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On the fashionalization of digital devices: a study of the representation of mobile phones in fashion magazines

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Abstract

We asked when and how mobile phones are represented in *Vogue (US)* and *L'Officiel (FR)* between 1993 and 2017, and in what sense their presence in such magazines can be understood as making them into fashion items. The question is warranted since these magazines act as critical gatekeepers to fashion, at the same time as it has been argued that the latter is spreading its influence from clothes to other objects. We study the occurrence, changing styles and visual aesthetics of phones through a quantitative and a qualitative analysis. The former shows mobile phones did appear in the magazines, indicating that the important gatekeepers allow these devices to enter the fashion world. The qualitative analysis reveals that the aesthetic representation of mobile phones both conforms to and diverges from how garments are aestheticized in these magazines. The overall picture is one of a fluctuating and heterogeneous relation, with intermittent and temporary interactions between fashion gatekeeping and the digital devices. When carefully studying the interest in displaying the digital objects in these magazines we see a rather limited influence and not a trend.

Keywords: Aesthetics, Fashionalization, Representation, Fashion journalism, Fashion gatekeeping, Mobile phones

Introduction

In the recent decade, there has been an increasing interest in the interplay between digital technology and the fashion industry among fashion academics. Some studies explore the new opportunities that digital technology provides to improve marketing and enhance the communication between brands and customers (Dolbec and Fischer 2015; Ng 2014 etc.). Others investigate how digital technology devices become fashionable, e.g. mobile phones or laptops as personal accessories (e.g. Fortunati 1998; Lee et al. 2009). The former sees digital technology as a modern tool to solve specific problems in the industry while the latter treats the digital technologies themselves as fashion items. Our study will be relevant to the latter, as we aim to examine if and how digital devices are fashionalized through fashion gatekeeping mechanism.

Recent fashion theories have argued that the construction of fashion takes place not only in the design of garments, but also by means of an accompanying mediatization and

institutionalization of these objects (Kawamura 2005; Rocamora 2001). This indicates that to become fashion, clothing not only needs to have innovative designs, but also should be recognized as fashion. This is often done through gatekeeping by established institutions and mechanisms (Kawamura 2005). Being featured by essential institutions, such as fashion magazines, contributes to an object being endowed with desirable values (Kawamura 2005; Moeran 2006). The visual representation is as important as the garment itself (Shinkle 2008). Being presented in magazines is not enough, however. The item has to be presented in ways that are compatible with the aesthetics of this mechanism (Van Der Laan and Kuipers 2016a).

It has further been argued that the fashion system has extended beyond clothing to encompass a wide range of consumer products (Błaszczuk 2009; Aspers and Godart 2013). There seems to be a phenomenon of “fashion in all things” where an increasing number of artifacts are drawn into the fashion logics. This expansion increases the possibility of turning digital devices into fashion. Our investigation is thus motivated by two perspectives on the proliferation of fashion: fashion as consisting of not just garments but also their juxtaposition and packaging with media; and the idea that fashion is spreading beyond clothes and accessories.

Mobile phone is an interesting example to study the fashion of digital tech, since it is one of the earliest digital devices in history that has been close to our bodies and become an everyday utility. Sociologists have shown that the interest in beautifying such devices is increasing, and that phones are *consumed* in a way similar to clothes (e.g. Fortunati 1998). What has been lacking, however, is an account of how mobile phones become fashionable through fashion mechanism, such as magazines. Since the history of mobile phones is short, it is possible to study the visual representation of this technology in fashion magazines during its entire lifespan. Studying a large number of images helps us reveal the overall trend of mobile phones’ occurrence in fashion images during a given period of time.

Therefore, in specific, we examine how mobile phones are represented in fashion magazines, which are a result of important gatekeeping activities, throughout history. We perform a content analysis to investigate our question. This method not only allows us to systematically quantify and compare particular elements within a certain number of images, but also to qualitatively interpret patterns of the images in relation to theoretical concerns (Trigoni 2016). The two types of analyses are put in dialogue with each other to provide a multi-layered understanding of the fashionization of mobile phones, including a grand picture of this phenomenon as well as a micro and detailed investigation into the visual features of individual images. We focus on the images of mobile phones and their accompanying texts extracted from *Vogue (US)* and *L’Officiel (FR)*, since these magazines have a central role in the fashion system (Van Der Laan and Kuipers 2016b; Rocamora 2009).

Our study shows that mobile phones did appear in these magazines, indicating that the important gatekeepers allow these devices to enter the fashion world. The devices are made fashionable through how their aesthetic representations display features significantly similar to those in garment images. However, we also identify areas which differ from the representations of clothing in fashion images. In sum, the overall picture is one of a fluctuating and heterogeneous relation, where the presence of mobile phones and

how they are represented exhibit both a fashionization of these devices and a divergence from fashion. We see a limited influence of fashion system over this non-clothing item.

Literature review

Fashion magazines as gatekeeping institutions

It is commonly recognized that fashion has two essential features, change and novelty (Kawamura 2005). Wilson (2003) argues that fashion is dress in which the key feature is rapid and continual changing of styles. In addition, some sociologists particularly focus on how fashion is produced. Kawamura (2005) argues that fashion is generated through activities of production and diffusion, as argued by Kawamura (2005). Her approach treats fashion as a system of organizational and cultural arrangements that cause particular objects to be adorned (Kawamura 2005). This understanding is based on Bourdieu's theory of cultural production. He argues that "the works of art exist as symbolic objects only if they are known and recognized", which means if they are "socially instituted as works of art and received by spectators capable of knowing and recognizing them as such" (Bourdieu 1993, p 37). Similarly, to become fashion, clothing needs to be recognized as fashion, in other words, be accorded the value of fashion. This process rests on fashion institutions or mechanisms that function as discerning observers capable of knowing and recognizing clothing as fashion.

Other theorists also share Kawamura's institutional view of fashion and suggest that fashion is featured by an internal logic of regular and systematic change (Entwistle 2000). It is rather a complex system than a single cultural phenomenon, including all aspects of manufacturing, technology, marketing and retail (Leopold 1992). These scholars propose a shift of the focuses in fashion studies from merely supply and consumption to a combination of technology, social contexts, communities and individuals.

Gatekeepers, such as fashion journalists and editors, play an important role in turning clothing into the ideals of fashion. They invent and deliver symbolic meanings that are largely constructed by prevailing cultural principles (Kawamura 2005). In this sense, periodicals produced by these people provide their audiences with rich sources of fashion ideas and information, thereby have gained a trust from them. Therefore, the items that are reported are often considered to be as superior. Moreover, the items also need to be displayed in particular ways through images and texts.

Occurrence in fashion magazines

Being accepted to appear in a fashion magazine means being deemed worthy to enter the fashion system. Fashion editors have great power to legitimize what is fashion. In making magazine contents, the editors can give the largest possible amount of space to items they think are good, "with priority in placing" (Kawamura 2005, p 82). But they do not make such decisions merely on the basis of their personal preferences. They have to take into account the multiple interests of many players in the industry. As Moeran (2006) argues, fashion magazines represent ongoing relationships negotiated between the journals' staff, advertisers and the fashion world. Fashion is "a relatively small and self-sustained community in which fashion professionals, such as stylists, photographers

and editors flit from magazines to advertising campaigns and back again” (Tungate 2005, p 127). Therefore, appearing in fashion magazines, in any form at all, is the result of an agreement among the editors and other industrial partners to legitimize the product.

In fact, fashion journalism is not as critical as some might think. Considering the crucial role of fashion media in the system, public relations staff who represent fashion brands work hard to establish friendships with journalists and editors from major magazines. It then becomes difficult to write negative things about your friends (Tungate 2005). However, the editors can criticize by exclusion (Tungate 2005). Fashion editors have two weapons: “silence and space” (Kawamura 2005, p 82). Exclusion from being shown in fashion magazines can mean a silent rejection by the fashion system. Of course, a brand’s disappearance from the magazines can also result from it ceasing to buy advertising space. But no matter whether the disappearance is due to a brand’s limited marketing budget or decreased interests in reaching fashion consumers, the product seems to disconnect to fashion through this mechanism. In all, being accepted into these magazines is the first step to being fashionized.

Fashion values produced by images and texts

In addition to appearing in fashion magazines, an item also needs to be represented in an appealing way. This is done through images and language (e.g. Hill 2004; Moeran 2010).

Within fashion magazine studies, much attention has been given to images. Images are presented in two essential formats, as advertising or editorials (Shinkle 2008). Advertising serves a triple role “by inculcating consumers with a desire for fashion and modernity, by promoting product availability to massive audience, by serving as supporting style guides for what to wear and how” (Hill 2004, p ix). It has become the major source of revenue for magazines, and the proportion of each issue that it occupies has accordingly increased (Chevalier and Mazzalovo 2008). Editorial images, which are planned and created by the editors, are another important part of fashion magazine. These images are often used to illustrate a story or an article (“What is editorial” 2015). The distinction in a sense reflects different forms of gatekeeping. Whereas the adverts have a clear sender, a commercial entity with an interest in selling an item, the editorials reflect the interests of the editors and their judgements of items as being fashionable or not. However, the motivation for an editorial can also be to support brands, similar to advertising. There is no doubt that vested economic interests have become deeply influential in the fashion system, but exploring this impact is outside the scope of this study.

Nowadays the bounds between editorial and advertisements in fashion magazines become blurred. They are often woven into a seamless garment of information and persuasion, complementing each other to improve the appearance of a magazine (Earnshaw 1984). Advertising’s similar presentations to the editorial make the advertised products appear as though they have somehow been approved by the magazine. It seems as though the magazine rather than the manufacturer is telling the reader that this product is the best on the market (Earnshaw 1984). In all, although advertising and editorial images have different focuses—the former serve advertisers’ interests and the latter reflect editors’ preferences, both of them show the ways of how an item is legitimized by fashion gatekeeping mechanism.

Fashion images can generate diverse values through visual representation. Many theories have been used to interpret the values in these images. One influential theory is the feminist view that emphasizes the construction of femininity and sexuality (Page 2006). This view often questions the role of images in imposing harsh aesthetic standards for bodies, as well as stereotyped gender identities (Lanis and Covell 1995). Other scholars take a neutral, or even positive, stance. Van der Laan and Kuipers (2016a) show how visual elements in fashion images are part of an aesthetic system in which meaning depends on the context in which elements occur. In addition, Moeran (2006) argues that the products featured on fashion pages become “fashion” items, subject to constant and regular changes. Furthermore, fashion images are often accompanied by texts, which serve the function of providing anchorage, as Barthes (1977) argues. He claims that linguistic messages accompanying images are intended to fix the problem of uncertainty in images (Barthes 1977). They help to identify the elements of the scene. They can also guide the viewer’s interpretation to deliver pre-determined symbolic messages to the public (Barthes 1977). Drawing on Bourdieu’s theory of the symbolic production of cultural products, Rocamora (2001) states that the written words invest different symbolic values in a dress.

Taken together, the fashionization in this study refers to both the acceptance into fashion and being represented in particular aesthetical ways, such as displaying the general features of fashion, e.g. change and novelty; using fashion aesthetics and logics and connecting to the institutional elements in the fashion world.

The spread of fashion to non-clothing items

Fashion is a part of modern culture that revolves around aesthetics and beauty. In the 1990s, Estelle Ellis, an established fashion entrepreneur, suggested that fashion is something in itself—surpassing the object through which it is expressed—that has constantly reshaped various material things. It began with fabric objects, which cover our bodies, and then shifted to design and architecture (Blaszczyk 2009). Recently Aspers and Godart (2013) have identified relevant sociological research arguing for a general extension of fashion, as represented, for example, by an increasing number of objects being drawn into the logic of fashion. They therefore propose to study fashion in relation to a variety of objects, practices, or representations other than garments and accessories, thereby forming the idea of “fashion in all things”. The logics of fashion, such as colour cycles and trends, are observed to spread into other product domains, such as home furnishing (Johnson and Ulrich 2018).

In the area of digital devices, a few scholars have touched upon the fashion of these technologies. Lee et al. (2009) point out that fashion consciousness is one of the four consumer lifestyle factors that direct and indirect antecedents of consumers’ intention to adopt high-tech products. Others focus on specific type of digital products, such as mobile phones. Since its introduction as a mass-market product in the early 1990s, the mobile phone has changed from a bulky device fixed to a car into something carried everywhere by everyone. Sociologists have already established that there are connections between fashion and mobile phone use. Fortunati (1998) analyzes how these devices have become a part of people’s physical appearance. Studies of young people’s use of mobile phones show that the symbolic meaning of these devices reflects an idealized

self (Skog 2002; Katz and Sugiyama 2006). These studies analyze the fashion meanings of digital devices from a consumption perspective, i.e. in terms of how individuals use their devices as a personal accessory to express themselves.

There are only a few studies on the fashion production and diffusion of digital devices. For instance, through analyzing two advertisements of laptops, Gannon (2007) argues that computers are symbolized to be handy, handbag-sized fashion item for the young stylish women by the advertisers. These images generate values of pleasure, feminine play and creative misuse of technology for the masculine technology in order to appeal to women consumers. With reference to examples of print advertisements in women's magazines, Shade (2007) argues that the devices are fashionalized and feminized by co-branding with high-end fashion designers.

The limited discussion of mobile devices in fashion media has motivated us to examine how mobile phones, as an example of the most intimate digital devices, are represented in fashion magazines throughout history and whether they are fashionalized through the same mechanisms as clothing.

Method

Content analysis is "a research technique for making replicable and valid inferences from texts (or other meaningful matter) to the contexts of their use" (Krippendorff 2012, p 24). It is used for the objective, systematic and quantitative description of the manifest content of communication (Berelson 1952); as well as for qualitative analysis, as it supports the generation of categories, spanning several images, that relate to theoretical concerns (Rose 2001, p 65). We perform a content analysis to study the visual representations of mobile phones. By studying a large number of mobile phone images, we are able to explore the overall trends and patterns of their presence in fashion magazines as well as to discover different ways that these products are fashionalized through such mechanisms. We conduct both quantitative analysis of mobile phones' occurrences in fashion magazines (Analysis 1) and their changing styles (Analysis 2), as well as a qualitative analysis of visual details in the images and their accompanying texts (Analysis 3). In the first analysis, all the images that showed mobile phones from selected magazines were counted each year within the studied period. For the second, the coding scheme is the forms of mobile phones identified from previous research. The coding scheme for the last analysis includes a combination of existing codes and newly invented codes.

The empirical sources we used are the *Vogue (US)* archive, accessed through the university's digital library, and *L'Officiel* Jalou gallery, accessed through the official website of *L'Officiel*. In international fashion publishing, perhaps "no title resonates with authority and history the way that *Vogue* does" (König 2006, p 205). With high circulation and superior quality, *Vogue* has played an important role in everyday cultural life in modern society (König 2006, p 220). Born in America, and with superior quality and longevity, *Vogue(US)* represents the highest standard for American fashion publications. Therefore, among many versions in the world, we chose the US version as a major source to collect data. Our focus here is on how mobile phones are displayed and represented in the images in these magazines. It is not our purpose to compare the visual representations of mobile phones in fashion magazines within different cultures or to analyze the social-cultural aspects that have caused such differences. But we think it is still necessary

to select a magazine from another culture so that the empirical data will cover more varieties in representation styles. This will help broadening our perspectives and getting richer results. The second magazine we selected is *L'Officiel (FR)*. As a key institution in the French fashion scene, *L'Officiel (FR)* has played a crucial role in constructing the discourse of Paris as a fashion capital (Rocamora 2009). Considering the importance of Paris for the modern fashion industry, *L'Officiel* is a good example of mainstream, non-English fashion magazines. As prestigious high fashion publications, both of them have paid much attention to communicate their histories and heritages to the public. They have built online archives which are made available to either university libraries or to the public directly. Digital archives provide convenient means to researching fashion magazines.

In order to collect the images, we looked through all the issues of the US version in the *Vogue's* online archive and those of the French version in the *L'Officiel Jalou's* digital gallery. We study the topic over a period between 1992 and 2017, since 1992 was the year when the first candy-bar phone, Nokia 1001, was released; and the empirical data for this research was collected in 2017. Since the *L'Officiel Jalou Gallery* only includes issues until 2014, the data collected from 2015 to 2017 was only from the *Vogue Archive*. In our collection of the images, we distinguish between those appearing in advertising and those appearing in editorials. In the data, advertising images were clearly marked as “advertisements” in the digital library. We therefore categorize the remaining data as “editorial”. The search resulted in a data set, including 216 images and accompanying texts on them.

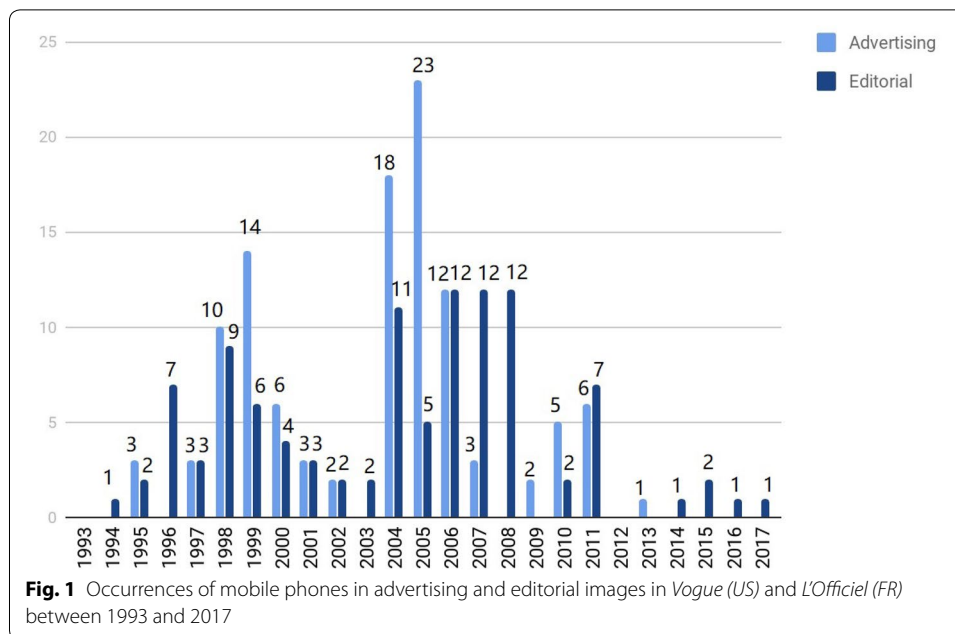
Results

Appearing in fashion magazines

Quantification allows the discovery of patterns that are too subtle to be visible on individual inspection (Lutz and Collins 1993). Studying how many of these products appear in fashion magazines each year will show the overall trends, the ups and downs, of the presence of mobile phones in the magazines. We counted the number of images that showed mobile phones in advertising and editorial images every year between 1993 and 2017. If more than one type of mobile phones appear in the same image, we still count as one. The counting includes repetition; for example, when the same image appears in two different issues we count them as two occurrences.

Figure 1 shows the occurrences of mobile phones in editorials and advertising images in the magazines between 1993 and 2017. The first occurrence was in editorials in 1994, and the following year phones occurred in both advertising and editorial images. This indicates that mobile phones attracted fashion editors' attention before mobile companies began explicitly advertising their products in these magazines. It is possible that the magazines, as important gatekeepers, started to legitimize this non-clothing object as part of fashion.

We identify two peaks for advertising images. The first peak occurs in 1999 with a total number of twenty and its second peak, which occurs in 2005, has a higher number of occurrences (28) than the first burst. An increase in advertising images indicates that mobile companies have a stronger intention to reach fashion consumers. Fashion companies consider glossy magazines as one of the best ways to reach their target markets (Tungate 2005). Thus, the most efficient way for mobile phone companies to reach



fashion consumers is to work with established fashion magazines. Companies use them as “brand space”, where they constantly invite new targeted consumers to give attention to the products and construct new immaterial qualities for the brand (Arvidsson 2006, p 256). Placing advertisements in *Vogue* and *L'Officiel* implies that the mobile companies recognize the importance of these magazines in the fashion system. This further reinforces the role of fashion magazines in constructing trends and institutionalizing objects into fashion. Furthermore, the editorial images also peak twice, i.e. in 1998 (with nine occurrences) and then 2006, 2007, and 2008 (each of which has twelve occurrences) which indicates that the editors were more interested in mobile phones in these years.

Meanwhile, we need to be somewhat reluctant to make too much of the difference between editorials and adverts. The former can be bought by an advertiser. However, editors often have more freedom in planning and creating such contents than with advertising images. The peaks for advertising and editorial images appear close in time, indicating that these occurrences may have influenced each other during the relevant periods. Both the editorial peaks come after the advertising ones indicate that advertising in magazines seems to trigger the editors’ interests in creating images for the ad-related products. This may explain the following decrease of the occurrences of mobile phones in editorials. When the mobile companies pay less attention to advertise in these magazines after 2011, the occurrences of mobile phones in editorials were also decreased.

Notably, the statistics reveal a sudden disappearance of mobile phones in 2012, which was preceded by only one or two occurrences from 2013 to 2017. Although we lack empirical data from *L'Officiel* (FR) after 2014, we can see that none of the many mobile companies had much interest in advertising mobile phones in *Vogue* (US) between 2012 and 2017 or in *L'Officiel* (FR) between 2012 and 2014. This decline may imply that mobile companies had become less interested in reaching fashion consumers through printed

magazines. They may have found other ways to advertise. In recent years the development of information and imaging technology has sped up the rate of our exposure to digital images and our use of digital media. Fashion media have quickly expanded into a diversity of genres, such as social media, blogs, and websites. These offer mobile companies more options to reach fashion consumers. Printed fashion magazines may no longer be the best choice. Although only a few, fashion editors continued to present mobile phones in editorial images after 2013.

Overall, mobile phones appeared in the editorials before the companies began to advertise and continued after mobile companies stopped advertising in these magazines. We interpret this as a tendency on the editors' side to view this device as part of fashion. In this sense, fashion is visibly spreading from garments to other consumer objects.

In sum, our analysis reveals that mobile phones appeared in the magazines during the period examined. If the magazines are important gatekeepers, the appearance is an indication of these devices being part of the fashion world. However, the occurrences of mobile phones in these magazines during the selected two decades are limited (with a total number of 216) and vary over time. This shows that the connection between mobile phones and the established institution is new and unstable, in contrast to clothing, which is always the main topic of fashion magazines.

So far, we have shown that mobile phones did appear in fashion magazines. Mobile companies advertised particular phones, targeting fashion consumers, and editors also accepted them as part of the editorial contents; both of these show that mobile phones have been given the chance to become fashion. However, it is still not known whether the representations of mobile phones follow the aesthetic logics of fashion or generate fashion values, which is another important prerequisite for an item to be fashionized, as indicated by previous studies (e.g. Van der Laan and Kuipers 2016a; Rocamora 2001). The following sections will examine these issues.

Visual representation of mobile phones in fashion magazines

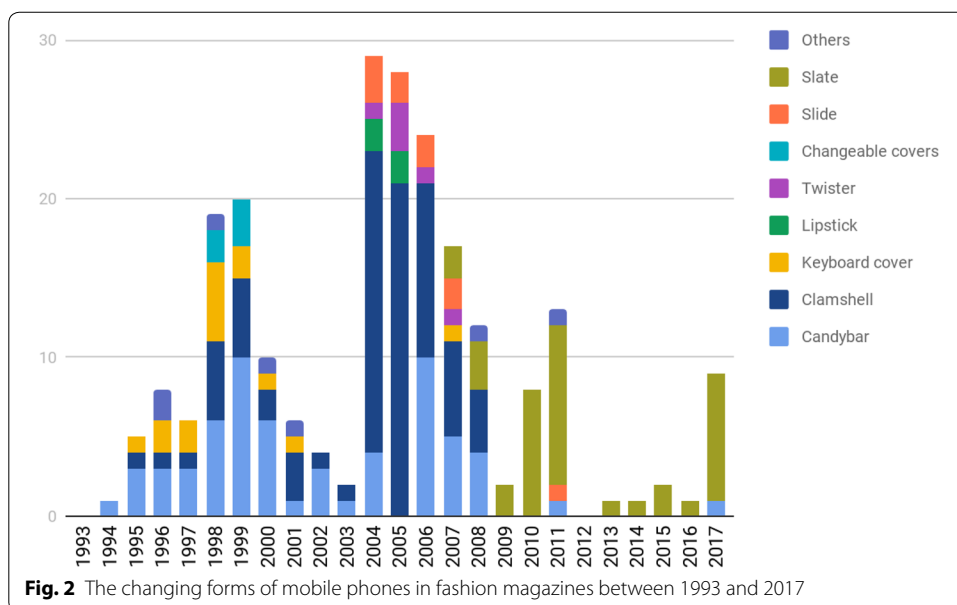
In order to unpack the fashionization mechanism beyond a quantification of occurrences, we analyze in detail the visual representations of mobile phones in order to understand how they relate to the aesthetic logics of fashion. First, we analyze the visual features of the phone models presented in the images, with a focus on the variation of forms during the entire period investigated. Then we examine other observable details, i.e. the ways in which the devices are situated and the accompanying texts, to see how the images are similar to or different from clothing images in fashion magazines.

Mobile phone's changing styles

We study all the images to identify which mobile phone models are shown in fashion magazines, and what style they have. Studying the visual features of mobile phones in many fashion images over a lengthy period of time allows us to investigate whether mobile phones conform to this requirement for clothing fashion. Form is selected as one of the aesthetic elements to investigate. We looked at all images in our corpus, identified the form of the mobile phone in each image, and counted the number of annual occurrences of each form between 1993 and 2017. The coding of mobile phones' forms is borrowed from Zhang and Juhlin's (2016) categorization of Nokia's design.

In Fig. 2, we can see the changing styles of mobile phones that appeared in fashion magazines. The exact numbers can be found in Appendix. Almost 46% of phones appeared in the magazines between 1994 and 2003 had a form of candy-bar. Thus the candy-bar was the most common form during this period. Between 2004 and 2008, however, 55% of the phones had a form of a clamshell and this shape became a popular form. During this period, the total occurrences of mobile phones had increased by 36% in general. This period also witnessed the appearance of innovative forms, such as the slide, the lipstick and the twister. They look different from the dominant forms. As shown in the figure, mobile phones appear more often in the magazine images when the diversification of styles and forms is high. This indicates that mobile companies intend to appeal to fashion consumers by designing interesting forms. This can also be interpreted as fashion editors showing interest in innovative forms of mobile phones, given that an increase in editorial images occurs alongside the increase in advertising images (see Fig. 1).

In 2007 there was a large diversity of forms with six categories, which was more than all other years, and this year saw the first occurrence of the slate style. Notably, this was the year when Apple’s iPhone was released. In the following years, with the success of that phone style, the slate form quickly came to dominate the mobile market. Many mobile brands ceased producing other styles and switched to releasing only touchscreen smartphones. This is also reflected in our data. Between 2009 and 2017, as high as 89% of phones shown in the magazines were in the form of slate, indicating that this period had the most unitary form of phones throughout the examined decades. After 2008, the variety of the forms was severely reduced. In these years, almost all phones, whatever the brand, share the visual feature of a flat thin slate. Between 2009 and 2011, there was an increase in slate phones in fashion magazines. After the increase, the occurrences suddenly disappeared in the magazines in 2012, and then followed by only a few slate phones. There was a great increase of the appearance of slate devices in 2017. But this was not an indication of a resurgence of wide interests in mobile phones, since Fig. 1



tells us that all the phones were actually from one image, which was quite rare during the entire period.

The style analysis of mobile phones echoes the basic features of clothing fashion, i.e. novelty and change. A key aim of fashion magazines is to showcase new styles (König 2006). The commodities featured on their pages, either as text or as images, become “fashion” items subject to constant and regular change (Moeran 2006). Within the period examined, the styles of the mobile phones appeared in fashion magazines experienced several transformations and varied over time, like the silhouette of clothing. At one time, the candy-bar phone is “in”. Then the clamshell comes into fashion. During the period, the visual expressions of mobile phones changed in such a way that they served the craving for aesthetic variation that forms the basis of fashion.

In sum, mobile phones are represented not as a single fashion trend that is “in” for one season, but as a category of fashion, just like a shirt or dress, that undergoes style changes over a longer period of time.

Contextual visual analysis

Previous section focused on the form of mobile phones represented in fashion images. In this section, we continue by investigating other visual details in the images in order to unpack the similarities and differences between mobile devices and clothing fashion. This will help us understand how fashionable these non-clothing items are. Qualitative content analysis is used in this section to focus on identifying “core consistencies and meanings” out of a volume of qualitative material through “qualitative data reduction and sense-making” (Patton 2002, p 453). The concept of “qualitative,” rather than quantitative, makes clear that the analysis moves beyond systematic data coding in identifying trends, and also allows us to interpret the material with theoretical preconceptions (Patton 2002).

We examined every image in our corpus in detail and identified its features with one to three key words. Some of these words can match the categories emerged from fashion studies. Van der Laan and Kuipers’ (2016a) “codebook” for a quantitative content analysis of the aesthetic system of fashion images is highly relevant. They identify salient categories to quantify the aesthetic elements of models portrayed in the images. We here found some categories derived from this codebook matching the key words of our corpus, which include institutional elements; setting; clothing and styling; representations of people. In addition, they extracted a theme “characteristics of the person in the image”, referring to the aesthetic features of the people portrayed in fashion images. To adapt to our empirical data, we similarly formed the category “characteristics of mobile phones”, describing the aesthetic features of these devices in the images.

Our coding is also influenced by other fashion literature. For instance, the sub-categories “designer clothing collection” and “celebrities” were borrowed from Rocamora’s research on the texts of fashion (2001). “Trends and news” were identified in König’s research on the words of British *Vogue* (2006). Finally, “fashion professionals” came from Moeran’s (2006) study on the social production of fashion magazines.

On the other hand, our coding revealed features that were not covered by previously defined categories. Since our aim is to study the representation of mobile phones in fashion images, instead of clothing, we also invented our own codes to bring out important

aspects of the image content. These codes include “functionality”, “technical features” and “high-tech as title”. We grouped them into a new category which we label “utility”, since all of them emphasize practical use in everyday life.

In this way, a coding scheme that brings out salient characteristics in the images and accompanying texts was developed based on a combination of previously identified codes and new codes. The codes were grouped into six categories presented in Table 1. In the following, we discuss codes that describe revealed aesthetic patterns, the relationship of phones to fashion institutions and the utilitarian aspects.

Aesthetic pattern of mobile phones and their contexts The analysis reveals salient aesthetic patterns of mobile phones’ representations in the style of the photos and the devices’ relation to clothing and to sexuality.

Mobile phones are aestheticized and glamorized by close-up photos (Sub-categories SC4.3) or by illustrations (SC4.5). The close-ups stage the phones in the center of the image. The lighting is carefully designed to make the devices stand out, in order to draw viewers’ attention to the delicate details in the hardware design. A colored background and soft light create an enticing atmosphere. These images prioritize form over function, and negate reality through the abstraction of background, the objectification of mobile phones, and their preference for non-ordinary beauty (Van Der Laan and Kuipers 2016a). In contrast to the glamor, some images depict the everydayness of mobile phones. These images are similar to low fashion photos that exhibit a pleasant and approachable aesthetic. For instance, mobile phones are shown in a “natural” style without any dazzling visual effect (SC4.2); or the different colors of one phone model are displayed in the “natural” style image (SC4.4). Importantly, this is not a portrayal of real life, but rather an aestheticization that aims to look realistic (Van Der Laan and Kuipers 2016a).

The devices are displayed in conjunction with fashionable dressing. In some images, they match the models’ stylish outfits (SC3.1). In pictures without any models they are artistically curated with fashion accessories (SC3.2). A few images juxtapose the phone with traditional fashion accessories, such as stilettos and lipstick (SC3.3); all of these have distinctive styles and optimize the types of fashion represented (Jobling 1999). The combinations are embedded in wider cultural systems informed by an underlying aesthetic order which structures the picture into an assemblage of aesthetic elements, that is to say, a style (Van Der Laan and Kuipers 2016a). For example, the futuristic-styled garment is known for having a sculptured silhouette, metallic fabric, geometric lines etc. (“Eight visions” 2015). Mobile phones that are geometric and sleek fuse well with the futuristic styling (SC2.2). In addition, mobile phones are represented like clothing by being accessorized with decorations (SC4.1).

Nudity is a common visual code when presenting accessories in fashion photography. Sexual appeal has become the norm in the advertising industry for presenting products such as cosmetics, bags, and perfumes (Reichert et al. 2011). Mobile phones are sexualized through connecting to nude bodies (SC5.2). Our examples include nude models or models in swimsuits holding a mobile phone. The nudity of human bodies increases the sexual appeal of the models. Such appeal is effortlessly transferred from the bodies to the phones located on them. On the contrary, some images display a more comfortable and

Table 1 The categories and their definitions for the images

	Categories and sub-categories	Definition
1	Institutional elements	The visual or textual elements that connect to the social world of fashion, including fashion institutions and professionals
1.1	Designer clothing collection	The model holding a mobile phone is wearing designer clothing. The image is combined with textual description of the clothes and brands
1.2	Designer branded phones	The phone is the product of a collaboration between mobile companies and fashion designer brands. Sometimes the image of the phone is complemented by the textual information on fashion designers' names; sometimes the logo of a fashion designer's brand is visible on the hardware of the phone
1.3	Trends and news	The image is located in a news section introducing the latest trendy products. The image is combined with brief textual information, e.g. brand, price and where to buy
1.4	Celebrities	The phone is held by film stars, musicians or top models
1.5	Name of photographer	The name of the photographer is presented in the images
1.6	Fashion professionals	The image features what phone an experienced fashion professional uses, as a real-life example to show what phone is fashionable
2	Setting	The contexts where the mobile phones are located in the images
2.1	Glamorous	The image depicts a sparkling moment, a glamorous event or a scene of fashion activities
2.2	Unrealistic and imaginary	The image presents a completely imaginary environment, such as a futuristic or surreal setting
2.3	Realistic and ordinary	The image features an everyday context that is ordinary and trivial
3	Clothing and styling	The images that display a relationship between mobile phones and clothing/outfits
3.1	Phones in stylish outfits	The model holding a mobile phone is wearing a stylish outfit. The cover of the phone often matches the outfit. Sometimes a short textual description in the image describes how they match
3.2	Curated display of many fashion accessories	The phone is aesthetically photographed and displayed among a series of fashion accessories
3.3	Phone displayed in parallel to an accessory	The phone is displayed in parallel to a clothing accessory
4	Characteristics of mobile phones	The aesthetic features of the mobile phone in the image, such as its decoration, its style and color variation
4.1	Fashion accessories for phones	The image features stylish accessories for the phone, such as designer phone pouches, charms or wearable bands
4.2	Realistic close-up	The image depicts only the phone without backgrounds. It is an idealized version of the mobile phone
4.3	Glamorous close-up	The image depicts only the phone. The close-up shot presents a desirable image of the phone by using visual techniques such as a colorful or dreamy background
4.4	Color variation	Various images of the same phone in different colors are presented. The picture is combined with textual statement about selecting colors for different moods
4.5	Illustration	The image features an illustrated representation of the phone. It can be abstract, emphasizing a visual feature of the phone, or lifelike, depicting a real phone
5	Representation of the persons	How the models in the image interact with each other, display their bodies, and their facial expressions
5.1	Intimate	The image features a male model and a female model, whose bodily interaction, e.g. hugging, kissing, looking at each other, shows intimacy. It creates an atmosphere of romance
5.2	Nude and sexy	The model carrying a phone is wearing a swimsuit or little clothing, showing the sexy nude body
5.3	Facial expression	The phone is close to a model's face. The model's facial expression is the focus of the image. It usually shows a happy smile

Table 1 (continued)

Categories and sub-categories	Definition
6 Utility	The textual information concerns functionality in social situations and new technical features that improve the quality of people's everyday life
6.1 Functionality	The accompanying texts describe what the phone can be used for in specific social contexts, such as video-calling your family, booking tickets, and playing games on the go
6.2 High-tech as title	The mobile phone is displayed together with other electronic devices. The page has a title of "High-tech"
6.3 Technical features	The accompanying texts describe the main technical features of the phone, e.g. high-quality camera, color screen, games

familiar human relationship, such as common bodily interaction in intimate relationship (SC5.1); or a happy expression on the model's face (SC5.3).

Mobile phones are situated in dreamlike circumstances. Sometimes mobile phones are presented in fashion contexts (C2.1), such as dressing and styling. These grooming practices concern "the conscious manipulation of physical appearance to make a desired impression" (Moeran 2010, 496). Other contexts, such as an elegant dinner, a dress-up party, or a wild night out at the clubs, are common settings which display "glamorous events" that can "show a sparkling version of the product" (Goffman 1979, p 26). In all these images, beautiful models are perfectly dressed up with mobile phones in their hands, and appear in idealized and exaggerated scenes, just like a shot in a movie. In addition, mobile phones are displayed in surreal settings, which are far from real life or even "a bit awkward" (Van Der Laan and Kuipers 2016b). A great deal of these images belongs to dramatized futuristic fashion shoots, which depict science-fiction scenes (SC2.2). In contrast, some images create a "make-believe reality" with which viewers feel familiar and can identify (Goffman 1979, p 15). The shoots are rooted in everyday experience, although they exclusively showcase the happy side of the everyday (Van Der Laan and Kuipers 2016b). Mobile devices are situated in daily activities that are irrelevant to fashion practices, such as biking on a street, boarding a plane, shopping for groceries, or waiting to enter a cinema (SC 2.3).

To sum up, the mobile phones are situated in a fantasy world or in ordinary life, which is in line with previous studies on high and low fashion aesthetics in magazine images (Van Der Laan and Kuipers 2016a; Hill 2004). On the one hand, mobile phones in fashion images are aestheticized in "highly objectified ways" (Van Der Laan and Kuipers 2016a, p 70). They are shown as objects to be looked at, and represent "a certain distant, glamorous beauty" (Van Der Laan and Kuipers 2016a, p 71), evading close engagement. They are often photographed in unrealistic and dramatic settings. On the other hand, some images feature more realistic portrayals which are "more accessible and less glamorous" (Van Der Laan and Kuipers 2016a: 70). The models are seemingly captured in a recognizable setting, involved in the daily activities together with their phones. This is a "natural" style that aims to look realistic (Van Der Laan and Kuipers 2016a). It invites viewers to engage on a personal level with the phones in the images.

Institutional elements As Moeran (2006) argues, fashion magazines present not only the clothing that they designate as fashion, but also the people and institutions that constitute the fashion world. In this section, we discuss how the representations of mobile devices explicitly relate to fashion institutions, either by associating with fashion communities or by being legitimized by fashion gatekeepers.

First, mobile phones are represented in connection to the institutions and communities of the fashion industry (SC1.1; SC1.2; SC1.4; SC1.5; SC1.6). Accompanying texts inform the readers of the designer brands of the outfits (C3.1). Star fashion designers have already been legitimized by fashion organizations and placed at the top of the hierarchy of the fashion system (Kawamura, 2005). The brand names of the mobile phone shown in the image is mentioned side-by-side with the names of star fashion designers. The image thereby attempts to lend the phone some of the fashion value of designed garments, which have already been constructed in the clothing fashion system. A specific item's juxtaposition with recognized designer brands can transfer the symbolic values of those brands to the item itself. The transfer of meanings is commonly done through such association in fashion images (Page 2006). Another form of association with designer brands, which is more profound, is to collaborate with fashion designers when designing mobile phones (SC1.2). Our data includes several pictures which showcase such co-branded phones, for example Siemens with Escada and Diane von Furstenberg with Samsung. The devices have often displayed the aesthetic styles of the collaborating fashion brands. The names of renowned photographers are occasionally emphasized (SC1.5), along with those of other fashion professionals (SC1.6). All these things offer an insider's view of the industry. Furthermore, mobile phones are associated with the names and stories of celebrities (SC1.4). The famous names of these people serve to "personalize the objects", making them more sensational and glamorous (Rocamora 2001, p130).

Secondly, the representations of mobile phones show how the gatekeepers legitimize them as new fashion trends (SC1.3). Expressions such as "new trends", "the latest" etc. are used in accompanying texts to emphasize the novelty of the listed products, which makes them desirable to consumers, since modern consumers are constantly looking for new tastes and sensations (Featherstone 2007). They also imply that the editors select mobile phones to be a new fashion trend for fashion consumers. As crucial gatekeepers, the editors recognize the novelty value of mobile phones in the fashion contexts. When the editors introduce mobile phones as new trends, they tend to use particular words that demonstrate their authority to the public. For example, they use expressions such as "the most wanted" or "must buy". These "give weight to the authoritative voice, as well as creating a sense of urgency" (König 2006, p 212). In this way, mobile phones are recognized by fashion authorities as a new fashion trend.

To sum up, mobile phones are fashionalized in various ways by being associated with fashion institutions and communities, similar to how clothing is made into fashion.

Mobile phones as utilities In the analysis of the data, we invented new categories to unpack the empirical data, all of which we label under the term "utility". These codes constitute a divergence from the representation of clothing in fashion images and texts. They deal instead with the phones' functionality and their new technical features that enhance people's everyday life. Some images are displayed in a section called "repères hi-tech"

(in English, Hi-tech Hotspot) (SC6.2). Accompanying texts describe new technical features of the phones, such as high-resolution screens, video messaging functionality, etc. (SC6.3). Other texts can describe functions of the phones that are useful in social settings (SC6.1), such as making it “easy to order tickets on the go” or letting you “play electronic games while waiting for the show” (Vogue 1998, p. 48). The devices are represented as enhanced utilities in daily tasks. The utility aspect stands in contrast to how clothing items are represented, which is often in terms of aesthetics and styles.

Moreover, we also find that a few representations displaying the varying aesthetics of phones are quite different from how the aesthetic qualities of clothing are represented. In the sub-category “color variation” (SC4.4), apart from the images that show different colors in a realistic style, as previously discussed, there are also a few images that are composed in such a way as to exhibit the functionality of changing color of a mobile phone. These images display a group of phones that are identical in every respect except that they have different colors and decorative patterns. This is typical of the phones equipped with changeable covers. The technique emphasizes a functionality, which differs from how a clothing item that comes in various colors is displayed.

In sum, the representation of mobile phones in fashion magazines both conforms to and diverges from clothing’s representation. The similarity between their representations is reflected in that the coding generated from existing clothing fashion literature fits well for unpacking the representations of mobile phones, e.g. phones are situated in fantasy or in ordinary life, which is similar to the aesthetic logics of clothing fashion; they are further contextualized through connecting to fashion institutions and communities. But they are also represented as technical tools that facilitate everyday tasks outside the key domains of clothing fashion: aesthetics and desire.

Discussion

This study was motivated by the institutional perspective of fashion and the idea that fashion is spreading beyond clothes.

Our understanding of fashion is influenced by Kawamura’s institutional explanation of fashion, which defines it as the institutional arrangements that transform items into fashion (Kawamura 2005). In this view, clothing needs to be recognized as fashion through established institutions and mechanisms, such as the journalist practices. We take fashion magazines as an example to studying the final results of the journalist practices. Appearing in them offers an object the entrance ticket to the fashion world. Furthermore, the object also needs to be presented in particular ways, e.g. demonstrate the features of fashion or be compatible with the aesthetics of this mechanism.

Both the distinction between clothing and fashion and the institutional understanding of fashion allow us to discuss fashion beyond clothing. Fashion scholars suggested that as more objects are drawn into fashion logics, it is time to extend fashion studies to a variety of objects (Blaszczyk 2009; Aspers and Godart 2013). In this view, fashion occurs under the terms and conditions imposed by fashion institutions. The fashion system is in control of its own expansion. This is what we call the idea of “fashion in all things”. However, little research has been conducted on the fashion of non-clothing items. Thus our study aimed to provide insights for how non-clothing items are fashionalized.

Mobile phone was selected as an example of non-clothing items, because on the one hand, it is most often described as a digital device, which is very different from clothing made of textiles, thereby making the study more interesting; on the other hand, it is close to human bodies similar to where clothing is located, which is not too far away from the traditional domain of fashion. Such location contributes to its being consumed as fashion (Fortunati 1998).

Taken together, on the most concrete level, we asked if and how mobile phones are represented in *Vogue (US)* and *L'Officiel (FR)* between 1993 and 2017, and further discussed in what sense their presence in such magazines can be understood as being fashionized.

Our quantitative study answers the most rudimentary question if mobile devices appear at all. It shows that their presence varies over time. Whether they appear in editorials or advertisement also fluctuates. At times, there is an interest in promoting phones as fashion objects from both companies and the fashion industry, as indicated by the occurrence of both adverts and editorials. There are also periods when the dominant interest is from the fashion side, as expressed by solitary editorials. Finally, there is a decreasing interest from both sides toward the end of the period. The occurrences of mobile devices in fashion magazines, especially the continuous occurrences over time in the editorials that somewhat represent fashion gatekeepers' interests, offer concrete empirical support for fashion's spreading from garments to other objects. However, the overall picture is one of a fluctuating relation, standing in contrast to clothing, which always forms the main content of fashion magazines.

Our qualitative investigation into how mobile phones are represented in fashion magazines gives a similarly ambiguous answer. In general, the visual expressions of mobile phones changed in such a way that they served the craving for aesthetic variation that forms the basis of fashion. This points to the interdependence between the gatekeeping power of fashion magazines and other production systems, such as that of mobile hardware. Fashion magazines aim to introduce new trends to attract more readers. In order to be constantly recognized by these magazines, mobile manufacturers need to design new aesthetic features for the hardware to replace the old ones. In specific, their representations follow common techniques in the magazines, i.e. by adhering to similar aesthetic logics and connecting to fashion institutions. However, they differ in how they are sometimes displayed as utilitarian technologies.

Perhaps it is when we juxtapose these findings that we can get the most interesting contributions to understanding this phenomenon of fashionization outside the domain of garments.

Both having an interest in fashion and presenting mobile devices with their own agenda, i.e. as utilities, suggest a different understanding of the institutional interaction in an eventual "fashion in all things", where fashion allows other items to pass through its gates (Błaszczuk 2009; Aspers and Godart 2013). It does not seem to occur under the terms and conditions of the fashion institutions. Since non-clothing objects are embedded in both fashion and other institutional practices, they can be represented to be fashion or not. If we understand fashion as a set of ongoing institutional activities, among other institutional activities in other industries, the latter can join the former or choose another path. Fashion magazines may be gatekeepers for the fashion world, but there are also other forms of gatekeepers in other institutional worlds. The non-clothing industry can join the fashion

institutional activities and also leave them to join other institutional activities. In our case, it might be that mobile phones were let into the fashion world, and did enter, but then the mobile industry turned their interests in other directions. Their orientation towards non-fashion topics, as seen in what we term utility, shows the potential for this to happen.

Conclusion

In this study, we investigated when and how digital devices such as mobile phones have been represented in fashion magazines, and in what sense this can be understood as turning the devices into fashion items. The occurrences of mobile devices in fashion magazines, especially the continuous occurrences over time in the editorials that somewhat represent fashion gatekeepers' interests, offer concrete empirical support for fashion's spreading from garments to other objects. However, the occurrences of mobile phones are limited and vary over time. The qualitative investigation into how mobile phones are represented in fashion magazines gives a similarly ambiguous answer. In general, the visual expressions of mobile phones changed in such a way that they served the craving for aesthetic variation that forms the basis of fashion. In specific, their representations follow common techniques used for clothing in these magazines, i.e. by adhering to similar aesthetic logics and connecting to fashion institutions. However, they differ in how they are sometimes displayed as utilitarian technologies. In all, it seems that the effects of the fashion institutions, or the specific institution of fashion magazines, on digital devices are limited. We are not witnessing a case of "fashion in all things", where fashion spreads from the clothing system to other artefacts, or allows other artefacts to pass through its gates, but rather intermittent, temporary interaction with other objects. This article provides an initial effort to investigate the impacts of fashion system in non-clothing items. Similar research can be conducted in the realm of other items so that more thorough theories can be established to study the fashion of non-clothing items.

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Authors' contributions

YZ conceived and designed the research, collected all the data, analysed the data and wrote the paper. OJ contributed to improving the structure and elevating the arguments in the discussion part. Both authors read and approved the final manuscript.

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The materials used in this article for analyses were retrieved from both Stockholm University library and online archive, which could be easily accessed by others.

Competing interests

The authors declare that they have no competing interests.

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Appendix

See Table 2.

Table 2 The numbers of the occurrences of different forms in fashion magazines between 1993 and 2017

	Candybar	Clamshell	Keyboard cover	Lipstick	Twister	Changeable covers	Slide	Slate	Others
1993									
1994	1	0							
1995	3	1	1						
1996	3	1	2						2
1997	3	1	2						
1998	6	5	5			2			1
1999	10	5	2			3			
2000	6	2	1						1
2001	1	3	1						1
2002	3	1							
2003	1	1							
2004	4	19		2	1		3		
2005		21		2	3		2		
2006	10	11			1		2		
2007	5	6	1		1		2	2	
2008	4	4						3	1
2009								2	
2010								8	
2011	1						1	10	1
2012									
2013								1	
2014								1	
2015								2	
2016								1	
2017	1							8	

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