



Available online at www.sciencedirect.com

ScienceDirect

Procedia Engineering 200 (2017) 73-80



3rd International Conference on Natural Fibers: Advanced Materials for a Greener World, ICNF 2017, 21-23 June 2017, Braga, Portugal

TROUSSEAU: THE PREDOMINANCE OF COTTON IN ITS ARTICLES

Mariana Costa Laktim^{1*}, Alessandra Maria Giacomin¹, Marcia Cristina Silva-Santos¹, Heloisa Nazare Santos², Camila Borelli³, Julia Baruque-Ramos¹

¹University of Sao Paulo, School of Arts, Sciences and Humanities, Av. Arlindo Bettio, 1000, 03828000, Sao Paulo – SP – Brazil;

²Minas Gerais State University, Design School, Belo Horizonte – MG – Brazil;

³FEI University Center, Textile Eng. Dpt., Sao Bernardo do Campo - SP - Brazil.

Abstract

The trousseau has been known since antiquity and has been influenced by a series of modifications, reflected in the type of fabric, confection, design, fashion and market share. This study aimed to analyze the preference of textile materials by Brazilian consumers of bedding, table and bath linen sector. It consisted of a bibliographical study from literature and notably 40 years of publication of "Revista Vogue Casa Brasil" ("Vogue House Brazil Magazine") from the launch in 1976 to 2016. It is concluded that there is strong predominance of cotton in bedding, table and bath linen articles, mainly due to the tradition of the use of this fiber in fabrics of articles related to the trousseau. Unlike in other countries in the world, in Brazil trousseau is associated with traditional values of marriage in terms of material and aesthetic standards. The maintenance of these standards by the Brazilian manufacturers is interesting to maintain sales in the intern market, but can constitute a limitation for export products destined to audiences with different aesthetic values and preferences and with greater supply of items.

© 2017 The Authors. Published by Elsevier Ltd.

Peer-review under responsibility of the scientific committee of the 3rd International Conference on Natural Fibers: Advanced Materials for a Greener World.

Keywords: Trousseau; cotton home products; linnen goods; aesthetic values.

* Corresponding author. Tel.: + 55-31-99154 0707 E-mail address: marilaktim@usp.br / marilaktim@hotmail.com

1. Trousseau

The trousseau is known from antiquity and has undergone a series of modifications. These changes are reflected in the type of fabric, by the way it is made and in market share. These changes are also influenced by the position of women in society [1]. The flax fabric has been in historical data, as the first material to be used by men concerning apparel in their homes. In ancient Rome, they slept on flax sheets, and all the apparel of home were made of this material [2].

The making of the trousseau began on the spinning wheel or on the distaff made by the women themselves. After the ready thread, they made the fabrics in hand looms, and from there they began to embroider. According Harris [3], embroidery has been an in-house craft, a professional activity and it is in the most part of cultures. It was carried out mainly by women, although some men were part of this occupation. Although some contemporary embroideries work without a pattern, embroidery is traditionally carefully planned before work begins.

The traditional bride trousseau was composed of bedding, table and bath textiles and household utensils that were necessary for her married life [1]. The tradition of these products is associated with marriage, but there were changed when women entered in the labor market. This process was more evident in the period of World Wars I and II, in Europe and the USA, when women took over the family business and the position of men in the labor market [4].

According to Pinto et al. [5], this process began to occur before the industrial era of the textile chain in the 19th century. The trousseau was influenced by the region and the economic level of different families. A mandatory condition in marriage was the dowry of the trousseau performed by the bride and her family, was preserved as the woman's patrimony in the occurrence of separation or widowhood.

1.1. Evolution of Textiles

Historical documents show that the first textile fibers of antiquity were flax, cotton, wool and silk, known as natural raw materials. In Egypt, fabrics made from flax dating to 6,000 B.C. were found. In Switzerland and Scandinavia, woolen fabrics dating from the Bronze Age (3,000 to 1,500 B.C.) were found. In India, cotton was already spun and woven around 3,000 B.C. In China, silk was woven at least a thousand years before Christ [2].

Natural fibers are still very common in home fashion, since each fabric stands out in a product and denote social status in the bedding, table and bath linen segment. According to Kadolph [6], flax fiber has great prestige due to limited production and relatively high cost allied to its excellent textile characteristics related to high absorption and thermal comfort. Taking in account its wide historical use in linen, tablecloths and bath, the apparel of flax has become a textile reference in this sector.

Cotton stands out in the production of bath towels, due to its excellent absorption, comfort and fabric softness. Very common also in bedding linen (bedspread, sheets, pillow cases, etc.). Egyptian cotton, which is considered one of the best in the world, is used for the manufacture of bedding products up to 1,000 threads per inch of warp, which imparts unique properties of softness, touch and comfort in the contact of the human skin with the fabric.

In home fashion segment, wool is used in rugs and blankets, but often replaced by acrylic fiber. The silk, in rugs, upholstery, bedding and blankets, being products of great value in the market due to its nobility [6].

The Industrial Revolution crossed borders, opening the industrial textile market, encouraging new creations, initiating the production of artificial fibers (such as viscose, nylon, polyester, acrylic fiber, etc.), stamping and processing. The textile process begins with the basics of colors, with natural raw materials and in the elaboration of the house apparels, in which manual embroidery could be added [7].

During the 20th century, the technological advancement of textiles implied in a new proportion in the production and fabrication of textiles. Thus, enrichment in creativity and the application of increasingly technological fabrics were required. The set of innovations was due to social changes and their demand. After the World War II, in the 1950s, in the textile sector occurred the development of new synthetic fabrics, dyes and chemical finishes [7]. In the 1980s and 1990s, Japan's influenced with its innovations, technological development, textile-technical construction and standardization [8].

1.2. Economic Evolution of the Bedding, Table and Bath Linen sector

The years after the World War II brought an increase in consumption patterns. Women were not willing to sacrifice fashion, despite the focus of conservation and resource saving during the wars, including that the available textile products were used in the production of war goods. Meanwhile supporting the cause of war was a dominant theme in consumer education during this period, women found creative solutions to fashion alternatives [9].

In Brazil, during the period of World War II, there was a great growth in the production of fabrics for domestic supply and for exporting to countries involved in the conflict. However, as early as the first half of the 1960s, the spinning and weaving industry showed clear signs of weakening. In the same period, while the manufacturing industry as a whole showed an increase of 118%, textile production did not exceed 66%. The recession was revealed and in just three years 130 weaving industries were closed [10].

Between the years of 1969 and 1973, called years of the "Brazilian economic miracle", textile products reached the first place among the manufactured ones in the list of Brazilian exports. In the 1980's, the Brazilian spinning and weaving industry had a high billing. At the time, the country had 4.5 million spindles and 150,000 looms installed in approximately 9,000 companies, ranking 6th as a world textile producer behind India, China, USA, Soviet Union and Japan [10].

In the 1990s Brazilian economy, as a whole, and especially the industry, faced a crisis due to the international trade liberalization program. With the adoption of the macroeconomic consolidation program, linked to the "Plano Real" ("Real Plan") (established in 1994), that crisis become more acute, due to the constraints imposed by fiscal, monetary and exchange rate policies. According to Gorini and Siqueira [11], the balance of trade in the sector felt since 1992, and in 1996, it reached a deficit of US \$ 1,016,866, not so much due to drop-in exports, but mainly by a significant increase in imports, in particular, artificial and synthetic fibers (including non-woven fabrics) and cotton.

In more current terms, according to Ferreira [12], the textile industry comprises spinning, weaving, knitting and confections. In Brazil, this industry has about 30 thousand companies, and the number of large companies has been reduced.

In this context, there was a significant evolution of the Brazilian production of bedding, table and bath linen articles from 1990 to 1997. Particularly more significant in 1994, like other sectors of the economy, because the "Real Plan" caused an increase of consumption of the most popular classes.

During this period, the sector invested more intensively in innovations and in the productive process. According to Gorini and Siqueira [11], one-third of its production was oriented to exportation, and these products were of high quality and not threatened by external competition. They were the main companies in the textile sector, being that around 80% of the total exports in this sector were bedding, table and bath linen.

Great fashion events and trend exhibitions began to emerge, implementing bed, table and bath collections, which featured the names of designers, architects, and stylists. According to Pinto et al. [5], ABIT (Brazilian Association of the Textile and Apparel Industry) evaluated that the movement of the sector implied at 4% increase in sales in 2005. Bedding, table and bath linen articles, created by professionals, expanded their market, as well as the concept that adds fashion and personality to the diverse environments of the home. According to the IEMI [13], in the period from 2000 to 2014, productive units in activity in the Brazilian textile sector increased by 23%, from 2,471 establishments to a total of 3,045. With the appreciation of the Brazilian currency in relation to the American dollar, adopted as an instrument to contain inflation, especially since 2008, there were serious losses in relation to the competitiveness of Brazilian industries in relation to imported articles. The textile exports decreased due to the appreciation of the exchange rate, redirecting the products to the domestic market, with the exception of the bedding, table and bath linen sector, which reached 50% of production for exportation, indicating that the sector was still in growth. However, in 2010 with the weakening of domestic consumption and acceleration of imports, negative effects were noticed with consequent decrease in the profit margin of Brazilian companies.

In general terms, Brazil is one of the world's largest consumers of textile products today, but in terms of international exports its contribution is small, reaching 26th position. However, the home line presented the highest growth (14%) from 2010 to 2014 [13]. Therefore, the innovation models corroborate the indicator of the procedure systematization of the design evolution and home fashion industry, being the main goal the increasing of participation in market economy.

1.3. Cotton in the Bed, Table and Bath sector

Cotton is the most important apparel fiber. According to Kadolph [6], in 2004 cotton had a demand of 54% for fabrics worldwide. It presents properties of appearance, comfort, nice touch and durability, being recommended for hot weather. It is used in clothes, work uniforms, upholstery, curtains, carpets, towels, bedding linen, etc.

Natural fibers, such as cotton, wool, flax, are predominant in the home textile industry. Currently, artificial fibers are also used, including polyester, viscose, nylon, acrylic, etc. The polyester dominates the carpet and curtain segments due to its properties, such as tensile, heat, abrasion and moths and mildew resistance. The consumption parcels of cotton and synthetic fibers in total home textile production represent respectively 38% and 37%, and about 6% are related to wool and other animal fibers. The flax accounts only 0.1% of all fibers consumed in home textile production. Information on the remainder of the fiber percentage was not identifiable since its general use was not classified or remained unspecified in the fiber categories [14].

Cotton has application in various items of the bedding, table and bath linen sector [14]. Egyptian cotton home fashion items are considered the most exquisite and best quality in the Brazilian market. On the other hand, natural and synthetic fiber blends have also attracted the attention of home textile manufacturers to improve fabric performance or cheapen the final product [2].

The Brazilian textile production has been showing a small increase from 2010 to 2014, with values of the production of cotton articles from 13,140,038 (2010) to 15,745,728 (2014), synthetic fabric articles from 7,171,412 (2010) to 8,532,124 (2014) and articles of other natural fabrics from 442,040 (2010) to 613,265 (2014) [13].

1.3.1. Cotton in bedding articles

Bedding articles are divided into [14]:

- (i) Sheets and pillowcases are lightweight products, the materials usually used are 100% carded cotton, ring-spun yarn or open-end yarn. Their features are appearance, comfort, nice touch, sweat absorption and durability. The polyester/cotton blend is used in a much lower demand than cotton because it is less comfortable, although it has advantages in shrink resistance, durability and low cost. Other fabrics, such as silk and flax, represent a very small percentage of the market.
- (ii) Blankets are usually made of wool, acrylic fiber and blends of polyester/acrylic fiber. There are also cotton terry blankets. According to Carvalho et al. [15], the thin-thickness blanket resulting in better thermal insulation for winter consists of 50% wool and 50% hollow polyester.
- (iii) Bedspreads are the most important items of home textile products, including in the fabrics: wool, cotton, acrylic, viscose and blends.
- (iv) Mattress covers the most usual patterns are traditional Jacquard with viscose filament warp and weft of viscose or cotton
- (v) Shell / Covering The outer duvet covers are typically made of cotton, silk, polyester and/or mix fabrics of different yarn counts.

When choosing home textile products, the four main factors that consumers evaluate when purchasing sheets are: size, softness, durability and price, remaining the most important and unchanged over the years. The factors that gain the most popularity are the added value of the product and the 100% cotton fabric. In addition, consumers are increasingly aware of the importance of yarn count in fabric relative to the quality of the final product [14].

1.3.2. Cotton in kitchen articles

The kitchen clothes are present in the form of aprons, napkins, gloves, towels, dish cloths, etc. It is very important to ensure safety alongside its functionality in this sector of the textiles used in kitchen. Consequently, it is advisable to use kitchen textiles made of flax or cotton fabric. Their main characteristics are washability and durability, in addition to being less prone to fire. Cotton is the most popular and has a very constant demand, however, many buyers still prefer polyester fabrics; blends of cotton and poly-fabric [14].

Kitchen articles are divided into [14]:

- (i) Kitchen towels are useful for drying dishes and drying hands, should be easily washable, quick-drying, highly absorbent and durable. They are made of cotton fabrics, flax, terry fabric and/or microfiber.
 - (ii) Placemats/Tablemats various models are available, tablecloths with cotton fabrics, flax and other fabrics.

1.3.3. Cotton in bath articles

Terry fabrics have become very important in the home textile industry. Traditionally, cotton is a natural choice for the production of terry towels. Taking in account the meaningful change in lifestyle and demand of various functional aspects, towel manufacturers are looking for unique, innovative and different products. Towels made of bamboo viscose and cotton are 25% softer than towels made entirely of cotton after washing. By adding soybean fibers to the cotton, the towels presented improved touch sensation and absorption [14].

The most important innovation in the manufacture of yarns for towels has been the introduction of low twist yarns. These special yarns are spun with longer cotton fibers with a very low twist. The spinning technology makes the towel absorbent by providing each cotton yarn with a hollow core that absorbs moisture and which combined with the long cotton fiber, makes the bath towel feel soft. Cotton fiber is often used because of the polarity of the cellulose, which allows the fabric to absorb water easily. Cotton bathrobes are suitable for use in hot climates because cotton tends to absorb perspiration. According to Das [14], the most important factor in the consumer's choice of bath towels is the absorption, then the softness and the type of fiber. The brands are relative and of little importance. Regarding cotton incorporated into the lifestyle, 91% of female consumers consulted said they prefer thicker towels, 94% said they like their towels as soft as possible. The two most important factors that quote when buying a bath towel are absorbency (82%) and softness (83%). Regarding the preferences of the consumers regarding the type of fiber were not mentioned in this report.

In this way, the present study aimed to analyze the preference of textile materials by Brazilian consumers of bedding, table and bath linen sector.

2. Method

A bibliographic study was carried out from scientific journals, books and articles correlated to bed, table and bath linen and particularly analyzing 40 years of publication of "Revista Vogue Casa Brasil" ("Vogue House Brazil Magazine") from the launch in 1976 to 2016 (monthly).

Vogue House Brazil Magazine is derived from Vogue Magazine, which had the first Brazilian edition published in May 1975, being the first edition in Latin America. Vogue is the most important, respected and influential fashion magazine in the world published since 1892 by Condé Nast Publications in 21 countries. Monthly publishes works of home fashion universe. In Brazil, both magazines are mostly read by the wealthy classes of society, being important influencers and diffusers of fashion in the country.

3. Results and Conclusions

Natural fibers are still very common. Previously with use of flax fiber and currently with cotton in the production of bath towels, bedding and other articles [6]. Egyptian cotton is used for bedding up to 1,000 yarns per inch of warp, giving unique properties of softness, touch and comfort. Wool is used on rugs and blankets, but often replaced with acrylic fiber. However, various products are found with artificial and synthetic fibers (such as viscose, nylon, polyester, acrylic fiber, etc.) with various processings and finishes. This follows the evolution of the world consumption of textile fibers in the last 60 years, with an increase in consumption of synthetic fibers in detriment of natural ones. In Figure 1, according to the "Revista Casa Vogue Brasil" ("Vogue House Brazil Magazine") [16],

articles are presented on the bedding with 100% percale cotton (fine cotton fabric with a very closed weave), placemats 100% cotton and napkins 100% flax and the bath towels on 100% Egyptian cotton.



Figure 1. Examples of: (a) Bedding 100% percale cotton (compiled from [17]); (b) Table: covering 100% cotton and napkins 100% flax (compiled from [18]); (c) Bath linen 100% Egyptian cotton (compiled from [19]).

The best growing markets in all categories of home textile products are Brazil, Russia, India and China. In 2005 WTO World Textile Market Report showed that USA was the largest importer of household textile products (34.3%), followed by Germany (11.6%), Japan (10.9%), UK (8.3%), France (6.5%) and Canada (4.2%). On the other hand, the largest exporter of household textile products was China (33.4% of the world market), followed by Pakistan (12.1%), India (9.7%), Turkey (6.6%), Portugal (4.8%) and Mexico (4.5%). It is believed that China will remain the world leader in exports, while it is uncertain that USA will be the largest importer of home textile products [14].

"Revista Vogue Casa Brasil" ("Vogue House Brazil Magazine") (1975-2016) presents the most relevant styles of the bed, table and bath linen market, despite being an elitist magazine in the Brazilian context. The classics are pronounced in the preference of style presentation, featuring white color and 100% cotton fabric in bedding, table and bath linen products and the embroidery being the outstanding ornament of the style of these home fashion products, followed by the floral prints (as already illustrated in Figure 1).

In Figure 2 is presented the number of articles (with description of constituent material in the magazine text) related fabrics for bedding, table and bath linen sectors from 1976 to 2016 in Brazil, according the research performed in all issues of "Revista Casa Vogue Brasil" ("Vogue House Brazil Magazine") enrolling all this time period. The data presented in Figure 2 show the clear predominance of cotton in bedding, table and bath linen articles, and the other ones found in percale and Egyptian cotton (minority compared to cotton in general) were separated in this research. The presence of articles of other natural fibers, such as flax, silk and wool, is also a minority. Articles composed of other fibers (natural or man-made) were also very little found in this research.

Thus, even considering that the reviewed magazine is an elitist publication in the Brazilian context, it is possible to extrapolate these conclusions about the strong preference of cotton articles to other portions of the population mainly due to the tradition of the use of this fiber in fabrics of articles related to the trousseau. Unlike other countries in the world, in Brazil trousseau is associated with traditional values of marriage in terms of material and aesthetic standards. The maintenance of these standards by the Brazilian manufacturers is interesting to maintain sales in the intern market, but can constitute a limitation for export products destined to audiences with different aesthetic values and preferences and with greater supply of items.

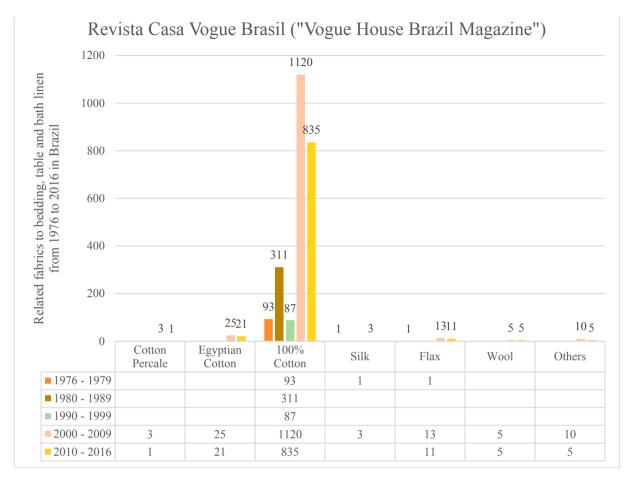


Figure 2. Number of articles (with description of constituent material in the magazine text) related to bedding, table and bath linen from 1976 to 2016 in Brazil, according the research performed in all issues of Revista Casa Vogue Brasil ("Vogue House Brazil Magazine") [16].

Acknowledgements

The authors gratefully acknowledge the financial support from CAPES (Brazilian Coordination for the Improvement of Higher Level Personnel).

References

- [1] D. F. Pinto, R. C. A. Pinto, M. D. B. Mota, Enxoval de casamento cultura e mercado na (re) significacao de uma tradicao ("Wedding trousseau culture and market in the (re) significance of a tradition"), in: I Intercontinental Meeting of Domestic Economy. Family and Home Economics, Fortaleza, http://www.xxcbed.ufc.br/arqs/gt1/gt1_20.pdf, 2009 (accessed 02.15.17).
- [2] D. B. Pezzolo, Tecidos: historias, tramas, tipos e usos ("Fabrics: stories, plots, types and uses"), second ed., SENAC, Sao Paulo, 2007.
- [3] J. Harris, 5000 years of textiles, Reprint ed., The British Museum Press, London, 2006.
- [4] E. R. Probst, P. Ramos, A evolucao da mulher no mercado de trabalho ("The evolution of women in the labor market"), Instituto Catarinense de Pos-Graduacao ICPG, Blumenau, http://www.posuniasselvi.com.br/artigos/rev02-05.pdf, 2015 (accessed 02.15.17).
- [5] D. F. Pinto, R. C. A. Pinto, M. D. B. Mota, Enxoval de Noiva e a Moda Da Dadiva ao Homewear ("Wedding Trosseau and Fashion From the Gift to the Homewear"), Modapalavra E-periodico, Ceara, http://revistas.udesc.br/index.php/modapalavra/article/view/7925/5471, 2010 (accessed 02.15.2017).
- [6] S. J. Kadolph, Textiles tenth ed., Pearson Education, New Jersey, 2007.
- [7] J. Fish, Designing and Printing Textiles, first ed., Crowood Press Ltd, Ramsbury, Wiltshire, 2005.

- [8] S.Clarke, Textile Design, Portfolio, Laurence King Publishing Ltd, London, 2011.
- [9] L. Dalton, P. Sullivan, J. Heitmeyer, A. DuPont. Robertson's model: a framework for exploration of World War II conservation policy influence on fashion in the US. International Journal of Consumer Studies, 36(6) (2012) 611–621.
- [10] S. Costa, D. Berman, R. L. Habib, 150 anos da industria textil brasileira ("150 years of the Brazilian textile industry"), SENAI-Cetiqt, Rio de Janeiro, 2000.
- [11] A. P. F. Gorini, S. H. G. Siqueira, Complexo Textil Brasileiro ("Brazilian Textile Complex"). BNDES Sectorial, special ed., Brasilia, https://web.bndes.gov.br/bib/jspui/bitstream/1408/1318/1/BS%20ed%20esp_final%20A.pdf, 1997 (accessed 02.15.17).
- [12] H. C. Ferreira, Cluster: uma alternativa de estrategia competitiva para o segmento de cama, mesa e banho da industria textil de Santa Catarina ("Cluster: a competitive strategy alternative for the bed, table and bathroom segment of the Santa Catarina textile industry"), Master's Dissertation, University of Blumenau (Brazil), 2000.
- [13] IEMI Instituto de Estudos e Marketing Industrial 2015 Relatorio Setorial da Industria Textil Brasileira ("2015 Sectorial Report of the Brazilian Textile Industry"). fifteenth ed., Brasil Textil, Sao Paulo, 2015.
- [14] S. Das, Performance of home textiles, first ed., Woodhead Publishing India, New Delhi, 2010.
- [15] R. S. O. Carvalho, C. Relvas, R. Fangueiro, A. Antunes, Study of the materials for thermal insulation in home textiles, in: The 90th Textile Institute World Conference, Hosted by the Institute of Natural Fibres and Medicinal Plants (INF&MP), Poznan, Poland, April 25-28, 2016.
- [16] Revista Casa Vogue Brasil ("Magazine Vogue House Brazil"), v 1-375, Globo and Conde Nast, Sao Paulo, 1976 2016.
- [17] Revista Casa Vogue Brasil ("Magazine Vogue House Brazil"), v 236, Globo and Conde Nast, Sao Paulo, April 2005, pp.186.
- [18] Revista Casa Vogue Brasil ("Magazine Vogue House Brazil"), v 299, Globo and Conde Nast, Sao Paulo, July 2010, pp.177.
- [19] Revista Casa Vogue Brasil ("Magazine Vogue House Brazil"), v 244, Globo and Conde Nast, Sao Paulo, December 2005, pp.39.