

REVIEW OF MEN'S SHIRT PATTERN DEVELOPMENT FOR THE LAST 100 YEARS PART 2: SLEEVE AND CUFF

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Abstract: This article is Part 2, the continuation from the title of “Review of Men’s Shirt Pattern Development for the Last 100 Years, Part 1: The Bodice”. A look back on how the shirt sleeve and cuff were developed in the last hundred years. A discussion on the future development of the sleeve and cuff patterns will be in the conclusion.

Keywords: sleeves, cuffs, men’s shirt, fit, pattern development, history.

1 INTRODUCTION

A sleeve pattern is part of a completed traditional shirt pattern set, and which is sewn onto the arm sync seam and is covered from the shoulder to the elbow down to the wrist [1]. Sleeves provide us with both functional and aesthetical purposes. As functional elements, sleeves protect our arms from weather changes, give us freedom of movement and comfort, and prevent irritations or stimulations from the environment [2]. As aesthetical elements, sleeves enhance the bodice with different styles, fits and shapes [3]. In a traditional shirt pattern set, a cuff piece is attached to the end of a sleeve (sleeve hem) where a sleeve placket has been installed. A sleeve placket is a narrow piece of fabric sewn onto the back sleeve as an opening that allows the wearer to put on or to remove the clothing easily (Figures 1 and 2).

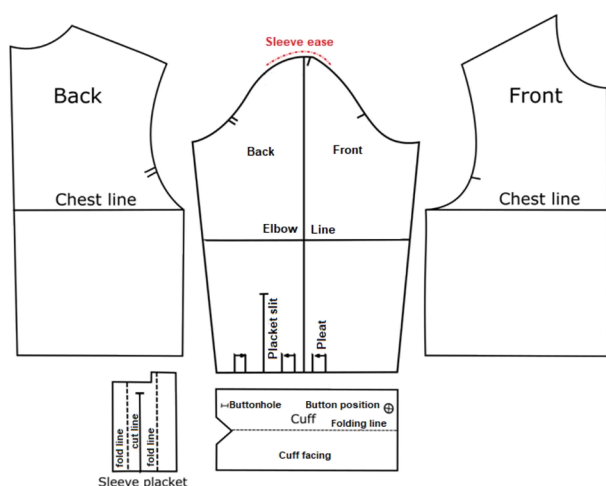


Figure 1 A complete set-in sleeve with cuff and sleeve placket



Figure 2 Showing a set-in sleeve with technical terms

Cuffs' original purpose was to protect the lower part of the sleeve from fraying and dirt, and it could be detached and changed easily; considered shirt was a luxury item only for the rich in the old days [4, 5]. Nowadays, cuffs are functioned as the closures for sleeves to keep us warm and a compliment for the sleeve style to give us psychological comfort [6].

In Part 1 (The Bodice) [7] of this study, a completed set of men's shirt patterns and three major patternmaking methods were introduced as the fundamental information. Then, through different significant periods, were analyzed the shapes, function and purposes of the bodice pattern.

In Part 2, major types of sleeves and cuffs were introduced; and through different significant development in the history of time, patterns of sleeves and cuffs were analyzed by the styles, shapes and sizes and their purposes until the modern day time. Finally, we will discuss

the future pattern development of sleeves and cuffs that follows the new direction of technologies.

2 ANATOMY OF A SLEEVE

A sleeve contains a sleeve cap, two side seams and a sleeve hem. A sleeve cap is the measurement of the arm sync plus ease. The bigger armhole, shorter sleeve cap height, baggier sleeve style, and more freedom for movement but increases wrinkles gather underarm. On the other hand, smaller armhole, taller cap height, slimmer sleeve style and limited movement, yet fewer wrinkles appeared underarm (Figure 3) [8].

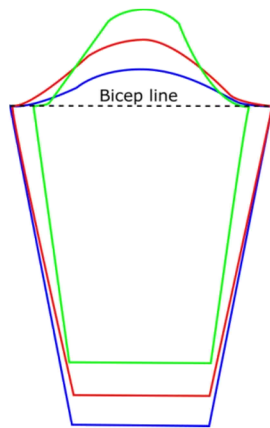


Figure 3 Same sleeve length but higher the sleeve cap height, narrower the bicep line

2.1 Types of sleeves

Sleeves are divided into three major types: set-in sleeve, raglan sleeve and Kimono sleeve [9].

Set-in sleeve

Set-in sleeves are attached to the shoulder point and around the arm sync seam. Most of the set-in sleeves have an extra room (ease allowance) around the sleeve cap to accommodate the contour of the upper arm and to provide movement comfort as presented in Figure 4, and the ease can be converted into gathers, darts, tucks or just ease-in to join the bodice.



Figure 4 Shirt with set-in sleeve and cuff

Sleeve length can be short, mid-length, long or any length in-between for the fashion sack. The width can be fitted, flared, baggy or anything trendy. Sleeve hem can also be finished in a variety of ways with or without a cuff. More, for a very slim-fitted sleeve, a gusset is needed to compensate for the restriction of movements (Figure 5). A sleeve just has the sleeve cap without length is called a cap sleeve and is a design element usually in women's clothing.

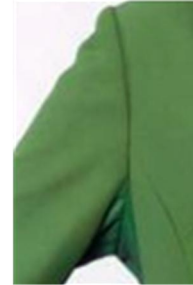


Figure 5 A gusset piece is inserted underarm

Raglan sleeve

Raglan sleeve pattern [10] is a long pattern piece because part of the bodice, usually the front and back from part of the neckline closes to the shoulder and cuts diagonally to the armhole, is joined to the sleeve. It creates a roomy sleeve for movement, however; it also increases the wrinkles underarm due to the extra fabric used (Figure 6).



Figure 6 A baseball shirt with raglan sleeves

Kimono sleeve

Influenced by the Japanese Kimono [11, 12] of which the sleeves and the bodice are joined in one piece. Arm sync can be deep or shallow but wrinkles are always shown at underarm areas (Figure 7).



Figure 7 A pair of big and loose Kimono sleeves on a shirt

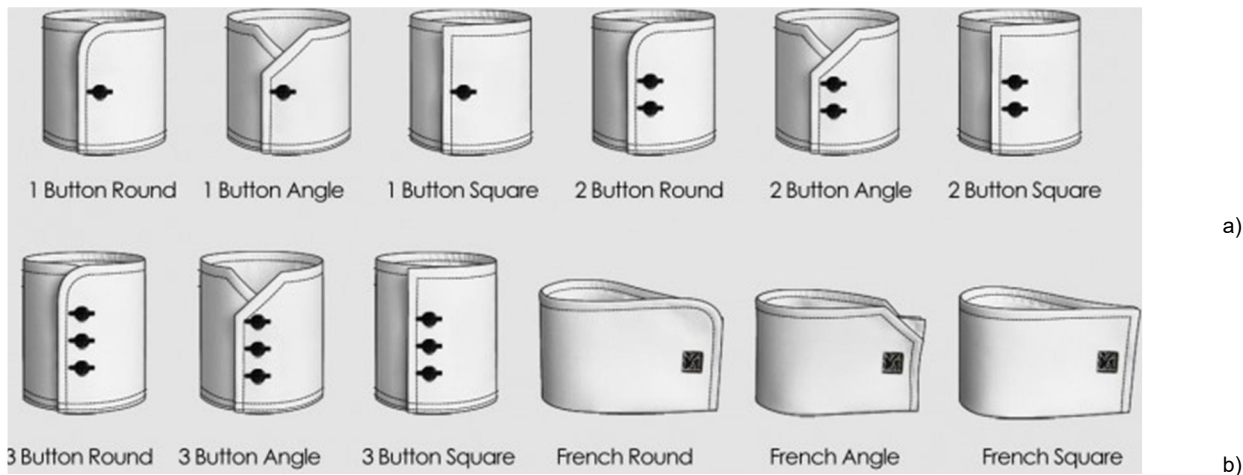


Figure 8 Barrel and French cuffs in styles of combinations of cuff width, cuff corner finish and number of buttons

2.2 Types of cuffs

In tradition, cuffs are only paired up with set-in sleeves to gather the extra fullness from the upper sleeve by pleating and to fit comfortably to the narrower circumference of the wrist. Cuffs come in so many different styles and are roughly divided into four major types: barrel cuff, French single/double cuff, convertible cuff and reversible/turnback cuff.

Barrel cuff

This is the most commonly used cuff type for men's shirts. The barrel cuff is a simple piece of rectangular fabric wrapped into a tube-like shape and sewn onto the sleeve hem, then is fastened with a button or a snap (Figure 8a and Figures 9a-c).

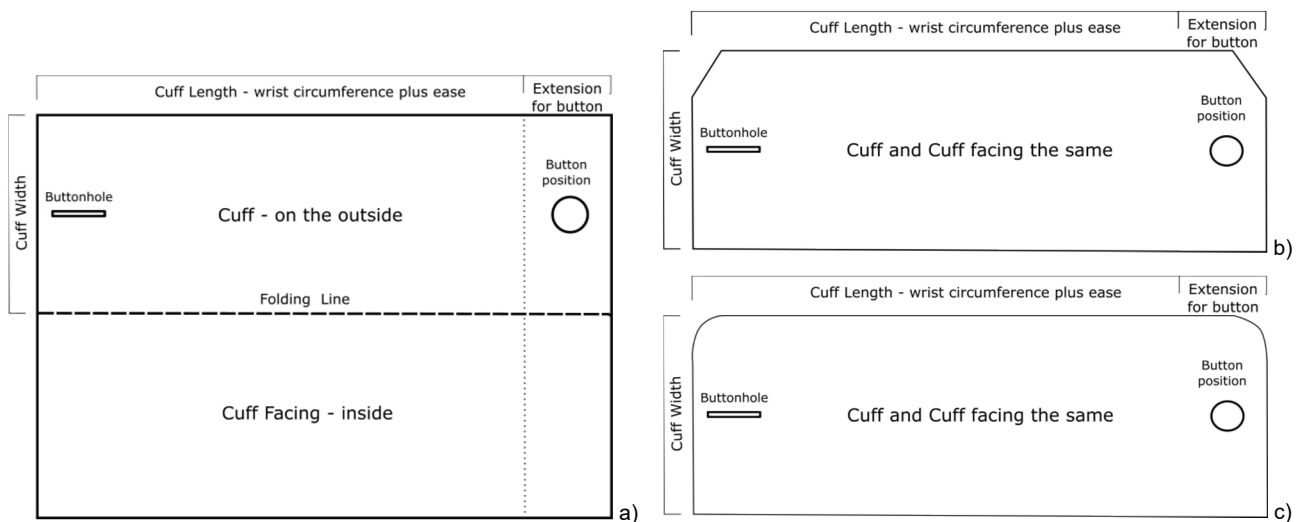


Figure 9 Pattern of a square cuff, no seam allowance (a), pattern of a mitered/angle cuff, no seam allowance (b), pattern of a round cuff, no seam allowance (c)

French cuff – single/double

A traditional French/double cuff is double the width of the barrel cuff so it can turn back on itself and is shaped like a trapeze to be fastened by cufflink through two buttonholes without any button. When the cuff is shaped like a barrel cuff with two buttonholes on either end of the cuff and be fastened by a cufflink is a single cuff (Figure 8b and Figure 10).

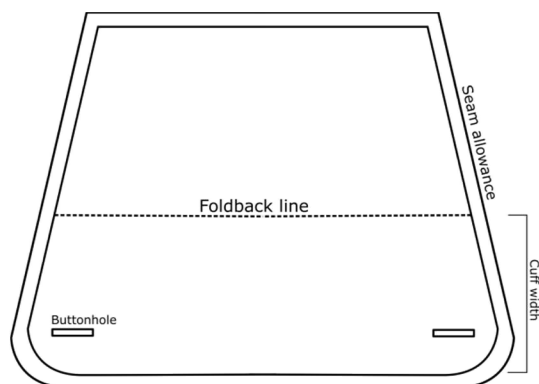


Figure 10 A round corner French cuff (double) with seam allowance

Convertible cuff

It is a barrel cuff with an extra buttonhole on the button side of the cuff so it can be converted to a single French cuff (Figure 11).



Figure 11 A convertible cuff has two buttonholes and one button at the cuff ends and allow you to change from barrel to French cuff (single) style easily

Reversible cuff

Reversible cuffs are also named cocktail, turnback or James Bond cuffs (since it was shown in the movie). Cuff is shaped like barrel cuffs but the width is double so it can be turned back on itself and fastened by a button. Modern reversible cuffs will use a contrast fabric for the cuff facing and will be shown on the outside when it is turned back (Figure 12).

2.3 Styles of cuffs

Cuff styles are the combinations of one, two, three button and square, round, mitered corner.

However, French cuffs are only paired with cufflinks and are styled by a different corner without buttons (Figure 8).



Figure 12 A reversible cuff is similar to a barrel cuff but has a contrast facing to give a different look when you turn back the cuff

3 THE TRANSFORMATION OF MEN'S SHIRT SLEEVES AND CUFFS FOR THE LAST 100 YEARS

Even though men's shirt bodice has been changing from pull-over to coat shirt style (front button-down), from baggy fit to very slim fit, to hip-hop baggy then to modern classic fit; shirt sleeves and cuffs even have been changed for a few time, however; the basic shapes are similar since the main purposes of sleeves and cuffs are to give the wearer protection, warmth and comfort in movement; hence psychological comfort becomes minor important. The following are the highlights of sleeves and cuffs from the last 100 years.

The 1900s – 1920s

Inherited from the late Victorian era, the cutting of men's shirts was still big and roomy at the beginning, then it slimmed down through time. Dress shirts and work shirts were similar in size but dress shirts were always starched to set well; and ornated with pleats, tucks or just plain on the chest, tall collar and sewn by felled seams. On the other hand, work shirts had a soft collar. During the Edwardian era, social relationships were strictly defined, and "manners" was important among and between the classes, such that; work shirt also named outing shirt and negligée shirt (not sleepwear) which was cut the same as work shirt with a soft collar but was made with different materials (not heavy twill), and was worn in different occasions. Sleeves and cuffs during this time were loose and long; upper arm circumference was 48 cm; wrist 25 cm and length was 89 cm including cuff. Dress shirt and work shirt sleeves were faced with sleeve facing or with squared plackets; round and pointy plackets were developed later on (Figure 13), 2-button, 3-button and adjustable button cuffs (Figure 14) appeared on wider cuff width, also detachable cuffs attached on a wristband – a narrow piece of fabric to encase the sleeve hem (Figure 15).

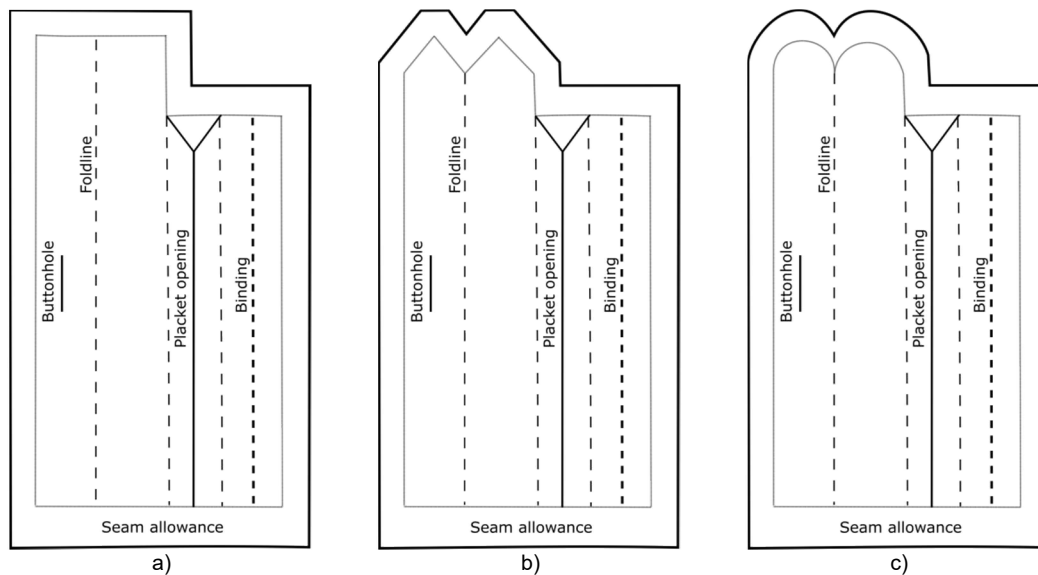
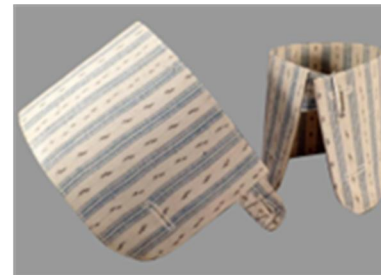


Figure 13 A square placket (a), a pointy placket (b) and a round placket (c)



a)



b)

Figure 14 An extra button to adjust the tightness around the wrist

Figure 15 A pair of starched detachable cuff with loops to hook on the buttons on the waistband

Work shirt emphasized strength, sturdiness and durability, in such that a few details were developed to suit these purposes:

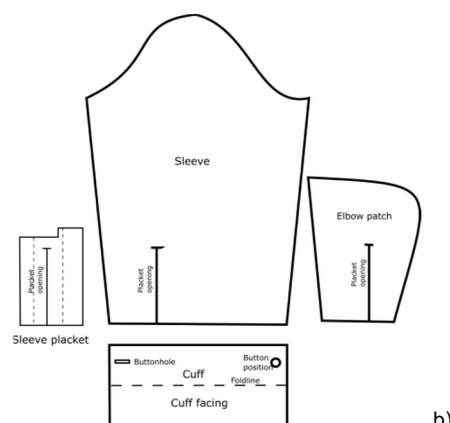
- Elbow patch - double thickness on elbow area (Figure 16)
- Double sleeve - back yoke connected to the backside of the sleeve (Raglan style) and

double the thickness on the sleeve back (Figure 17)

- Ventilation arms - air holes were punched along the underarm edges or part of the underarm seams were unsewn (Figure 18)
- Triple seams for durability



a)



b)

Figure 16 An elbow patch on the back sleeve with a square placket (a) and a set of square placket sleeve with elbow patch patterns (b)

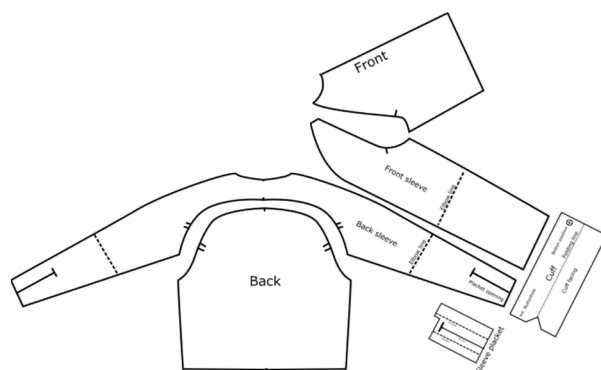


Figure 17 A double sleeve and double back pattern set is the joining of the back yoke and the back sleeve of the raglan style in one continuous piece and is cut twice for better durability, wear and tear



Figure 18 Part of the underarm seams was unsewn for ventilation of moist and heat

Until the early 20s', work shirts for a 38 cm neck size, were slimmed down to chest 114 cm, waist 105 cm, sleeve width 36-38 cm, length to 86 cm (from center back to wrist) including a cuff for work purposes and this marked the model of the modern classic fit for today. Very soon, the dress shirts were quickly adapted. The classic sleeve pattern set is presented in Figure 1.

The 1930s – 1940s

Hawaiian shirts, Cuban collar shirts and Camp shirts were popular during this era, short sleeves everywhere from quarter length to midarm to $\frac{3}{4}$ length (especially in baseball shirts and knit shirts, Figure 19), full of colors, joy and energy. French cuffs were another trendy fashion symbol since cufflinks were popular as men's jewellery to show off their social status among them. However, the origin of French cuffs was still debating between the British and French.

The 1950s – 1970s

From the 50s' to 60s', the cutting of men's shirts remained unchanged, French cuffs were still used in formal attire and the classic fit was still popular, yet fabrics had more choices of colors and patterns. Polyester, which was invented in the 1940s, gained momentum and began to flourish in the 1970s.

Suddenly everybody was wearing tight, even skinny tight shirts and pants with slim sleeves and wide cuffs fastened by three buttons. Floral prints, psychedelic patterns, bright pinks and greens once awhile adorned the drop-shoulder sleeves on men's clothing on a "Saturday Night Fever" (Figure 20).

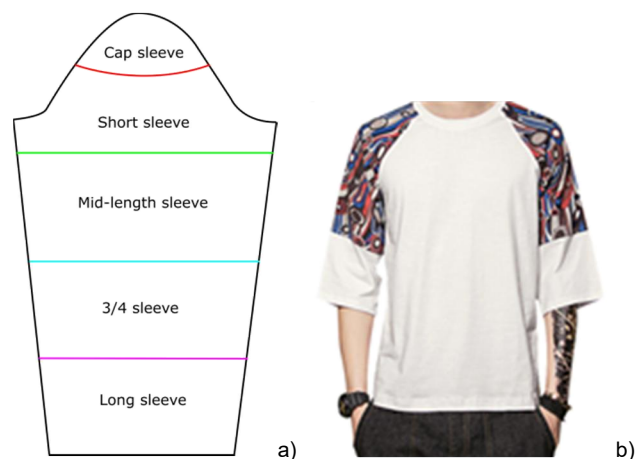


Figure 19 Sleeve length comparison diagram (a) and a three-quarter length T-shirt with raglan sleeves (b)

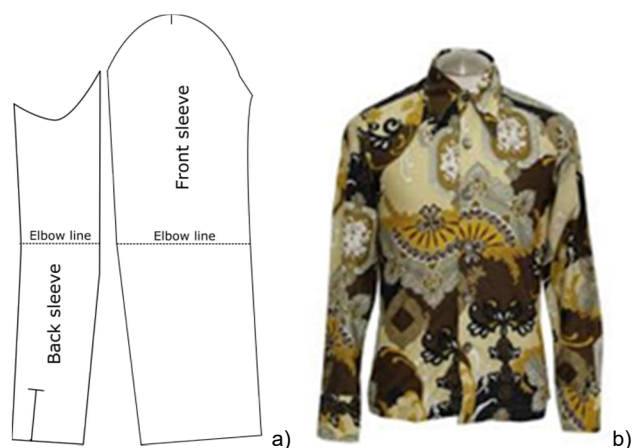


Figure 20 A two pieces tailor sleeve takes out extra fabric to create a slim look (a) and slim fitted polyester shirt with a psychedelic print (b)

The 1980s – 1990s

In contrast to the 70s', super baggy Hip-hop tee, dropped shoulder shirts, power shoulder-padded jackets, oversized armhole, exaggerated sleeve length, soft and draped; and cuffs were replaced by elastic ribbing, all and all were reflecting the freedom and rebellion spirits during this era (Figure 21).

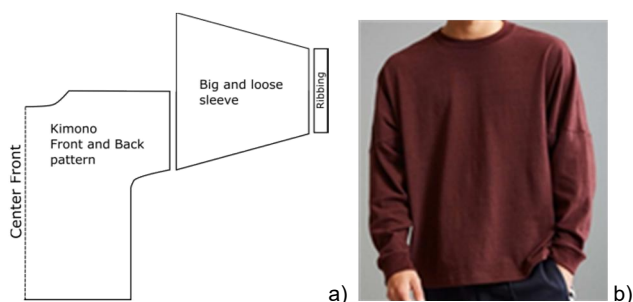


Figure 21 Showing half Kimono front with a full loose sleeve and a ribbing for wrist closure (a) and a Kimono style shirt with loose sleeve and a drop-shoulder effect (b)

The 2000s – 2020

Stepping into the new millennium, fashion branched out into different trends. Big and baggy, clean-cut, retro, rebellious, futuristic and all other styles; yet they all have the common thread that is the silhouette of the clothing is slimmer, even Hip-hop style is not as exaggerated as the 80s'. Instead of the craziness of fashion trends from the 80s and 90s', sensible fitted shirts with good proportions and colors came back to the spotlight (Figure 22).



Figure 22 Ordering tailor shirts or other merchandises online will be the future trend of lifestyle

More and more tailor-made clothing for the individual is available that you can order using online shopping [13] and at an affordable price. Since Michael Aldrich [14-15] started “teleshopping” in 1979, the basic idea of online shopping was set. Forty years later, online shopping has become a lifestyle. “It is growing at exponential rates. The ease of researching, buying, shipping and the huge availability of options from small retailers to large brands is driving more consumers online than ever

before”, said Larisa Bedgood – vice president of the V12 Data [16].

Size range is covering more diverse groups of body types or you can follow the online instructions to take your measurements for the tailor shop before you order it. For the mass production clothing brands, size ranges are also increased to meet customers' needs; however, the fits of men's shirts are still maintaining in three major groups which are Classic, Regular and Slim fit and they may be named differently like Casual fit, Tall fit, Contemporary fit and so on just to suit the brand's image and their consumers' market. There are also variations of fits derived from the major groups like Relaxed fit, Extra Slim fit and others. These are the fits that developed in-between or a bit more extreme from the three major groups. For examples, the Extra Slim fit is a bit tighter than the Slim fit resembling the 70s' clothing and the Relaxed fit is between the Classic and the Regular fit. The bottom line is that all these complicated scales and names are just to up-selling their products to their customers.

4 DISCUSSION AND CONCLUSIONS

From the beginning of the century, sleeves and cuffs were big and loose for comfy during work, and the triple-stitch seams plus other features like elbow patches, double sleeves, detachable cuffs and so on; to make sure the durability and strength of the clothing can last longer; considered shirts still an expensive item for work or leisure. During the 30s', short-sleeves, French cuffs and the Classic fit were in trend; until the new inventions of the colorful, stretchy polyester provided with all the slim-cut swiped through the 70s' and the baggy, crazy, no-boundary, full of imaginations 80s' - 90s'. Fashion trends nowadays seem to come back to the quiet, sophisticated, details oriented manner with a good proportional cut on clothing.

Since a few decades ago, researchers from clothing science and technologies have been looking for a new method to renew the men's shirt patterns. Chan et al. [17, 18] was comparing four popular traditional methods of shirt drafting, analysed them, and combined them with a 3D body measuring technique to predict the shirt patterns (Figure 23).

Other researches [19-22] were focused on wearing ease, postures and body movement, body heat, sweat and ventilation influenced on shirt patterns. With the improvement of the shirt patterns, sizing or grading systems and the computer-aided cutting systems [23-26] have to implement to offer the completed service (Figures 24-25).



Figure 23 A 3D body scanner

However, all these new inventions and technologies are based on the original basic men's shirt patterns for reference. Moreover; men's shirts are mostly made from woven fabric, even though fabric content may be blended in polyester fibres and added in a small percentage of spandex, elastin or nylon

to change the properties of the fabric to improve the abrasion, resiliency, elasticity and so on; however, woven fabric is still dictated by the warp and weft weaving structure which characterized the fabric (like draping, tenacity) and influences the cutting of the pattern, for example cutting on grainline is completely different from cutting on the bias. When looking at recent years of athletic sportswear which are usually made from knit or hi-tech fabrics that are composed of several different structures or materials to create one piece (Figure 26). Different sections or different cut patterns are combined to provide different functions to give the wearer the ultimate comfortable experience.

With the innovative growth in the technology of woven textiles, men's shirt patterns may follow this trend of comfort and functionality first before aesthetic needs and style. The classic sleeve and cuff that people have been using for over a century may completely change into a simplified and fluent one-piece sleeve with cuff joined together; or may even cut into three horizontal sections that fit the upper arm, elbow and forearm in contour format. The possibilities are unknown and this will be the witness of our time.

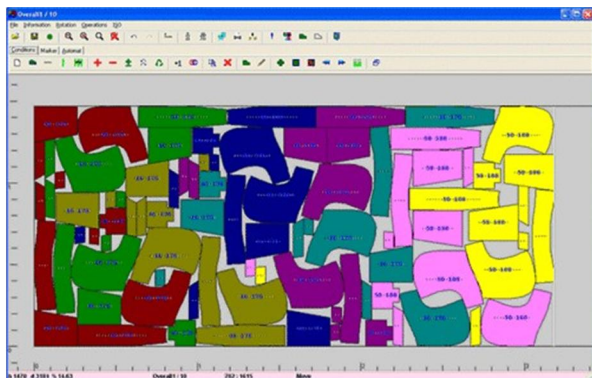


Figure 24 Using CAD system to arrange different sizes of patterns on a printout before fabric cutting



Figure 25 A laser fabric cutting machine



Figure 26 Hi-tech athletic wear with different sections, cut in pattern and functions composed together into one piece

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6 ILLUSTRATIONS

- Figures 1, 3, 9a-c, 13a-c, 16a, 17, 19a, 20a, 21a: owned figures
- Figures 2, 6, 7, 11, 10, 14b, 15, 19b, 20b, 21b, 22: from Pinterest, pinterest.ca
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- Figure 8: Tailors MB. Cuff Styles, Bespoke Suit, 2015 <https://modistobt.wordpress.com/2015/01/28/cuff-styles/>
- Figure 12: Touch of Modern, <https://www.touchofmodern.com/guides/3-different-shirt-cuff-styles>
- Figure 14a: Hugh & Crye, <https://www.hughandcrye.com/pages/convertible-cuffs>
- Figure 16a, 17, 18: A Brief History of the Work Shirt - 1900-1930 The Rite Stuff, <https://the-rite-stuff.com/blogs/news/the-evolution-of-the-work-shirt-the-work-shirt/>

- Figure 23: SS20 Size Stream 3D Body Scanner, <https://www.tradeindia.com/products/ss20-size-stream-3d-body-scanner-6480953.html>
- Figure 24: 9 Key Factors of Marker Making in Clothing Industry, Garments Merchandising, <https://garmentsmerchandising.com/key-factors-of-marker-making/>