews have been transcribed and analyzed. A set of themes were developed that shed light on the increase and decline of visual variation in Nokia's designs, and their connections to fashion.

The Emergence of Variation in Nokia's Visual Aesthetics

Changeable covers were the most important innovation of the 1990s, in terms of visual aesthetics. Tapani Jokinen recalls how the team came up with the idea:

> We didn't have many models at that time. When you went to a meeting, everyone had the same phone on the table. How could you then recognize that this was mine? We started to play with covers and everybody wanted to choose their own ones… To express yourself is a kind of fashion.

The Xpress-on covers were initially designed as a way to visually differentiate one device from another. Being able to individually select a cover with one of a number of available colors was seen as making it "personal". The idea of personalization is connected to the idea of fashion, i.e. change and novelty in beauty and style. We might also understand Jokinen as equating the idea of fashion with the opportunity for personal expression.

Customer segmentation was another critical driver of aesthetic variation. It resulted in a system, used internally by the design team to target different groups, which

became a core capability during these periods (Djelic and Ainamo 2005). Jokinen and

Fisher point out that by initiating a project called "99", Frank Nuovo played a crucial

role in the system's establishment. Nuovo describes it as follows:

> When I first joined Nokia, officially as a chief in design in 1995, I was bringing in
> categorization. As a design chief I was responsible for building the
> strategy…Project 99 actually happened at the end of 1997. …. The vision was that
> mobile phones would be treated more like watches, pens and other wearables,
> which had already matured in the market place.

The vision had two elements: mobile phones being seen as wearables and the device

production as a "mature" industry. The team's work began in 1997 with the goal of

designing different phones for different categories of customers. By viewing mobile

devices as similar to existing wearables, e.g. watches and pens, they made it possible to

leap forward in time and predict what would happen when this emerging technology

became even more stable. Nokia designers took the mature wearable industries as their

standard. Based on considerable "research" in the field, they began to realize the

importance of personalization to consumers. Their vision was elaborated into six

categories of products targeting distinct customer segments, as Nuovo explains. There

was the "classic" category, which was facing "business" with a "traditional sort of look

and feel", and "fashion", which had "more sophistication and fashion thinking, a high-

end fashion phone". It allowed for "expression", which was "all about changeable covers and personal expression"; and it was "basic", meaning it was a "simple and accessible solution". The "active" category was "sports-oriented", whereas "premium", was about "luxury". In this way, Nokia's large customer base was sorted into abstract segments. These high-level categories then influenced the design of numerous models released during both the Color and Grand periods.

In sum, according to key actors, visual variation was driven by the idea of a mobile phone development that was becoming mature, in the sense that the rate of technical innovation was decreasing. History had taught Nuovo that in such situations, visual variation of consumer products increases. Together, these factors led to a peak in visual aesthetics during the Grand period, and the emergence of fashion-aware people as a specific customer segment.

Targeting Fashionable People

Previously, we identified a fashion component in phone design through a visible similarity between the images of the devices and trends in garment design, and understood fashion as an idea driving personalization of products, as well as the creation of a specific customer segmentation strategy. However, as will be discussed, the influence of fashion also took the form of designing "collections" that drew concrete

visual inspiration from fashion trend books, and in the establishment of collaborations with fashion brands.

First, a standard idea within fashion is to gather a series of garments into a "collection" inspired by a common theme for a season or a particular occasion (Renfrew and Renfrew 2009). Nokia applied this idea by marketing and designing various models with a common visual theme. Tanja Fisher, who was in charge of the fashion category, states, "designing a collection offered the design team an opportunity to push the boundaries of traditional industrial design and explore creative forms". The concept forces the designer to think about several products, rather than one single item. She describes how they made such a collection:

> They design several products and group them into something innovative and niche in terms of the form factor. *[It means to, authors' comment]* do something that varies, like the lipstick phone, which has another two products for daily use, fold or candy-bar phone. Then everything is brought together in the design and marketing, through a theme, a design language and a story.

According to Fisher there were three collections in the fashion category: "the Ethnic-Modernist collection", the "Art-Deco/Bold collection" and the "L'Amour collection"[12].

Second, Jokinen, Boicel and Fisher argue that fashion trend books came to inspire mobile design. For example, the entire Art Deco collection, which consists of 7260, 7270 and 7280, was inspired by the 1920s style, which was available in fashion trend books in 2004. Fisher states:

> When we read trend books at the time, there was a small side trend, which was the Art Deco. It was in a footnote, but was very inspiring. I felt it was very strong, but not too risky as a language, as a theme for a collection. Because we still do black and white.

The Art Deco theme was inspired by the designers' reading of fashion trend books in 2004. Importantly, they did not select what was presented as dominant trends, but picked a marginal concept. The main colors for the selected theme were black and white, which matched Nokia's traditional style of expression. The designers were able to make a visual statement that was strong without being transient. Picking a side trend involves risk taking in fashion, since it might not become recognized and desired among consumers. It might swiftly disappear, as customers demand shifts. However, the Art

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[12] tinyurl.com/m2q34, (Accessed Feb. 20, 2015)

Deco theme was both fashionable and seemed to resist the fleeting tastes of the garment industry. Although it was on the margin of fashion, it was an old trend that was still viable. This selection shows why some Nokia phones displayed visual connections to the fashion trends in the same period.

Third, Nokia used new materials, often taken from clothing design, to create innovative visual features. The integration of different materials, such as leather and textiles, could shift the product identity towards fashion. As Fisher states, "if you buy a T-shirt, or handbag, they have a beautiful label inside, which makes a huge difference and changes the product's identity". She argues that "the fabric label would absolutely differentiate the phone from all other products". A small detail makes the product into something of a fashion item.

Fourth, during the Color and Grand periods, Nokia initiated collaborations with designer fashion brands. "Star designers" are a key mechanism for creating an aura around garments (Kawamura 2005). Until then the situation had been very different in mobile design, which instead was branded around large corporations. Fisher states, "Nokia did not collaborate with fashion designers during the design process, but when the phones were presented to the public". For instance, the model 8210, considered to be the first fashion phone, was launched in conjunction with a Kenzo fashion show. Some fashion designers did design mobile accessories for Nokia phones, which became

special editions of a specific model. Thus collaboration with star fashion designers can be seen as one of the methods used to increase the visual variation of Nokia phones. Yanyan Ji, Head of Marketing Planning and Strategy between 2005 and 2009, introduced in Austria a special edition of model 7270, which was created in collaboration with star designer Donatella Versace. It had the same functions as the standard version, but came with two removable covers and a strap covered with Swarovski crystals designed by Versace. Ji explains Nokia's motivation:

> It's very pioneering for us to create a mobile device as a fashion accessory. Nobody would consider us as a fashion company. We wanted to collaborate with established distinguished fashion designers, to use the equity of their positioning in the fashion side.

The reason for Nokia's collaboration with "distinguished" designers was to piggyback on their status in the fashion world, which would influence how people perceived Nokia phones. The company collaborated with the designers either in marketing or in the design of accessories for mobile devices, but not when it came to mobile phone design. Moreover, Nokia sometimes made use of the same institutions as those used by the clothing industry to establish a fashion context for their phones. For instance, Ji stated that they hired a public relations firm also used by Dior and Armani to help publicize the special edition of model 7200 at fashion events and in publications.

The Decline of Visual Variation

Previously, we identified a decline in visual variation from 2009 onwards in the quantitative study (Figure 1), which we termed the slate period. As will be discussed below, the interviewees identified a corresponding decline in Nokia's visual aesthetics, which they explained in various ways, for instance as resulting from technical demands, new marketing strategies and stabilization of the "identity" of smart devices.

First, new user-interface technology severely restricted the possibility to vary the shape of a device. Jokinen explains that, "in the past, you wanted an expressive design. Suddenly, after the iPhone, you wanted the design to reflect more technology… Classic shapes became status symbols again. We just followed how the market was moving". The slate form was developed in response to increasing competition from Apple's iPhone. The introduction of the iPhone increased the demand for touchscreen technology, which differs radically from previous interfaces. The leading role Nokia had enjoyed in the mobile market was challenged, and the company became more of a follower. The disappearance of a physical keypad from phones was also a crucial reason for the decreasing variation in visual design. Fisher argues:

Before, the keypad took up a lot of space. You could either keep it [the device] folded to make it more compact, or have it on a candy-bar. Or you could create a wacky interface, like the lipstick phone… Being able to get rid of the keypad that

changes everything, and that happened with touchscreens. Now you don't want to add numerous keys.

The keypad offers possibilities for hardware variation and changes in the physical shape that a touchscreen does not. As the core external feature of a smart phone, the touchscreen constrains the form, as the rectangular screen covers almost the entire side of a phone.

A second cause of the demise of variation was a change of strategy within the company. Boicel explains:

> There's an interest in making a strong statement to make a brand, because brand is what people buy into. At the moment, the market is flooded… How do people find the value of the brand they are looking for? When they look for something, the phones all look the same. That's why Nokia started focusing on the brand, and helping people navigate the products… It is not only through color, but also material and craftsmanship.

Nokia dominated the industry before Apple's expansion. The slate-shaped iPhone was soon followed by touchscreen Android phones produced by a plethora of companies. Facing this escalation of model releases, Nokia changed its strategy and reduced its form variation, but tried to resurrect their brand by returning to their heritage from the

Color period. They aimed to use the same strategy as in 1998 by offering a variety of colors on a slate device whose models otherwise all look similar. They reduced the number of categories and focused on a few products that could create brand recognition through colors, which was perceived to be "what they know best". However, the strategy was much less successful the second time around, and the phone business was ultimately sold to Microsoft in 2014.[13]

Thirdly, the decline in form variation was connected to the strengthening and homogenization of the device identity. Nuovo argues that: "the display is dominantly square, which influences the format a lot, entertainment, standardization of user interface. It defines everybody into a square". This is different from saying that the technology needs to be shaped as a slate or rectangle, whereas physical keypad interfaces do not. Rather, Nuovo is pointing to entrenched user practices, e.g. in entertainment media, which are designed with this shape in mind.

In sum, touchscreen technology and Internet services played an important role in dismantling the visual variation in Nokia's product catalogue. Although the designers drew on the company's visual legacy and adopted a strategy of color variation, they still failed to attract customers. Frank Nuovo's vision, built on the premise of a stabilization of technology, was swept away by new devices and services. While the design team

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[13] tinyurl.com/kb3fcpc (Accessed May 14, 2014)

may have correctly understood consumer needs and desires, they balanced them poorly

with technical innovation. In this sense, the aesthetization of everyday objects seems to

be strong when the level of technical innovation is relatively low or stable, e.g. in fabric

manufacturing, but is more problematic in innovative technical areas that are in a state

of flux.

Concluding Discussion

A number of scholars (Skog 2002; Ling 2003; Fortunati 2005; Katz and

Sugiyama 2006) have been interested in unpacking how mobile communication devices

are consumed as fashion items, and the ways in which they express personality and

social belonging. We shift the focus from how consumers relate to aesthetics to the role

of aesthetics in production and design. As Koskinen proposes, researchers in media

studies could benefit from design research, because the latter provides an observable

site for studying theoretical issues such as semiotics, metaphors and aesthetics in action.

Such a focus also enhances the understanding of how physical things are made

meaningful (Koskinen 2006). Moreover, our interest in design is also inspired by recent

institutional fashion theory, which understands fashion as a system of institutional

arrangements that turn objects into fashion. Such a view is beginning to influence

interaction design research on mobile and wearable devices (Juhlin et al. 2013).

In previous studies, beautification in mobile design is mainly discussed from the

perspective of gender theory. In this study, we provide a quantitative-qualitative analysis, which lays out general trends in aesthetization of mobile phone design, as reflected in both product images and interviews with "producers" of design. In particular, we discussed whether an aesthetization of everyday objects could be observed during the short history of mobile phones, with a specific focus on Nokia. Our analysis yielded theoretical categories, i.e. manifest forms, based on empirical observation, which we grouped into historical periods. These categories were then discussed with key actors to understand how they emerged as part of the practical work in an organization. Our close inspection of all models reveals a trend that changes direction, with attention to color and form increasing from 1998 to 2008 and then declining.

In the Candy-bar period (1992–1997), variation was low and 96% of models were bar shaped. In the Color period (1998–2002), more than half of the released models provided for the possibility to change color by shifting cases. The peak in visual differences occurred during the Grand period (2003–2008). This period stands out, as it was characterized by an increased variation of the visual aesthetics and a visible orientation toward fashion trends. It comprised the highest number of both manifest forms and models. Several manifest forms were realized in limited model series that survived for a short period, but showed very high divergence from other manifest forms. Some of these manifest forms also displayed a resemblance to fashion trends in the

same period. The trend toward increased aesthetization is reversed during the Slate period. Overall the history of Nokia's mobile phone designs displays a rise and fall of visual aesthetization, showing that the aesthetization of everyday life is not necessarily constant or a steadily growing trend.

Our aim with interviewing key actors at Nokia was also to study the organizational considerations driving this stylization. First, we learned that the orientation toward visual aesthetics was intended to personalize the product and segment the market. The Color period was initiated to make it possible to differentiate the devices, and aesthetics was a means to that end. The continuous visual changes in phone design also owed much to market segmentation strategies. Nokia's leading mobile designers, especially chief designer Frank Nuovo, played a major role in turning mobile handsets into stylish consumer products that were directed at various segments of the market. Customer categorization was a critical driver of aesthetic variation in the design team and in the company. The vision leaned on two basic principles: mobile phones as wearables and the device production as a "mature" industry. The conception of mobile devices as similar to existing wearables, e.g. watches and pens, identified the technology as undergoing stabilization in terms of functionality. Secondly, we found that, in the case of the phone designs studied here, the aesthetization of everyday objects coincided with an orientation toward the institutions of fashion. The connection is revealed by visual inspection of the phones, which map onto common fashion trends at

the time. Some models released during the Grand period stand out, in that they target the fashion market. These manifest forms display high visual variation and incorporate fashion trends. Moreover, the connection to fashion is also raised in the interviews in this study. Nokia employed fashion trends in its design work and collaborated with fashion designer brands in its marketing. Thus, Nokia's orientation toward visual aesthetics in general largely takes the form of an orientation toward fashion in particular.

Previous research on feminization of mobile design tells us that the segmentation and fashion orientation in mobile design were motivated by the industry's strong wish to appeal to female consumers (Shade 2007; Hjorth 2009). Our study offers a different type of interpretation. Our empirical data, displaying concrete institutional work in an organization, indicates that ideas of customer segmentation and fashion institutions – rather than considerations of gender – motivated the increased attention to aesthetics. Actually, the actors do not mention gender or women as a customer segment. Furthermore, the fashion influence on Nokia design was inspired from "mature" product areas, including wristwatches and pens, which mostly target a male customer segment. Obviously, many of the manifest forms were designed to appeal to female consumers, but we have found little data indicating that the aesthetization specifically intended to attract female customers.

Finally, we find that aesthetization varies over time, and is dependent on and embedded in other social practices such as technical development and people's attitudes toward different social practices.

The methodological approach in the study precludes us from identifying trends in some sort of rational aesthetics, since we have not been looking for "inherent" aesthetic principles in the empirical material. With a rational definition of aesthetics, individual items could be characterized as more or less aesthetically appealing in themselves. Our theoretical inclination to understand aesthetics in terms of social relations is reflected in our interpretation of the variations of visual form as an expression of increased attention to aesthetics. In that sense the study does not add to a generalized theoretical discussion of aesthetics. Still, the high variation of manifest forms might imply that relational aesthetics, which sees beauty as social constructs (Dickie 1997), is appropriate in accounting for the aesthetization of mobile phones. It would do so in a way similar to how social explanations are commonly used to explain the high variation in fashion. The rapid change of clothing styles in contemporary fashion implies, first, that there is no single aesthetic standard in clothing, and second, that beauty resides somewhere else than in the clothes. This leads fashion theory to understand style as socially constructed (Blumer 1969; Kawamura 2005). Fashion comprises a system of institutional arrangements that can turn clothing into examples of the concept of fashion (Kawamura 2005). Thus a style, be it heterogeneous or

homogeneous, is constructed and shaped by social and institutional arrangements (Kawamura 2005) – a view that resonates with our understanding of "beauty in the relations", as previously presented. Moreover, the fashion industry has rich experience of creating beauty and promoting new styles. Thus, the rapid variation in styles might indicate that stable and universal aesthetic principles are less applicable than relational aesthetics to this particular case as well. If so, it may not be a coincidence that fashion, with its established institutions, played an important role in the increase of aesthetization during the Grand period.

Acknowledgments

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