Clothes and folds

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Clothes and folds

A cartoonist is concerned mostly with the doings of people, and most people wear clothes. Therefore, you must develop the ability to draw clothing of all types. You have learned how to simplify the human form: you must now learn how to simplify the clothes that go around that form. Study the effect that the action of the figures has upon the clothes due to twisting and pulling. A cartoon figure in action will twist, pull, rip and wrinkle the clothing. Remember you are not drawing a fashion plate. You are drawing an ordinary person whose clothes don't always fit him too well.

When drawing clothing on a figure, whether real comic or the adventure type, the most important thing to remember is that you are drawing a three-dimensional form. You are not drawing the clothing on a flat surface—the clothing goes around the figure and is in back of it as well as in front of it. The
sleeves and legs of a garment are hollow cylinders. Any pattern drawn on these cylinders must be drawn to suggest the true shape of the garment. As with perspective, you are faced with the problem of transferring a three-dimensional form to a two-dimensional surface without losing the three-dimensional effect. The wrong application of folds and patterns on a comic figure can kill the illusion of depth which you have created by the outline of that figure. Properly drawn clothing and patterns, on the other hand, will give additional depth to your drawing. When clothing the female figure, you will find that the little tension lines that you add around the breasts, hips, etc., will add much to the effect of the figure. It doesn’t hurt to suggest the leg under the skirt.

Also, when drawing the female figure, the styles of the times must be kept in mind. Even though you are drawing a comic, it is important that the clothing be up-to-date. Half of your readers are women and if your styles are ten years out of date, they will soon lose interest in your feature. Here again, your morgue plays a very important part. Keep a good, active file of Women’s Clothing and see that it’s kept up-to-date at all times. Good sources for this type of material are mail-order catalogues, fashion magazines and even daily newspapers. As with everything else you draw in cartooning, simplify the woman’s dress. Don’t attempt to make an exact copy of any dress or design you see advertised in a newspaper or a magazine. If it is an original design, you might be sued by the dress manufacturer—you don’t want to end up in the jug. The length of skirt is particularly important when drawing the female figure. Skirts have a habit of changing lengths radically from year to year, and a cartoonist who is drawing a daily feature and working several months ahead must develop a knack for foretelling the future.

The following pages will not only be of value to you right now, but will continue to be of value to you during the years to come. Styles may change, but folds never do. Make a habit of referring back to these pages whenever you are working with clothes and need a refresher.
The laws of folds and their simple diagrams

Here are the geometric diagrams of folds. We show you these, stripped of all nonessentials, so that you may better understand the basic direction and structure of each one. Actually the different types of folds do not repeat themselves exactly—only the principles are repeated. These diagrams are the principles. We hope they will help you to see through the irregularities present in all folds, regardless of the type of fold, and allow you to see the structure.

Pipe fold

This is not an exact pipe, but a tubular-shaped fold. It must be drawn to have a cylindrical feeling.

Zigzag fold

One fold is fitted into the next. The folds are usually contrasting in direction, are repetitive and interlock.

Spiral fold

This fold is usually tubular in structure, but has a feeling of continuity in an ascending or descending manner.

Diaper fold

This fold is triangular in shape, dropping away in a curving manner from one point to another on a horizontal line. Sometimes this has an angular, rather than a curved change of direction.

Half-lack fold

This fold is caused by a sharp change in direction. The emphasis is on the point where the direction changes and the slack areas meet.

Drop fold

Irregular dropping, creates numerous types of folds in the process. The emphasis is on the dropping action rather than on the detail of the individual fold.

Inert fold

These folds are characterized only by the horizontal surface on which they are resting.

Pipe fold

The pipe fold is the simplest form of drape. It usually occurs from one point of suspension or when pulled between two points. Always draw this fold with the understanding that it is the condensing of a large area of cloth into a smaller area. It is usually influenced by gravity and is under no strain, having a more or less smooth, even flow.

Here we illustrate the pipe folds by stretching them between two points. The folds fan out and get larger at the center.

A drape or curtain is gathered together at the top.

This is the area of cloth that is condensed in the drape by gathering it at the point of support.

The cloth looks like this from the end, which explains the pipe structure.

None of the cloth is removed. It is only condensed. Cloth must go somewhere. It has to fold.

The dotted line indicates the approximate fullness of the cloth before gravity influences it.

The lower part of the folds shows their round, pipe-like structure.

The fullness in this garment is gathered around the waist, which is the point of support. The pipe folds gradually fan out and radiate downward. Folds in a garment will vary in width when the action of the figure changes.
Zigzag fold
This fold usually occurs when a pipe fold is bent. The zigzag is on the slack side of the bend. This slack buckles in an uneven criss-cross way. It occurs because there is an uneven twisting of the fold that sets up a sharp, interlocking zigzag. These zigzags may not be even. The main thing is to keep the character and direction of the repetition.

Spiral fold
This fold is usually wrapped around a tubular form. It will change direction as the points of support and tension vary from place to place. Sleeves and trouser legs present good examples.

A tubular piece of cloth is placed around a cylinder with about the same amount of slack found between the arm and armhole. The amount of cloth is not reduced but condensed into a smaller area. It cannot leave the cylinder and consequently it begins to spiral as it is condensed. This is caused by the restriction of the slack between the cloth and the form.
Half-lock fold

The half-lock fold occurs when tubular or flat pieces of cloth change direction. The fold always occurs on the slack side. To draw the half-lock, first sketch in the general form of the drape. Next mark the angle of the turn. This is where the half-lock occurs. Then draw the rise and turn of the excess cloth as it folds in and out of sight.

The points shown by the arrows show the two parts of the cloth passing each other. This cannot happen. They must turn back as they are parts of a single continuous flow of material.

Three half-lock folds

Sometimes the fold actually locks, one area seeming to slide and disappear into the other.

Notice that the angle and direction of these half-lock folds are only slightly irregular. The change of direction here is mostly in the fold itself caused by the slackness in the cloth.

The cloth half-locks as it meets the opposing slack area. Part of the fold is inside and part appears to be on the outside.

See how this occurs on a trouser leg when a knee causes a change of direction.

The half-lock always occurs at the change of direction. Follow the dotted line to see the continuation of the cloth.

Double half-lock

There are two changes of direction—one at the leg or arm connection, the other at the knee.

The lower area of the skirt appears to "lock" into the upper area.

Diaper fold

From two points of support, the diaper fold occurs at the break or turn of the cloth. This is usually on a wide, flat surface, rather than on a tubular piece of cloth. Always draw this, accenting the sweep of the curve. The top of the curve is usually sharp, and the lower side of the fold is softly shaded. The angle and roll of the fold will change in character with different qualities and weights of material. As the points of support vary, the angle of the dip changes.

One of the points of support is lower than the other.

Both points of support are horizontal.

Diaper folds draped halfway around a cylinder.

When drawing a diaper fold, start by roughly indicating the direction of the fold as it radiates from the points of support. Then proceed to model it with shading without losing its direction.

A series of diaper folds in curtains.
Drop fold

From a point of suspension, the drop fold twists, turns and staggers. Sometimes it hangs straight, like a pipe fold. At other times, a curved edge will give it a spiral effect. The important characteristic is that it is dropping — regardless of small folds that occur during the process. Drop folds will contain small zig-zags, spiral, and half-locks — but they all contribute to the entire drop of the cloth.

Inert fold

The best explanation of an inert fold is to call it a “dead” fold. We say this because it is not active, or in use, but lies inertly. It can have all manner of individual folds on its top surface. Its basic characteristic is that it is lying limp, on an inactive surface. Its over-all feeling and direction will be characteristic of the surface upon which it is resting.
Draping the male figure

The folds in a draped figure are controlled by three factors: 1. The shape of the underlying form, 2. The action of the figure, 3. The cut of the garment. The folds caused chiefly by the laws of gravity are supported at two places: the shoulders and the waist. These folds are of a long and flowing nature. The folds caused mainly by tension occur at various points and are condensed in character. The main points of these folds are: shoulder-arm connection, elbow, waist, leg-torso connection and the knee. A study of the general character of each group of folds is necessary to drape the figure well. A garment is cut to clothe a figure and at the same time allow for its necessary motion and action. A garment is not just a piece of cloth, it is a cylindrical shape that is confined and has definite limitations of volume. A sleeve, a coat or a skirt is shaped to cover a similar form, allowing excess cloth for free use of the underlying form. When an arm, torso or leg bends or changes direction, the cloth slackens on the opposite side of the tension. This cloth obviously does not change in amount; it just condenses. As it condenses, it creates folds that behave in definite ways in different places. The way they behave is determined by gravity, tension, support and action. The captions and arrows on these pages need careful study. They cover the basic causes and directions of garment folds.
There are two basic points of support in draping the figure, the shoulders and the waist. All folds are controlled by these two points. On a standing, inactive figure the folds, influenced by gravity, drop with only slight irregularities caused by the changing contours of the body. In draping the male figure, the most important of these irregularities occur where the sleeve joins the shoulder and where the trousers meet the crotch.

From the outside edge of the shoulder, and from the protruding edge of the chest, the folds are pulled downward by gravity.

Although the trousers are supported at the waist, the wider point of the body at the hips becomes the actual point from which the folds fall downward.

As the shoulders and hips change position by a shift of balance to one leg, the points of support also change position and create a different tension. The dark arrows show the direction of the flow of folds which descend from the highest point of support and strongest points of tension.

Folds radiate from the protruding edge and follow the direction of the form.

When the coat is buttoned, a group of tight condensed folds occurs at the shoulder-arm connection. They radiate in a curving direction from the shoulder to the point of tension at the button.

The condensed folds that occur at the shoulder have pulled the free edge of the cuff of the sleeve inward toward the body.

The leg plants diagonally from the hip. The outer side is the tension side, and the folds will take the direction shown by the arrows to the upper point of support at the waist. The inside edge drops away, influenced by gravity.

In a tight, enclosed garment, such as a skirt or trouser leg, the folds fall diagonally, following the contour of the form. Below the point of tension, and on the side of the point of support, a slack area occurs.

Study here how the direction of the folds follows the direction of the twist and action of the body.

The flattest protruding edge becomes the point of radiation of the folds, although it may not be the actual point of support.
The Trouser
The high place of support is at the waist. The greater width of the hips affects the folds because they become a radiating point of support. You must always think of the form that the trousers are drooping or you will have no success in drawing folds. The lower body is cylindrical. Trouser legs are made to cover the cylinders with sufficient slack to allow freedom of action. The drape of the cloth must go around the form, and also obey the laws of gravity, support, tension and function.

These diagrams show the folds pulling upward to the point of support. This causes long sweeping pipe and drop folds that reveal the figure action.

The three arrows point to the three important folds, the top ones forming as the leg starts forward, the lower ones starting where the knee changes direction, the other shows a long sweeping fold without tension.

The Sleeve
These drawings of the sleeve in various positions are made up almost entirely of half-locks, spirals and zigzags. There is one basic half-lock that always occurs on the upper side of the arm opposite the elbow.

The black accents show the half-lock folds. This is a characteristic fold that occurs constantly in sleeves.
The coat

The coat or jacket is supported from the shoulders. Its range of folds is greater than the trousers, first, because of the increased action of the arms, second because it can be buttoned or unbuttoned and third because of the greater variety of garment design. The form and action of the torso and the arms must be understood to draw these folds correctly. The shoulders and arms create most of the folds because of their greater range of motion when compared to the limited range of the torso action.

The coat is supported from the shoulders and descends with few folds. The sleeve sets into the body of the coat on an angle where the arm and shoulder join.

When the arm is lifted, a tension occurs on the cylindrical sleeve that condenses the folds at the armpit in spirals and half-lock.

The arms raised in a buttoned coat cause folds to descend from the shoulders to the button and from the button outward toward the pockets. With arms raised, spiral folds radiate around the upper arm from the inside to the outside toward the elbow.

The tightness of the sleeve fitting at the armpit causes the entire coat to raise upward when the arms are lifted. This creates a group of diaper folds which cross from the two supporting shoulder points.

In this quartering view of the back, study the long sweep from the high shoulder, halfway down and across the back. This is a constantly recurring fold when an angular tension is created.

Notice the very large half-lock fold that occurs at the waist button position on the coat. This occurs because the figure is bent sideways and there is a great deal of slackness in the garment.

When the coat is not buttoned, the folds taper out toward the bottom in a free sweep from the shoulders.

The shirt

The greatest difference between the shirt and the coat is that the shirt is held rigid at the waist. The shirt is full and contains drop folds and pipe folds of great variety radiating from the waist to the shoulders. They vary in character in relation to the degree of tension present. A twist of the body will sometimes give them a tight spiral character, while a relaxed attitude, will create numerous diaper folds.

Because shirts have a yoke across the shoulders, folds descend from the yoke to the waist rather than from the top of the shoulders. These are pipe folds and drop folds. A change of tension caused by the lifting of the arms will change them to diaper folds.
Draping the female figure

Regardless of the wide range of cut and style in women's clothes, there are fundamentals that cannot be changed. A dress is supported from the shoulders, extends out over the bust and descends due to gravity in drop and pipe folds to its hem. It may be gathered at the waist and fall from the bust to the waist, to the hips — and then descend. Or it may be a separate blouse and a skirt. The skirt extends out from the waist and falls due to gravity from the point of largest circumference at the hips. This is traditionally a female costume, just as a man's costume is a coat, trousers and shirt.

Because of the variety in female clothing you should always sketch in the form of the figure first, and then drape the form. This gives you something to build on. It will be much easier for you to find the different points of tension and support and have the folds correct if you draw the figure first. The variety of volumes of cloth in different cuts of female garments makes this procedure necessary. Always follow the fold "through." That is, draw it completely around from start to finish by drawing its volume, its depth and its contour. When you do this, the fold that is controlled by tension will follow the form. Those controlled by gravity will find the protruding edge and descend.

The Form — The Action — The Garment
You must remember these three things to drape the figure correctly

When the arm is straight down, the folds spiral from the armpit forward around and up toward the outside point of the shoulder

On the female figure, the protruding busts create tension and a radiating point for folds. They radiate to the shoulder, the back and to the waist, or in a loose garment descend downward toward the hem of the bottom

The relaxed leg extended slightly forward becomes a light point of tension and influences the angle of the folds, radiating from the high support point at the hips

The sleeve "goes around" the arm. Here the tension is from the underside at the armpit. If, however, the arm were extended vertically, the sleeve would drop down toward the shoulder in spiral and half-back folds

This is the point of support for the torso from the waist as this hip is higher and supports the body, the outer leg being slightly extended and relaxed. This is the tension and support point for the diagonal, descending folds

From the hip, large descending folds follow the line of the leg. They cannot fall straight as there is a tension running from the opposite lower leg to this hip

This is the slack area of the skirt that swings down and out from the support point of the raised hip

Basic things to study and remember when draping a figure

If this simple garment were placed on a figure, it would hang straight—as shown at the right. Below, we show it gathered at the waist, which has caused the cloth to condense into pipe folds and puts a tension over the bust. Below and to the right, the figure has moved, with legs apart and the figure slightly bent back. In this stance the cloth drops from the bust over the stomach and falls between the legs. Study the outlined figure beneath and also follow the dotted line which shows the contour and volume of the bottom of the skirt
The suit
In the jacket, the folds are similar to those in a man's coat, with the exception of the extended bust. In figure 1, notice that the folds on the upper arms are "soft" folds without much strain, showing a generous amount of cloth from elbow to shoulder. The skirts on all three figures are creating long folds from hip to knee. The weight in each case is on the right leg, with the left knee extended. You will see that this makes a slight difference in the edge of the folds because each skirt is cut slightly different. In figure 3, the side view shows a long fold coming from the waist, following the contour of the leg. This is caused by tension created at the waist as the figure bends slightly back.
The skirt

Basically, the skirt is a cylindrical piece of cloth, narrower at the waist than at the hem. It must accommodate the lower portion of the figure. If you study the diagram at the right, you will see how the form looks below the skirt. You must always be conscious of this underlying form, as it governs all the folds of the skirt through the action and stance of the figure.

By studying the underlying figure you can see how these protruding edges affect the folds.

As the hand lifts this full skirt, several large pleat folds occur. The points of support are the hands, the hips and the waist.

As the figure leans over, the skirt lies flat on the rump for a short distance before it descends. This forward extension of the torso has caused the skirt to raise in the back. Usually one or two large pipe folds drop from the projecting edges at the buttocks.

By showing the figure inside the skirt, you can study the points of support and tension. The two long arrows show that the skirt is the same length on both sides. The basic points of tension here are at the knee of the extended leg and the hip. This creates a long, sweeping pipe fold from knee to hip in the slack area of the skirt.

The dress

Our chief concern is in the basic pattern of a dress—that is, those with tight or loose bodices and full or tight skirts. Most dresses fall into a combination of these basic designs. Different types of folds occur when the bodice is loose, as compared to one that is tight. This change demands careful study, as it will show how the degree of tension affects the character of the folds. This applies to either the skirt or the bodice. Below we show the basic types. Study the differences in folds between the tight and loose garments.

This shows a fitted dress with a reason-ably full skirt. By cutting the garment to fit the bodice, points of tension are reduced to a minimum. From the point at the waist the dress falls out over the hips and the looseness of the skirt from there to the hem. Most of the folds in this type of garment, with the exception of those occurring around the arm-shoulder connection at the sleeve.

The tight dress shows the many points of tension quickly because it hugs the form. This causes endless small folds radiating from the tension points.

The dress is fitted at the waist. The skirt has four, large pipe folds caused by the design of the skirt. Contrast this with the gathered, pleated skirt on the figure at the right.

A very full skirt made of soft material gathered at the waist will fall into numerous pipe folds.

The stance of a figure changes the behavior of the folds. If the hips are on an angle, the high hip will pull that side of the skirt up. If the skirt is tight, diagonal folds will occur from the high hip toward the outer leg. In a full skirt, as pictured above, there is little tension because of the fullness, and the folds fall directly down.

Half-lock at direction change

Pipe fold

As the figure bends forward, this side view shows how the rump lifts the skirt.

Half-lock

Draper folds in this slack area

Pipe fold
Cloth in action

Folds are governed first by the laws of gravity.
Gravity causes these folds to hang vertically.
The pull of gravity is down.

THOSE TRICKSTERS! THEY MUST HAVE GIVEN HIM SOME SORT OF DRUG!

Simple blocks of the hat and cloak make this character stand out. He was designed to be outlandish — and he is.

Heavy flight pants are apt to look more dented than wrinkled.

Look at and study the work of professional cartoonists.

Here the raised arm creates a tension which pulls the whole back of the coat.

Paint of support
Bottom is tension point

Air pressure

When a man is running his trouser leg is pushed back against the leg by air pressure.

Baggy pants create a bunch of folds.

Air pressure pushes the cloth against the form.

Pants hang from almost horizontal leg.

Hand in pocket lifts bottom edge of coat making folds.
Al Capp's hillbillies wear casual styles, with careful attention to patches and latters.

Whoops! It's a Honey!

Outline of cloth shows what is underneath.

Notice the natural fit and pattern of Penny's clothes—they're carefully worked out.

Not all tailors are artists when it comes to fitting their customers.

Pants are three tubes sewn together—so is the coat.

Bursting with muscles and energy, this athlete creates tension spots all over his clothes.

This mental athlete's coat is by Omar the Tentmaker, via Rube Goldberg.

The suit hangs straight down from a hanger.

The same suit takes its folds and character from the wearer.
To study and practice

When it comes to drawing simplified clothes and folds there is no substitute for knowledge of the real thing. This lesson, therefore, presents the subject in rather complete, realistic detail. Before considering yourself qualified to simplify the wrinkles on cartoon characters, you should spend plenty of time on this lesson.

For practice, make simplified tracing-paper overlays of photographs of men and women in magazines, working out the most important folds in their clothing. Study these folds carefully, noting especially the points of support, pull of gravity and effects of tension. Sketch your friends' and relatives' clothing -- and your own. Look through your course to see how professionals simplify the basic actions of cloth.

Your grade on these assignments will depend on how well you understand and draw cloth in action. The figures on the page marked Plate 1 and the actions in Assignment 2 were carefully chosen to let us see what you have learned in the lesson.

The assignments you are to mail to the School for criticism

ASSIGNMENT 1

Draw the following prescribed clothes directly over the figures on Plate 1.

Man Bowling -- Slacks, shirt with sleeves buttoned at the wrist, no tie
Girl Running -- Full skirt, blouse, apron
Man Seated -- Shirt with four-in-hand tie, business suit with vest, coat open, thumbs hooked under vest, hat tipped back on head

Before executing this plate, work out the folds in the clothing on tracing-paper overlays. Draw the folds on the plate itself with ink lines, using pen or brush. Keep the folds simple and do not put any shading in the drawing.

IMPORTANT - Mark this sheet ASSIGNMENT 1.

ASSIGNMENT 2

On a piece of 11 x 14-inch Bristol board, rule and ink a panel 7 inches high and 10 inches wide. Draw a cartoon of the following incident: A young man dressed in a business suit is seated in the faded parlor of a small-town boarding house. He is startled to see the owner of the boarding house, wearing work pants and a shirt without a tie, run through the room closely pursued by his wife. She is wearing slippers and a housecoat. Do this in pen and ink. Use either comic or realistic adventure style. You may follow the layout of this accompanying sketch or dream up your own composition, as you wish.

IMPORTANT - Mark this sheet ASSIGNMENT 2.

Present your assignments in the same clean, professional manner you would use if you were submitting them to the cartoon buyer of a publication. Let your name, address and student number in the lower left-hand corner of each drawing. In the lower right corner, place the Lesson Number and Assignment Number. Mail to:

FAMOUS ARTISTS CARTOON COURSE
Westport, Connecticut