Reminiscences: Impact of Textiles and Apparel Technology on Our Lives

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Reminiscences:
Impact of Textiles and Apparel Technology on Our Lives

Women's perceptions of technological changes in textiles and apparel and how the changes have affected daily life were examined using the transmissive reminiscence technique. Technological advances do contribute to use of less time and effort and offer a greater variety of products, but the products often have a shorter life expectancy or are kept in inventory for a shorter time because it is more expedient to replace rather than repair or recycle textile and clothing items. Care must be taken to cultivate cohesive relationships within the family and teach values that were once inherent in textiles/apparel tasks. Otherwise advances in technology that may enhance our physical existence are easily negated by losses in overall well-being.

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Technological changes pervade every aspect of our lives. Until 500 years ago, change was essentially linear, one step at a time—few leaps in technology occurred. An early disruption of this model was the weaver of the English textile industry. For centuries, they worked in guilds and membership was passed from one generation to the next. Skilled weavers were dismayed because they thought the textile machines introduced early in the Industrial Revolution would destroy their livelihoods (Kurzweil & Meyer, 2003).

Today, the acceleration and variety of technology change is both ubiquitous and exponential. According to Kurzweil— Inventor, entrepreneur, author, and futurist—The whole 20th century . . . is equivalent to 20 years of progress at today's rate of progress" (Kurzweil & Meyer, 2003, ¶1). If this rate continues, and there is every reason to suppose that it will, the whole 21st century will experience the equivalent of twenty thousand years of 'normal' human progress" (Mead, 2007, p. 413).

Technology advances in one area transfer to applications in other areas. For example, many technological developments of the space program have permeated our food, clothing, and shelter, as well as communications, electronics, medicine, transportation, and construction. Technology has improved quality of life in many respects. Are there negative as well as positive effects? Vincenti suggested that technology presents a double edged sword—both benefits and consequences of technology:

Our materialism and unreflective adoption of technology frees and yet oppresses us. It has increased the ease and speed of communication, computation, travel, life expectancy, and work flexibility, but it also has decreased
human interaction, community involvement, time with family, children's attention span and creativity, and exercise (Vincenti, 2003, p. 1).

In textiles and clothing, more technological developments have occurred in the last century than in previous recorded history. Technology has changed the way we live, what we wear, the choices we make daily, and textiles used in the home and in vehicles. Advances in weaving, knitting, and apparel construction made the establishment of the ready-made apparel industry possible in 1900 (A Time Line, 1991). With the movement of apparel production out of homes and into factories, it became possible for common people to have ready-to-wear clothing and textile items at moderate prices. Maintenance of apparel and textiles was greatly simplified and shortened when the electric washing machine was invented in 1908 and the clothes dryer in 1915 (Bellis, 2007). In addition, soap no longer had to be made at home; it could be purchased at a reasonable price.

Mid-20th century innovations in cleaning agents and wrinkle resistant finishes, synthetic fibers, and automatic washers and dryers paved the way for easy-care fabrics. The introduction of durable press in the early 1960s made life easier for consumers, especially women; some are said to have thrown away their irons (Kadolph & Langford, 2006).

Until synthetic fibers were developed, cloth was woven or knit from the natural fibers—cotton, flax, silk, and wool. Early in the 20th century, man-made fibers accounted for 1% of America's fiber market. The percentages increased to 20% in the 1950s, 30% by the 1960s, and 40% by 1965. By the turn of the 21st century, man-made fibers accounted for 70% of the American fiber market (American Fiber Manufacturers Association, 1988; A Short History, 2007).

Technology brought hundreds of manmade fibers—from the introduction of rayon in 1910 and acetate in 1924, through the truly synthetic fibers in mid-20th century and the myriad of modifications and new fibers toward the end of the century. These fibers were engineered for specific performance characteristics such as greater comfort, flame resistance, anti-static, soil release, greater whiteness, special luster or dullness, dyeability, and better blending (Kadolph & Langford, 2006). Innovative fabrics are pervasive in consumer, industrial, and medical uses. For example, Gore-Tex®, a waterproof, but breathable fabric spin-off from the space program, is ideal for high performance outerwear and is used in implant material in the form of patches or membranes in surgery (Ferkel et al., 1989; Gore-Tex®, 2006; Gore-Tex® Introduces, 2000).

In textiles and apparel, nanotechnology is now optimizing performance and providing smart solutions to product versatility and performance. The SmartShirt System integrates advances in textile engineering, wearable computing, and wireless data transfer to permit the collection, transmission, and analysis of personal health and lifestyle data. Vital parameters such as heart rate, respiration rate, body temperature, calorific burn, body fat, and UV exposure can be communicated to doctors from soldiers or police officers in the line of duty (USA: Smart Textiles, 2004).

PURPOSE

The purpose of this study was to examine women's perceptions of changes in textile/apparel technology and how these changes affected the quality of life of individuals and families. Specifically,

- Are the lives of family members better or worse?
- Has the time gained enhanced the quality of life, particularly for women?

METHODOLOGY

Women's perceptions of textiles and apparel technology and how changes have affected their lives were obtained using the transmissive reminiscence technique. Reminiscence refers to a mental impression retained or recalled from the past or a narrative of past experience. The function of transmissive reminiscence is the "passing on [of] one's cultural heritage and personal legacy" (Wong & Watt, 1991, p. 273) and "it is indicated by references to the culture and practices of a bygone era, traditional values and wisdom, and the lessons learned through one's past" (p.12). The reminiscence technique most often has been used with the elderly; however, it can be used with any group. The memories brought out in the group have a synergistic effect so that one memory stimulates others (Haight & Webster, 1995; Lowenthal & Mattrazo, 1990).

Reminiscence sessions were conducted with two groups of women (six per group) who were first married in the 1940s, 1950s, or 1980s. The women in the groups were selected to include those who started their households in the 1940s before automatic electric washers and most easy-care fibers were available, those who started households in the 1950s when automatic washers and dryers and many synthetic fabrics were available, and those who started households in the 1980s when easy-care apparel and textiles were a way of life. The reminiscence sessions were recorded and transcribed. A qualitative inductive approach was used to analyze the data.

All of the women grew up in relatively rural areas and currently lived in a city of approximately 50,000. Educational levels varied from high school through master's degrees. The women were told that we were interested in their perceptions of textile and apparel through the years. Questions used to stimulate reminiscence focused on clothing and textiles and related household chores, cost and portion of household income allocated to these items, availability of items, and changes in products over time. Responses to the questions were used to examine women's perceptions of changes in textiles and apparel as related to technology. Other questions focused on how technological changes may have had an impact on the quality of life and lifestyles of family members, cohesiveness of family structure, and development of values.

FINDINGS AND DISCUSSION

Certain limitations must be taken into consideration in interpreting the findings. Reminiscences were obtained from a limited number of purposely chosen participants, from three time periods, and in one geographic area. The findings are limited to the groups studied and not necessarily transferable to other populations, time periods, or locations. Although the reminiscence technique has been used primarily as a therapeutic tool with the elderly, the use of transmissive reminiscences was particularly applicable to this study.

Textile and Clothing Chores

The women's perceptions of technological changes in textiles and apparel relative to household chores indicated that much less time and effort are required for these chores now than was the case in earlier years. It would take 20 minutes or more to iron a man's dress shirt compared to 5 minutes or less now with permanent press, and some need not even be pressed. Washing, ironing, and pressing take less time now. We used to have to wash, starch, sprinkle, and iron everything—wear once and then press or wash again. Used to have to press outfit every day before [we] could wear [it], and now we can travel without pressing. The wringer washing machine made washing a lot easier than using the washing board and now the washer/dryer! It would take at least a half day to wash, even starting at daylight, and usually a day or more to do the ironing. In contrast, today clothes are washed in energy-efficient, high-performance machines and pressed with cordless, electronic steam irons; also, countless laundry products are at our fingertips to facilitate maintenance (Cartier, 2006).

The participants recognized that washing and ironing used to require a great deal more time and effort than they do today because extra steps were necessary. Grandmother boiled white things in a...
big black kirtle with bye soap to get clean and white, and, before bleach, the added blewing to the rinse to make white things look whiter. Changes in technology such as the automatic clothes dryer and the type of iron used made a difference in the maintenance of the textiles and clothing items. Didn't always have electric iron—used cast iron ones heated on wood stove. They were hot enough to use when a drop of water or spit on bottom would unite. They also knew that keeping items smooth and wrinkle free required extra steps in the laundering process, and that line drying did not result in a soft, smooth appearance. We even ironed sheets, pillowcases, and grandmother ironed towels, socks, everything. The advent of easy-care fabrics has greatly reduced ironing time. In addition, in many households, dress shirts are sent out for professional laundering, starching, and ironing, thereby saving more time.

In the early 20th century, 10% of American homes had electricity; the average household depended on coal and water carried into the home by the family. This meant that people's habits changed and they paid more attention to cleanliness and hygiene. This led to changes in clothing and textiles related practices as in statements such as 'don't wash diapers now—use disposables.'

Hawley noted "Americans live in a throw-away, high-consumption society where an individual's worth is often measured by the clothes they wear" (2000, p. 41) and the products used. Also, she continued that consumers often justify buying the latest fashion by donating to charity many perfectly good, but slightly out of fashion, items from overflowsing closets.

Participants recognized that in spite of the long hours and hard work that used to be involved in maintenance of textiles and apparel, the time families spent together was valued more than it is today. For example, the family spent more time together doing chores than do now. Time today not spent together. People don't seem to value time together as they have done in the past. Thus they don't take the place that clothes stay or place between places, not even plan to go to eat! This is consistent with Vincenti's (2003) concerns about the negative effects of technology.

Costs and Purchasing

The women perceived that the actual cost of textiles and apparel was less today than when they started their households, but they recognized that the portion of income spent for textiles and clothing was probably more. According to the Regional Review, the price of ready-to-wear has dropped 52% since 1970 (Lovejoy, 2002). One participant noted: In 1940 [you] could get a yard of material for 49 cents and everything to make dress for $2.00—guess that's how the line in the song came about—cotton lisle stockings and $2.00 dress. Other comments were: [You] could get a nice Sunday dress for less than $3.00—[I remember a pink linen-like dress with silver buttons—it was Burmuda linen really rayon]. A dollar then would probably be about $16 now—a $5 dress then I might buy for $60 now. We used to tie ribbon in child's hair, now we pay $3 or more for made-up bow. Actually, the percentage of income that it takes to purchase these items has declined, so saving time may be more expedient than saving money, especially with more women in the labor force.

The reminiscences of women are consistent with the finding that the increase in aggregate clothing and shoe expenditures in the United States between 1929 and 1984 was 1400%, but the personal consumption expenditures fell from slightly less than 12% in 1929 to about 6% in 1984 (Winakor, 1986). Although inflation was almost continuous throughout the 20th century and overall prices are still rising, the costs of some items, including clothing, have been dropping in recent years (Leonhardt, 2003). Since the 1970s, according to Winakor (1989), relatively lower prices for clothing allowed consumers to purchase a larger quantity and to shift a portion of their clothing expenditures to other commodities. Also, because the double digit inflation of a quarter century ago, low-wage countries such as Mexico and China have made imports inexpensive. American companies have increased domestic productivity by making more goods with the same amount of labor, as well as producing many products off-shore in low-wage countries (Leonhardt, 2003).

Additionally, the popularity of outlet stores, thrift and consignment stores, and yard sales has increased the availability of lower-cost alternatives generally not available until the 1980s. Consequently, the percentage of income spent on clothing has dropped even lower. In a study of Baby Boomers' shopping habits, it was found that in 2003, female Boomers spent an average of 4.23% of their income on apparel goods and services (Seckler, 2005).

Several participants recognized the savings involved in making clothing and other items and using economical fabrics and feed sacks. My mother made lots of clothes—Sunday, school, and every day. Feed sack could be used to make clothes—some were prettier than a lot of material—one dress had little purple flowers on white background. Some looked like linen—kinda coarse. It took two sacks to make a dress; [you] could swap feed sacks if you didn't buy two alike; some people would tell them to other towns. Some other towns might have dresses alike because buying more of one fabric was cheaper than buying two different fabrics.

At the same time, the women were aware that the household has become a consuming unit rather than a production unit. They observed that younger generations not only lack necessary skills to produce clothing items, but also ascribe a level of prestige to certain brands as indicated by the following comments: Children's clothes seem so much more expensive now, pay for name and manufacturer, and [we] buy so many different outfits and people don't know how to sew new or can't get same look as OshKosh and other names.

Indeed, the height of the home sewing industry was in the 1970s, and has continued to decline since then (Ambry, 1988). Perhaps most consumers no longer choose to expend time and energy in textiles and apparel production because apparel is readily available and within their purchasing capability. Also, as more women have joined the labor force, they have more income and less time to sew or repair clothing (Lovejoy, 2002).

The availability of textiles and apparel today compared to the availability in the 1940s, 1950s, and even the 1980s was apparent. The choices of places to shop and selections from which to choose were once limited, especially for families in rural areas. The women in this study said: Most things were [previously] bought from catalog—Sears, Roebuck or Montgomery Ward, now [there are] lots of places to shop and choices of things, clothing, for every activity. Some things, like panties, might be bought at dry goods store in community, or in 1950s might go to town of about 25,000 for special things—like high school graduation outfit, and sales in regular stores, consignment stores, and yard sales meant you could make much more money. Indeed, consumers are purchasing larger quantities of clothing at a lower percentage of total expenditures.

Lessons Learned

The women recognized that valuable lessons were learned when the family spent time together doing textiles and apparel related chores. We learned to work—things like carrying water to wash, washing, ironing, helped us to develop the work ethic. We were taught to try to keep clothes in good shape, to take care of possessions, to save, be frugal, don't throw anything away that could be used by
hours than they did in 1965 (National Organization for Women, 2002). Textiles and clothing maintenance is still primarily women's work. According to one report (Housework Still, 2000) women do 76% of both the laundry and ironing, and more than half of the routine cleaning (71%), cooking (67%), carpooling of children (58%), grocery shopping (58%), and taking children to friends' homes (56%). An anomaly exists in that changes in textiles and apparel technology have made product performance and maintenance so efficient that we actually need fewer apparel and household textiles. However, relative fewer cost, availability, and "fast fashion" have fueled the urge to purchase in greater quantities and to indulge in the latest and most up-to-date products whether or not they are needed.

Even with fewer children and labor-saving devices, time spent on household chores did not decline in the first 50 years of the last century. However, between 1965 and 1995, women cut the time spent on household chores about one-third from about 30 to about 17 hours per week (Bowman, 2006). Based on data from diaries and questionnaires in the U.S., women performed 13% less housework than they did in 1985, but still spend 60% more time on chores than men—an average of 27 hours per week. Men expend the same time as in 1985 and they expend 4 more.

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Gore-Tex® introduces Pro Shell, 2 in 1 gloves. (2000, April). 
*Apparel Magazine*, p. 44.


**ADDITIONAL RESOURCE**


[Ed Note: The primary statement on frequency of laundry: "Every second of every day more than 1,000 loads of laundry are being washed with P&G's detergents around the world" from Science in the Box, retrieved March 8, 2008 from http://www.scienceinthebox.com/en_UK/procterandgamble/]

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