Famous Artists Course

Famous Artists Schools, Inc., Westport, Connecticut

Artistic anatomy and the human figure in motion



Albert Dorne

Fred Ludekens

Norman Rockwell

Al Parker

Ben Stahl

Stevan Dohanos

Jon Whitcomb

Robert Fawcett

Peter Helck

George Giusti

Austin Briggs

Harold Von Schmidt



Anatomy and figure drawing

The human figure is nature's most marvelous accomplishment. It has a simplicity that can be appreciated by everyone, yet its mechanism is so mysterious that without a knowledge of anatomy it is hard to understand and harder still to draw.

This is the reason that we, as artists, must study and learn the artistic anatomy of the figure — the knowledge we gain will help us to make convincing drawings or paintings of the human form in every position, in every action or attitude.

In this lesson we will train you in <u>only the essentials</u> of figure construction and anatomy. The art student is not the student of medicine — it is neither necessary nor desirable for him to learn the complete details of the functions and actions of every individual muscle, tendon and bone in the body. However, we will cover all the fundamental requirements in figure construction which are important to your training. We will leave out the nonessentials.

Bones and muscles have a distinct bearing on the outward appearance of the body and on the actions the body can perform. So, in this lesson, we are going to show you how the bone and muscle structure works and what it looks like in action as well as repose. As you study and draw, remember to start with the basic figure. Use the bone and muscle structure to refine and modify the simple basic figure forms — to make them more lifelike. Never lose sight of the fact that your study of anatomy is a study of three-dimensional forms. These bones and muscles are not flat bands or lines beneath the skin — they are solid forms that protrude from the basic figure (like the bony kneecap or the biceps when you flex your muscle) or cut back into it (like the socket in which your eye is set).

From experience we know that beginning students of anatomy have a tendency to lose sight of the basic form of the figure when they start to study anatomy. You can avoid this error if you will look back through Lesson 4 and ahead to pages 24 and 25 of this lesson to observe that the basic figure needs very little addition or refinement of form to turn it into a real human being.

Do not make the mistake of thinking that the more bones and muscles you put in, the more real your drawing will appear. Instead, spend your time in a careful study of each stage of your drawing. As you work, ask yourself: "Have I made these figure forms too simple — is my drawing nothing but another basic figure — or have I put in too much detail and destroyed all the form, ending up with a medical chart instead of a figure drawing?" The ideal, of course, lies between these extremes. One of the best ways to judge how well you are using your knowledge of artistic anatomy is to study the examples of figure drawings and paintings by members of your Faculty and compare them with your own.

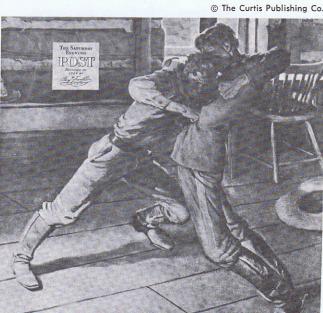
When you study the figure in action, you will observe that an amazing variety of action is disclosed in every movement, yet these movements do not in the least alter the basic construction of the figure. Many of the variations of small forms and structural details which are significant in their places are lost in the

larger and basic form of some stronger action. Always remember this important fact, for with this broad point of view you will avoid many problems in drawing the figure.

Again, we wish to point out that you are a student of art, and not of medicine. Memorizing the names of the bones and muscles is not an important part of your study of anatomy. In some cases a certain amount of this is unavoidable, but most of your time and interest should be devoted to studying and drawing the <u>forms</u> and <u>actions</u> of the bones and muscles as they affect the outward appearance of the figure.

You will find that you can draw clothing much more convincingly if you know the form beneath it, and how it changes with different actions. Many times you have seen a drawing of the figure in which the clothing or drapery has been beautifully handled — but it seems to have no connection with the figure it is supposed to clothe. The reason for this is that the artist did not have enough knowledge of the figure itself before he drew the drapery, so that he could not make you "feel" the figure underneath. The forms and directions which drapery takes are almost always entirely dependent upon the structure and action of the figure underneath. Since most of the figures you will draw will be clothed, this is another reason for studying simple anatomy.

You cannot disregard the great importance of anatomy in figure drawing any more than you can build a house and disregard its foundation and the basic construction in it which holds the house together — from the inside. Anatomy is fundamental in figure drawing. It will help you to know the figure and interpret it, both from life and photographs. As you improve your knowledge of anatomy you will be able to draw better from memory, too. You will not be limited to showing the figure in just a few attitudes, but will be able to draw it skillfully and confidently in any action you wish to portray.



HAROLD VON SCHMIDT

The figures in the painting above are based on a sound knowledge of anatomy—as is proved by the drawing of the same figures in the nude. Only when we know artistic anatomy can we draw the figure in every pose and make it look convincing—clothed or not.



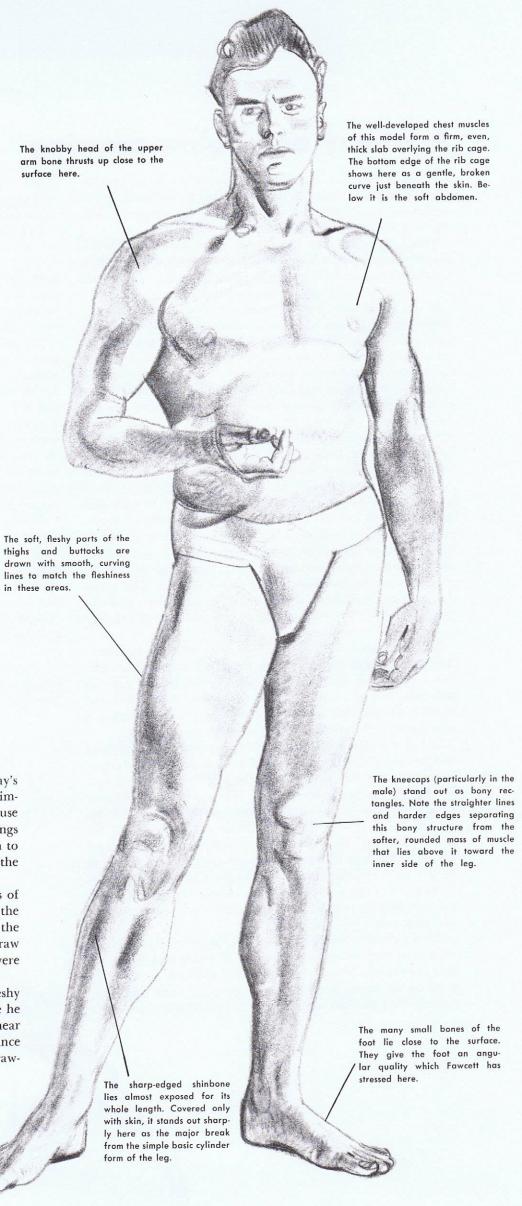
By applying a knowledge of simple anatomy to the basic form figure above, we can change it into real, lifelike figures like the ones shown here.

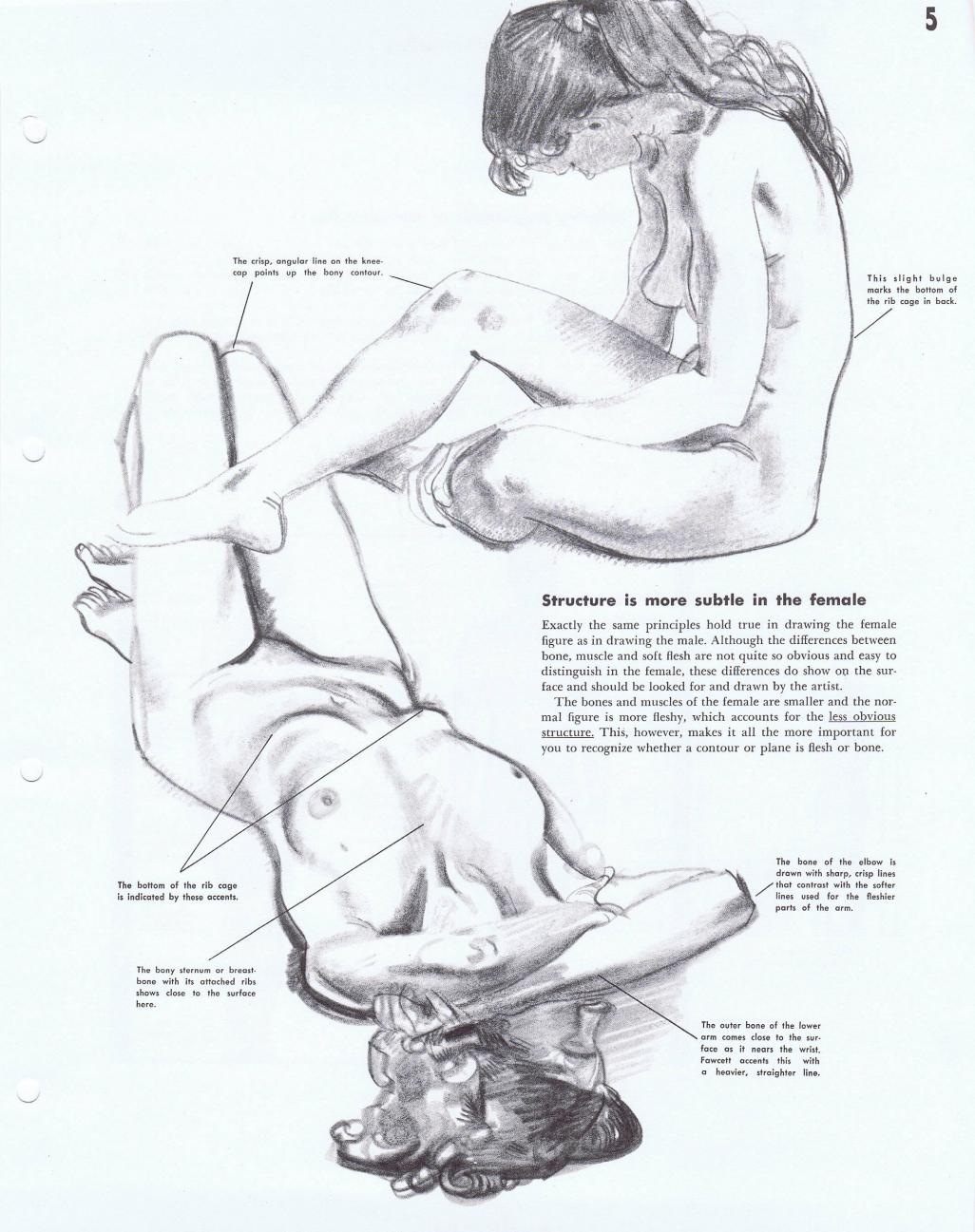
Bones and muscles affect the surface of the figure

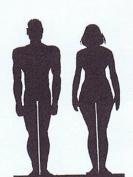
Robert Fawcett, one of the greatest draftsmen among today's professional artists, made these drawings to show you some important points to look for in studying anatomy and <u>how</u> to use them in drawing the human figure. Although these drawings are based on anatomical knowledge, in no sense has attention to anatomical details been permitted to weaken or destroy the solid form of the figure.

Fawcett's drawings show he is clearly aware of those parts of the body surface where the <u>bone</u> determines the form, of the parts where the <u>firm muscle</u> creates the contour, and where the body is <u>soft and fatty</u>. In other words, he doesn't simply draw the whole figure with a uniform line, as though the body were an unvarying fleshy mass.

Notice that the artist's pencil lines along the softer, fleshy parts of the body actually have a soft, curving quality, while he uses stronger, more angular accents to indicate that bone is near the surface. His sensitivity to the difference in the appearance of fleshy forms and bony ones is the main reason why the drawings appear lifelike.





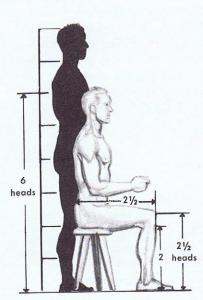


Note the difference in outline — especially at the shoulders and hips.

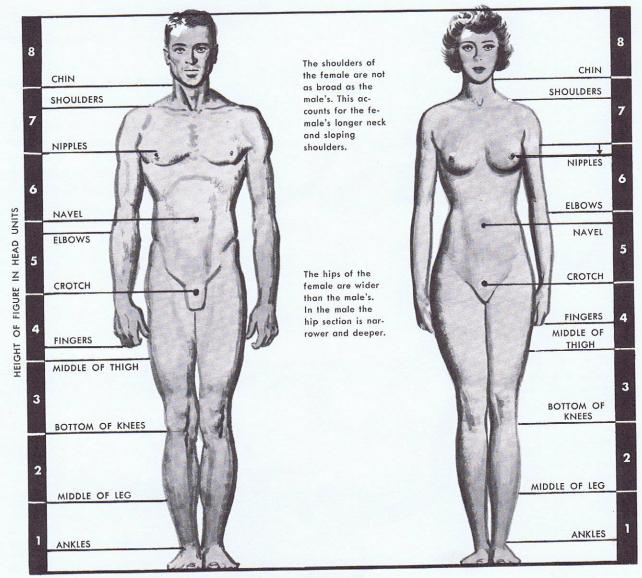
Relative proportions of the adult figure

The height of the figure should be about "8 heads" and is to be divided as follows: one "head" for the actual head, about ½ of a "head" for the neck and 2½ "heads" for the torso. This brings you 4 "heads" or halfway down the figure to the crotch, which is the middle of the figure. From this point down, it is 2 "heads" to just below the knee, and 2 "heads" from this point to the floor. Study these divisions in detail in the pictures. While the outline of the female figure differs very much from the male and though it is usually shorter, the same "8 heads high" proportion still holds true with very slight differences.

The bones of the male are longer and they have more rough surfaces than those of the female. The "breastbone" or sternum is longer and less curved. The pelvis or "hip section" is narrower and deeper — this makes the male much narrower in the hips than the female. The distance from the pelvis to rib cage or "upper body" is



In sitting, the figure loses about two heads in height.

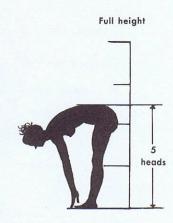


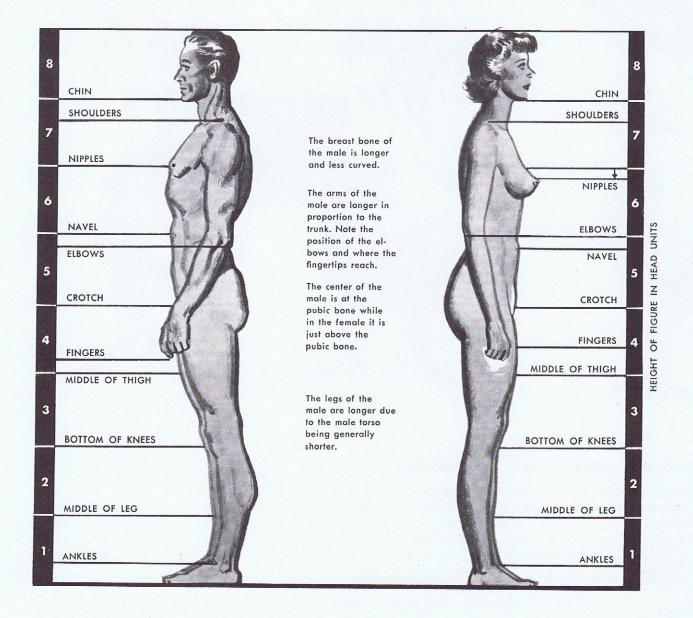
While the female is generally shorter than the male — to simplify the chart we show you the figures at the same height, since the "8 heads" measure applies to the proportions of both figures.

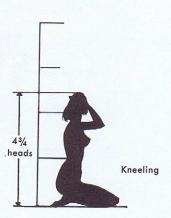
shorter in the male due to the deeper and narrower pelvis. In the female, the shoulders are not as broad and the collar bones shorter and straighter: this accounts for the more sloping shoulders and the longer and more graceful neck in the female.

The male arms are longer in proportion to the trunk than those of the female due to the longer humerus or "upper arm bone" and because of this the elbow is lower. The length of the torso in the male is proportionately shorter than that of the female. The legs are longer and the skull larger. The center of the male figure is at the pubic bone (just above the crotch) while in the female it is slightly higher. The width of the female hips is about equal to the width of the chest and one arm combined, and they are wider than those of a male of the same height.

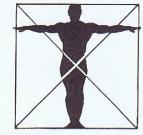
In the female, the muscles in the area of the hips are not well defined, partly because of their less vigorous use, but mainly because of a larger quantity of fat, which is especially thick over the thighs, the hips and the buttocks.

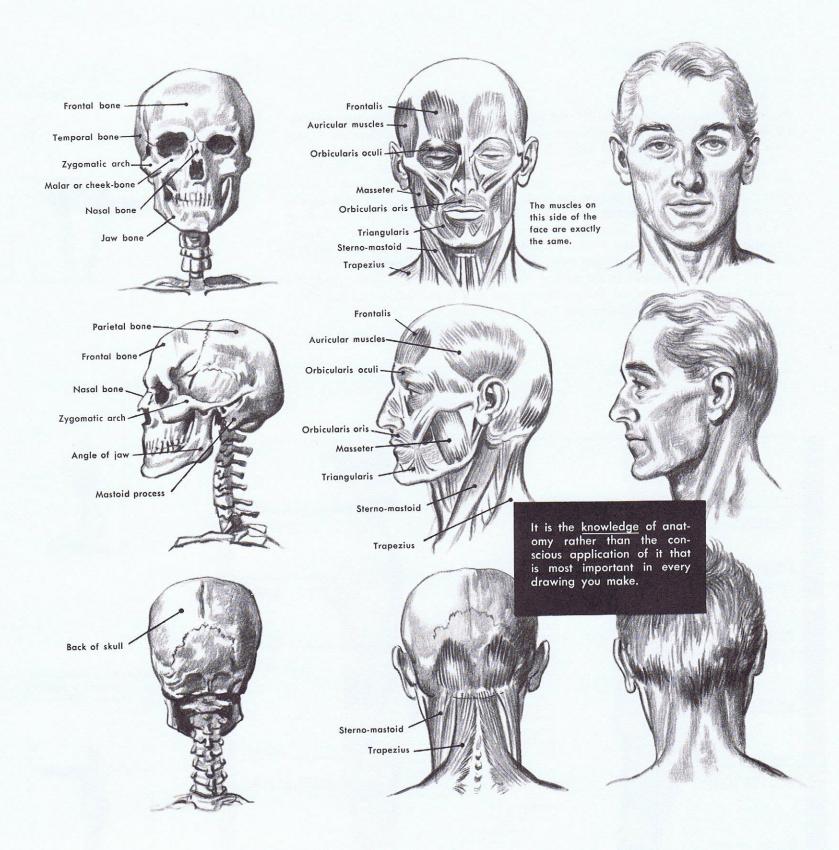






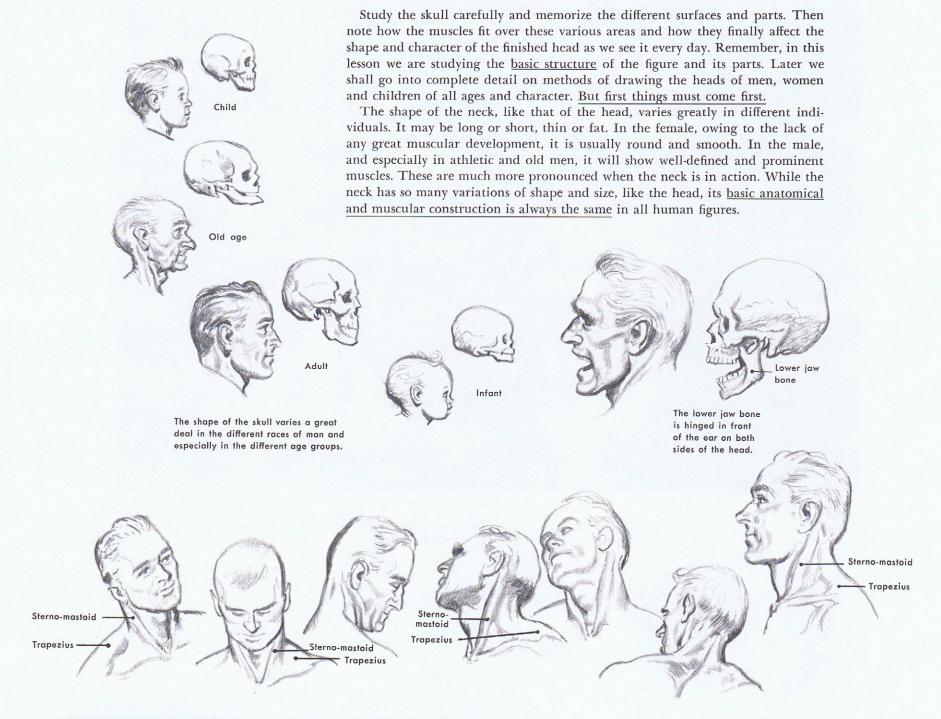
If you always remember that the center of the figure is at the crotch, you can judge how many heads high the figure should be when drawn in different attitudes.





The head and neck — skull and muscles

The hard bone structure of the skull is the shape-giving form which gives all human heads the same general appearance. However, the shapes of skulls vary greatly, especially in different races of men as well as in different parts of the world. There are the wide-headed men and the long-headed men — but no matter what the geographical origin or general appearance is, the basic structure of the skull, as well as the structure of the muscles over it, is the same in all human beings. As you study the skull and the muscles of the face, remember that they merely modify the simple solid structure of the form head you drew in the last lesson. A drawing of the head must be just that — a drawing of solid form, not a chart of the individual muscles beneath the surface.





BEN STAHL

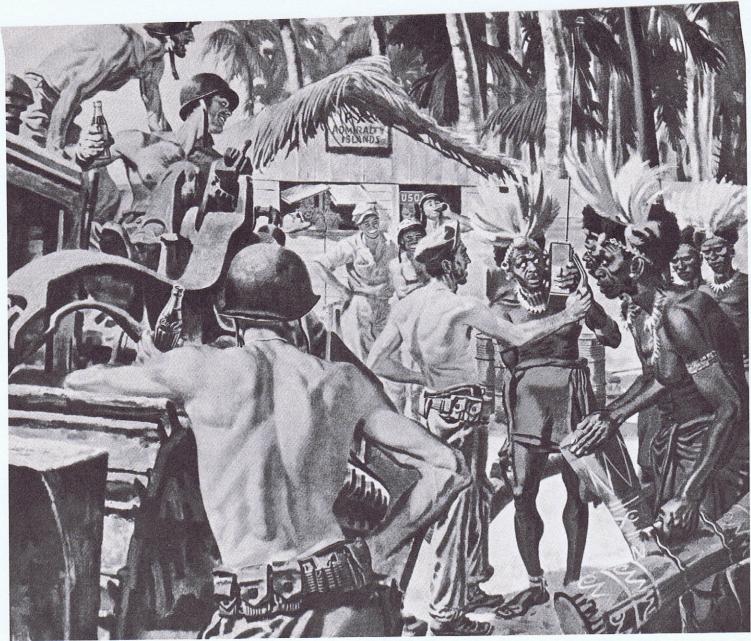
© The Curtis Publishing Co.



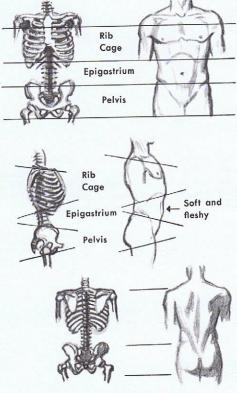
JON WHITCOMB

Study carefully the actions and movement of the muscles in the neck as they twist, turn and move up and down. The most pronounced muscle which influences the appearance and action of the neck is the sterno-mastoid. It starts in back of the ears and reaches to the pit of the neck. The trapezius is another important muscle greatly influencing the shape and action of the neck.

Muscles in the female neck, while they are the same, are much less prominent than the male's.



Although the figures in the vast majority of illustrations are fully clothed, the artist is often called upon to make pictures in which anatomy plays an important part. The convincing figures Albert Dorne drew here owe much to the careful study he has made of the human body.



Seen from the back the trunk consists of two parts.

The torso

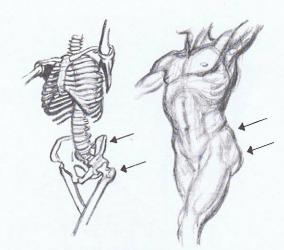
To understand the torso, it must be studied and drawn from many angles. The torso, from the front, is made up of three masses: the chest, the abdomen, and the pelvis. Between the chest and the abdomen we have the epigastrium (the upper part of the abdomen). The rib cage or chest is shaped like a cone with the base below. The upper portion of the rib cage appears broader than it actually is, due to the presence of the shoulders and collar bones. This, to a great extent, causes the shape of the actual rib cage to be lost from view. The chest and pelvis are fairly stable; the epigastrium portion is quite movable.

When seen in profile, the three sections of the trunk are even more apparent: the upper part containing the rib cage, the central part containing the abdominal mass, and the lower part, which contains the lower portion of the abdomen and the pelvis.

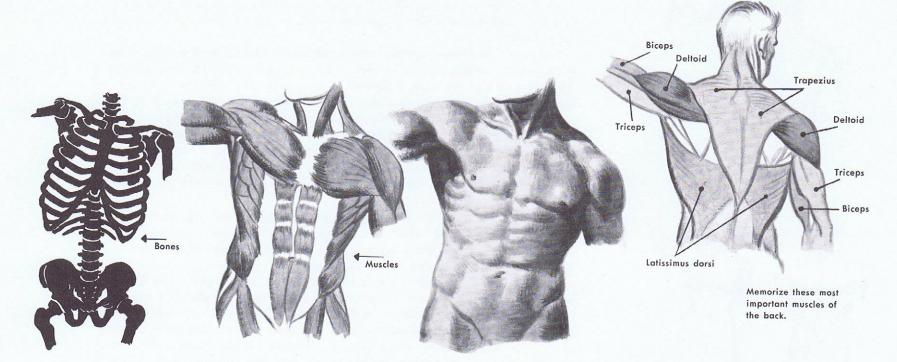
The trunk, when seen from the back, consists really of two parts: the back of the thorax (rib cage) and the loins or back of the abdomen. The difference between these two areas is not so obvious from behind as it is in front, where the top of the abdomen is marked by the lower margin of the ribs.

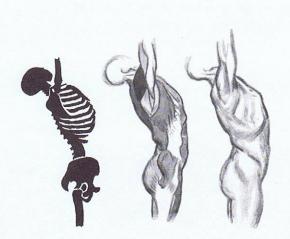
The only bony form in the central mass of the torso is the part of the spinal column in the small of the back connecting the upper region to the lower one. In the lower region the bones are deep seated and heavy, showing on the surface and affecting the external form at certain points. These points are at the crest of the pelvis, the coccyx (lowest tip of the spine), and the head of the femur (thigh bone).

The upper part of the torso is quite remarkable for its bony character. The rib cage, the sternum, the scapula (shoulder blade) and clavicles (collar bones), supported by the spine, enclose and protect the vital organs of the body. The muscles that cover this bony form greatly influence the planes and the effect of light and shade in constructing the figure. The abdominal area between the rib cage and the pelvic mass is fleshy, except for the spinal column. The movement of the vertebrae of the spine is visible along its course down the center of, and especially at the small of, the back. The scapula (shoulder blade) slides against the surface of the rib cage in any direction and may be lifted from it so that it becomes quite prominent under the skin. More than one-half the entire movement of the shoulder is caused by the scapula.

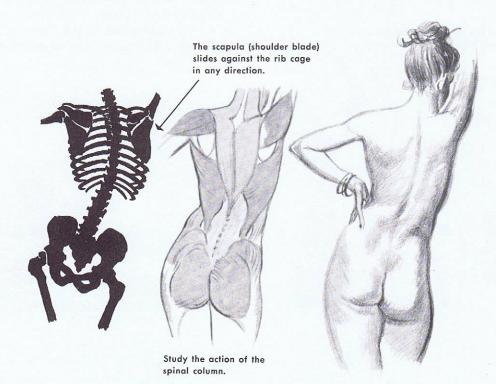


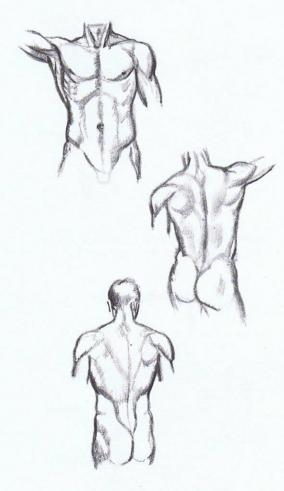
Arrows point to crest of pelvis and head of femur and show where they affect contour of hips.

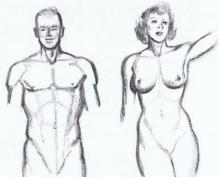




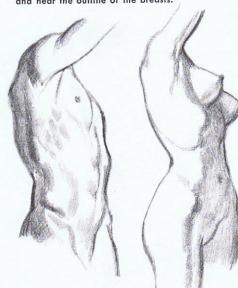
The abdominal area between the chest and pelvis is fleshy and allows for considerable movement.







Nipples are not in the center but at the side and near the outline of the breasts.



The front of the torso is divided by a furrow that runs vertically down the length of the torso, dividing it evenly in two. It begins at the pit of the neck between the clavicles (collar bones); as it passes over the breast it marks the breastbone and is deepened here considerably by the pectoral (chest) muscles on either side. At the end of the rib cage it marks the epigastric pit (where the rib cage diverges), this point being about one-third down the torso. The next third down brings us to the navel, and the last third ends at the symphysis (at about the pubic bone).

A similar vertical furrow marks the center of the back for its full length. The depth of this furrow is caused by the large mass of muscle which projects on each side of it and gradually increases in width but loses in prominence as it progresses upward. At the upper part of the buttocks the furrow gives place to a slightly depressed area, below which it again becomes the deep furrow which separates the buttocks.

The back of the torso presents many prominences and depressions. This is due to the number of thin layers of muscle which cross and recross its bony structure. The movement of the back is limited to the extent that the bony structure of the spine allows. From the rear the torso presents a great wedge with its apex pointed downward, the base of the wedge being at the shoulders. This wedge is driven in between the buttresses of the hips and forms the most notable example of the interrelation of parts which is so universal in the human organism. From this region come all the important actions that the human body is capable of. The hip and pelvis form the points of transmission of action from the lower to the upper part of the body.

While the muscles of the chest help to form the breast, it is a large gland, known as the mammary gland, which actually gives the breast its individual shape. Notice that the male breast is square rather than rounded and that its bottom is level with the lower end of the breastbone.

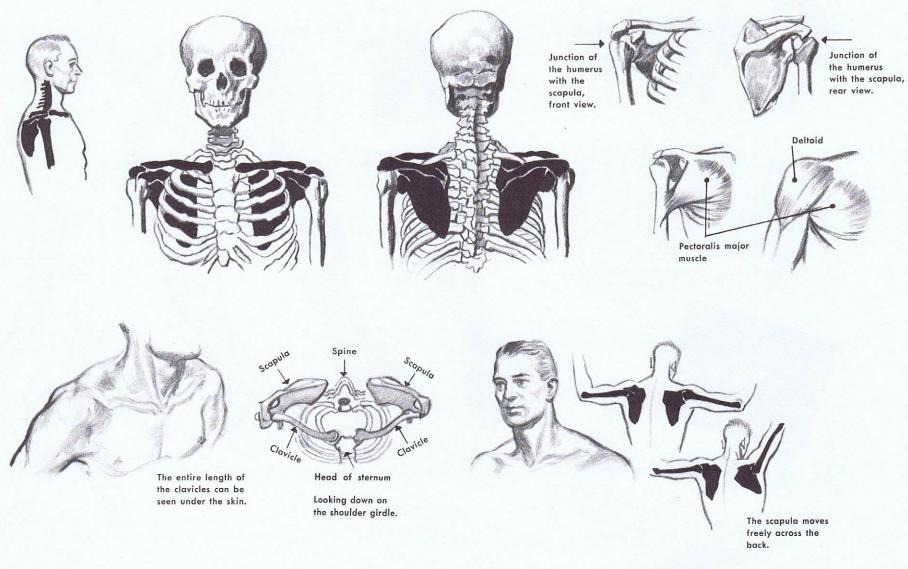
The breast of the female is noticeably different in its character. The rib cage, being smaller in the female, gives more space between the arm and the torso proper. The mammary glands in the female are much larger and fuller; however, the mistake is often made of drawing them too large. Another mistake in drawing the breasts from a front view is in placing the nipples in the center - they are at the side and near the outline of the breasts. The female breast projects like a half-sphere that is rather conical in shape, due to the nipples. The breast does not lie on the front plane of the chest but rather at the junction of the front and side planes. This causes the breasts to point slightly away from each other.





FEMALE

Looking down on both the female and male breasts — the female breasts do not lie on the front plane, but at the junction of the side and front planes. They are rather conical in shape and point slightly away from each other.



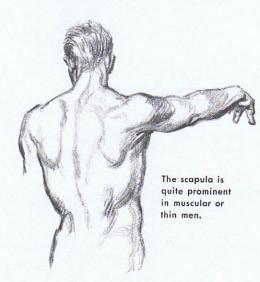
The shoulders and arms

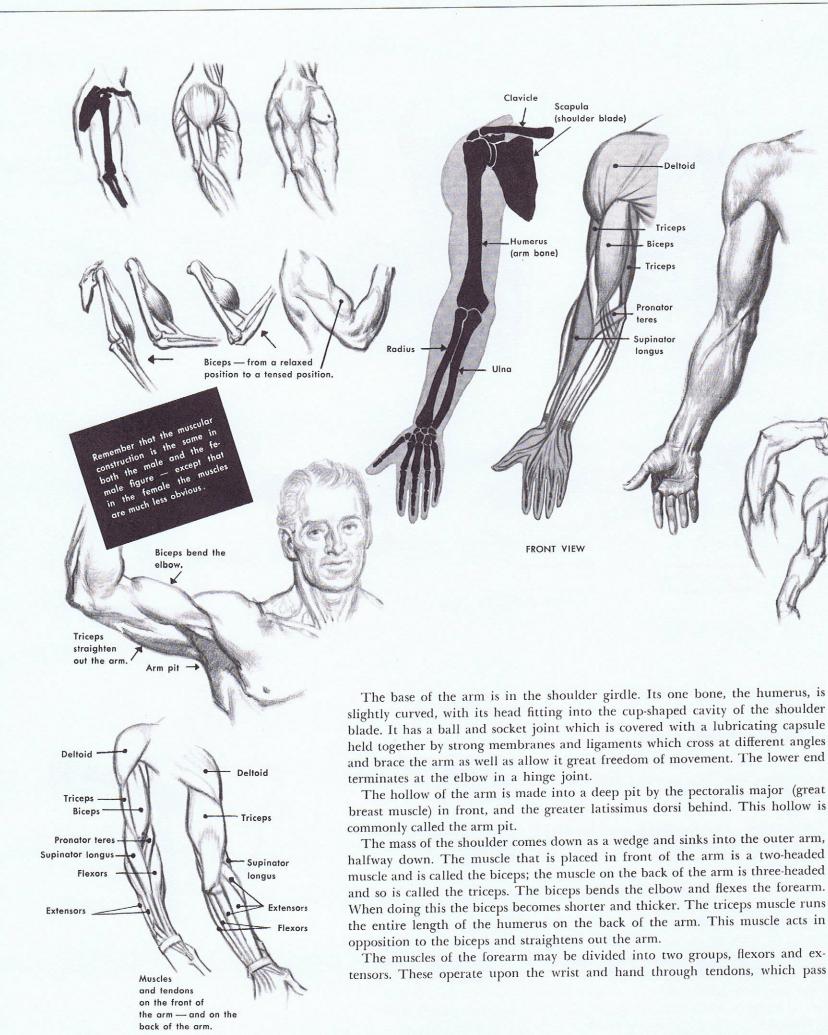
The arms are connected to the shoulders by means of a bony framework known as the shoulder girdle. More variety of action takes place here than in any other section of the body. Yet, though the range of motion of the shoulder girdle seems limitless, its structure is easy to understand.

Five bones make up the shoulder girdle — the head of the sternum (breastbone), the clavicles (collar bones) and the two scapulas (shoulder blades). You must carefully study the junction of the humerus (upper arm bone) with the shoulder blade and of the shoulder blade with the collar bone to understand the planes in the living model. Parts of the other bones show on the surface, and understanding them will help you draw them.

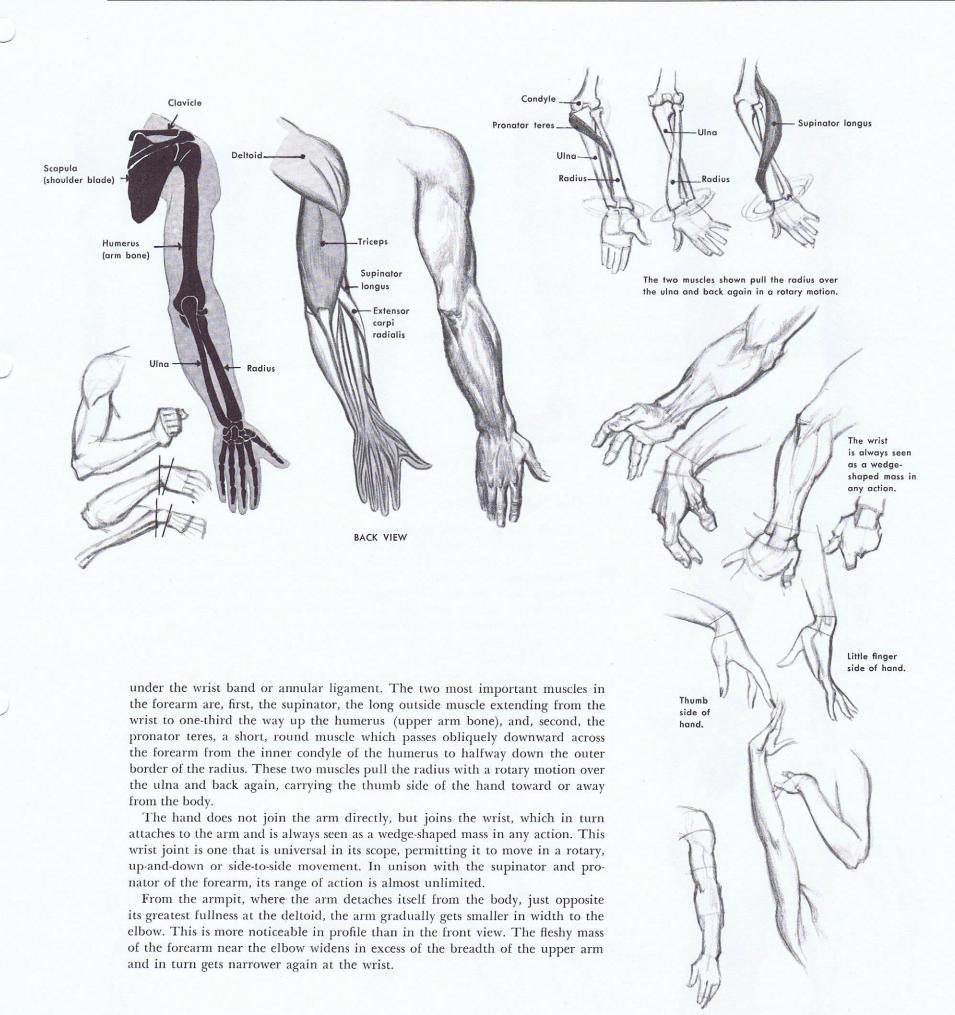
We can see the entire length of the collar bones under the skin — especially at a point not far from the end of the shoulder. There is always a small V-shaped depression at this point, marking the separation of the pectoral (chest) muscles from the deltoid (shoulder) muscles. We can also see the junction of shoulder blade and the collar bone, and under the deltoid muscle we can easily feel the head of the humerus, which forms the corner of the shoulder. The torso is widest at the shoulders

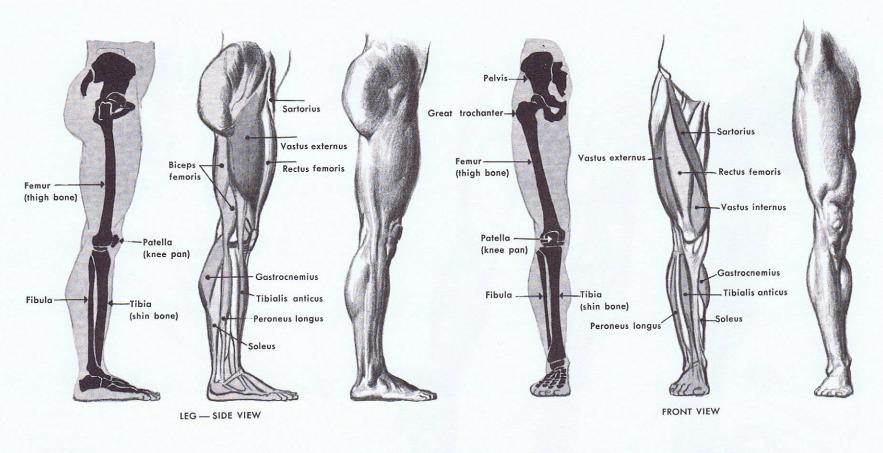
The only connection the shoulder blades have with the chest is through the collar bones. These bones are attached to the breastbone in front and have a wide range of movement in all directions, including a slight rotary movement.

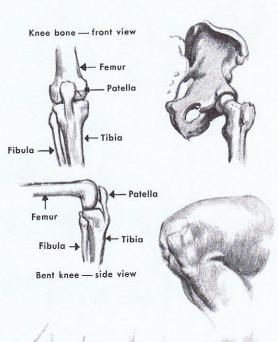












The leg and foot

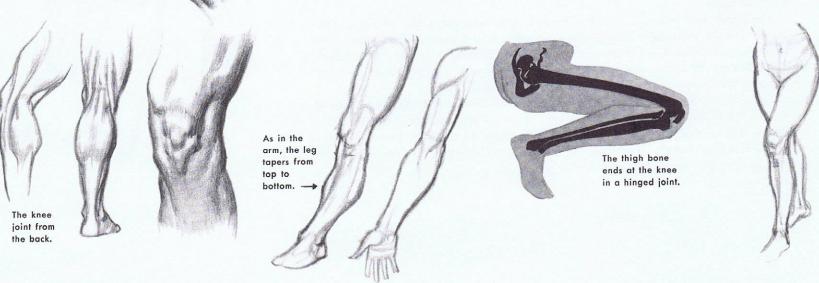
Basically, the leg is made up of three parts – the thigh, lower leg and foot.

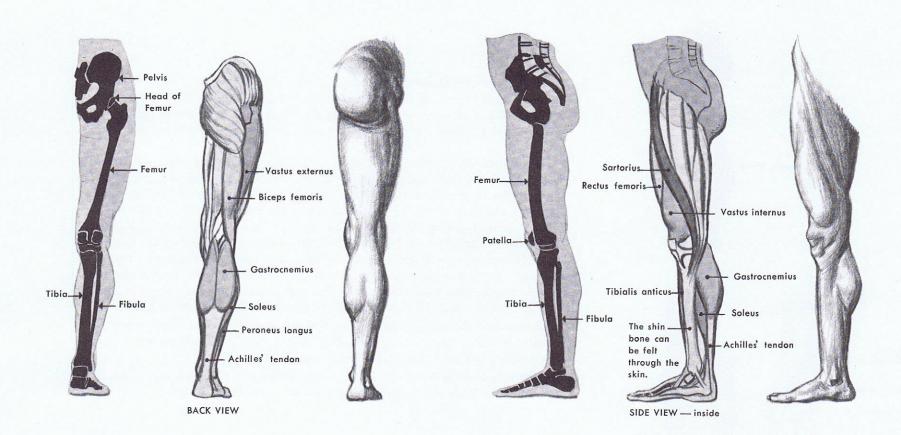
The biggest bone in the body is in the leg. This is the femur or thigh bone. It attaches to the pelvis very much the way the upper arm bone attaches to the shoulder blade — by a ball that fits into a socket in the outside edge of the pelvis. However, since our legs must support our weight as well as move, the socket is much deeper and the movement is less than in the shoulder joint. Actually, we sacrifice some flexibility of movement for extra strength in the hip joint.

The thigh bone ends at the knee in a hinged joint which permits only backward and forward movement.

Like the arm, the whole leg tapers from top to bottom. The tapering is even greater than in the arm because of the heavier mass of the thigh. The upper leg tapers to the knee, widens at the calf and then tapers sharply to the ankle.

When we are in a normal standing position with the full weight of the body on the legs, our knee is <u>back</u> of a line dropped from the <u>front</u> of the thigh.

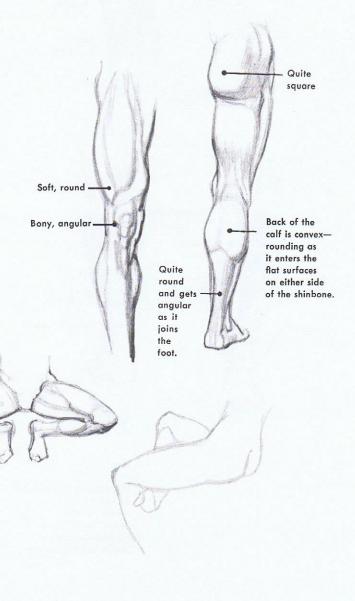


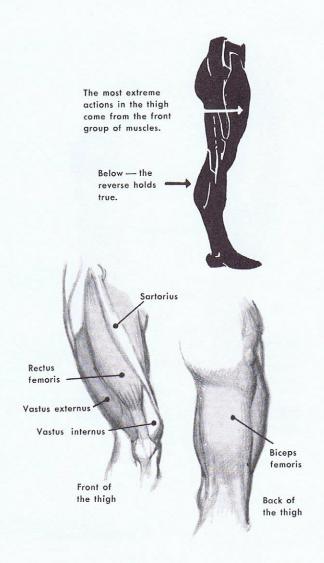


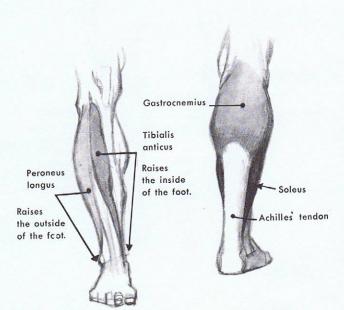
The leg does not stand in a strictly <u>vertical</u> position. As a whole it slants back from the top of the thigh to the ankle.

Viewing the thigh from the side, we see a full curve at the front while the back is fairly straight. In the lower leg the opposite is true; here the front or shin is flatter, the calf at the back is full and rounded. Whether we are looking at the leg from the front or back, it shows an <u>inward slant</u> from top to bottom.

The thigh is well <u>rounded</u>, but as it tapers to the knee the planes become angular. Directly above each side of the knee they are quite flat. When the knee bends, we see its broad bony surface clearly. From the back, the hips and buttocks look rather square as they overhang the thighs. The backs of the calves are curved, rounding as they enter the flat surfaces on either side of the shinbone (tibia). The shaft of the leg just above the ankle is quite round but changes into more angular surfaces just as it joins the foot. The Achilles' tendon creates the broad flat plane at the back.







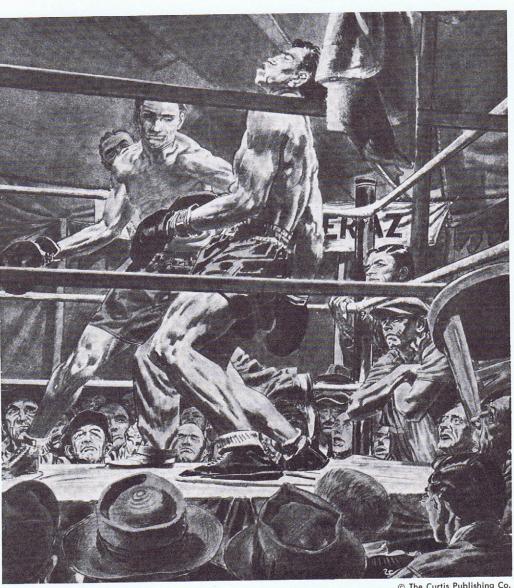
This Saturday Evening Post illustration by Robert Fawcett is an excellent example of anatomical knowledge.

The outside line showing the contour of the thigh is the most varied. Note that, in profile, the fullness of the front of the thigh must always be insisted upon; the most usual and more extreme actions in the thigh come from the front group of muscles and not from those on the back of the thigh. Below the knee, the reverse

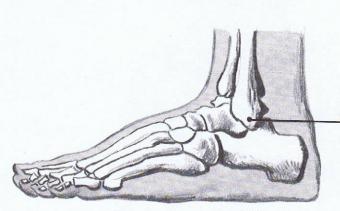
The important muscles of the thigh, and those which most affect its outward appearance, are, first, the rectus femoris, the straight muscle of the thigh bone; second, the vastus externus, the large muscle on the outside; third, the vastus internus, the large muscle on the inside. These three primarily extend the leg and are the most visible on the surface. The sartorius flexes the leg on the thigh and the thigh on the pelvis and rotates the thigh outward. In back of the thigh we have the biceps femoris, which bends the knee and rotates the thigh outward. The most pronounced muscles on the leg below the knee and in front are the peroneus longus, which raises the outside of the foot and extends the ankle, and the tibialis anticus, which raises the inner side of the foot while it flexes the ankle.

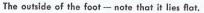
Dominating the back of the leg, we find the gastrocnemius, which is the calf muscle. It ends below in a broad tendon joining with the soleus muscle to form the Achilles' tendon. This is attached to the heel bone.

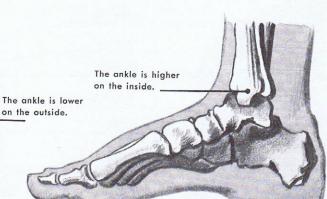
The bones of the lower leg join the foot at the ankle in such a way that the weight of the body is over the arch of the foot rather than the heel.



© The Curtis Publishing Co.







The inside of the foot — note that the arch raises the bottom center of the foot from the floor.

The foot

The foot is beautifully designed for its main job — bearing the weight of the body. It is constructed as a series of arches. These let it act somewhat like a spring in transmitting the body weight to the ground or floor.

The picture above of the inside of the foot shows the main arch between toe and heel. Notice that the bones of the toes also form smaller arches. When we view the foot from the front we see an arch that curves downward from the inside to the outside of the foot.

At the bottom of the inner surface of the foot only the edge along the heel and ball of the foot touches the ground. The inside of the arch is raised while the bottom of the outer surface touches all around.

In studying the sole of the foot, we can plainly see the points of contact with the ground. The first one is at the ball of the foot and the undersurface of the toes. The ball of the foot is divided, the inner portion of the ball being larger than the outer one. Next we see the outer rim of the foot connecting the ball with the rounded heel. The inner surface of the foot is nearly vertical as it rises from the hollow of the arch of the foot below the inner ankle. The top of the foot or instep extends from the bottom of the leg to the toes in a triangular form, its inner border rounding into the side of the foot. This surface is not as flat as the others and slopes toward the outer ankle. Here the ankle also protrudes but is on a lower level than the inner ankle. The back of the heel is widest at its base and tapers slightly upward to join the Achilles' tendon, which connects it with the leg.

By studying, observing and checking carefully all the accompanying drawings as you read, you will more thoroughly learn what you must remember. An even better method is to copy all the drawings, studying all the masses, shapes and forms — where they start and end and how they affect the outer form of the figure.

Think while you draw - about what you are drawing.

You learn to draw by drawing

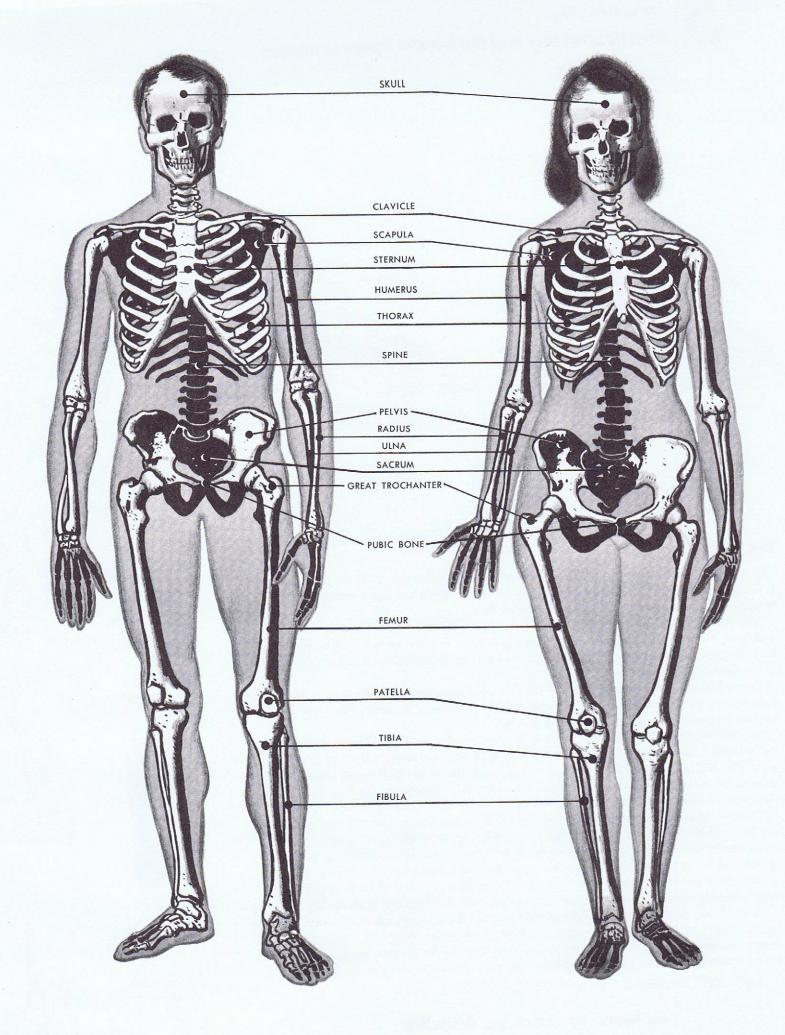


With the heels together the feet make a perfect arch to support the body.



The outside

The heel is widest at its base.



The skeleton

These drawings show the differences between the male and female skeletons and explain why the surface forms are different in the sexes.

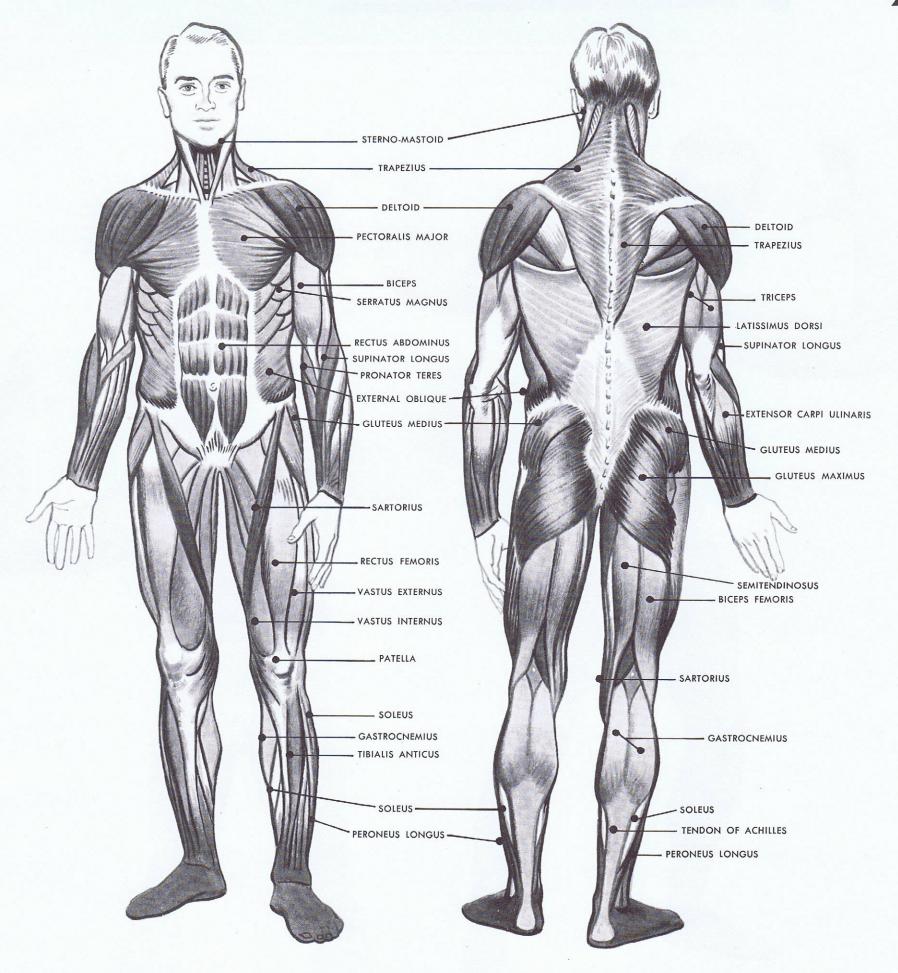
The bones of the female are smaller and smoother, and more heavily covered with fatty tissue. They are less apparent on the surface than the larger, coarser bones of the male skeleton.

The female has a smaller, narrower rib cage with a shorter, more curved breastbone. The female's shoulders are not so broad

as the male's and her collar bones are straighter and smaller.

The female has a longer torso and shorter legs than the male. Her pelvis is broader and shallower, and this makes the hips much wider. Note the greater distance from the top of the pelvis to the rib cage. The pelvis in the male is about the same width as the rib cage, while the female pelvis is wider than the rib cage.

Observe that the center of the female figure is above the pubic bone. In the male this point \underline{is} the center of the figure.



The muscles of the body

These front and rear view diagrams of the male figure show the main muscles that influence the surface appearance of the body. The female has exactly the same muscles, but they are smaller, like her bones, and are less developed; her muscles are also covered by a thicker layer of fat.

Learn the size, position and action of these muscle groups. Knowledge of the muscles and their action will make it easier for you to interpret what you see in a real model or a photo.

Remember, however, that there is no need to memorize the names of all these muscles. It is much more important to know what they are, where they begin and end, and what they do.

Keep in mind that these are diagrams, not drawings of the appearance of the figure. Use them only for study. When you draw the figure, you should show no more anatomy than appears on the surface. This may be a large amount if you are drawing an athlete — much less when you draw a woman's body.







Figure drawing, step by step

(Robert Fawcett)

Let us assume that you wish to make a drawing of the figure using the girl in this photo as your model. Before beginning to draw, look the figure over carefully. Study the main lines of action, the direction of the arms, legs, and torso. This preliminary observation is a very valuable part of your whole approach to drawing the figure. When you have a good grasp of your subject, start to draw.

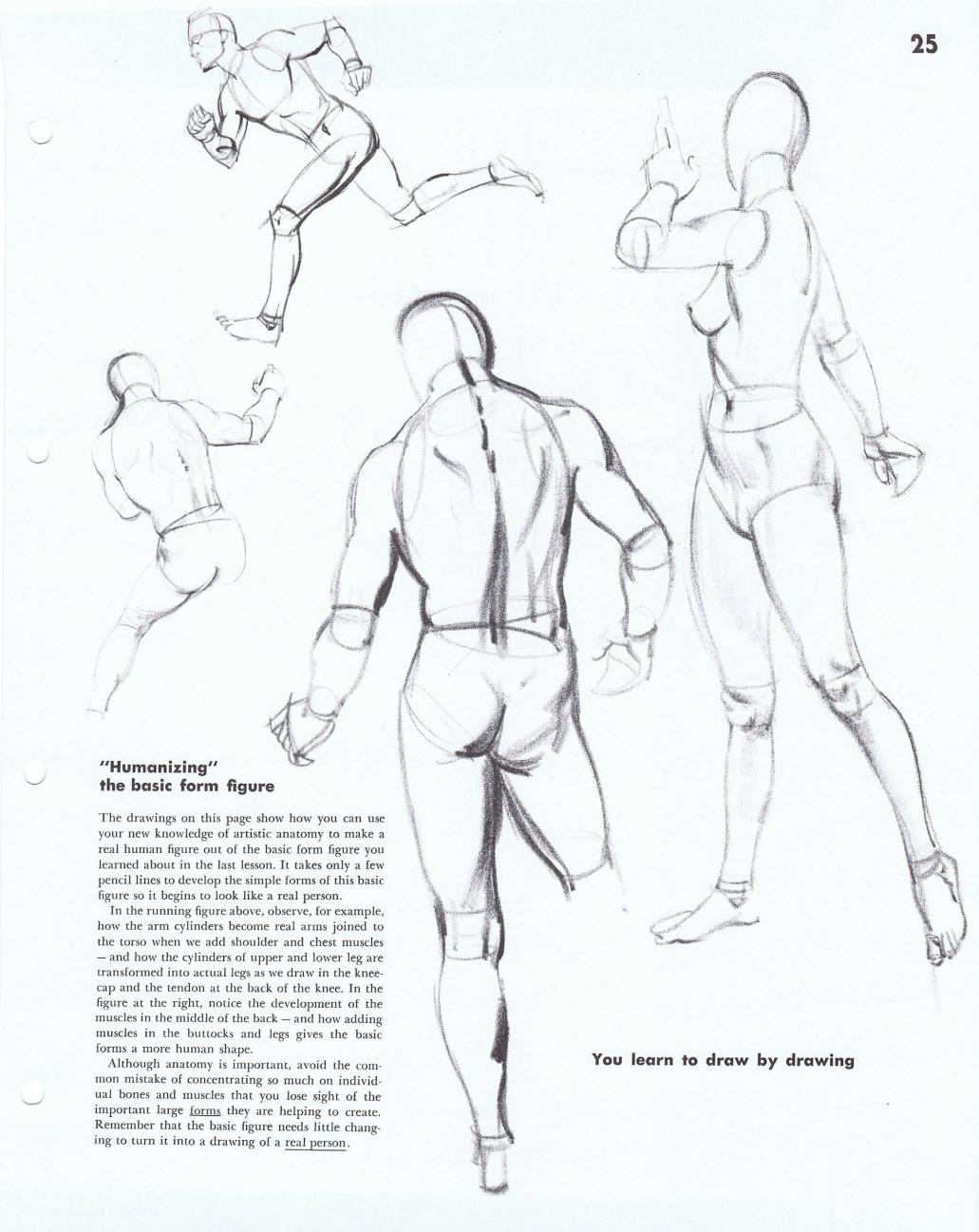


The first step, after a careful study of the figure, is to sketch its basic forms. As you draw each part of the body, check its form and proportions against those of the other parts.

2 Now, begin to modify the simple basic figure forms.

After careful observation of the model, draw the
effect that the bone and muscle forms have in modifying the basic figure in Step 1. Keep in mind, though, that the main job here is to draw the female figure, and don't let the anatomy destroy the essential fleshiness of the soft feminine forms.

the shadow edges on thighs and buttocks are wide and soft, while those around bony areas like the shoulder blades, hands, feet, and elbows are crisper and harder. Be sure to keep a clear separation of tone or a value difference between the light and shadow planes to accentuate the form.





The figure in motion

The figure in motion does not mean the figure "just running." It means every human motion—it means the figure <u>alive</u>. It means every movement, gesture, attitude, expression and activity. It means walking, running, jumping, sitting, lifting. It means sleeping, relaxing, sneezing and sobbing. It means every known human physical activity. It means exaggeration, caricature and animation, too—the professional devices that artists employ in using the human form to illustrate an idea or a story.

The figure by itself may be ordinary or uninteresting, <u>but</u> by making it "move" you bring it to life. If you can do this, you have the tools and the symbols with which to tell your story.

In drawing any action, you must first find the direction and the motive power behind it — and then devote all your attention in your drawing to expressing the action itself. In a quick sketch or even a deliberate drawing of a walking or running figure, you cannot hope to show the movement of every muscle and plane. Action is momentary, and it is important to eliminate details in your drawing just as your eye eliminates the details when watching action in real life. The movements of a figure in action become more dramatic and important than the individual elements that make up that figure — and it is only by applying selectively your knowledge of the figure and of the action of the figure that you can produce a good drawing.

In drawing the figure in motion, then, you must concentrate on drawing and establishing the <u>action</u> of the figure first and fill in the details afterward.

For a good example of what we mean, watch the cars flash by on a highway or the horses in a race. While you know they are cars or horses, you see only mass, movement and color — the big action itself. It is only when they have come to a halt that you can see and study the details. Similarly, in drawing the figure in motion, concentrate on simplification of the action itself. Do not allow yourself to think of the facial character, accessories or clothes — that can come later, after you have established the

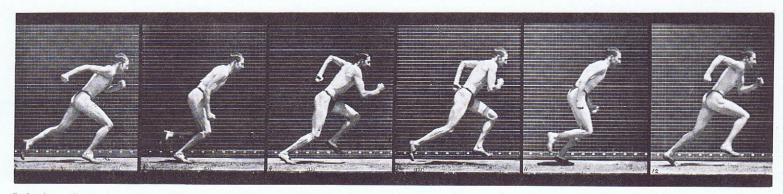
action. Remember: attitude and action first – then the details.

In studying the figure in motion, your sketchbook should become your constant companion wherever you may be. In it, you should make picture notes of every figure you see — not finished drawings, but just quick sketches which may capture for you the actions of a running man, of children playing, of a housewife at work — any unusual attitude of the human figure. This is a most wonderful way to develop your powers of observation and the faculty of getting the action and spirit of your model in a few quick lines. Movement and expression are basic qualities of good pictures, and the best way to master them is to observe with your sketching as well as with your mind's eye.

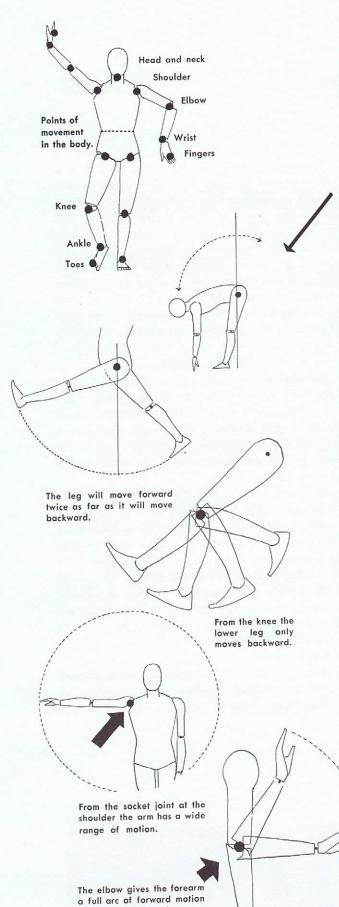
To the artist, in all the history of painting, illustration, or any fine picture making for that matter, one of the most fascinating parts of the work done by the masters has always been their sketches — the preliminary action drawings, the thumbnail sketches of details, the highly finished studies. These have always, more clearly than the finished pictures themselves, shown the effort and painstaking study and knowledge of the master artists of each generation.

Take every opportunity for "on the spot" sketching if you would become a successful artist. Make no attempt to record things in detail — the impression of the action and attitude alone is important. The policeman bawling out a motorist for passing a red light — the man asleep in the bus — the countless other human activities — these can be put down with a few pencil strokes, even on the margin of a newspaper if your sketchbook is not handy. Study action — the usual poses as well as the unusual — and make many little sketches of people in action in your everyday world. All these details and attitudes can later be worked into finished pictures.

To the artist, nothing is quite so valuable as the sketchbook crammed with moving lines and sketches, lacking perhaps in finish but full of the big qualities of picture making.



Each phase of an action has its own <u>over-all</u> attitude or flow of movement. In each of these photographs, study this flow of movement—the <u>angle</u> of the body, the <u>position</u> of the arms and legs. This is what counts in the action, not the anatomical details. Always look for and draw the big things first.



but none backward.

The joints — and how they move

If we are to give more expression to the human figure in motion, we must investigate the movable parts closely. The most important points of motion, as we saw earlier, are head and neck, center of torso, hips, knees, feet, shoulders, elbows and wrists.

The neck controls the movement of the head. If you move your own head from side to side, then up and down, you will know about how far it can be moved in any direction as well as we can explain it to you here.

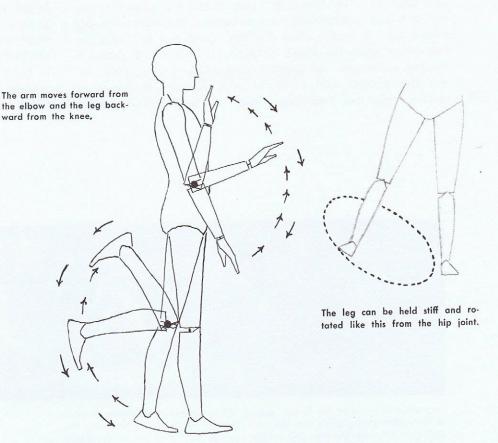
If, with outstretched arms, you touch the floor at your toes, you have about the limit of the forward motion of the torso. This movement is made possible partly by the backbone and partly by the socket joint at the hips. The side motion of the torso is only about half as much as the forward motion, while the back motion is less than either the forward or side motion. Stand up and try this. There is nothing like seeing for yourself.

The legs will move forward without strain from the hip socket about twice as far as they will move back. The extent of the side motion of the leg is limited to about the distance it will bend back, as you can easily demonstrate. Besides the hip motion, the leg has another movement, up and down, which occurs at the knee. However, from the knee the lower leg can only move backward, never forward.

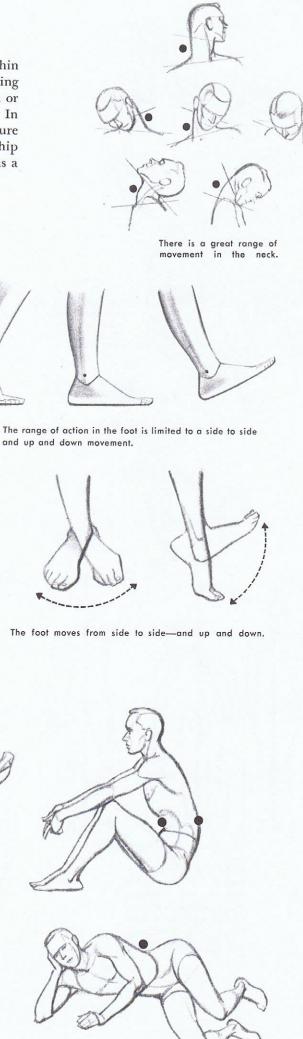
The most restricted point of motion occurs at the ankle, where there is a limited up-and-down motion. The three leg joints, with their accompanying muscles, cushion the weight of the body in walking and jumping.

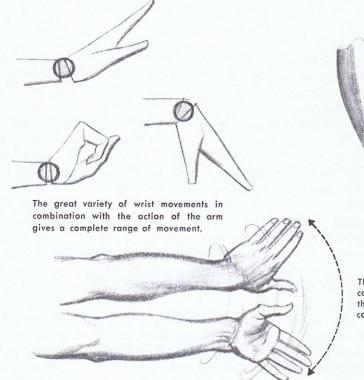
The arm is similar to the leg in that it also has three major joints. However, unlike the leg, the arm is truly versatile. From the socket joint at the shoulder, it has almost unlimited motion in every direction. This freedom is due to an important difference between the two limbs: the shoulder socket is rather shallow, permitting greater movement than the deeper hip joint. The elbow is similar to the knee in its action, except that the elbow allows the action of the arm to be the opposite of that of the leg. The arm moves forward from the elbow while the leg moves back from the knee. At the elbow, as compared to the knee, it is as if your knee joint were at the back. The movable joint at the wrist has much more latitude of motion than the ankle, although the direction of the motions is the same.

One characteristic of the arm is that it can be turned completely around. Stretch your arm out, try it and see for yourself.

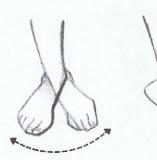


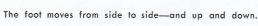
If you could think of all of these motions at once you can easily realize that within the basic human form there are innumerable combinations of motions. Try sketching as many as you can, such as we show here, without violating the limit of the action or destroying the forms. Now you can really have your figure do things for you. In all of your practice keep in mind the basic proportions of the normal human figure as we have taught them to you. Move the parts but be sure to keep the relationship of one part to the other. Draw the "other side" . . . the human form must appear as a solid form with depth no matter in what attitude or action it is pictured.

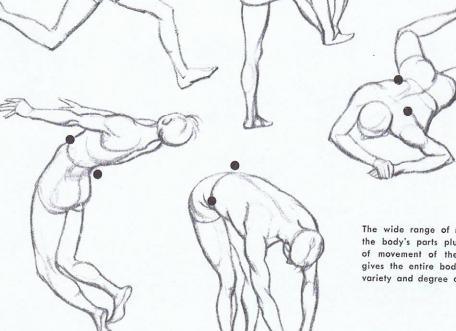






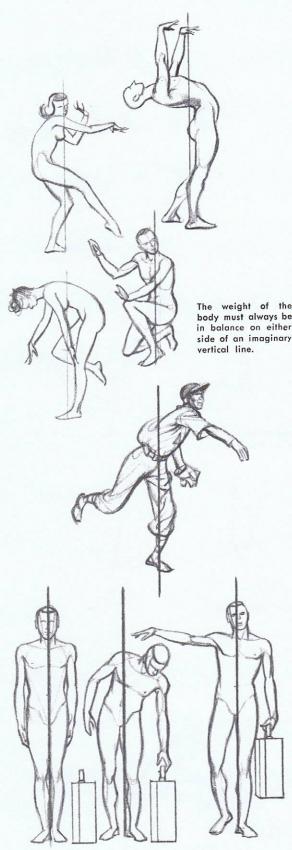






The wide range of movement of the body's parts plus the range of movement of the torso itself gives the entire body an infinite variety and degree of action.





In drawing the figure, remember that these vertical lines are only imaginary. When sketching in a figure, the line should be sketched in very lightly. This also applies to all other guide lines.

Drawing the figure in balance

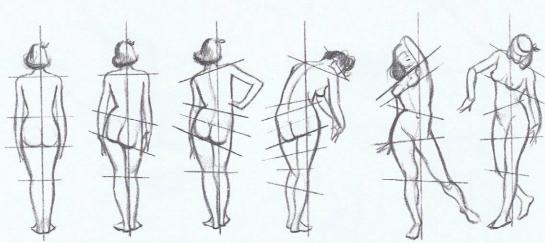
Balance is the ability of the human being to stay erect and keep from falling when in motion as well as when standing still. This balance results from the delicate distribution of his weight. When the figure is in motion the state of balance is sometimes fleeting. The artist must look for this fleeting moment and draw it, rather than choose another in which the figure appears unstable and out of balance. Pictures in which the figures are out of balance are always disturbing and unconvincing.

As an aid to drawing figures in proper balance, start your drawing with a light vertical line as a guide for placing the various parts of the figure in the proper position. This line is just as useful when drawing the figure in attitudes of running, walking, bending, crouching, etc.

When you draw the figure in <u>any</u> position, establish the position of both left and right parts at the same time. For example, draw both shoulders at the same time; do the same with the hips and knees. In the female figure, establish the position of both breasts at the same time. You cannot ignore one side of the figure while you draw the other side and still produce a balanced action.

When the figure is standing erect, its weight is distributed equally on either side of a <u>vertical line</u> which passes from the pit of the neck to the middle of the instep of the foot which supports the body. Any motion of the body or change from this first position will automatically displace the pit of the neck from this vertical line, so you must <u>remember</u> that the weight of the body must <u>always</u> be balanced over the foot or feet or between the feet that rest on the ground and support this weight.

In bending to one side, as in the action of lifting a heavy suitcase or reaching, you will find that you naturally extend your opposite arm to preserve your balance — and you will usually raise the heel of the opposite foot from the ground as well. This shows that you must place a sufficient weight on the opposite side to preserve your balance — this applies to every attitude and action. In bending, the body lengthens on one side as much as it shortens on the other — but the length of the central line does not change.

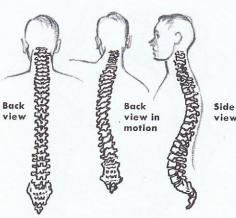


The shift of weight to one foot causes the other leg to relax, with a dropping down of the hip and an effect of stretch on that side. On the side to which the weight has been shifted, the hip has been pushed up and the side folded and shortened, with this movement causing a bend in the body, indicated partly by the position of the spinal column and also resulting in a definite change in the direction of the shoulders.

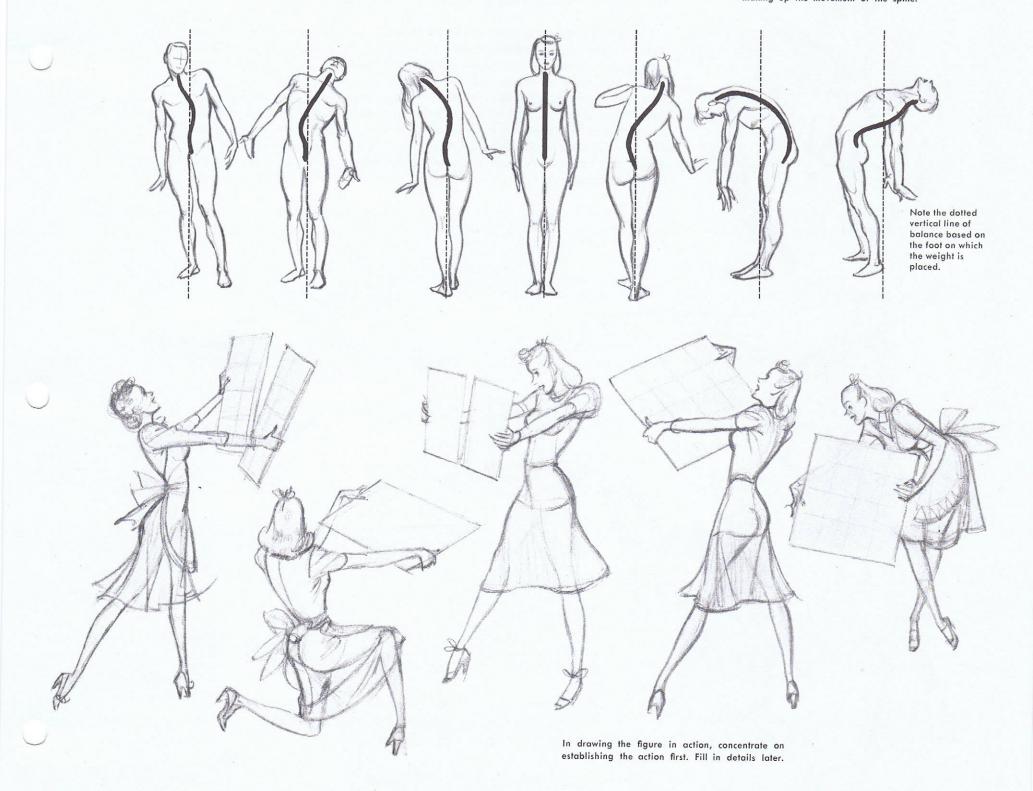
The spine and body move together

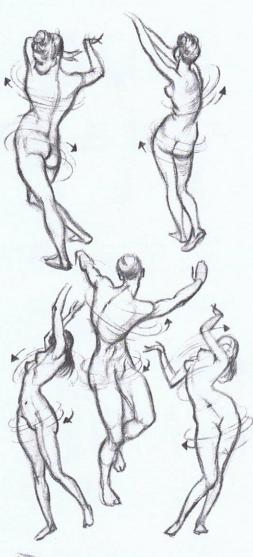
For the action of the body, look for and study the curve of the spinal column. The slant of the shoulders, the hips, the rotation and turning of the body are due to the twisting of the vertebrae which make up the spinal column. Each vertebra of the spine moves a little and the whole movement in the entire spinal column is the result of all these many little movements. Always think of the spinal column as the connecting rod between the upper and lower portions of the torso — as well as the head, which, of course, is at the upper tip of the spine.

If you thoroughly learn the function and movement of the spinal column, it will add greatly to your ability in drawing the figure in action from every angle.



The spinal column is made up of many vertebrae, each of which moves a little, making up the movement of the spine.





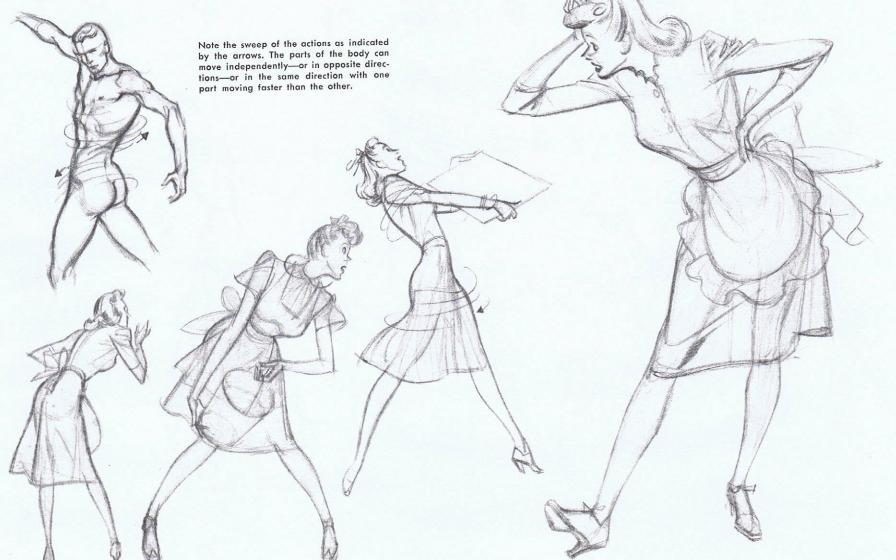
Twisting and turning

In drawing the human figure twisting and turning, you must consider it in its masses. These masses — the head, chest and pelvis — are held together in their different movements by the spinal column.

As these masses twist and turn, their relative positions change. You might think of these movements pretty much like those of an accordion being played. One side is the active side. On this side the forms are forced toward each other, and are compressed and brought together much like the pleats of an accordion. The opposite and "inflated" side shows the longer, sweeping curves.

You must capture a definite feeling of movement in every pose. The cartoonist adds greatly to the sense of movement of his figures by drawing direction or speed lines back of a moving hand or foot, but you must show this movement in the figure itself.

To create a convincing effect of a figure turning and twisting, it is important to "feel" the full range of the movement as you draw. The viewer must be made to sense the movement that is in progress. In this kind of drawing, your best approach is to watch people in action and observe their gestures. You must make quick mental notes and then record them with a pencil, trying to capture on paper just those lines and forms involved in the motion or gesture. With your earlier studies of anatomy and the figure thoroughly absorbed, you should find that you are now able to make these action drawings convincing and real. Here, as we have said before, lies the great value of your pocket sketchbook — and our slogan: See — Observe — Remember.



Imaginary circles of different degree show how the form and perspective are retained in the figure and limbs whether coming directly at you or going away. Note the feeling of

solidity and roundness when the fig-

ure is foreshortened expertly.

Foreshortening

When we draw the figure in motion, foreshortening and perspective should be considered together. Foreshortening, as it is known to artists, is the use of perspective in drawing a figure so that the parts nearest us are made to appear larger in proportion to those farther away.

In drawing the figure in outline with no shading, foreshortening requires extra care to represent the parts in true perspective. If the human figure were composed of straight lines and angles, we might draw it by the general rules of perspective, but it is made up of many curves flowing into one another. Practice and study become necessary to learn how to make a foreshortened or perspective drawing of a human figure lying down with either the head or feet toward the artist, an arm and hand reaching out directly at you, or in many similar attitudes.

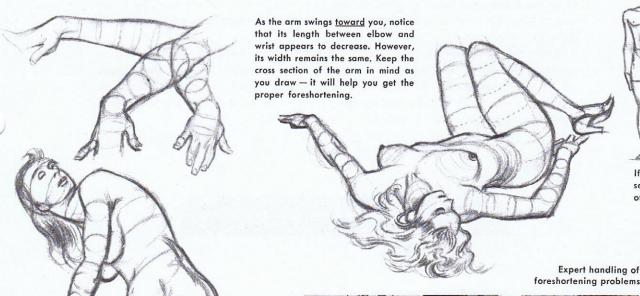
The best way to make a convincing drawing of a figure in a foreshortened position is to study what you see very carefully. Remember that in foreshortened positions rules of figure proportion do not apply as they do to a normal straight-on view of the standing figure. When you foreshorten arms or legs, pay close attention to their width. The length of the part you foreshorten will be much reduced, but the width should be normal. The head measurement cannot be used. Instead, you should rely on your eye more than ever. Compare the size of one mass of the body to another. Note that certain parts may not be visible because they are hidden by others. Rely on your eye and trust it when drawing the foreshortened figure.

If you were directly in front of a figure standing at attention, no foreshortening would be needed. But if you were above the figure or below it, you would have to foreshorten. Practically every drawing of the human figure - especially when it is in motion - involves some problem of foreshortening.



Think of the cross section of an object as you draw it in a foreshortened position.

If a man fell forward toward you, this is what you would see as his head and shoulders came closer than the rest of his body and limbs

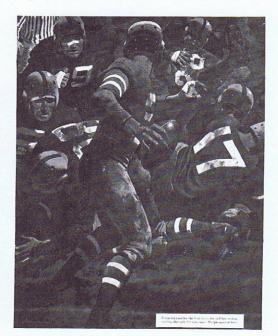




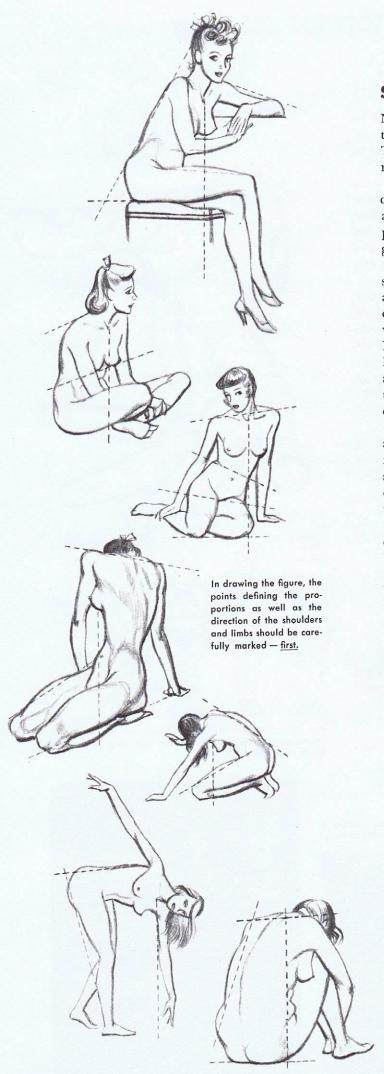
AL PARKER © The Curtis Publishing Co.



AUSTIN BRIGGS © The Curtis Publishing Co.



FRED LUDEKENS @ The Curtis Publishing Co.



Sitting — bending — kneeling

Nothing is quite so uninteresting as a figure "just sitting" — feet close together, the arms resting alike on the arms of the chair and the face looking straight ahead. To be interesting, the seated figure must suggest a mood and attitude, whether relaxed or alert.

The seated figure can express a wide variety of attitudes; it can suggest fatigue, dejection, aggressiveness, aloofness, boredom, tension. Each attitude must be studied and drawn differently. Sit down in front of a mirror and act out the different positions and emotions. See how simple it is to dramatize them all. If possible, get someone to act these emotions out for you while you sketch them.

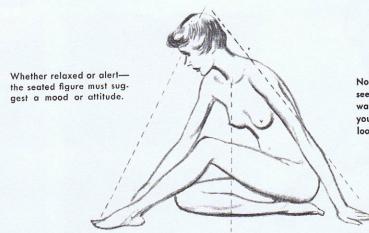
In drawing the seated figure, it is important to understand how the weight is supported by the thighs and buttocks, the back, hands and elbows. Both the thighs and buttocks flatten considerably, especially in the female. Care must be taken to draw the head in the proper position over the body, since it has a great deal to do with completing the attitude as well as telling the story you are trying to picture. Remember that while the seated figure is usually supported and is not so obviously subject to the laws of gravity as is the upright figure, your central line of balance and distribution of the weight is just as important. This must be considered thoroughly or, as in the case of the upright figure, your seated figure will not be convincing.

Care must be taken, in drawing sitting postures, to think out the perspective and foreshortening. Study carefully the forms of the body as they either recede from or come toward you. The attention we gave to form in the previous lessons should prove its value here. Study carefully the contours arranged in front of each other. If you don't, an arm will look short or a thigh will not recede properly and the legs will fail to look right in perspective.

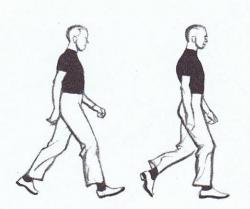
In drawing a bending, kneeling or other action, the same <u>rule of interest</u> described above must always apply. "Just bending" is dull and uninteresting; the body must have balance, rhythm, and <u>purpose</u>. There must be a reason for bending or kneeling — for that matter, every movement of the human form is motivated by a specific reason.

Study the drawings on these pages, paying special attention to the points of strain as well as the degree of movement of the parts of the body in the actions. Make many sketches of yourself, members of your family and friends in these various poses. Work for the actions rather than the details—always keeping in mind the imaginary line of balance.

You learn to draw — by drawing



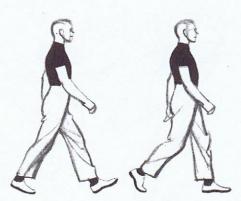
Note that all the figures on this page seem to be in balance. This must always be your watchword in laying in your sketch. Train yourself to always look for the line of balance.











A complete stride performed at a normal walking pace. Study the position of the arms in relation to the legs at every position, as the walker proceeds across the page.

Walking and running

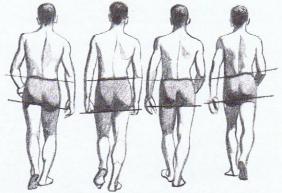
In walking, the body alternately shifts its weight first to one leg and then to the other, with the center of balance over the foot on the ground. The leg is extended slightly in advance of the body — the heel touches the ground first, quickly followed by the toes. With this forward foot resting on the ground, the heel of the other foot is raised, with the knee bending slightly as the leg swings forward past the other. As this leg swings forward, the foot of the other leg bears the whole weight of the body. As the leg swings forward to rest on the ground it takes its turn at supporting the weight of the body. During this process the body is always passing vertically over the supporting foot.

Each time that the foot is raised it thrusts the weight of the body to the side over the other foot as well as forward. The unconscious effort to balance the movement of the limbs in walking causes the arms to swing alternately in opposite directions to the legs so that when the right leg swings forward the right arm swings back—with the reverse action applying to the other two limbs.

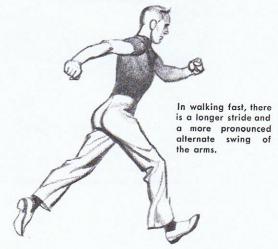
A longer stride, accompanied by a more pronounced alternate swinging of the arms, distinguishes a fast walk from an ordinary normal walk. When you draw either of these actions, remember to show that the knees are bent, to avoid an appearance of stiffness.

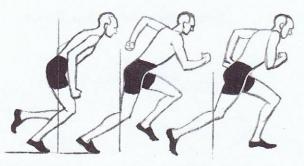
When running, the body should always be shown <u>ahead</u> of the center of gravity. The faster the figure runs, the more it should appear to lean forward.

Some of the most important views of the figure in motion show it in the act of walking. Study these actions thoroughly in the people around you — make many sketches of them. Unless these <u>fundamental actions</u> are carefully observed and correctly drawn, they will never look right.



Note the direction and movement of the hips and buttocks as the weight shifts from one foot to the other in a normal stride,

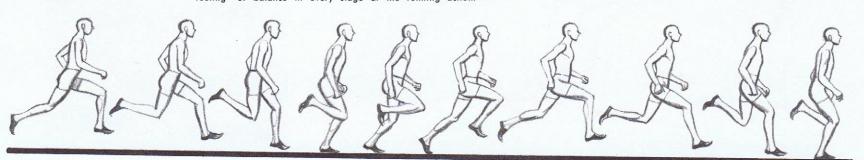




The faster the running position, the farther forward the body is thrust in front of the imaginary line of balance.

Carry your sketchbook — use it!

The smooth running stride of an athlete—note the apparent "feeling" of balance in every stage of the running action.





Here we show you a general approach to drawing group actions, illustrating the thinking rather than the actual steps. Start by sketching in very lightly the broad design and action of the group.

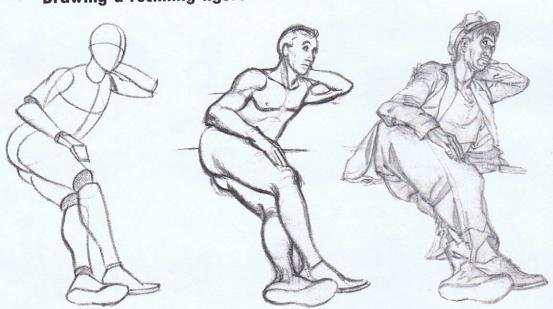
2 Think out carefully the action of the figures under the clothing.



Having carefully thought out the figure action as at top right, you now have a sound basis on which to draw the clothes and to establish the movement and action, drapery and wrinkles.

With your figures planned and convincingly drawn, you are now ready to paint them. Note that this is an approach — not a hard-and-fast method of drawing.

Drawing a reclining figure



These three drawings show you the thinking behind the painting at the right. First, establish the form in a natural-looking pose, using the basic figure and foreshortening it as necessary. Next, modify the basic

form, paying special attention to bones, muscles, etc., that will show on the clothed figure. Now you can put on the clothing with conviction, drawing it around the figure so that the body can be felt underneath.



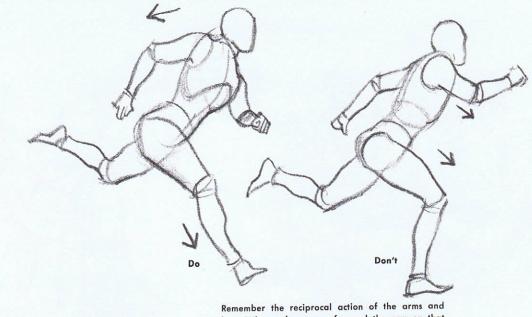
Courtesy American Air Lines



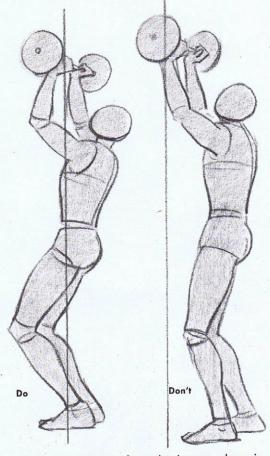
Artistic anatomy and the human figure in motion

Do's and don'ts

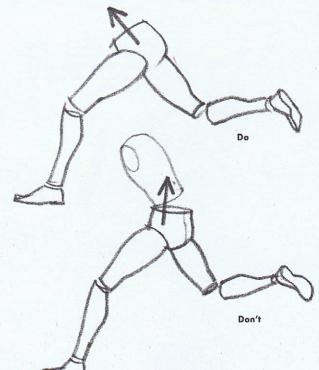
These two pages show you some of the typical errors to avoid in drawing the figure. Study these examples carefully and apply what you learn from them to each figure drawing you do.



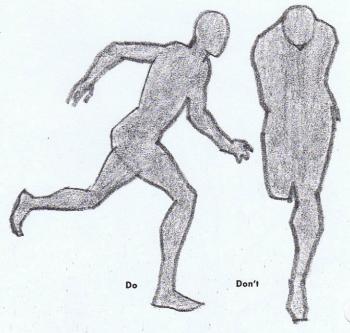
legs. When a leg moves forward the arm on that side moves back.



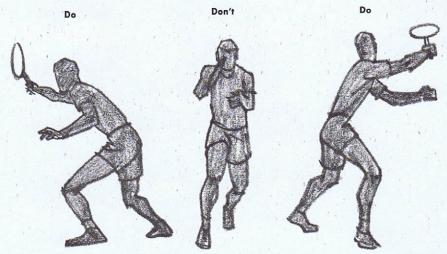
Be sure that your figure drawings are always in balance unless you specifically want to show a figure in an out-of-balance position such as falling, leaning, etc. In this case the body must be under the weight in order to support it convincingly.



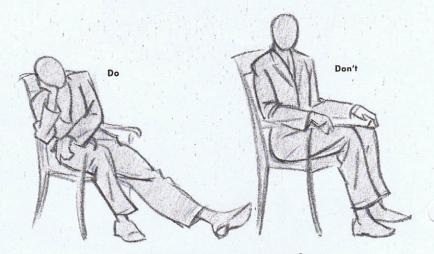
Remember that the whole body is involved in the running action. The pelvis tilts forward in the direction of the run. Don't draw the pelvis completely vertical, as if the figure were standing.



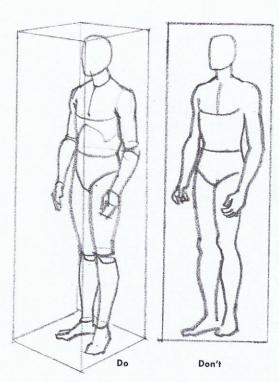
Don't draw the figure from an angle in which the action is confusing. Instead, choose a view which clearly describes the action.



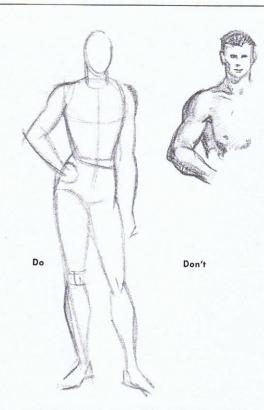
In drawing an action, select a view that suggests movement rather than one that looks frozen. The start or finish of a tennis swing is more lively and descriptive than a phase between both poses.



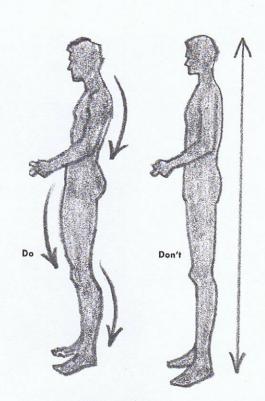
Don't fall into a few set ways of drawing figures in such positions as sitting, bending, kneeling.
Observe the variety of positions that people assume and use them to add interest to your drawings.



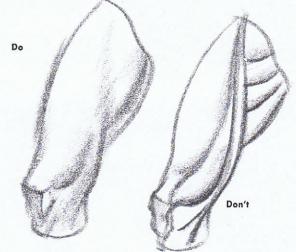
As you draw, remember that the whole figure is a solid form that occupies space. Unless you keep this in mind your drawing will appear flat and formless.



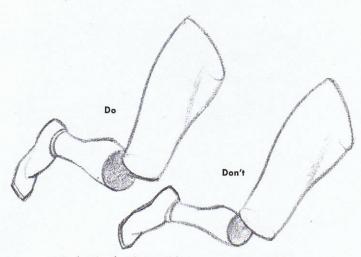
Indicate the main lines of the entire figure with your first few pencil lines. Don't try to finish one part without first relating it to the rest of the figure.



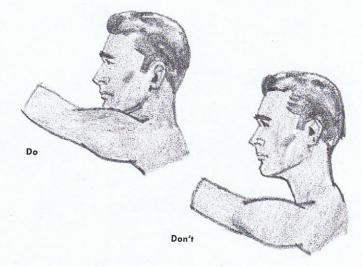
Look for the flow of alternating curves which runs through the body. These curves give it grace and a lifelike quality. Without these curves, the figure will look stiff and wooden.



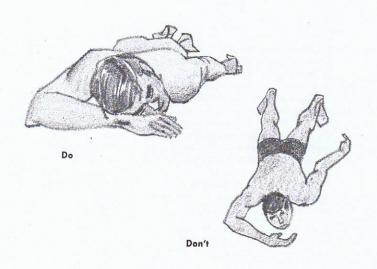
Always remember that each part of the body is first of all a solid form. Don't let your desire to show off anatomical knowledge cause you to draw a medical chart instead of a real figure.



In drawing foreshortened legs or arms, pay careful attention to the width. The length of the foreshortened part will be sharply reduced from the normal view but the width will remain the same.

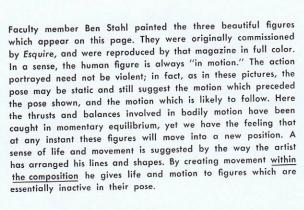


Be especially observant when drawing the shoulder in action. Watch the deltoid or shoulder muscle — note it often hides the chin and much of the neck when the arm is raised above a horizontal level.



When faced with a problem in extreme foreshortening, draw what you see with confidence. Don't try to show <u>all</u> the parts which you would normally see. Much of the figure may be hidden.

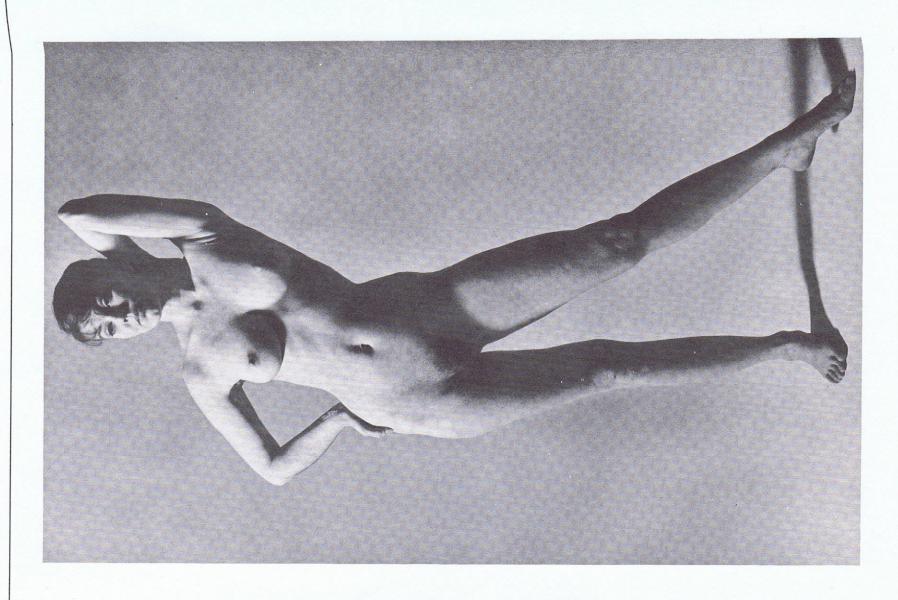


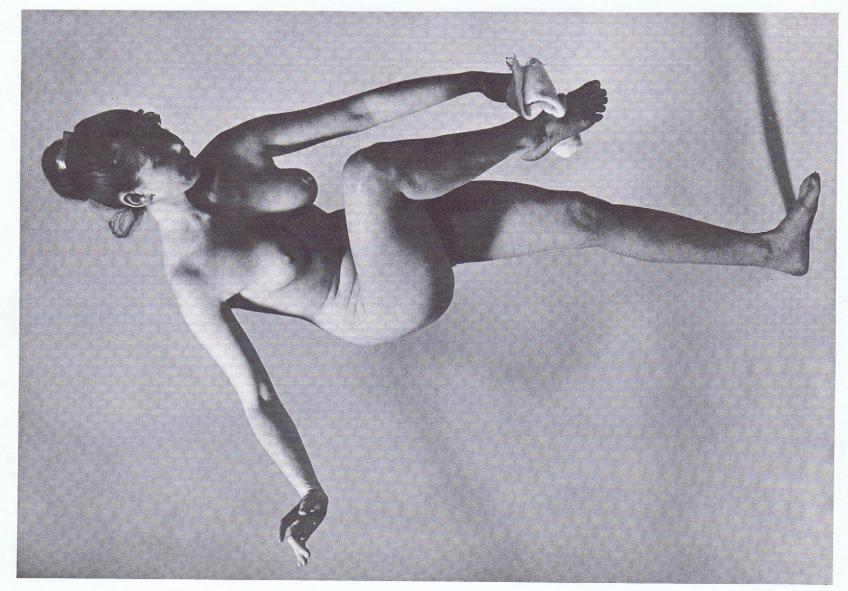


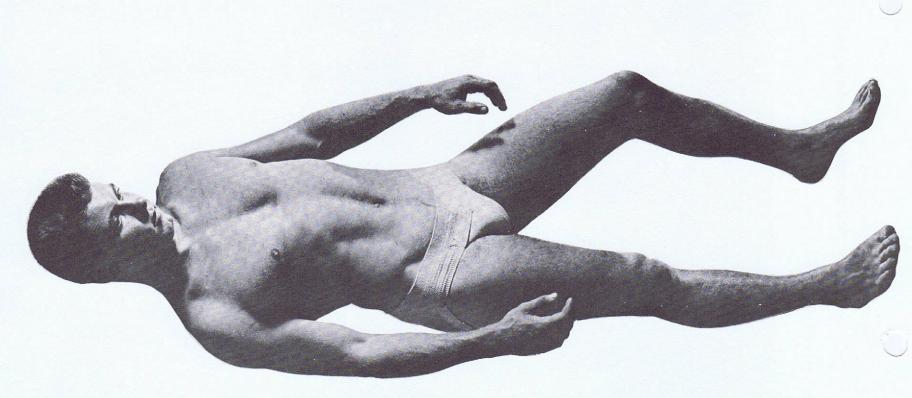














FAMOUS ARTISTS COURSE Student work Lesson 5

Artistic anatomy and the human figure in motion

HOW TO PRACTICE AND PREPARE FOR THIS LESSON

There is one main principle to be learned from your study of anatomy in this lesson: By refining the simple cylindrical forms you drew in Lesson 4 you can turn the figure into a convincing, lifelike human being. You do this by carefully studying the effect on the form of the arms, legs and torso created by the bones and muscles. Remember, however, that the addition of muscles, tendons or bones should not break up or weaken the solid form of the figure.

As you study and practice, be sure you cover the following three points:

1. Make anatomical drawings like those on pages 8 through 19. Draw the head, neck, torso, shoulders, arms, legs and feet until you are familiar with their construction.

Refer often to the skeletal and muscular figures on pages 20 and 21 -- this will help you learn the size and position of the main bone and muscle groups of the body. You will also find it valuable to copy these figures.

2. Working from the photos on pages 22 and 23, as well as Plates 1 and 2, make figure drawings in pencil, following the step-by-step method

shown on page 24. There is a certain amount of distortion even in good photographs -- parts of the body closest to the camera often appear too large -- out of proportion to the rest. For example, the near arm of the standing figure on Plate 2 is too long. So don't just trace these figures from the photos. Construct each figure carefully, check its proportions and model it with enough contrast of light and shade to make it convincingly solid. As you draw, focus your attention on the major forms of muscle and bones that influence the surface of the body. Make the drawings approximately 7 inches high and do each one on a separate sheet of 11 x 14-inch paper. (See Assignment 1 below.)

3. Your ability to draw the figure in motion will be one of your greatest assets as an artist. So review pages 27 through 37 and then draw people twisting, turning, sitting, bending, walking, running, etc. Members of your own family or characters on television are handy models.

Draw the figure from life as well as photographs at every opportunity. During the summer, visits to the beach offer a fine chance to study and sketch the figure in a wide variety of actions.

THE ASSIGNMENTS YOU ARE TO SEND IN FOR CRITICISM

ASSIGNMENT 1. Select the best drawing of the male figure and best drawing of the female figure from those you made from Plates 1 and 2. (See instructions above.) Follow the step-bystep procedure shown on page 24. Your treatment of light and shade should show realistic form just as in Step 3, page 24. Send in these two drawings for criticism.

Mark these drawings -- ASSIGNMENT 1.

ASSIGNMENT 2. Some time in the future you may be called upon by an art director to illustrate a situation similar to the following:

Rogers walked rapidly out of the alley. Darting a glance over his shoulder, he saw Flanagan close on his heels. Frantically he scrambled for cover toward the first place that caught his eye, a subway entrance. As he ran he heard a shot. He felt a searing pain. He pitched forward in agony and fell to the pavement.

Before you can begin such an illustration, you must think over the script. Try to visualize all the action possibilities. Reconstruct them in your mind in order to decide which one is the most dramatic. We want you to show us what you can do at this stage. Therefore, let's see how much you have learned from the lesson -- how well you have studied the action of the body and the movement of its parts. At this time we are concerned only with the figures -- don't draw any background.

On your 11 x 14-inch visualizing pad, make two drawings of Rogers' actions in the preceding description: (1) Draw him as he walks rapidly out of the alley. Imagine that you are seeing him from a three-quarter front view position --halfway between front and side. (2) Also from a three-quarter view, draw him as he falls forward toward the pavement. Be sure to draw him in the act of falling -- before his body hits the pavement. Make the walking figure about 6

inches high and the falling figure in proportion. Do not draw any clothing on these figures. Draw both figures on one sheet of paper. These drawings should be done in pencil. If you have difficulty with one of these drawings, do it over on a separate piece of paper and fasten it down neatly with Scotch tape next to the other drawing. This way you won't have to redraw both drawings.

Here are some things you can do to help you with this problem (or others like it). First of all you should be saving all the photos you can find that show figures in various actions. Sport photos, such as pole vaulters, basketball players, etc., are excellent for this purpose.

Here's what you can do if you can not obtain a photograph of the exact action you need. First, sketch very freely the general action without

bothering with specific details. Now, look through photographs in your file for figures that will give you helpful information. One photo may solve the problem of shoulders, another help you foreshorten a leg or arm, etc. Using the information from these photos and working with the basic figure, develop your drawing step by step and gradually work toward the finished realistic drawing.

Mark this sheet -- ASSIGNMENT 2.

In criticizing these assignments we will want to see:

--How well you use your knowledge of anatomy to humanize the basic figure. --How well you retain the basic solidity of the figure you studied in Lesson 4.

-- How well you succeed in getting the feeling of life and action into your figures.



Check before mailing IMPORTANT: Letter your name, address and student number carefully in the lower left-hand corner of each assignment. In the lower right corner, place the lesson number and assignment number.

Your lesson carton should contain:

Assignment 1
Assignment 2
1 Return shipping label filled out completely.

Mail this carton to: FAMOUS ARTISTS COURSE, WESTPORT, CONN.