Materials of the Future

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The 1960s were a decade characterized by a break with tradition. Obvious reflections of this can be seen in the development of space exploration and cultural attitudes, but an equally important phenomenon displaying these changes was fashion. The styles and designers that are considered representatives of that time period can reveal to us the values of 1960s culture. Through looking at several objects in the University of Rhode Island’s Historic Textile and Costume Collection, this paper will provide a brief overview of the unusual materials used in contemporary fashion of the time and how they reveal those values. An object-based approach was used to analyze the garments, an overview of which is provided in the appendix.

Before examining the fashion, it is necessary to look at some key aspects of the culture that helped shape it. From the civil rights movement and Cold War tensions between the United States and the Soviet Union, to the assassinations of President John F. Kennedy and Martin Luther King and the instability of governments worldwide, the backdrop of the 1960s was one of social and political turbulence (Cole & Deihl 2015). Despite this, it was also a decade of positive change in which the postwar “baby boomer” generation believed they had the power to effect such change. The baby boomers were the new generation of teenagers. As they developed an anti-establishment attitude, fashion provided a medium for them to separate themselves from their parents and express their sense of freedom. Baby boomers also had disposable income, so businesses recognized them as a key market demographic (Bryant 2003). The space race was especially significant in the 1960s. Because of the Cold War dynamics, the United States and the Soviet Union were in a struggle for superiority in space exploration (Baldaia 2005). To support these explorations, it was necessary to develop textiles appropriate for space. As early as 1961 Women’s Wear Daily reported the beginning of developments for outer space wear from glass, plastic, and metals (Protection Held Key Factor, 1961). Fast forwarding to 1969, a feature lists
the textile companies that supplied fibers and fabrics for the space flight to the moon. A few examples are Owens Corning Fiberglass, Kendall Co., Du Pont, and Fabric Research Laboratories, Inc. The article highlighted flame proof fabrics incorporating Teflon and layered blankets made with plastic films to protect from extreme temperatures as the most impressive items (*Moon Yarns* 1969). In art, Op Art and Pop Art were the prevailing movements. Op Art, short for Optical Art, featured a black and white color scheme and incorporated designs to trick the eye. Pop art incorporated elements of popular culture, such as comic books, advertisements, and celebrities, as well as everyday objects into art. Echoing political and social events, the world of fashion in the 1960s was also characterized by rapid change. Designers broke away from tradition and adopted a future-oriented mindset, spurred on by new advances in technology, the space race, and youth culture. London joined Paris as a hub of fashion inspiration, since British designers like Mary Quant and Barbara Hulanicki recognized and seized the opportunity to create fashions specifically for the new teenage population (Bernard 1978). Models were young and slim, and the introduction of boxy silhouettes and shorter hems were meant to emphasize their adolescent looks, which were emulated by young and old alike.

The first object that was studied is a woman’s gold dress with accession number 87.10.05. It was a gift from Mrs. Isabelle Weinstein in December of 1987. The dress is dated to 1960-1970. Two unique aspects of the dress include its construction and materials. Both are supposed to be characteristics of clothing in the 1960s but have proven to be unusual. The dress is a gold openwork or net constructed shift. It is made in three pieces. There are two sleeves measuring 6 ¾ inches (17 cm) in length, and the front and back are combined into one piece. The dress measures 35 ½ inches (90.1 cm) from shoulder to hem, 14 inches (35.5 cm) from shoulder to shoulder, and 20 ¼ inches (51.4 cm) along the hem. There is a center back closure consisting
of six 3/8-inch (1 cm) buttons that are fastened by loops. Two of the six buttons show the original gold color while the other four have tarnished. Each piece seems to have been made separately by forming the loops and crossed sections in gold yarn, then sewing them together with a yellow-gold thread. The yarn itself is wrapped in gold metallic strips, which when viewed under a microscope appear dark, suggesting the yarn was produced using the foil type method of sandwiching a layer of metal, usually aluminum foil, between two layers of plastic film. The film could be colored before lamination, and common colors included gold, copper, and silver (Hollen & Sadler 1968). The dress is meant to be worn with an under slip and originally was paired with a silk coffee-colored one. There is no label in the dress, as it would be visible with the openwork construction (See Figures 1 and 2).
As mentioned before, fashion in the sixties shifted away from the status quo and designers began to push the boundaries of what could be wearable. Perhaps the designer who best exemplified this zeitgeist was Paco Rabanne, a Spanish designer who experimented with plastic, paper, chainmail, and other unusual materials to create dresses and jewelry (Seeling 1999). He was one of the designers influenced by the space race, which encouraged the development of clothing for space exploration using materials such as aluminum and other metals, nylon, and fiberglass. He is famous for his dresses made of Rhodoid plastic discs and metal. His influence can be seen in the use of gold and openwork construction. In a 1966 issue of *Women’s Wear Daily*, Rabanne predicted that “skin-tight fashions will be transparent or in open work, very phosphorescent or metallic” (*Les Fauves*, 1966).

This dress is also unusual for its time, since similar examples are not found at all in contemporary advertisements and fashion spreads. This could suggest that the piece was unconventional and, similar to plastic and chainmail dresses, was a niche look only worn by a select minority. It is also possible that this was a custom-made dress. The overall feeling of the dress is one of glamor. It is a piece of clothing meant to be seen in, and it gives a sense of youthfulness and adventure. *Vogue* fashion spreads showed gold braid being worn for evening wear, but only as trimming. For example, one spread entitled “Evenings—ornamented black” shows gold braid as decoration on the neckline, collar and cuffs of two dresses (*Fashion: Evenings*, 1968). The association of gold braid with evening suggests this dress would be worn at night, but the use of it to make fabric lends itself to the idea that this was a party dress (See Figure 3).
Worth exploring is the kind of mindset, specifically towards clothing, that the use of such materials would foster. As mentioned before, youth culture was important in the 1960s. Businesses recognized that baby boomers were a powerful demographic, and in turn they embraced the new power they possessed, expressing their new-found freedom through fashion. Rabanne, talking about jewelry, believed young people did not want to wear things that looked “eternal, which have to be worn long enough to justify a price…something perishable is requested now for accessories…worn a short time, then given up… ‘That’s the new feeling of

Figure 3. Detail of the gold dress showing one repeat of the openwork pattern. HTCC 87.10.05
the young” (De Leusse 1965 p. 14). It would be natural to assume that this way of thinking was also applied to clothing. With the many cultural and technological changes in the sixties came a quicker evolution of styles, and as change became the foundation of all marketing, eventually the appeal of a garment was not in how long it would last so much as how quickly it could be replaced with the next fad (Bryant 2003). It would have been possible to justify owning a dress that is unwearable, or inappropriate for everyday use, when the fashions changed so rapidly. In the case of this gold dress, since the materials are not as unusual as plastic discs, perhaps it was meant to only be worn to parties and be stored away for the remainder of its life.

Next, several of the HTCC’s paper dresses were examined, and three of them were studied more in depth. The paper dress can be considered quintessentially sixties—it was made of an exciting new material, the length was adjustable, and more importantly there was no need to commit to it. The craze for paper dresses lasted from 1966 to 1968 (Zidianakis 2007). It began in March 1966, when Scott Paper Company created two dresses, one black-and-white Op Art print dress and one paisley print dress, to promote their new paper products line called “Colorful Explosions” (Zidianakis 2007). The dresses could be purchased by anyone via mail order. A coupon for the dress came with the products, and all the purchaser had to do was fill out and mail the coupon with $1.25 for postage and wait. By August of the same year 500,000 paper dresses had been ordered. Other companies recognized the potential of paper and joined in on the fun. One of those companies was Mars Manufacturing Company based in Asheville, North Carolina. Originally a hosiery and swimsuit producer, Mars of Asheville eventually became a household name for paper dresses. The appeal of paper dresses was their disposability. Furthermore, they were a canvas for the times, used to display art, political figures, and pop culture icons. The three
dresses taken from the HTCC illustrate a few of the interesting colors and fun prints typical of paper fashion.

The first dress, accession number 87.04.01, is a blue sleeveless A-line dress with an aqua abstract print (See Figures 4 and 5). The armholes and neckline are bound with aqua tape. There is a keyhole closure in the back fastened with a tie made of the same tape. The dress measures 29 inches (73.8 cm) across the hem, 12.5 inches (33.8 cm) from shoulder to shoulder, and 38 inches (96 cm) in length. Although there is no label in the dress, it was confirmed to have been manufactured by Mars of Asheville and is made of Kaycel, a nonwoven fabric composed of cellulose and nylon. It is dated 1966-67 (Zidianakis 2007).

Figure 4. Blue paper dress, front view. HTCC 87.04.01

Figure 5. Blue paper dress, back view. HTCC 87.04.01.
The next dress has an accession number of 75.12.02. It is a sleeveless dress with a Yellow Pages print and a bow at the collar (See Figures 6 and 7). The armholes and neckline are bound with a black tape. This dress also has a keyhole closure bound with the same color tape. The dress measures 22 ¾ inches (57.5 cm) at the hem, 13 ¼ inches (33.5 cm) shoulder to shoulder, and 36 ¾ inches (93.5 cm) in length. An article in Women’s Wear Daily and a Vogue advertisement date the dress to 1968. The listings on the dress include restaurants, automobile dealers, moving services, and a salon (See Figures 8 and 9).
There is also a label attached to the inside of the dress indicating that it was also made by Mars of Asheville. A warning on the label says not to wash the dress as doing so would remove its fire resistance (See Figure 10).

Figure 10. Label fixed to the inside of the dress. Interestingly, the label was on the inside of the front instead of the back. HTCC 75.12.02.
The third dress, with accession number 2015.04.01, is a beige sleeveless dress with an allover print of orange and yellow flowers (See Figures 11 and 12). Like the previous two dresses, the armholes and neck are bound in orange tape and there is a keyhole closure bound in orange tape as well. The dress measures 25 inches (63.5 cm) at the hem, 12 ¼ inches (30.5 cm) shoulder to shoulder, and 30 ¼ inches (76.7 cm) in length. This dress is confirmed to have been made by Hallmark Cards, Inc. and is made of a cellulose-nylon mixture (Hallmark cards join bandwagon, 1966). This particular dress is dated 1967 (Zidianakis, 2007).

Figure 11. Flower Fantasy dress, front view. HTCC 2015.04.01

Figure 12. Flower Fantasy dress, back view. HTCC 2015.04.01.
Although the dresses are called “paper” dresses, they are not paper. Rather, they are made in a similar way to paper and often include cellulose. These dresses are actually a nonwoven or bonded fabric. Paper-like fabrics are made by sealing a web of fibers with a solvent, heat, or other bonding. (Hollen & Sadler, 1968). When looking at the wrong side of the dresses, there is a grid-like pattern. According to the accession record for the Hallmark dress, this is string pressed into the paper to create texture and provide reinforcement (See Figure 13).

The dark blue dress is an example of the abstract prints and exciting colors that became popular for paper fashion in the sixties. The aqua lines on the dark blue background are meant to simulate movement. The Yellow Pages dress is an interesting example of using the paper dress as both a form of advertising and a reflection of art. In April of 1968 Women’s Wear Daily published a small feature entitled “Walking Ads” explaining that a Yellow Pages dress would flood the market after AT&T introduced a new premium and advertising campaign (Walking Ads 1968). In June of the same year an advertisement for the dress in Vogue magazine appeared. It
covers the key points of what made paper dresses appealing. First, the dress is described as “wonderful”, “flashy”, and “just plain fun” (Mars of Asheville, 1968 p. 53). The next selling point is the ability to adjust the length of the dress with scissors. Finally, the cheap price of one dollar plus the coupon made the dress affordable and worth the buy, even though it was not made to last. The ad then challenges the reader to “…see if it isn’t just as much fun to wear the Yellow Pages out as it is to wear out the Yellow Pages!” This dress also reflects the Pop Art movement in its use of the Yellow Pages, an everyday object, as a design element. The “Flower Fantasy” dress by Hallmark was also part of an advertising campaign for a line of party products first introduced in 1966 (Hallmark cards joins bandwagon, 1966). The products included gift wrap, cards, a tablecloth, paper plates and cups, napkins, and a centerpiece. “A dress to match the party” was the driving idea for Hallmark, and the matching decorations successfully allowed the hostess to become the center of the party.

The several dresses that were studied show that a formula was established to produce these dresses quickly: two pieces seamed at the sides and shoulders, with an opening left in the back. As mentioned before all edges, except for the hem, are bound with cotton tape. Leaving the hem unbound allowed the dress to be shortened to the wearer’s liking with a pair of scissors.
That is likely the reason why the floral print dress has a jagged hem and appears much shorter than the others (See Figure 14).

The simple, no-fuss construction allowed these dresses to be produced quickly but at the cost of quality. On a few of the dresses, the seams do not match up. However, this did nothing to reduce the mania for paper clothing. After all, these dresses were essentially made for disposal, meant to be discarded after a few wears. It was even expected that the dress would fall apart, and wearers were half-jokingly encouraged to use tape to make repairs. In fact, the blue and aqua dress has tape on one side seam. Attitudes toward paper dresses were explored on December 6, 1966 when Women’s Wear Daily published a segment called “The Paper Explosion”. One WWD staff member’s view was “Everyone was fascinated by them, but they are strictly for fun” (The Paper Explosion, 1966). That was the dominant attitude—they were fun, they were cheap, they were something to wear while doing housework. On the other hand, paper was a material that people believed had applications in space. Hollen and Sadler wrote about the uses of paper fabrics in disposable items, such as “…disposable wash cloths and damp napkins eliminate lint, which might float around inside a space capsule and be inhaled by astronauts.” Taking this quote out of context of the sixties would make it seem strange. Why would astronauts be mentioned in a book about textiles? However, taking the space race into consideration it makes sense since paper was being used by NASA for experiments in single-use clothing (Baxter-Wright 2011). In a way, a paper dress allowed the wearer to be a part of these developments.

The final object studied was a pair of go-go boots from the second half of the 1960s, with accession number 87.08.03. The boots are white, ankle length, and have a side zipper and low heels. The boots are 5 ¾ inches (15 cm) in width, 11 ½ inches (29.5 cm) long, and 6 inches (15.5 cm) in height. The boots are made of vinyl, specifically polyvinyl chloride. They are meant to
resemble leather but examining the material up close shows its spongy appearance and reveals their man-made nature. There is also a blue knit fabric lining the vinyl (See Figures 15 and 16).

The go-go boots are a perfect example of Space Age fashion as they are very similar to the flat, white boots Courreges became known for. The material they were made with, called vinyl or PVC (polyvinyl chloride), was one of the new and exciting materials being developed in the 1960s. It was first used as a fashion fabric in a line of rainwear designed by Mary Quant. (Bernard 1978). PVC falls into the category of plastic films, and there are two types: plain and expanded. Since the boots from the HTCC are made with an expanded film, the method for making that type only will be discussed. An expanded film is soft and spongy due to the air cells incorporated into the film during the production process. Plastic fabrics can be supported or unsupported. Again, since these boots are a supported fabric, only that type will be discussed. A supported fabric has a woven, knit, or bonded fabric backing. To make a supported PVC fabric, the film is made on a calender, or formed by “pressing a molding powder between two hot rolls.
to exert tons of pressure.” The advantage of a plastic film is that it can be embossed to resemble different types of leather. At a time when fashion was becoming increasingly democratized, as the authors of *Textiles* appropriately put it, plastic made the “leather-look” available to everyone. According to the fifth paragraph of the Victoria and Albert Museum’s article *An introduction to 1960s fashion*, “the 1960s fell in love with new, man-made materials”, and many designers were eager to experiment with them. André Courrèges, considered one of the “avant-gardists” of the sixties (Seeling 1999), was famous for his futuristic looks including a silver and white color palette, angular designs, and “astronaut-style accessories” including flat boots (*An introduction to 1960s fashion*, n.d., para. 6). The go-go boots from the HTCC bear a resemblance to a pair designed by Courreges found in the Victoria and Albert Museum collection. Barring the cuff details, it is clear the boots were inspired by Courreges (See Figure 17).

As mentioned above, the 1960s was a time of breaking away from tradition, especially in textiles. A great example of this is the booklet created for the 1968 exhibition at the Museum of Contemporary Crafts entitled *Body Covering*. A section on materials describes natural fibers as “archaic, out of tune with modern technology” (Shorr 1968 p. 5). On the other hand, the new man-made materials were praised. The fascination with man-made fabrics went hand in hand with the fascination with the future. A great quote from Ruben Torres, one of the designers featured in *Body Covering*, can help explain why more trust was placed in man-made materials.

The time has come for man’s emancipation from historic fashion customs that have nothing to do with life in our complex civilization. Clothing for both men and women should relate to today’s age of speed, function and leisure, and should follow forward-thinking concepts. (Shorr 1968 p. 26)

This preoccupation with the future and forward-thinking can be taken as a symptom of the break with tradition. The youth-centered culture, wanting to rebel against the values of the previous generation embraced a man-made world spurred on by technological advances with open arms.

“To know man we must study the things he has made” (Fleming 1974 p.164). What can a gold dress, a few paper dresses, and a pair of boots reveal to us about the values and beliefs of people in the 1960s? Starting with the gold dress, we can refer to its similarity to Paco Rabanne’s metal dresses. They were a result of his desire to work with unusual materials, which he considered the future. This dress is an especially unusual example since there are no similar contemporary dresses, and for this reason it is avant-garde. It is also very glamorous, well suited
for a night of fun. Next, paper dresses created a worldwide mania as they were exciting. Packaging for paper dresses described them as “fun”, “chic”, and “new” (Zidianakis 2007). The language used on the packaging made paper dresses seem necessary for anyone who wanted to be thought of as modern, youthful, and keeping up with the changing fashions. They also offered the chance to wear the latest styles without a heavy price tag. The cheap price justified purchasing the throwaway item, signaling the decline of investing in clothing and fueling the desire for trends. PVC, another exciting new material, was one of many developments in technology at the time. Trust in man-made materials was growing in the sixties, since using only natural fibers was passé and could not support a growing population. This sentiment also gives a hint of optimism about the future. In addition, both paper and metallic fabrics were associated with the space race, so wearing them was exciting not only because they were so different from woven fabrics, but because they were part of the textile innovations that helped make space exploration possible. The wearing of the paper, metal, and plastic garments of the sixties was a way of rejecting the past and signaling a connection to the future.
Appendix: Material Culture Methodology Overview

There are a few models that are often used when doing object-based research. The best known are the proposed models of E. McClung Fleming and Jules David Prown. Both stated that material culture had not received the attention it deserved and encouraged further developments in the discipline of material culture research. These statements were made by Fleming and Prown in 1974 and 1982 respectively and since then there has been further interest and development in the field of material culture research. A recent example can be found in the 2018 book written by Alexandra Kim and Ingrid Mida. Kim and Mida, both dress historians, coauthored *The Dress Detective*, in which they provide a method of research specifically for dress. Following will be a summary of these three models.

E. McClung Fleming’s essay “Artifact Study: A Proposed Model” was published in the *Winterthur Portfolio* in 1974. His proposed method of object-based research involves looking at five basic properties of an artifact and applying four operations to them. In doing so, the relationship of the artifact to the culture in which it was made can be assessed. The guiding principle of Fleming’s model can be summarized in his quote “To know man we must study the things he has made” (Fleming 1974 p.164). The purpose of looking at the five properties is to gather facts about the artifact. The first property is history, which examines the life of the artifact. Questions are asked about the place and time of origin, who it was made for, why it was made, and condition. The next property is material, or what the artifact is made of. The third property is construction, or how the object was made. The fourth property of design is concerned with style, structure, and form of the artifact. The final property is function. This includes intended and unintended functions, or the practical uses of the artifact and the roles that the artifact played. After gathering these basic facts, they can be analyzed through the four
operations of identification, evaluation, cultural analysis, and interpretation. Identification begins with asking what the artifact is. According to Fleming, the answer is a system of classification. However, at the time he wrote this, there was no defined system in place for this. The artifact could be classified according to its function, material, or any other category. A description of the physical features of the artifact, including measurements, are provided. In evaluation, judgments about the artifact are made according to current value standards. The two kinds of evaluation referenced are aesthetic judgments and comparison of the artifact to others of the same kind. The purpose of description and evaluation is to form the foundation for generating ideas that are explored in the last two steps. Cultural analysis incorporates what has been gathered in the previous steps and discovers how the artifact relates to its own culture. This could mean asking how the artifact communicates the values and beliefs of a culture, how it acted as a means of social change, or what value it had to a culture. This step is meant to explore “critical links that exist between human behavior and its material products”. Cultural analysis is where one can “know man by studying the things he has made”. Finally, interpretation relates the artifact to modern day culture. In other words, the significance of what was learned about the object is connected to an aspect of the current culture.

Jules David Prown is another scholar whose 1982 article “Mind in Matter: An Introduction to Material Culture Theory and Method” is often cited in material culture studies. Prown’s method has three distinct stages- description, deduction, and speculation, each of which are further divided. Prown also stated that through the artifacts a society has produced and/or modified, the underlying beliefs and values of that society can be revealed. In making or modifying objects, people can intentionally or unintentionally imbue the artifact with their beliefs, ideas, and values, and this process tends to yield a more truthful interpretation of a
society than more personal expressions. Like Fleming, Prown believed that a method of classification was necessary and even provided one, although it was meant to be merely a suggestion. His classification system was based on function and divided artifacts into the categories of art, diversions, adornment, modifications of landscape, applied arts, and devices. Prown’s philosophy when it came to the importance of material culture can be summarized by the quote: “Objects created in the past are the only historical occurrences that continue to exist in the present” (Prown 1982 p. 20). The study of objects from the past allows the observer to experience the point in time in which the object was made. Prown’s proposed method was composed of description, deduction, and speculation. The description stage gathers observable data about an artifact. Prown suggested starting with the largest observations and gradually working toward details. Measurements, materials, and construction are recorded in this step. Deduction moves from focusing on the object to relating the object to the scholar. The scholar’s sensory and emotional experiences are considered, as well as their prior knowledge about the object. The last step, speculation, moves the analysis entirely into the mind of the scholar. All the information and the reactions brought on by the object are analyzed and a hypothesis is formed. Based on the evidence gathered, the scholar will conduct research to answer any questions and support any theories.

In the book *The Dress Detective* by Ingrid Mida and Alexandra Kim, the contributions of various scholars to the field of material culture are explored briefly, but the authors have proposed their own model of analysis to be applied specifically to clothing, or “dress artifacts”. Their model draws heavily from Prown’s three step model, with modifications to make the steps applicable specifically to dress. The three steps in their method are observation, reflection, and interpretation. For each step, a clear series of questions are provided to make the process easier.
A key principle used in *The Dress Detective* is what they call the “slow approach to seeing”. In other words, taking the time to really look at the dress artifact and pick up on subtle details that could otherwise be overlooked. For example, the use of textiles from different time periods in the same dress, or the areas of wear that could give clues about the wearer. This slow approach to seeing is central to observation. In this step, all the information that can be gleaned from observing the object is compiled. Similar to Prown’s description stage, observable elements such as construction, material, and physical dimensions are examined. In reflection, a sensory examination takes place. The feel and weight of the garment, its visual appeal, the emotional reactions it elicits, and the garments’ relation to others are considered. Interpretation is the synthesis of the information taken from the first two steps, with the application of fashion theory, and the development of an argument. The researcher should reflect on why the garment was important enough to study and how the garment reveals something significant about an aspect of fashion.

I preferred Fleming’s method for examining the objects I chose. It was straightforward, easy to follow, and the steps he outlined were enough to form a complete picture of an object. Although the method in *The Dress Detective* was created specifically for dress, I found that going through the checklist of questions was tedious. However, I found the concept of “slow looking” helpful. Prown’s suggestion to begin with the largest observations when describing an object also guided my examinations. The least helpful steps to me were those involving sensory description—the taste, smell, feel, etc. of the object. While touching the object could let the observer understand the hand of a garment and could be useful for imagining the sensory experience of whoever wore it, I did not feel engaging the senses would have helped in studying these objects.
Bibliography


