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Product speciation and diversity

It is estimated that globally some 500–1000 new products appear on the grocery goods market every day. In Finland the figure is approximately one each shopping day – 300 new items per year. These rough estimates give us a general indication of the volumes we are dealing with. As a result of diversification process Helsinki's leading department store Stockmann stocks a range of nearly half a million products. On a smaller scale, a local grocery shop in South Helsinki boasted that the shop shelves over 10.000 products. For comparison, some years ago the Soviet authorities designated official prices for 25 million different commodities. According to one estimate a single person's home consists of over 6000 different items.

The starting point of this presentation is the changing spectrum of goods and services, in the product variety as seen by the eyes of the individual facing the supply in the market. Apart from the fact that product variety is an interesting research object in itself, it would appear to have a distinct connection with numerous sketches characterizing the "New era". We are moving from a modern world of fixed values towards a postmodern chaos of continuously changing values; from Fordist mass production to post-Fordist flexible small-scale production and specialization, from factory to studio, from economies of scale to economies of scope, and from organized capitalism to disorganized capitalism. Frederik Jameson, Alvin Tofler, Michael Porter, John Urry and many other frequently quoted scholars, have increasingly shifted the research interest from production to consumption, from collectives to individuals, and from subsistence to style.

A great number of characterizations of the new era, derived from greatly different sources, assign a central explanatory task to changes of the market and to consumption. The mass market is collapsing, products are being diversified at an accelerating speed, the product variety grows and the consumers are fragmented into smaller and smaller groups: The customers no longer desire mass consumption commodities; they are, instead, prepared to pay for articles and services emphasizing their individuality. More and more of the consumer products are brand products, of which several annually changing varieties are available. It is claimed by many scholars that as a result of the changes taking place in the consumption, a transition is taking place in the production processes and in work organization

toward smaller-scale, and more decentralized, production. The historical changes of product variety points out a number of conflicting trends.

The product variety may expand in depth and breadth. By depth of variety I am referring to the number of alternatives available within individual product groups (e.g. different confectionery products) and by breadth of variety, to the number of product groups (e.g. toys, cars, etc.). It is, however, obvious that this approach involves various problems. Are the eight type models of the automobile or all 300 shampoo brands different products? For what time period should variety be measured.

What is worth noting in assertions characterizing the historical transition points is that no empirical evidence is given in them of the growth of the product variety or volatility, and no room is given to thoughts about normalization processes where new commodities and services become integrated into everyday life. Market differentiation and volatility are taken as purely external factors enforcing new patterns of manufacturing (Hirst, Zeitlin, 1991). This presentation examines the historical change of product variety with the aid of empirical examples and points out a number of questions.

In the present-day market product variety is simultaneously increasing and decreasing, depending on the selected point of view, on the product groups under scrutiny, and on the life span of a product (Pantzar, 1991). One reason why no clear evidence of increased diversity could be found is the fact that the growth of market almost always goes with standardization of products. This is typical especially in household technology (with 'dominant designs'). Somewhat paradoxically it has been grocery items (with only slight growth rate) that had witnessed clear increase in product diversity.

No universal growth tendency of variety can be found. Possibly, on the mental image level (eg. brand image), the product variety is increasing even though the technological product variety of goods may be decreasing. It is possible that the variety encountered by an individual consumer increases at the same time as the overall variety in the market is decreasing. It is obvious that in the course of increasingly international commerce the differences between cultures and artefacts are going to diminish even though in individual cultures the overall supply might be growing (e.g. products of the entertainment and toy industries). From the point of view of an individual consumer, the product variety may increase for a plurality of reasons: the resources of the consumer (time, finances, mobility, etc.) increase, new types of business outlets come into being, and the existing outlets expand their product mix¹.

¹ Many articles have been written on the relationship between the growth of temporal and financial resources and the change of consumption. The effect of mobility on consumption has been much less contemplated. The mobility of consumers may be seen as one such resource which essentially affects consumption. Mobility in the market-place has increased along with enhanced physical transportation

In my presentation I suggest that critical analysis of consumerism needs to be broadened and deepened: broadened to incorporate technological and social systems (eg. Allenby etc., 1994; Rip etc., 1995; Pantzar, 1993; Schmidt-Bleek, 1994) and deepened to include a more in-depth analysis of the inherent routinization tendencies of consumers' changing lifestyle when new products enter the market.

The ways commodities or consumption patterns are introduced, institutionalized and expanded, i.e. domesticated, in our daily life reflect quite general processes going on in modern society. Generalization can be explicated on the basis of the social history of technology (eg. Cowan, 1983; Fischer, 1991, 1992; Silverstone, 1994). For instance, there seems to be metamorphoses of novelties from "toys" to "instruments", from "luxuries" to "necessities", from "pleasure" to "comfort" or from "sensation" to "routine". The motives, needs and practices behind buying and using technology are transformed in use. In time commodities such as automobiles or televisions become embedded "as components" in larger systems of goods. Possibly when commodities integrate with each other, e.g. within lifestyles, dwellings, neighborhoods etc., there is less and less room for spontaneity. A single commodity and its use becomes more and more dictated by "necessity" when the existence of other commodities and consumption activities become dependent on it.

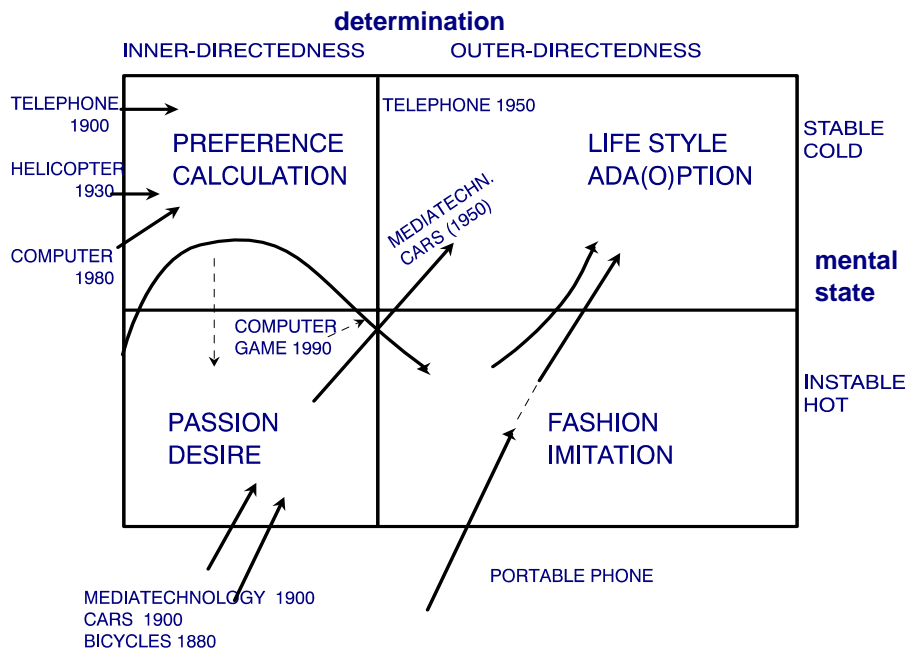
Normalization process - some cases

Figure 1 gives a generalized picture of these transformations in terms of Finnish experiences as described and articulated in media sphere (for the details, see Pantzar, 1996, 2003).

Figure 1: Domestication of Everyday Life Things

facilities. The increase of transportation in passenger and goods traffic has been rapid. For instance, since 1960 the traveling done every day by an average Finn has quadrupled: from eight kilometers to more than thirty kilometers. If we assume that the density of shops and the goods variety at the outlets of stores has remained the same as it was, the average expansion of the operational area of a consumer has resulted in a goods mix increased by the factor of 16. Furthermore, if we consider the fact that, in the last 20 years, for instance, the domestic goods traffic has doubled, the growth of the goods variety, from the individual consumer's point of view, has grown explosively.

DOMESTICATION OF EVERYDAY LIFE THINGS



The vertical axis depicts how the public debate has perceived the consumer's decision-making situation in terms of how stable are the grounds for selection. The horizontal axis focuses on the extent that choices are perceived as deriving from consumers themselves. It is important to bear in mind that these dimensions refer to cultural categories in the public discourse, not to the consumer's actual product relationship.

The most dominant view in the popular discourse emphasized the choice of new items as calculative behavior (CALCULATION), that is, as internally motivated and balanced choices. This matches the economist's view of rational choice, according to which the consumer's preferences are well ordered and well known. In contrast, a more sociologically oriented perspective would search for the origins of the desires and aspirations that direct consumers' choices from outside, for example, in norms and values inherent in culture or the mass media. For example, when the press started to discuss real needs or necessities, this is the kind of consumer choice to which they are referring. The boundary between what is necessary and what is not is a social fact, and can therefore be accessed by external commentators. Possibly both the sphere of CALCULATION and LIFESTYLE are from the perspective of environmental debate less problematic (rationally conceivable) than the spheres of PASSION and FASHION. All in all, seen this way needs are outcomes of a normalization process.

The vertical axis refers to the mental states of consumers suggested in the cultural discourse. PASSION and FASHION are modes of choice that depict swiftly changing motives and gripping moods, it is a sort "irrationality". Calculation and the socially accepted lifestyle deal mainly with mental states that are quite stable and durable.

Fashion and passion, in contrast, are clearly different perceptions of the reasons behind individual choice behavior. These “hot”, that is impulsive, mental states are everything but stable.

In the Finnish public debate, novelties were most often idealized with reference to cold reasoning. The implicit idea was that reason should conquer the disease-like state caused by hot emotion. Very often, the choices made by ordinary people were viewed as being based too much on hot, uncontrollable emotions. The term “fever” was actually employed in the early stages of the diffusion of the cellular phone, but also of the dishwasher, the car, the bicycle, the camera, the television, and the record-player. (Pantzar, 1996, 2003)

Over the years, unsuccessful product novelties disappear from the public debate and the market. Successful products become integrated into the lives of consumers. Typically, they become identified as necessities and utilitarian goods by both the press and individual consumers. Thus, they are no longer newsworthy objects. The need for these necessities is no longer articulated in public discourse, but rather occurs in everyday practice. The question of the dialectics of practice and representations thus becomes significant (Hirschman, Scott, and Wells 1998).

Why choices are replicated and repeated is a question that calls for an explanation, just as much as is why specific choices are made for the first time. This is an issue that neither advertising nor consumer research has managed to clarify, perhaps because the repetition and replication of choices is part of a feedback process in which changes on the micro and macro levels intermingle. Thus, the process is difficult to capture using standard social science methods.

“The commodity was its own message” – this might well describe man's relationship with many early technologies at the first half of the 20th century. The product itself and the playful experience it offered were of paramount importance. Gradually, however, consumers began to raise their expectations toward the new commodity (e.g. the sound quality of early radios) and, at the same time, the product itself began to make certain claims on its environment (e.g. radio and television began dictating people's daily schedules).

Possibly we, western consumers, are now in a position to analyze our own commodity-dependency and to question also more generally our lifestyle based on such inevitable goods as radios, televisions and cars. This stage has, however, yet to arrive. Pessimists would describe this phase as an era of anti-consumerist criticism. Optimists would describe it as the era of the Art of consumption, the question we are posing here. The critical question facing modern society is which will come first, an active critical awareness of the problems related to consumerism or a more radical backlash in the face of more extreme imperatives?

Private virtues and public vices

A high volume of consumption warrants some degree of criticism. But what kind of criticism? Who is to be blamed? Certainly part of our needs are created and directed *exogenously*, i.e. are they shaped by external forces such as the press, industrial mechanisms and shopping malls? This is what *How much is enough?* published by the Worldwatch Institute (Durning, 1992) and many other critical voices like John Kenneth Galbraith contend. Western wastefulness is primarily the fault of the media – particularly television – not to mention advertising (generating a daily total of 3,000 ads per capita in US) and shopping malls, where you can spend your whole life from cradle to grave (Durning, 1992, 117–135).

There are several mechanisms working behind the cultural reception of commodities. Conditions for *sustainable consumption* could be elaborated on the basis of the former conceptualization. We could ask whether we should influence:

- the flow of new goods (inventions, innovations)
- the ways novel products are received by the consumers (calculation, desire, imitation)
- the ways novel products become stabilized into life-styles.

Or should we simply attack and destabilize daily routines in search for evolutionary paths that support sustainability and dematerialization?

From the environmental point of view, the ways commodities are introduced, institutionalized and naturalized in our daily life deserve serious attention. For instance, television, radio and other forms of new media technology made their breakthrough in an initial phase of enthusiastic passionate experimentation, the boom thereafter being sustained by bandwagonism. Within only a few decades, radio and television became an accepted and inseparable part of our lifestyle. The story of the automobile and the bicycle proceeds along much the same lines.

Not only should we prevent ‘environmentally harmful choices’ from becoming routines, but we should do something about the harmful routines which have already become a fixed part of our lifestyle. One form of criticizing consumerism is to reappraise the necessity of commodities, which we have begun to take for granted in our everyday lives. Our daily hygiene habits, for example, are full of routines we take for granted, which was certainly not the case some time ago. The use of soap and daily showers – in which we use 70 kg of water to remove 20 grams of dirt – have become ingrained in our daily habits, although they were initially motivated by very conscious choices. (Baccini, Brunner, 1989)

One might ask should we begin to recognize water closet, cars and televisions as luxuries and conscious choices rather than a daily necessity. Might we find a potential solution to the problem of materialism by taking materialism one step

further? There is nothing more wasteful than driving a car without deriving any pleasure from the freedom and independence it affords. (In this article, however, we focus on early development of habits.)

Perhaps if we learn to appreciate and cherish our material possessions, we would do all in our power to keep them as long as we possibly can. For instance, in the eyes of a collector, 'rubbish' can transform to treasure. As new objects are added to the collection, each individual piece becomes more and more precious.

A Dutch based foundation, Eternally Yours, has addressed same question in a fresh way. According to a advisory board member John Thachara the problem we face today is that many products don't even reach "a cherishable stage. They are designed just to be new for short while. This is why Eternally Yours foundation wants to gather and distribute knowledge and experience on designing 'immortal' products."(Thachara, 1997, 19). He goes on:

Something very strange is going on. Industry in Western civilization creates an unprecedented amount of products, and pollution to match... The odd thing is that environmentalists hardly pay any attention to what the enormous industrial efforts is originally meant to provide: cameras, cars, lamps, solar panels...They only consider products from the viewpoint of environmental impact by exploitation: energy consumption and waste emission. (Thachara, 1997, 18)

Is it possible that seemingly irrational and immoral behavior of consumers, especially passion for luxuries and fashion goods, is from environmental point of view worse than seemingly rational consumer behavior? Fashion and passion for new goods are often condemned on moral base as debate about the fastest growing category of passenger vehicles in the USA Sport Utility Vehicles, for instance, shows. A review of Keith Bradher's High and Mighty (2002) is illuminating: "As a Honda executive told Bradher, SUVs have been deliberately designed to attract those who will buy "the image of the SUV first, and then the functionality." (Automakers' surveys and focus groups reveal that SUVs tend to appeal to those who are insecure, self-centered, and who care little about their neighbors or community)." (Grossman, gristmagazine.com, 20Feb 2003) . The "dark side" of consumers dominate this kind of environmental argumentation.

In environmental discussion Mandeville's (1704) famous case for the market economy "Private Vices and Public Benefits" seems to not work. Carrier and Miller (1999) have pointed out that from environmental point of view in modern economy one should talk more about "Private Virtues and Public Vices". In spite of the fact that most western consumers have good intentions and much information about environmental burden, the overall consequences of consumption is very much unintended.

With a growing population and rising standard of living, the carrying capacity of the earth will be soon exceeded. Each day, an average Western consumer utilizes about 300 MJ of energy, which is equivalent to the work-force of 29 slaves. Most of this energy is derived from fossil fuels, and its production is the main cause of global warming and many local environmental problems as well. Each day we, Western consumers, utilize twice our own weight of primary materials. Of this material, about 90 per cent passes through the economy in less than a year, while the rest is accumulated in the stock of goods. (Heiskanen, Pantzar, 1997). One fifth of the world's population use four fifths of the world's resources. The consumption rate of affluent consumers is several – in many raw materials 10–20 – times that of the middle classes (numbering three billion) and the poor (one billion). (Durning, 1992).

Standard consumer research, in academic marketing studies, economics or sociology have lacked general theories and perspectives integrating historically technology, needs and human beings. Social development has been seen unidirectly either as determined by technology (i.e. technological determinism) or consumption is seen as resulting from human needs (i.e. voluntarism). We need a framework with which to study the reciprocal interconnections between commodities and human beings in time.

In a production process the diversity of nature is transformed, irrevocably, into a diversity of product spaces. The integration of economy, continued for centuries, has facilitated the consumer's access to an increasingly widening goods variety. It may be a fact that economic integration and the economies of scale have favored economically efficient production. What makes this problematic is that the economic and the ecological efficiency do not develop in the same direction. The relationship between economic integration (i.e. efficiency in terms of scale economies) and ecological efficiency is a controversial issue. Producing an ever-increasing product variety requires continuous increase in energy input. The "middlemen" either within the enterprises (i.e. supermarkets and department stores) or in the form of intermediary enterprises are responsible for an increasing proportion of the end-product. Therefore, each new product on a shop shelf includes an increasing energy input.

Foodstuffs are a good example of products in which an increase in the processing degree and product variety typically calls for additional indirect energy and material input. In comparing the energy intensity of the present western food system with that of the past the difference is noticeable. For instance, for each calorie obtained in the food in the USA at the beginning of the 20th century one calorie was consumed. In the 1970s a tenfold energy input was required for the same. When the product variety on the shop shelf was required to grow, the degree of processed food was increased and it was necessary to bring it from increasing distances (Cook, 1976). The relationship between the increase of the refining degree (product variety) and the energy input also reveals that eight calories of vegetable (fodder) are consumed per each meat calorie. From the ecological point of view, the peak of spending is chicken fodder made from meat.

My suggestion for framing a valid critique of consumerism is to direct more attention to the consequences and dynamic aspects of consumption, and less attention to the consumer's misinformed motives or lack of awareness. The focus should be on explaining why and how certain early consumer decisions we make leave such a lasting mark on our lifestyle and society. In order to take a critical stance on consumerism we must form a better understanding of global changes and the compound impact of countless, seemingly minor everyday decisions. We also need a deeper understanding of the dynamics of our own commodity-dependency.

In future the growth of ecological consciousness will most probably influence the extensiveness of product variety and the speed of change. The energy and material input, useful life and recyclability of products become important criteria of selection. Possibly Chanel and Marimekko dresses, clothes made from untreated wool and functional wooden furniture by Alvar Aalto will replace short-lived products. In traffic vehicles such companies as Mercedes Benz and Harley Davidson, whose products could last for tens of years, will be no more focus of environmentalists attacks. Fashion and passion for goods ought to be taken seriously: if understood and supported properly, they may turn vices in the private sphere of life into public benefits.

Fordist large-scale production may become a respected procedure for ecological reasons if the aesthetic ageing of the goods can thereby be decelerated. After Postfordism, Refordism. After the rapidity and fragmentation of Postmodernism there will arise a Demo(der)n fostering stability and tardiness. The market of high-class and durable, even though homogenous, products, is a desirable trend from the ecological viewpoint. Products and production processes are no longer examined separately but as entities in which the essential feature is the energetic and material efficiency combined with luxurious lifestyle emphasizing long-lasting relationship with goods.