

Hidden Beauty of Women: Brassieres

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Abstract

The meaning of brassieres much more than a piece of underwear for women because breasts are considered the symbol of feminine sexuality, throughout the history, women have used various intimate apparel or device to shape their body. In this article, have highlighted the relationships between fashion and technology, attractiveness, identity and, all of which are important components of aspects and evaluation of bra.

Key words : brassieres, intimate apparel, fashion, underwear, women, breasts.

I . Introduction

Although, underwear worn next to body and thus ostensibly hidden outside view, are a crucial part of the gendered fashion system. Private and sexualized, yet essential to the shaping of publicly viewed silhouette, underwear is critical to making bodies feminine. Brassiers are especially significant to feminization of the body because they are associated with sexual anatomy often perceived as vessels of essential femininity. As such, undergarments are broadly understood as powerful erotic objects. Yet intimate apparel also places the dressed. And, as the first layer of clothing, they are also the last barrier to full disclosure of the body. The uncertainty, transitory status, body shaping ability, and multiple forms of intimate apparel heighten the power of underwear and foundation garments to represent the sexualized female body, in whole and in parts, and to signal changing ideals of femininity. Alterations of undergarment design and function, in dynamic relationship with shifts in outwear, provide material evidence of

larger social changes taking place in women's lives. The history of these garments' evolving shape and purpose thus reveals how women's struggles for self definition interact with resistant social forces to reconfigure gender distinctions (Fields, 2007).

Moreover, the history of bra, besides the technological developments such as fabric, manufacturing methods, or elastic straps, underwire, and hooks, need to be understood in relationship to social and economic changes such as the increasing rationalization of work and leisure and transformations in the shaping, conceptualization, and representation of female bodies.

In this article, have highlighted the relationships between fashion and technology, attractiveness, identity and, all of which are important components of aspects and evaluation of bra.

II . History of Brassieres and Technical Milestones

Throughout the history, women have used various intimate apparel or device to shape their

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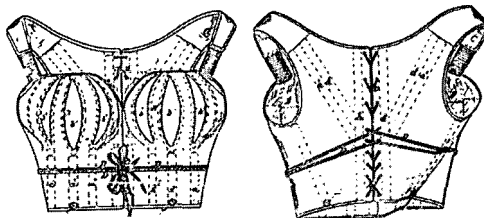
body the sake of the beauty. Most of them were uncomfortable and negative affected women's health. A brassiere is an article of clothing that covers, supports, and elevates the breasts.

The history of brassieres began in the third quarter of the nineteenth century. The first brassieres patent belongs to Luman Chapman in 1863 (Fig. 1). In 1893, Marie Tucek designed brassieres which looked similar to the modern demi-cup brassierres (Fig. 2) (Beck & Gau, 2002). This invention was based on an idea to use shoulder straps and cups to support the weight of breast (Cecil, 1986). Today, brassieres designers still being used this basic idea. Mass production of brassieres began early in twentieth century.

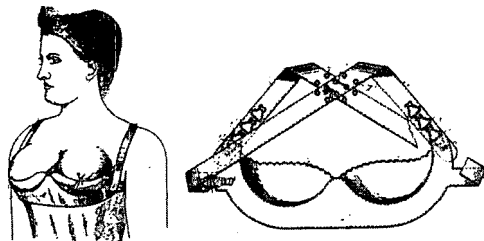
First, rubber band used 1923 and foam rubber pads used bra manufacturing in 1948. After 3 years later than Latex came on the market, Warner's A'lure brassieres line introduced in 1933, consisted of pieced sections of Latex (Beck & Gau, 2002). World War II was a great impact on technological developments and the social status of women. Pre and during the war time many technological inventions occurred in the industry. After the war most of these inventions

and technological developments were implemented even in the brassieres industry. For example, the cantilevered bra was used in aeronautical engineering to lift the bosom. Then in 1948 push-up brassierres designed by Frederic Mellinger. Nylon is the most important innovation in the whole history of underwear as well as brassieres industry. In 1960 Rudi Gemriech designed the "no bra" which was made of stretch netting (Fig. 3). In 1970, moulding by using elastane fabric was an important technical development in brassierres industry. This technique has had revolutionary impact on the brassierres manufacturing.

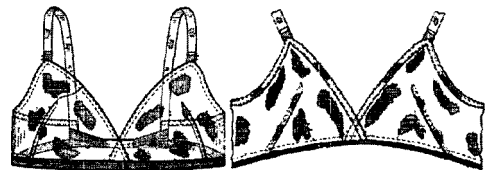
Nowadays, there are mainly two ways of the brassiere manufacturing. Main difference of the these brassiere manufacturing ways are how to shaped the cup form. Traditionally the cup forms of a brassiere have consisted of several panels which have been sewn together (Fig. 4). The other one is moulded brassiere. Laminated with a polyurethane foam sheet compressed into a desired shape under high temprutere for pre determined time to give the cup forms (Fig. 5). The brassieres, which are produced in this method, supply smooth configuration under the outer garments. In each manufacturing way, wide range of styles of brassiere exsits in the market. Innovation in brassierres technology has become more exciting since 2000.



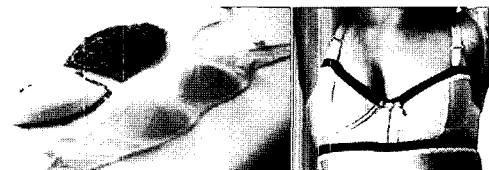
<Fig. 1> The First Breast Supporter Designed by Luman Chapman, 1863.



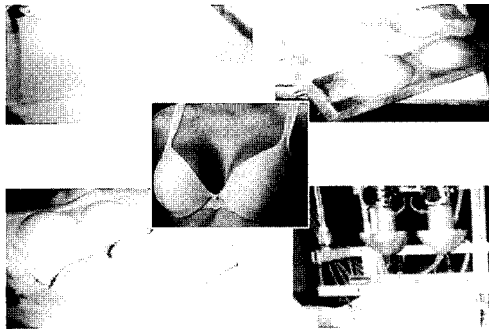
<Fig. 2> Brassiere with Separated Cups Designed by Marie Tucek, 1893.



<Fig. 3> No-Bra Constructed of Nylon Tricot by Rudi Gemriech, 1960.



<Fig. 4> Traditional Brassiere Manufacturing Methods.



〈Fig. 5〉 Moulding (Seamless) Brassiere Manufacturing Methods.

3D body scanning, mechanical stress analysis to create a pair of moulded, soft plastic strips to replace traditional wire etc. are recent invention of brassieres science.

New materials, sophisticated styles, inventive designs and innovative manufacturing techniques have added value to products which offer a plethora of interesting functions for the wearer (Fan, Harlock and Ng, 2006).

III. Social Status of Women and Brassieres

The history of brassieres is not only connected with the technological development but also is associated with social history of the status of women. The meaning of brassieres much more than a piece of underwear for women. Because breasts are considered the symbol of feminine sexuality, some women wear brassieres based on modesty; others believe that it is part of cultural norm and not wearing a brassieres would lead to avoidance. Even, brassieres are relatively recent invention but it is worn around the world prevalently.

Second world war had major impact on women's role in the society. During and after war was required women workforce outside of home. Modesty, convenience, and safety all required women to wear brassieres. In 60's, feminist ideology have been questioning the role of brassieres, because they thought that brassieres are instruments of torture and the main role is enforced femi-

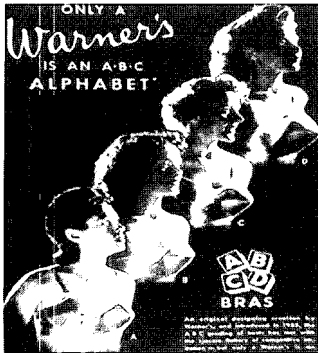
nity. Feminist women burned their brassieres to protest the brassieres discomfort and discrimination in the social life such as career opportunity, equal payment, politic rights etc. Because of social and functional roles of the brassieres, modern women have still wanted to wear it.

IV. Brassieres Design

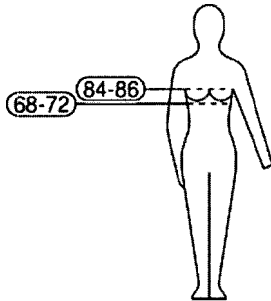
Despite the brassieres has been developed over 110 years and has evolved in many ways, some researchers reported that between 70 and 85% of women are complaining about comfort of brassieres (Boyes K., 1996; Lipton B., 1996; Hinds J., 1994). Unfortunately, no manufacturer was able to solve the problem of designing and producing a truly functional and comfortable breast supporter. Because brassieres is an interdisciplinary subject involving body beauty, human psychology, anatomy, and anthropometrics, pattern design, textile engineering as well as health science.

Two issues have limited the ability of brassiere companies to make informed decisions about their sizing systems and consumers' image expectations.

First, there is a lack of data on fit characteristics of garments for a variety of different body sizes and shapes. Because of the difficulties in the systematic observation of the 3D shape of breast, manufacturers do not have sufficient information about target market breasts' shape, volume, and size. According to the historic record, the fundamentals of current brassieres sizing systems were founded as early as 1926. Ida Rosenthal a founder of maiden form, introduced cup size for brassieres, in 1928. In 1935, Warners developed "alphabet Bra" a brassieres made in a series of sizes corresponding to the letters of the alphabet (A,B,C, D...) (Fig. 6). Nowadays, brassieres sizes have generally been described two-part system. The first part, brassieres-size is a number. It equals the under-bust circumference measurement. The second part is cups size given by a letter of the alphabet, and relating to the volume of the breasts (Fig. 7). There is explained 11 cup size A to J about the meaning of A-J: measuring body circumference under the breasts and then



〈Fig. 6〉 Alphabet Bra Developed by Warners Company, in 1935.



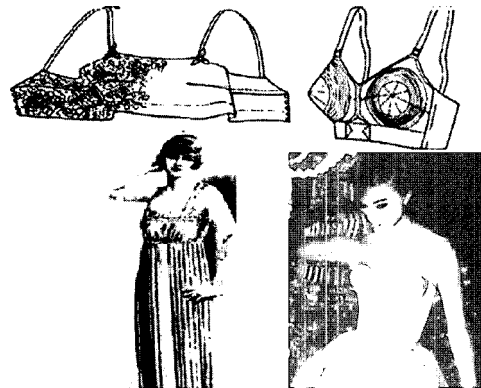
〈Fig. 7〉 Current Brassieres Sizing System based on Underbust and Overbust Circumference Measurements.

adding a specified amount (5 or 6 inches which results in an even number). A second measurement is then taken of the chest circumference over the fullest part of the breasts (overbust). The cup size can then be calculated with tables or a conversion tool from the difference between these two measurements (Solinger, 1988). Unfortunately, limited progress has been made on developing a more accurate and scientific breast sizing system. For commercial and marketing considerations, each company have their own brassieres size chart. In addition, in the market uses cross-sizing of brassieres: these are a cup sizes that carry a base size range that is equivalent to varying cup sizes. For example, a 34B is equal to a 32C. It is obvious that the majority of women do not know their true breast size or shape characteristics, and they have often been uncomfortable while wearing brassieres.

Second, there has been a lack of current information to describe women's comfort, aesthetic perception and socio-physiologic needs. Despite the undeniably positive utility and symbolic significance of brassiere may be constructed as a sexualized article. Furnham et al.(1987), investigated the effect of breast size on the assessments of female attractiveness, and found that the size of the breast made significant contribution to the attractiveness rating. Singh and Young (1995), reported that the breast size is the main factor in influencing the judgment of female attractiveness, age and desirability for long term relationship. Inevitably, brassieres were drawn attention to women's breast. The brassiere is constructed as an object of sexual desire, a means of shaping the breast and shaping the body. As a result, designers and advertisers who are interested in consumer's preferences for stylistic features in brassieres focus on femininity image such as pert and perky appearance, creates cleavage to enhancing body shape.

Brassieres construct bodily silhouettes to suit ephemeral fashions—from the minimized bust line of 1920's to the projectile profile of 1950's (Fig. 8). The changing views of the breast shape were related with the changing social status of women in the society and culture.

However, cultures at different times have developed different standards for physical attractiveness. The mass media is always perceived as



〈Fig. 8〉 Changing of Brassieres Silhouettes from 1920's to 1950's.

strong channel to promote the standard of women's beauty all over the world. When the exaggeration of breast is in fashion, women can wear foundations to push up the breast. When the fashion changed flattened chest was fashionable, they tend to reduce their flesh. Throughout the women's lifespan, women's breasts might be separated, squeezed together, shoved forward, rounded out, flattened down, or pushed up by the brassiere she chooses to wear. Brassieres can create the illusion big or very little breast size.

V. Conclusion

In recent years, the brassieres has marked a categorical increase of function and fashion. As a piece of underwear, the brassieres can be seen as a fashionable dressing down of the female body. Also, when worn with partially covering top or transparent top, the brassieres can also be considered as part of fashionable dressing up of the female body as well.

Fashion increasingly became a global business and advertising spread to attract larger markets. Thus, the body is taken as a sign of personal and social identity. Women feel now responsible for developing their own identity and, moreover, express it in their appearance. Because of shaping of women's breast was an important changing the fashion silhouette, the brassieres are a critical site of gender differentiation, as well as a source of pleasure and power.

The marketing success of apparel is highly related to body-fit and satisfaction of the aesthetic demand of the consumer. Especially, as related to the brassiere, consumers strongly demand com-

fort and functions of arranging breast shape as well as the essential functions of fit of the clothes.

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