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RETHINKING TEXTILE FASHION: New Materiality, Smart Products, and Upcycling

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ABSTRACT

Manufacturing operations in much of textile fashion have migrated from the developed economies to developing countries in search of cost economies. Consideration for the natural environment has been lost in the process due to lack of clarity what corporation or some other participant in what kind of an economy is most responsible. This paper is intended as a thought piece on how new materialisms offers an approach to bring back responsible concern for the natural environment in textile fashion and, perhaps, beyond.

INTRODUCTION ¹⁾

Resources, skills or wills for environmental protection have not always readily been found in textile fashion. While the manufacturing of textile fashion may have created many new jobs in developing economies in the last ten years as a result of outsourcing manufacturing of cotton textile and clothes from developed economies (Gereffi & Frederick 2010), the net effect of the outsourcing has been detrimental in terms of the loss of ecological balance when it comes to the natural environment. Manufacturing in the developing economies often pollutes more than in developed economies. Transportation costs are high since consumption of fast fashion is more characteristic of consumption in developed economies than it is of consumption in the developing ones (Allwood et al. 2006, 2008). The migration of manufacturing has furthermore gone hand in hand with an externalization of who is responsible for environmental protection. With this kind of an emergence of an increasingly ecologically unsound and irresponsible system, calls for radical system-wide change in how textile fashion is manufactured and distributed internationally have grown (e.g. Niinimäki & Hassi 2011; Chomsky 2011, p. 16; Fry 2009, p. 74). Justified questions include: What alternative approaches exist for bringing about the radical and system-wide change in textile

fashion? How to know which of such approaches is best? With this kind of a background, this paper is intended as a thought piece on how to make textile fashion a more sustainable human pursuit than it is now.

ALTERNATIVE APPROACHES TO RADICAL SYSTEM-WIDE CHANGE

More than one kind of an approach for radical and system-wide change and international reorganization of textile fashion has been proposed in research literature. These include: (1) “new materialisms” or understandings of what is textile material and what it ought to be (Coole & Scott 2010; Hemmings, 2012; Moor & Mann-Weber & Haberle 2012), (2) “traditional materialism” or return back to slow fashion or even to a steady state (O’Connor 2010), (3) “smart” textiles, clothes and parametrically oriented solutions to enable and speed up the ways that the radical and system-wide change will cascade (Fletcher 2013:25; Hanna 2012; Jonson 2012; Quinn 2010; Tang & Stylos 2006; Allwood et al. 2006), and (4) “upcycling” or activity to increase the symbolic value of long-lived clothes (Ericsson & Brooks 2014; Boscia 2014). The above four approaches are shown in a schematic form in Table 1.

This paper focuses on the first and second of the above kinds of groupings of propositions; that is, on new materialisms and traditional materialism. Intellectually, an interesting exercise is to map out the two kinds of approaches, as well as their starting points, logics and forms of argumentation for their adoption in textile fashion. On a more pragmatic note than that, such a mapping exercise

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Table 1. Categorizing approaches for radical system-wide change.

<i>Products as permanent solutions</i>	“Upcycling second-hand clothes “	Traditional materialism
Temporary products	New materialisms	“Smart textiles” and “smart fashion”
	<i>Deconstruction</i>	<i>No deconstruction</i>

contributes to capabilities to put each of these approaches meaningfully in comparison, and in possible contrast, to the other approaches in Table 1 and to possible still other approaches.

This paper will not only specify to some of the ways that the new materialisms and traditional materialism relate to one another in both in theory and in practice. It will also propose how to rethink research and practice within and beyond textile fashion. Such rethinking includes showing how smart products and up-cycling are sub-approaches that extend from roots in the traditional materialistic approach and the new materialistic approach, respectively. Let us thus rethink what new materialisms and traditional materialism are, as well as what they have to offer for a sustainable future of textile fashion. Finally, let us then add new layers of significance such as deconstruction, temporary forms of product, smart products, and up-cycling.

THE NEW-MATERIALIST APPROACH

In contrast to traditional materialism that focuses on what is settled, fixed and permanent, the new-materialist approach assumes always “an aggregate whose elements vary according to its connections, its relations of movement and rest, the different individuated assemblages it enters” (Deleuze 1992, p. 282; Ahmed 2010, p. 256). The new materialist kind of aggregation allows also for considering immaterial artefacts within one Hjelmslevian “flat multiplicities” (Deleuze 1992, p. 9). Eschewing the negativity of traditional materialism that assumes a necessary choice between to manufacture and pollute, on the one hand, or not to manufacture and not to pollute, on the other hand, new materialism is an openly positive approach. In fact, the only thing negated is the idea of negativity itself (Deleuze 1994, p. 55; Cheah 2008, p. 151):

“It is not the negative which is the motor... Those who bear the negative know not what they do: they take the shadow for the reality, they encourage phantoms, they uncouple consequences from premises and they give epiphenomena the value of phenomena and essences... [T]he negative is an illusion, no more than the shadow of problems.”

There are at least two mutually complementary sub-approaches to how positivity is the road to healthy natural environment. These are “deconstruction” and “temporary products”.

Deconstruction

Deconstruction is one of the most extreme streams of new materialisms. It refuses altogether that manufacturing and distribution would involve any stabilized product form in the first place (Derrida 1978; cf. Cheah 2008, p. 144). Deconstruction takes it that to analyze a material “object” it is most illuminating to analyze in relation to a given “outside” that may or may not be material. To take the best known example of deconstruction, a text is not only a material form or object such as a letter or a book. It also reflects the times and contexts surrounding when it was written and when it is being read (Derrida 1978). This kind of a framing represents the text as a twin process of writing and reading, which intertwine into a “text-tile or woven” (Cheah 2008, p. 144-6; cf. Derrida 1978).

To understand how the material base is not all that matters in textile fashion, rethink of how a digital video game of the fashion world plays out. At its core, it is just code written by software coder rather than anything concrete, tangible or real in any traditional sense. At the same time (Farren and Hutchinson 2004):

“clothing and fashion for people who inhabit ‘virtual’ environments, interacting with other people in real time... involve extensive, long-term social interaction between participants. Unfortunately, the choice of ‘costume’ for the visual representation of each player, currently very limited, has become a frustration for [many of these participant-]individuals, and threatens to limit the social agency and growth of these environments.”

The above snippet of life and of the limits of textile fashion in virtual worlds is in line with how and why an increasing amount of philosophers and textile fashion researchers underline how any form is but “a diversion of life” (Deleuze & Guattari 1987, p. 499). Even economists now understand how a textile fashion does not at its heart always need to replicate finished forms that are settled. Rather taking inspiration from one of these economists, any form but momentarily suspends a continuous process of change (Ingold 2010):

“whether as images in the mind or as objects in the world... [a textile] seeks to join with those very forces that bring form into being. Thus the [fashion] line grows from a point that has been set in motion, as the plant grows from its seed.”

The essential relation in a world of life is thus not between materials and form. Rather, the essential relation is between material elements and forces of life (Deleuze and Guattari, 2004, p. 377). These forces exceed the life and death of any individual material form (Cheah 2008, p. 155).

Seen from these kinds of angles, despite being such an extreme version of new materialisms, deconstruction provides us elements with which to improve upon the health of the natural environment in concrete ways, to make our textile fashion more sustainable. Other ways to work towards freeing the natural environment from the current states of pollution textile fashion include to manufacture and to distribute increasingly temporary forms of product.

Temporary products

Temporary products offer a different kind of a starting point of analysis for rethinking than deconstruction. In viewing textile fashion as a series of temporary products, this sub-approach takes an equally radical and system-wide view of manufactured products that are traditionally considered stabilized and material as does deconstruction. In temporary products, the emphasis in textile fashion is on the relations and spaces in-between material textiles, wovens, and fibers, rather than on their material form and content. Within this context, the 'relations and spaces' refers not only what is in-between one textile, woven or fiber and another, but also those in-between one assembly of textile, woven and fiber and another across time. Consider, for example, how the market for cellular telephony has been reframed as a fashion market by a fashion consultant (Djelic & Ainamo 2005, p. 61):

“in the fashion industry, brands are not imposed on the consumer; they are found’. This fashion consultant went on, suggesting that ‘if you want to build a brand that stands on solid ground, you will need to use a more grassroots type of approach. You need people with influence in the fashion industry to believe in your brand and to spread your name by word of mouth. Their lifestyle will then be copied by other people’ (Kaufmann, 2003).”

Within the above kind of deconstruction and rethinking of temporary form as a viral process of social diffusion, no particular textile, item of fashion, just like no organism or organization, genuinely ever embodies life. Any of these will be the shell that merely traps and imprisons life, for a while, within a temporary organized form.

SMART TEXTILE FASHION AND UPCYCLING

In sum, in the above deconstructionist and temporary ways, new materialism is a framework to nurture ideas on how to deconstruct and represent on an on-going basis what is textile fashion, and what ought it to be. At its core, in the framework of this paper, “pure” new-materialist textile fashion does not exist in material form but as a series of in-between relations or spaces, which every reader or participant in a role such as that of a designer, manufacturer, marketer or consumer will understand differently. At the intersection of the relations or spaces, each temporary material product may appear meaningful for participants in a way that is worth preserving in a second life of the textile, woven, or fiber.

Even now, at a time when there ought to no longer to be pollution, and textile fashion orient toward radical and system-level change for a healthy natural environment, this kind traditional materialism in textile fashion remains like a living fossil. Rather than be activists to transform the system in radical and system-wide ways, many traditional-materialists are all too satisfied in calling for “negation” and protest (Marcuse 1991, p. 63) whereby textile fashion:

“contains the ‘rationality of negation. In its advanced positions, it is the Great Refusal – the protest against that which is.”

The treatment of cotton textile has included using chemicals to treat the emerging cotton textile material. Just as meanings and structures of words and sentences and other expressions can be tweaked as to what it is that we mean by what is object and what is outside, what is fixed entity and what is forever dynamic, so can one tweak what remains physical material in whole in part, of one kind of material or that of another. Within this context, in the case of a case approaching the borderline between new materialism and traditional materialist thinking, consider the following example (Kotler 2000, p. 223):

“when DuPont developed a new synthetic fiber for carpets, it demonstrated to carpet manufacturers that they could afford to pay DuPont as much as \$1.40 per pound for the new fiber and still make their target profit. DuPont calls the \$1.40 the value-in-use price. But pricing the new material at \$1.40 per pound would leave the carpet manufacturers indifferent. So DuPont set the price lower than \$1.40 to induce carpet manufacturers to adopt the new fiber. In this situation, DuPont used

its manufacturing cost only to judge whether there was enough profit to go ahead with the new product.”

In other words, the challenge has been that even participants who are ecologically aware, still cannot liberate themselves from thinking in traditional materialist ways. Emerging trends in research and practice in new materialisms and in challenging traditional materialism include the foregoing smart textile fashion and up-cycling, terms already mentioned in conjunction with Table 1.

Smart textile fashion

A material or product is considered “smart” when (Porter & Heppelmann 2014, p. 5):

“software replaces some hardware components”, or

“it enables a single physical device to perform at a variety of levels.”

Translated into textile and fashion, materialist fast urban fashion and negative conservativeness differs from immaterial and positive new-materialist consideration of ecological concerns (Edwards 2010). It is worth to have parameters in place for optimization (Hanna 2012).

Many examples of this kind of negation remind us of many varieties of social or linguistic constructionism and theories of performativity (Cheah 2008, p. 144). They represent the kind of activity that has as its in-built feature what Beauvoir (2012) has called “circularity”. Circularity in an economy operating with whatever currency becomes all the more intense the more materialization happens in recurring “series”, time after time, in social ensembles, in which each human individual is but one passive participant with others in a “collective”.

It is within this kind recurring cycles that materialization also in textile fashion becomes “practico-inert”; that is, circularity impinges upon human freedom and alters how individuals or groups of any size can act (Sartre 1968, p. 169, and Beauvoir 2012 in Kruks 2010, p. 261). Besides negativity, circularity and practico-inertia, a further feature of traditional materialism feature is the ordering of things resulting in a near-deterministic process of “futuring” (Fry 2009); that is, restructuring an immediately present but undesired reality with promises of change supposedly soon or later.

If we were to follow the above kinds of negative protest indefinitely, the end result would be to degenerate into a

state whereby each part-member would have a deterministic designated function with little vision of an integrated or systemic totality (Cheah 2010, p. 87). Practico-inert reification and materialization of artefacts would drive each other in a shifting chase, holding as its “two key features... first, the understanding of nature and history as law-governed processes that can be rationally understood instead of immutable metaphysical substances, and, second, the determination of these processes as processes with material existence that can be explained through empirical science” (Cheah 2008, p. 143). Organic, social and existential elements would merge and reinforce each other (Beauvoir 2012, p. 9) so that:

“... each reacts upon the others and is at the same time affected by them”.

Up-cycling

In response to the kind of degeneration that tends to go with smart textile fashion taken too far, variants of effective action under such conditions include down-cycling of appreciation for the supposedly new and improved, on the one hand, and “up-cycling” of second-class clothes, on the other hand (Ericsson & Brooks 2014). Rather than irresponsibly source new materials from the natural environment, up-cycling is a burgeoning sub-culture and fashion movement in London, Stockholm, New York, and elsewhere. Driven by an environmental concern with fast fashion and long life cycles of natural fiber, fiber is sourced from old clothes and ecologies of the artificial, rather than from the natural environment. With little burden on the health of the natural environment, natural and artificial are thus sourced from near the end of their life cycle in thrift stores and charity shops, and re-cut and re-sewn for second life (Ericsson and Brooks 2014, pp. 91-92).

In countries such as the United Kingdom and the United States, around 15 percent of old clothing is donated for recycling. The second-hand clothing system of provision includes doorstep collections, textile banks, crafting and handiwork practices, and local networks of sale. The revenue often is directed to fund community projects (Ericsson & Brooks 2014), to raise awareness (Albinsson & Perera 2012), or both, to contribute to reuse of clothes in a sustainable way.

Despite such steps towards sustainability, demand for used goods has gone down with the growing availability of value retailers’ low-cost fashion (a price category that is almost without exception manufactured in the developing

countries). The market for re-wearing and recycling second-hand clothes in affluent developed countries is limited, especially in comparison with the near endless growth of new-clothing consumption (Ericsson & Brooks 2014, p. 92):

“The vast majority of donated clothing is exported clothing is exported overseas and retailed in the developing world, via a trade pattern that is largely unknown among the general public. Across the globe, rich and poor people are intimately linked, as used clothes pass through networks of charitable and commercial exchange that trade second-hand clothes between continents (Rivoli 2012).”

“Second hand clothing is massively important in sub-Saharan Africa and difficult to appreciate for readers unfamiliar with the context. Countries such as Kenya, Mozambique, Uganda, Senegal and Zambia have major second-hand clothing markets”.

Given that natural fiber is both sourced and distributed at the end of its life cycle in developing countries, it is good design to close to loop. Indeed, there are instances of this already happening. For example (Ericsson and Brooks 2014, p. 94):

“In the Mozambiquen markets, some tailors do use a mixture of second-hand clothing together with the traditional capulanas (printed sarang) to add value and to produce something different for local consumers. [As a prime example of this still but new and emerging is to] use second-hand clothing imports as the basis to make desirable new commodities, taking old textiles and creating high-value, up-cycled, second-hand dresses... both questioning to the way fashion is made on a global scale, as well as contributing to the local design scene.”

In up-cycling, old clothes are used up toward the end of their life cycle in the very same countries from where especially natural fiber for textile fashion is originally sourced (Boscia 2014):

“Upcycling allows these old clothes to have a second life, rather than amassing in secondhand markets in developing countries or going into landfills.”

PROPOSITIONS FOR FURTHER RESEARCH, GUIDELINES FOR PRACTICE

This paper has inquired into sustainability issues in the global textile fashion industry. Resources, skills or wills for environmental protection have not always readily been found in this industry. In response to calls for radical system-wide change in how textile and fashion manufacturing and distribution are organized internationally, this paper has asked: What alternative approaches exist for bringing about the radical and system-wide change in textile and fashion? How to know which of such approaches is best?

Across research and practice, over time, we ought to develop techniques to treat natural and artificial fibers in second-hand clothes so that they will represent material equal to new material, at par with *de novo* natural and artificial fibers, or at least nearly so. We perhaps cannot yet even imagine how to do that, but a vision that such is our intent matters. When we will be able to repair second-hand fibers or regenerate totally new ones, this is when we will be able to smoothly migrate or move fibers from second-hand clothes into new textile fashion in the vision of new materialisms. We will have in place relations and spaces for a truly sustainable complex of textile fashion and natural environment.

Now, with the intention to be a thought piece on how to make textile fashion a more sustainable human pursuit than it is now, this paper is ready to extend propositions for further research and their corollaries for transfer into textile fashion practice:

Proposition 1. Textile fashion grows from what is already in motion, like a plant grows from its seed, but the seed need not be a material one.

Proposition 2. A temporary product may be just as meaningful and of worth for participants as fiber sourced from the natural environment.

Proposition 3. Smart textile fashion can negate textile fashion’s negative impact on the health of the natural environment, so that the outcome is positive.

Proposition 4. Natural and artificial fibers sourced from second-hand clothes can be treated into a source of fiber materially at par with *de novo* natural and artificial fibers.

Translated into practice, there are four guidelines that can be drawn from the above four propositions, already at this stage. Firstly, textile fashion ought not to consider natural or artificial fiber as the starting point of creativity, manufacturing and distribution, but to focus on the social processes of the participants that have key roles to bring textile fashion into being. One of the keys in taking up second-hand clothes as a source of raw material for textile fashion is to unlearn traditional social norms about what is good material for textile fashion.

Secondly, channeling meaningful and valuable software and other artificial assemblies into new diversions of life sustains meaningfulness and what is of worth for participants, while contributing to the health of natural environment. One Finnish company illustrates how upcycling is a process whereby “textile waste” goes through a “recycling process” that turns the waste into “pure waste” or raw material for the “textile industry” (Pure Waste Textiles 2014). In turn, the textile industry will churn out not only products but also textile waste, so that there is a closed loop.

Thirdly, any physical components that can be replaced with software will alleviate textile fashion’s burden on the natural environment. Finally, second-hand clothes are a plentiful and resource-efficient source of natural (and artificial) fibers for textile fashion producers, designers, and consumers. It would be great, if we could improve quality with treatment and reproduce quality rather than only to consume until all is total waste.

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