

Overcoming the Sleeveil

By Lady Joan Silvertoppe, Collegium Caidis 2013

My Sleeveil Problems.

There are many problem areas that can happen with sleeves that will take a decent sleeve pattern, and turned them into sleeveils – evil sleeves that you just want to toss in a corner, while you sit in a fit with tears of frustration. I've had a variety of problem sleeveils, so I know what many of these problem areas are first hand. I've made them too short and too long by a few inches, by not understanding the key areas of the sleeve pattern and what I actually needed to adjust. I made them too short by shortening modern sleeve patterns thinking my arms are shorter than “average” when the given size was the right size. I've made one too baggy, and another too tight. I've made sleeve caps that couldn't fit into the armhole unless I added several more inches. I've made armholes that are too small for the garment, so that I have a hard time putting on the gown over the other layers of the garment I've made without help. I've shortened extra long sleeves to an inch of being right, but I actually wanted them baggy and just a little longer than what I ended up with. I've forgotten to have a fighter flex his bicep when I was measuring his arm, and made his sleeve too tight. I am not a professional pattern maker, but I've learned from every single mistake I've made – usually. I hope to help others avoid most of the mistakes I've made.

Sleeve Basics

Sleeve patterns come in a variety of shapes. But all sleeves have certain common aspects that need to be understood in order to deal with the problems surrounding those issues. (Illustration 1)

- **Armhole.** This is the length of the sleeve opening on your main garment made at the finished edge or along the seam allowance. The smaller the opening of your garment hole fit to your actual arm, the easier it is to raise your arms without raising your main garment. The larger and lower your armhole, the harder it is to raise your arms comfortably. This works along with your sleeve cap as we will note later.
- **Bicep.** The widest part of your arm, with full flex. This is the smallest your sleeve can be with fully closed seams.
- **Ease.** Extra amount of room in sleeve to allow larger range of movement and for comfort. At least 1”-3” should be given, with more possible depending on fashion.
- **Elbow.** About the mid point of your arm length. Some patterns may adjust this point.
- **Wrist or hand length.** If you want a close fit, with buttons or other closures, you will measure around your wrist. If you want to slip the sleeve on, measure around your hand near the knuckles. Be sure to add at least 1” ease to allow the sleeve to fit around your smock or shirt sleeve. Add more if you wear jewelry or watch or ruff.
- **Sleeve cap height.** At the top of the sleeve, the height between the sleeve bicep line to the shoulder point.
- **Sleeve cap length.** This has to at least equal the measurement of the armhole, but is often larger and eased, gathered or pleated into the armhole.
- **Sleeve length.** Straight forward length measurement of your arm, from shoulder point to wrist. Best when measured with a bend to your arm.

Parts of the Sleeve

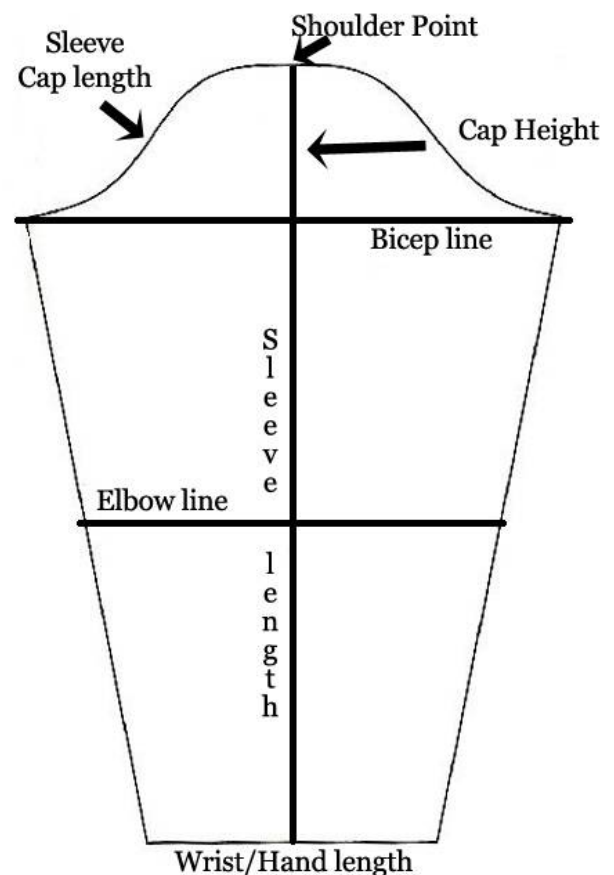


Illustration 1: Parts of the Sleeve

Sleeve shapes

Modern sleeves are often like the tunic sleeves, they are straight lengths of rectangles. Some shaping is provided at the sleeve cap area but in general the shape is rectangular. You can create a basic straight sleeve sloper (sloper is a basic flat pattern that other sleeve patterns are made from), and use it for basic sleeves or adjust & manipulate them to make other sleeve styles. Some period tailors patterns used a straight sleeve shape. The difference is that the seam was usually at the back of the arm, not underneath, so the curves will be different than the basic sleeve shape seen in Ill. 1.

However, our natural arms are not quite so linear. When your arm hangs at your side in a relaxed position, your hand and lower arm hangs at an angle to the upper arm. Modern suit coats, and period doublets (and similar garments) will use a shaped sleeve, usually in two parts, to create a sleeve that will hang along with your arm's natural position. This is another one of the basic sleeve shapes, and is what I use now for the basis of most of my sleeves for both women and men. There are many other sleeve shapes that are seen in period tailor's books and in surviving garments, and is beyond the scope of what I can provide in this class.

If you create a basic sleeve sloper, you can also use it to compare to commercial patterns, to make sure your basic measurements are being met and to know what areas to adjust. Adjusting commercial patterns for fit is another class unto itself.

Sleeves and armscyes

Sleeve caps are the key to the fit of the sleeve and how well you can reach up with your arm. Think of a long bow, with the wooden portion your sleeve cap line. If your sleeve cap is a straight line, like on period shirts or tunics, or the unstrung bow, your arm will have a full range of movement. The drawback to this is that there will be extra fabric under the arm when they are at your side. On the other end of the spectrum is a high sleeve cap, like a bow fully extended. There will be less fabric under the arm, the sleeve will be thinner, and the sleeve will look good while the arm is down, but the range of movement will be limited. This is how modern suit jacket sleeves are made – to look good while the arm is down, but you can't reach up shelves very well while fully buttoned up.

The tricky part is finding a good angle for the sleeve, and hence how high a sleeve cap to create. This also affects how wide the sleeve cap and hence how wide your sleeve will be. When the arm angle is down, your sleeve will be narrower because of the fully drawn bow, er, I mean higher sleeve cap. Also your underarm seam gets shorter as more of the sleeve length is placed into your sleeve cap area. But when your arm angle goes up, the sleeve widens as the sleeve cap (which is still the same length) widens and flattens like a partly drawn bow. Oh, and your underarm seam gets longer as less of the sleeve length is in that now shorter sleeve cap.

Modern sleeve patterns tend to have rather high sleeve cap heights of 4" to 7" high, so that the garment will look good when hanging down (they also tend to have deep armscyes as well). However, sleeve patterns drawn in late 16th and into 17th century tailor's books often show a minimal sleeve cap, around 1" to 3", and some are drawn flat (with wide sleeves) for maximum arm movement. As long as your sleeve cap length remains the same, it will fit within your garment's armseye. (See Illustration 3.)

One item that helps with the comfort and fit of your sleeve will be the extension of a gusset, or inserted gusset, in the underarm area. It is like having a hinge at your underarm that allows greater movement. One theatrical trick is to add a football shaped gusset to the underarm area if your sleeve has a high cap. Most period gussets are either squares or triangles.

There is a time when the sleeve cap height and length are both increased

RELATIONSHIP OF SLEEVE CAP TO SLEEVE ANGLE

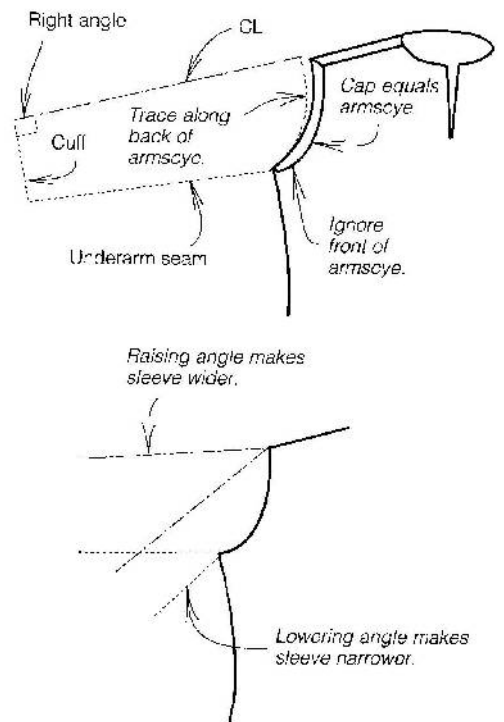


Illustration 2: Coffin, Pg 54.

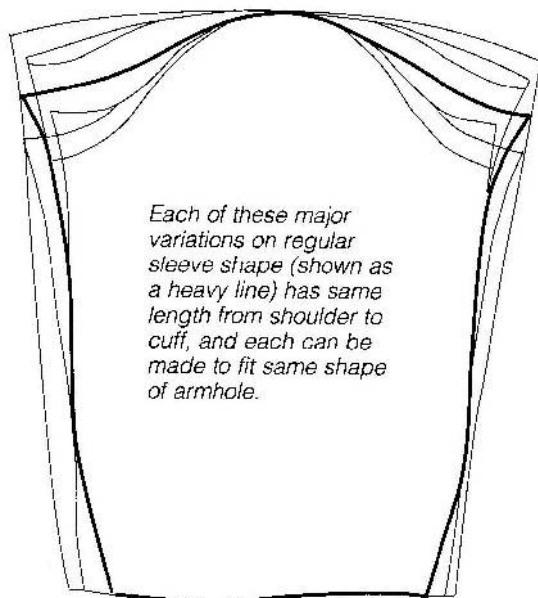


Illustration 3: Coffin, Pg 53.

beyond your measurements, and this is done when the sleeve will be pleated or gathered on top of the shoulder, for a very puffy sleeve. Some late Elizabethan sleeves are done in this manner. Some period tailor's books show a sleeve cap length that is longer than normal, with a shallow shallow cap height. These will be gathered or pleated into the armscye to provide a very full sleeve for great range of movement, while the underarm area remains fitted. And there are times when period sleeves will have their own rules, like with *la grande assiette* sleeve of the 14th and 15th centuries, or the tighter than actual arms fashions of the Italians, which allows large amounts of the *camicia* or shirt to show, as the back seam is deliberately left open.

Problem Areas With Suggestions

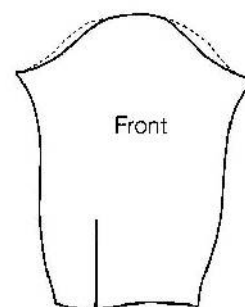
Most problems come from not understanding the basics of the sleeve. I've outlined those basics above. There are a few constants to keep in mind. And I've also offered some solutions based on what horrid problems I've had in the past.

- The sleeve must be long enough so that length should not get shortened below the length of your arm (unless you want a short sleeve). Some period sleeves were deliberately designed to be even longer than your arm, so you may want to add even more length. It is easier to remove extra length, then to sew on extra to add on.
- The sleeve cap length must be at least equal to the armscye length and probably longer so that it can curve over the top of your arm. You can take a piece of string or use your tape measure to make sure both lengths are at least equal. Another technique is to “walk the armscye” using your sleeve draft, to make sure the sleeve starts and stops at the right length. When you need to ease the sleeve cap into the armscye, “bend the fabric of the sleeve and the bodice over your finger at the seam line and it almost magically does the easing for you.” (a tip from Kathy Grassley, Ayla Tröstalltin).
- The sleeve opening at the wrist or hand must be wide enough to fit over your wrist or hand. You need to add at least 1” of ease so that it is comfortable. Remember that fabric cuffs of shirts will add extra layers, and take up some of that ease. Shirts and smocks, and even wrist ruffs should have some ease in their cuffs. The more layers you add at the wrist, the larger the opening the outer garments will need. If you have made the opening too small simply widen it and adjust the back seam, or provide a few inches of a slit (at minimum 3”) so that it can button or hook shut.
- If you have buttons closing the sleeve, place the buttons and the sleeve opening along the side of the arm, not along the bottom where you will place your arms when at a table.
- The bicep length may or may not fit well. Depending on your pattern, double check the bicep line to make sure it fits your measurement. If the bicep line is longer than your bicep measurement, that is ok as a part of the garment ease or it can be taken in a little. If the bicep line is shorter than your measurement, it needs to be made wide enough with some ease added for comfort (at least 1.5”). Make sure when you measure the bicep that you measure it flexed. This is especially important for muscular folks, where several inches can suddenly appear. If needed, mark the seam straight down to the elbow line before angling the seam lines to the wrist/hand line.
- Remember, the materials you make your sleeves from will take away in some areas of your final sleeve. Fabric has thickness. Fabric with interlinings and linings have even more thickness. It is better to add a little that can be removed later, than to not add enough and have nothing that can be added without problems or obvious flaws.

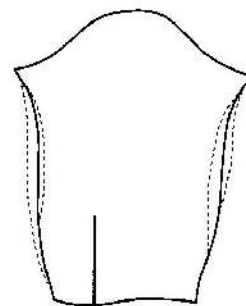
MINOR SLEEVE ADJUSTMENTS



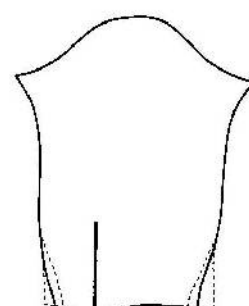
This change increases pull across chest or back; sleeve-cap change is minimal.



This helps reduce tightness in chest or back; may add to cap length, so remeasure.



This increases or decreases for biceps or forearms; be sure to keep same side-seam length.



This adjusts for larger or smaller cuffs, or for more or fewer gathers at cuff.

Illustration 4: Coffin, Pg 53.

- Above all, ALWAYS make a mockup of your sleeve at least once with at least a 1" seam allowance all around. Then baste your sleeve to your garment and try on the whole thing to make sure it fits as you want it to fit. Don't do as I have done many times before (usually when pressed for time), and only try on the sleeve without the garment it goes to. That is a sure fire way to think you have it right, only to find out that it really wasn't placed at the right place on your arm and now doesn't fit or look right. It also matters as this is the one time you will realize that your armhole may also be off and may be too low or painfully too high. This is also a great time to test, can you really reach that book on the upper shelf without problems? Get comfy in your mockup, move around in it, give it time to settle into place. Then look in the mirror, or get a friend to take photos of you all around so you can see exactly what is going on with your sleeve (and with your garment if it is all done in mockup form). Then adjust your pattern as needed, and if the problems were severe, make another mockup and do it again. Only when your mockup is as you want it (or only had minor issues) should you then make the actual sleeve in the nice fabric.
- If your garment is an outer garment, like a gown or jacket, put on the other layers that you will wear underneath the garment, then put on your mockup. You will need to know how well the sleeve, and the armhole will work in relation to the rest of your garments. Every layer will add thickness. Can you get into and out of the sleeves of your outer garment without major problems? If there are problems, you can lower the armhole a little more, and widen the sleeve cap length so that you can get into the garment easier. Better to adjust the pattern now than when the sleeve is fully made up.

This is not a list that covers everything. I have provided a small image (Illustration 4) above that may help with some adjustment areas. You may have problems I've not had to deal with. I suggest finding a good book on making patterns fit your body, especially when starting with commercial patterns. But I hope with these basics at what makes up the sleeve, and some solutions to problems that I've had to deal with, helps you to know you are not alone when sleeve problems come to annoy you. Really, they are just sleeves, and you can tame them and have them work well for you. Just relax, have a nice drink of your choice, and try again when you are ready.

Further Resources

Arnold, Janet. *Patterns of Fashion: The Cut and Construction of Clothes for Men and Women 1560-1620*. © 1985. Drama Publishers. ISBN 0896760839

Alcega, Juan De. *Tailor's Pattern Book 1589*. ©1999, Quite Specific Media Group Ltd. ISBN 0896762343

Amaden-Crawford, Connie. *Patternmaking Made Easy*. ©2005, Amaden-Crawford Inc. ISBN 0964951657

Coffin, David Page. *Shirtmaking, Developing Skills for Fine Sewing*. ©1998, The Taunton Press. ISBN 978-1-56158-264-8. (Provided me with descriptions of how sleeves work, when the pattern books did not.)

Dupuis, Tammie (Laurellen de Brandevin). *The Renaissance Tailor: Research, Pattern Manuscripts*. ©2006, http://www.renaissancetailor.com/research_main.htm

Friendship, Elizabeth. *Pattern Cutting for Men's Costume*. ©2008, A&C Black Publishers Ltd. ISBN 978-1-4081-0006-6. (good sleeve patterns with your choice for sleeve cap height.)

Ingham, Rosemary and Elizabeth Covey. *The Costumer's Handbook: How to Make All Kinds of Costumes*. ©1980, Prentice Hall, ISBN 0131812556

Johnson, Charlotte (Charlotte Wurtzel). *Sleeve Fitting: Farm Boy... Fetch Me That Pitcher*. ©2008. http://wp.bymymmeasure.com/sleeve_fitting or

<http://www.mathildegirlgenius.com/Documentation/SleeveClass.pdf>

(she provides an alternate method of understanding how to fit sleeves, along with a pattern sloper.)

Palmer, Pati & Marta Alto. *Fit for Real People. Sew Great Clothes Using Any Pattern*. ©1998, Palmer/Pletsch Inc. ISBN 0-935278-43-5

Thursfield, Sarah. *The Medieval Tailor's Assistant, Making Common Garments 1200-1500*. ©2001, Quite Specific Media Group Ltd. ISBN 0-89676-239-4. (Good period sleeve slopers and patterns, slightly taller caps)

Trump, R. W. *Drafting & Constructing A Simple Doublet & Trunkhose Of The Spanish Renaissance*. ©1991, Alfarhaugr Publishing Society. ISBN 0-9623719-2-0 (the basis for my sloper draft used in the class)

Please note that all the pattern slopers in the suggested resources above, except for Coffin, Johnson and Trump, tend to make them with specific sizes of sleeve caps that are tall. Friendship's book does not give specific sized sleeve caps, does show how to calculate sleeve width and "depth of head" (sleeve cap), but does not describe the why's of sleeve caps. Modern fashion industry pattern drafting books provide a cap height based on fashion size standards. Remember that period sleeve caps are much shorter in general.

DRAFTING THE DOUBLET SLEEVE

STAGE TWO

The second, and final, part of the sleeve draft is to actually draw the pattern shapes onto the basic block already established.

H to **N** = 2 times the CR. CR = Correction Ratio. (Height - 9") / 63.

Connect **N** to **3**, and **N** to **J**.

Round the curve **3 - N - J** as shown.

This is the front seam of the sleeve.

Square out at **J**, from the front seam line.

Do NOT use the guideline, but the actual seamline.

J to **K** = 1/2 desired wrist measurement.

Here, the wrist is taken as 1/2 of the BW.

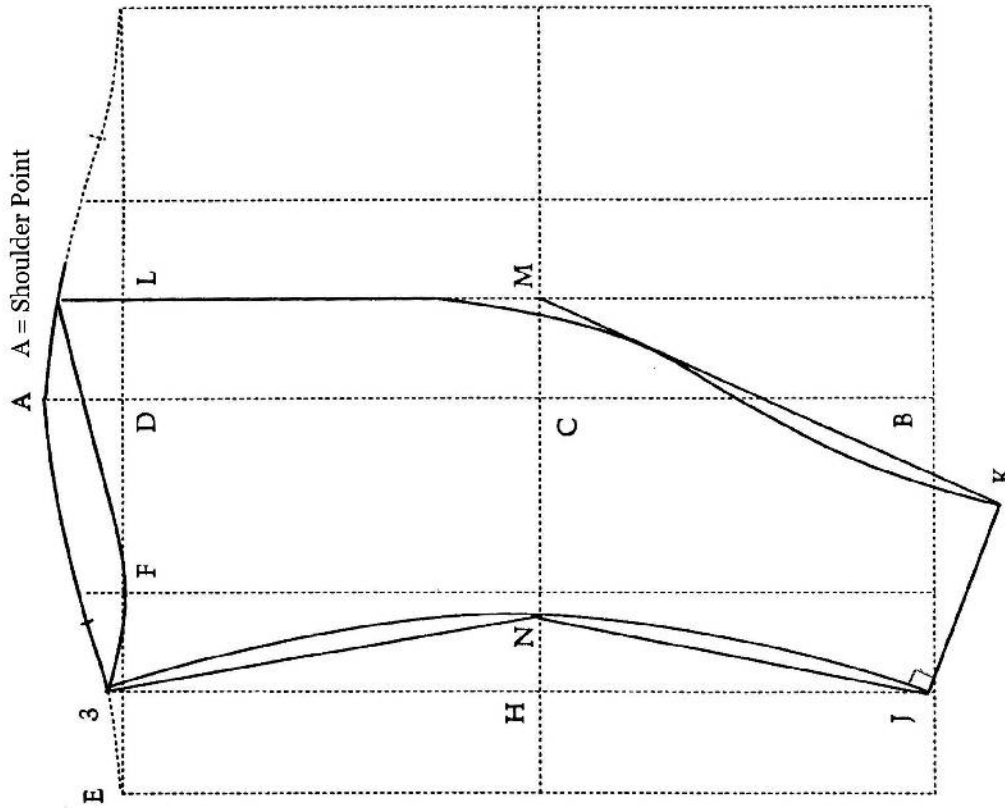
Connect **K** to **M**.

Round the curve of the back seam as shown.

Copy **3** to **E** from **3** to **F**.

Copy rest of cap line to complete sleeve pattern.

It is not necessary to use the separate undersleeve pattern, but Alcega does show it as an option.



H to **N** = 2"

Connect **3** to **N** and **N** to **J**.

Round front seam as shown.

Square out from **J**.

J to **K** = 1/2 wrist

Connect **K** to **L**.

Round back seam as shown.

Copy **E** to **3** from **3** to **F**.

Copy rest of cap line.

Illustration 10
ALCEGA DOUBLET SLEEVE
 STAGE TWO

Drafting & Constructing a Simple Doublet & Trunkhose of the Spanish Renaissance

by R.W. Trump, Pgs 22-23

Alfarhaugr Publishing Society, ©1991

Sleeves based on Trump's Sartor system.

Known in the SCA as Master Robert Sartor von Pays Bas.