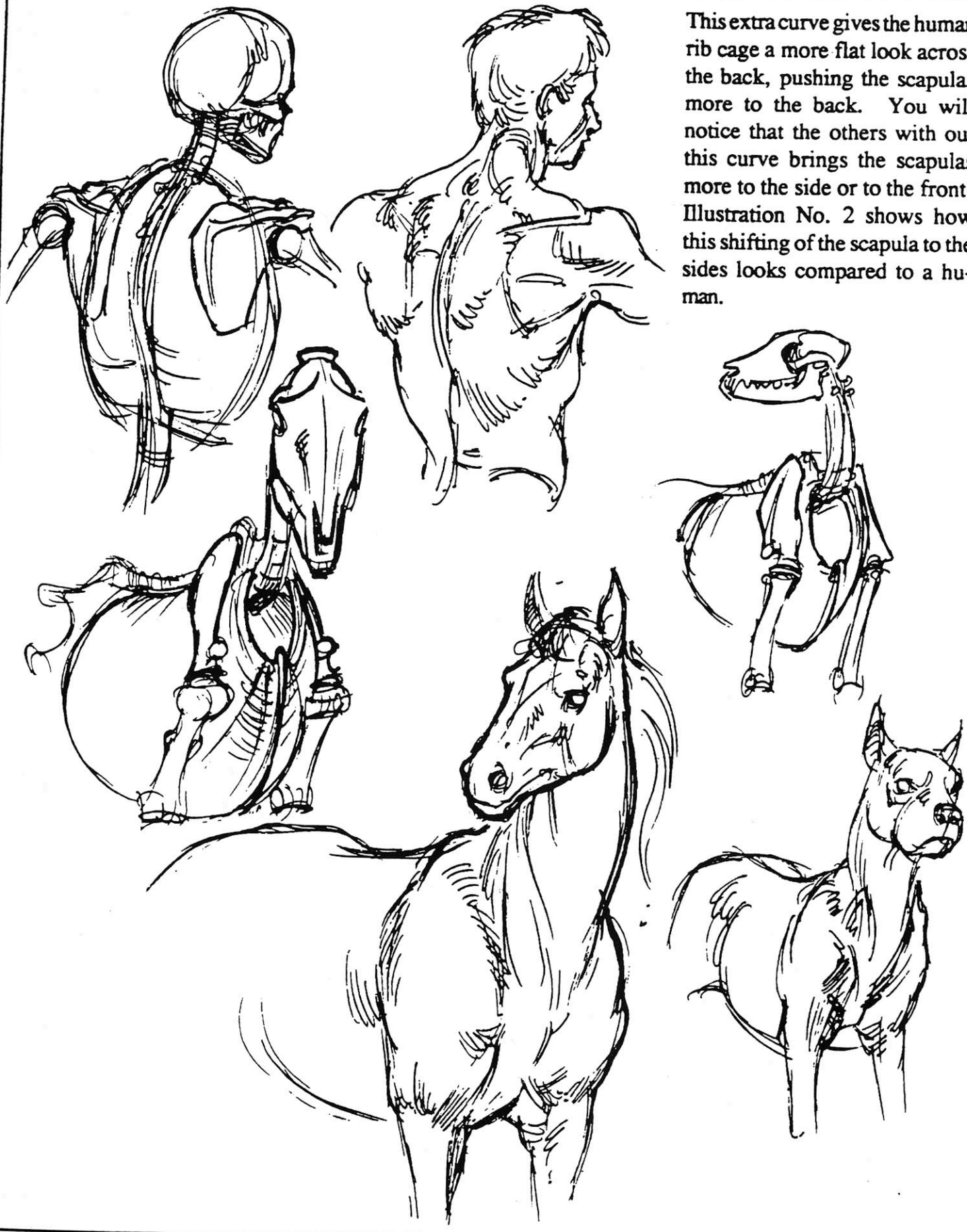
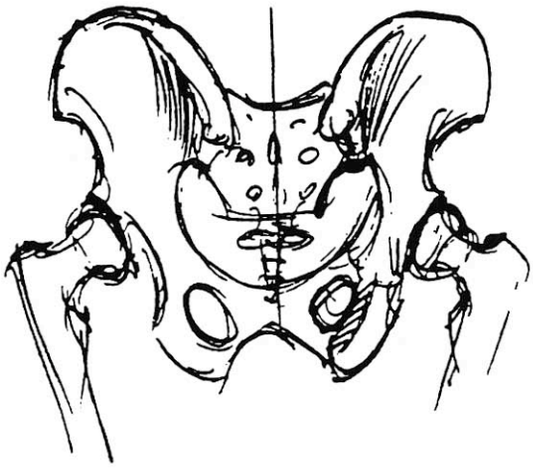
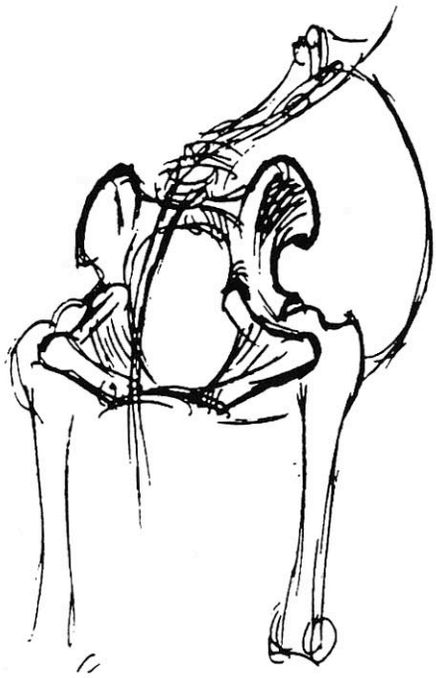


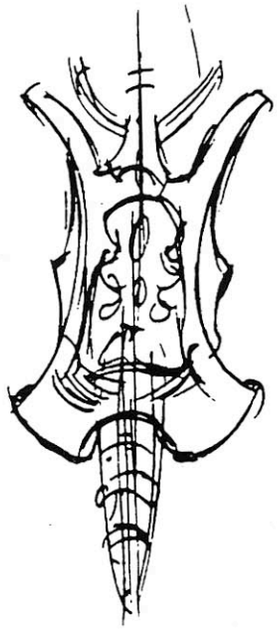
This extra curve gives the human rib cage a more flat look across the back, pushing the scapulas more to the back. You will notice that the others with out this curve brings the scapulas more to the side or to the front. Illustration No. 2 shows how this shifting of the scapula to the sides looks compared to a human.



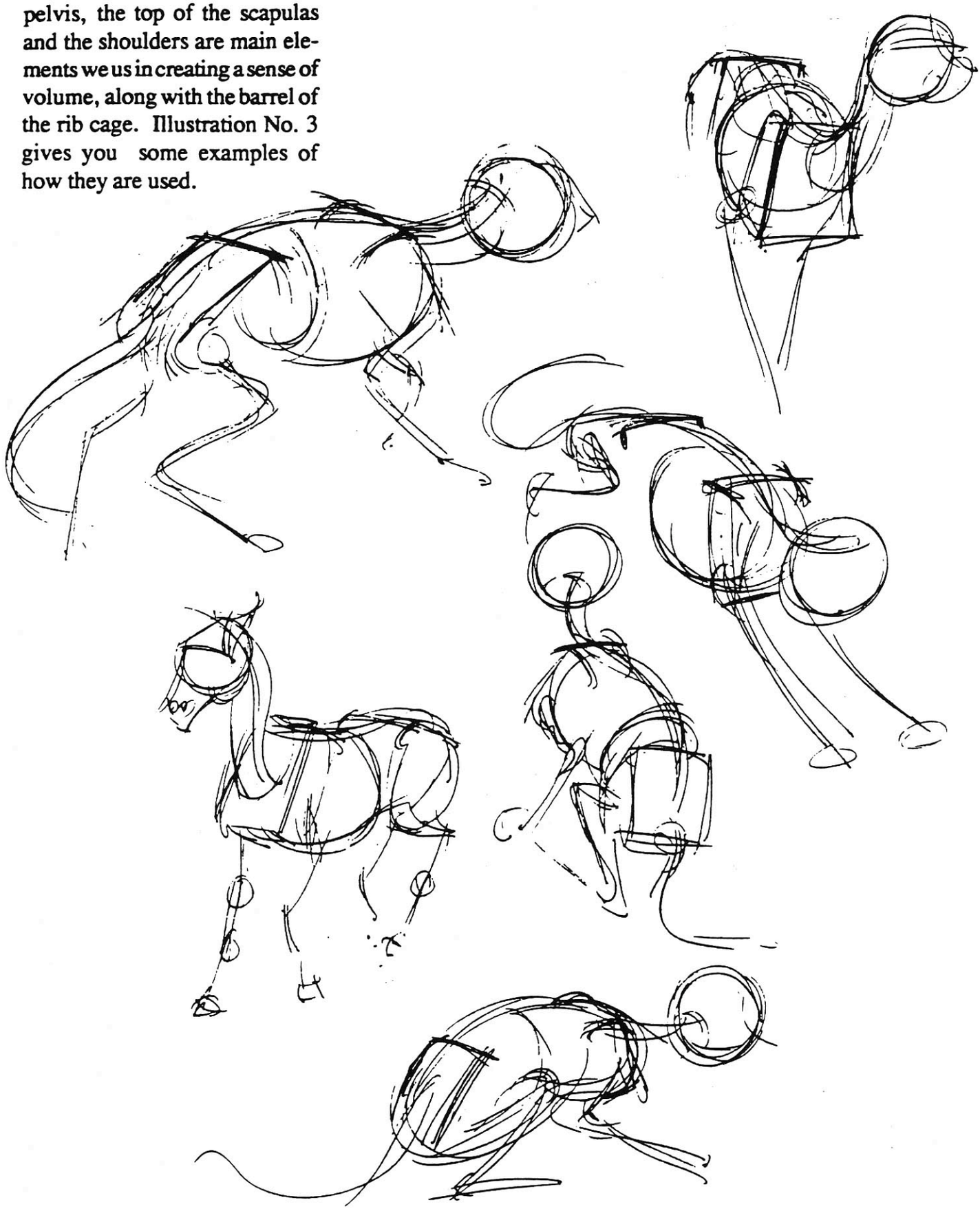
The important elements of the pelvis that we want to look at are the corners, of what would be the back of humans and are the top edges of four legged animals. Here we have a basic difference in what we look for in man to other four legged mammals.

In man the significant line is the ridge of the relatively longer pelvic crest (iliac crest). In our examples the horse and dog the corresponding tuber coxae is equally important, the difference is in the added importance of the tuber ischiadicum. These are the basic elements that create the corners of the box that I have indicated in Illustration No. 3.





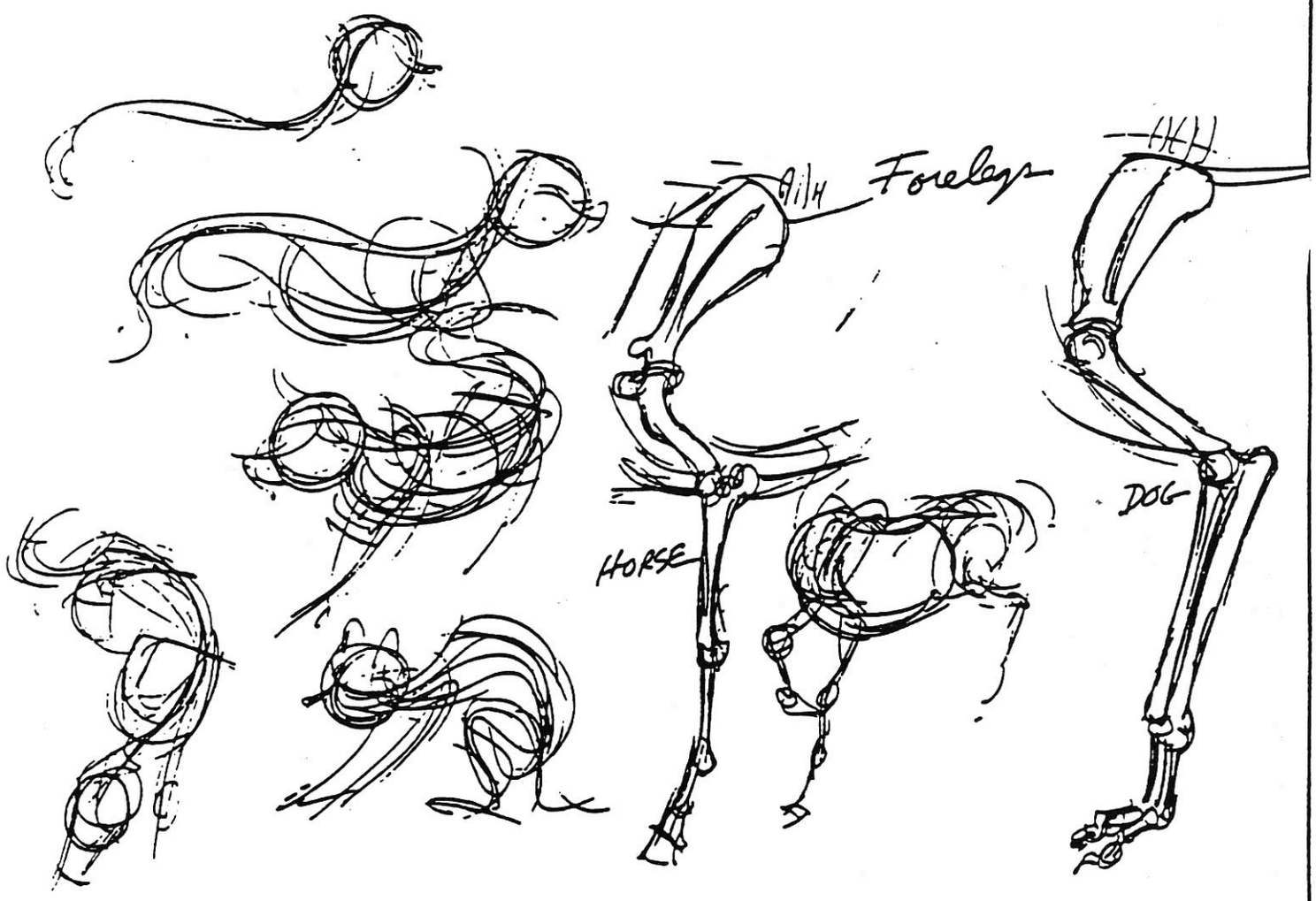
The symmetry created across the pelvis, the top of the scapulas and the shoulders are main elements we us in creating a sense of volume, along with the barrel of the rib cage. Illustration No. 3 gives you some examples of how they are used.



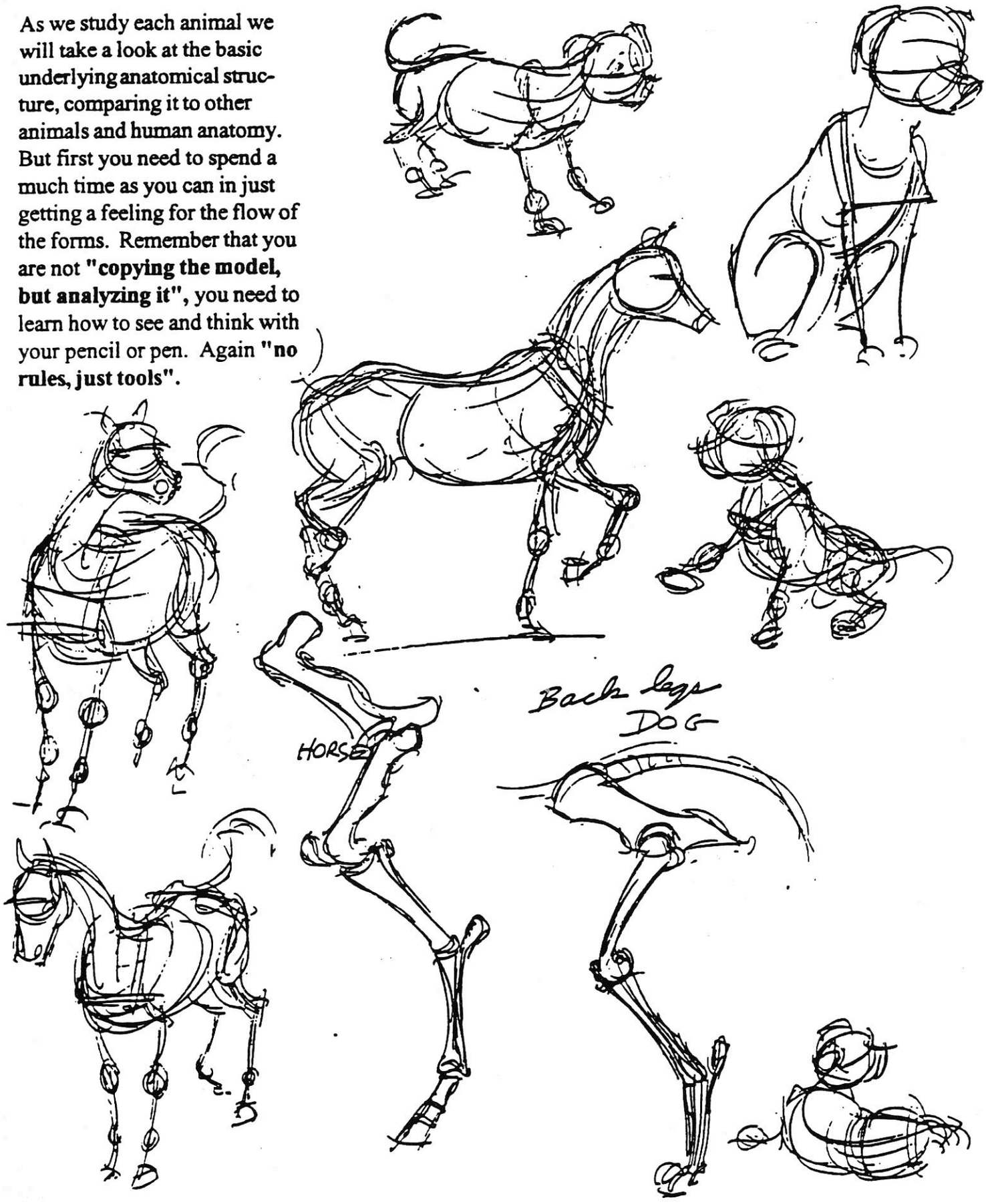
To be able to draw anything you need to know what it looks like, so what I have been doing so fare is to show you some of the basic elements that you need to look for in drawing almost any four legged animal. But for consistent results you need a clear cut procedure. The most important element in any living thing is its attitude or gesture. Do not try to copy anatomical lines.

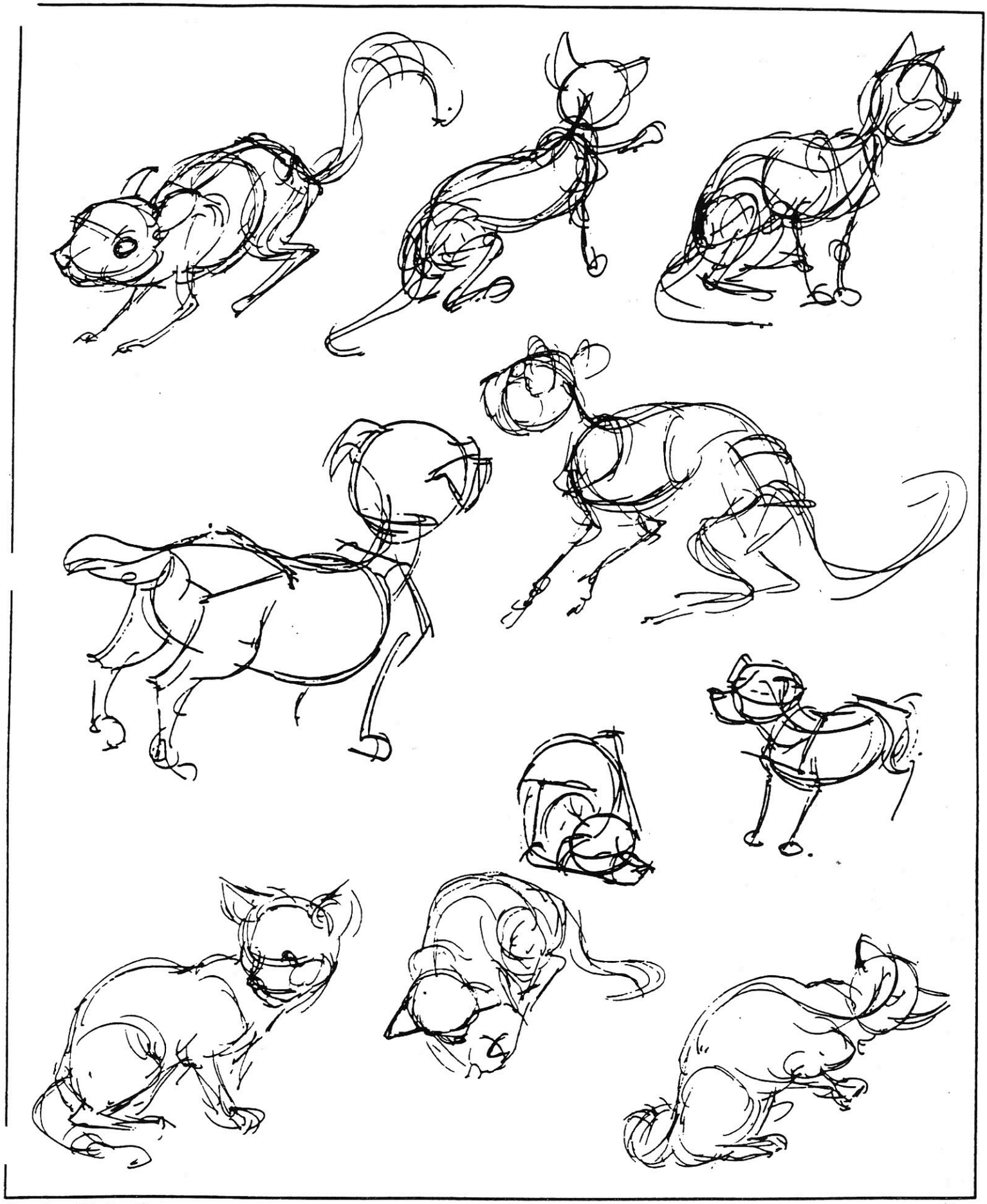
STEP ONE:
Feel the flow in a free flowing use of lines that give you a complete sense of the action. This is the same approach that I have discussed in my Figure Drawing lessons. Do not worry about the number of lines, keep focused on the flow. Drawing an approximation of the spine, attached to an indication of the head, is a useful approach, then adding the rib cage, shoulders and pelvis. The shoulders and pelvis being added more as corners of a box that define the ends of the torso.

STEP TWO:
At this point you should indicate the legs. To draw the legs you need to have an understanding of how the legs are constructed. Below I have given you a simple construction of the front legs of a horse and dog with a basic indication of how to draw them. In doing an action drawing all you are concerned with is the placement, (the action) and proportions, (the placement of the joints) do not try to do to much. Actually draw the way the bones attach, allowing your pen or pencil to work from the torso to the ends of the limbs, drawing simple spheres for joints.



As we study each animal we will take a look at the basic underlying anatomical structure, comparing it to other animals and human anatomy. But first you need to spend a much time as you can in just getting a feeling for the flow of the forms. Remember that you are not **"copying the model, but analyzing it"**, you need to learn how to see and think with your pencil or pen. Again **"no rules, just tools"**.





Cats and Dogs

Illustration No. 1

I mentioned in lesson one of drawing animals is that you must learn the basic structure of the animals so that you know what you are looking at. One of the best ways I know of learning something is by comparing it to similar forms and seeing the differences. In fact the study of art history is one of learning the differences between cultures and aesthetic tastes.

I am starting our study of specific animals with the dog and cat for several reasons. First, most of use have a dog or cat around that we can study outside of class and— secondly, they have a lot of similarities while at the same time some clear differences. Along with comparing them to each other I will start to show the comparisons between them and man as a means of reinforcing your understanding of all three. In the drawings (Illustration No. 1), I have tried to show the similarities and difference of the skulls of human, cat and dog skulls. Notice that all three have the same basic elements. The differences are of size, (the area of the brain), the angle (the muzzle or mouth sticks out more or less). In general once you start comparing the similarities become obvious and of course so do the differences which makes the drawing easier.

One of the best ways I know of learning something is by comparing it to similar forms and seeing the differences.

In looking at the arms and hands of man to In Illustration No. 2A and comparing it with those of the Cat 2B and Dog 2C , notice that the main difference is that scapula comes to the side and of course that the dog and cat walk on there fingers. Look carefully at these drawings and compare the differences in size, length and weight of the various bones. Notice how the elbow of the dog and cat are extend out. This extension gives more leverage and power to the attached muscles. In drawing this is an important landmark.

Illustration No. 2A
Human

Illustration No. 2B
Cat

Illustration No. 2C
Dog

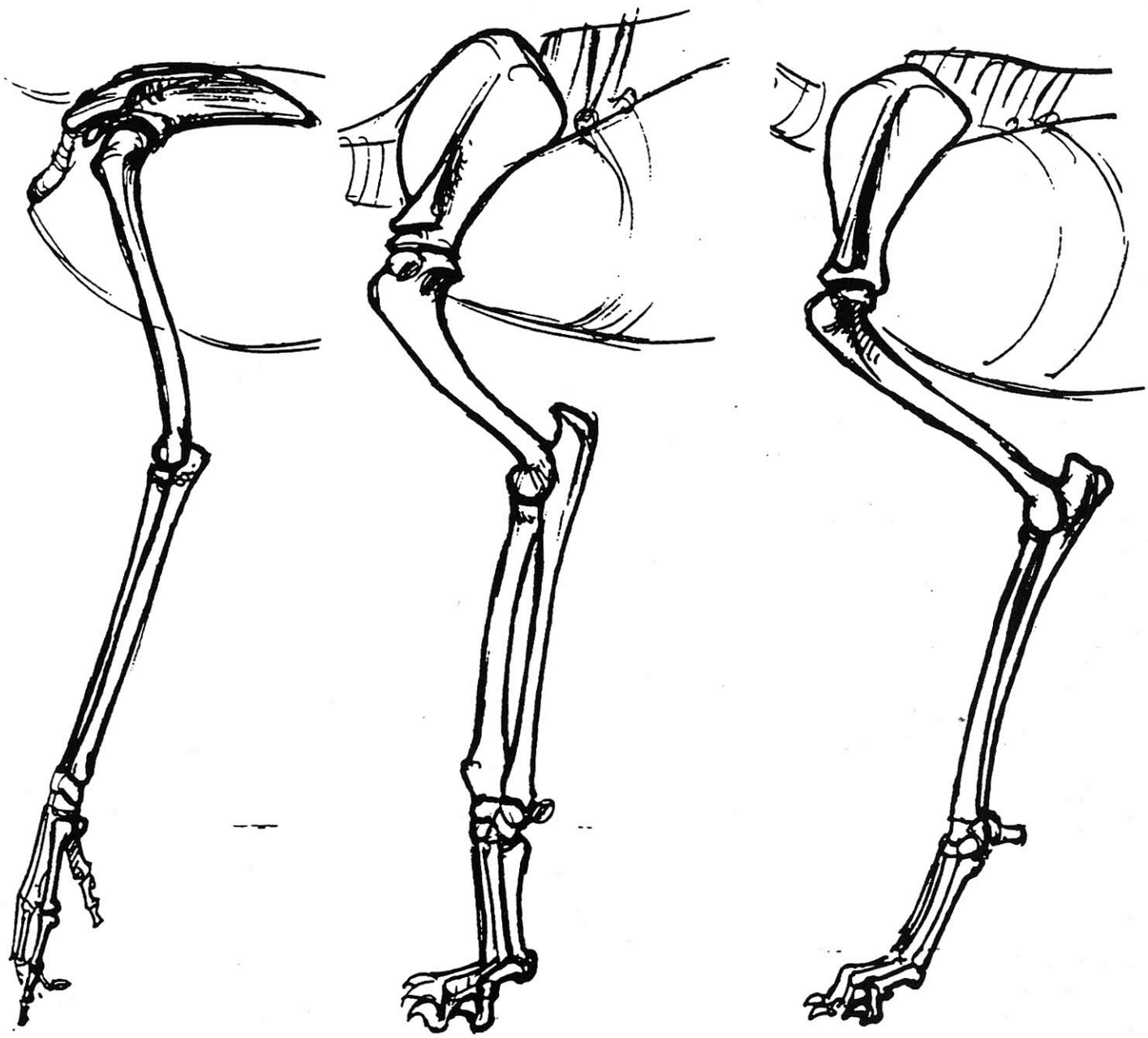


Illustration 3A, B & C show the Leg of man compared with the hind leg of a cat and dog. Again notice that the similarities are greater than the differences. The primary differences of course is the way we walk in comparison to four leged animals. The dog and cat walk on there toes, coming down on there heels primarily only while at rest, while in man the heel is a primary contact point with the ground in our walk. Again the primary differences are in the weight and length of the bones. In looking at the pelvis in profile notice how the cat and dogs pelvises are stretched out in comparison to

Illustration No. 3A
Human

Illustration No. 3B
Cat

Illustration No. 3C
Dog

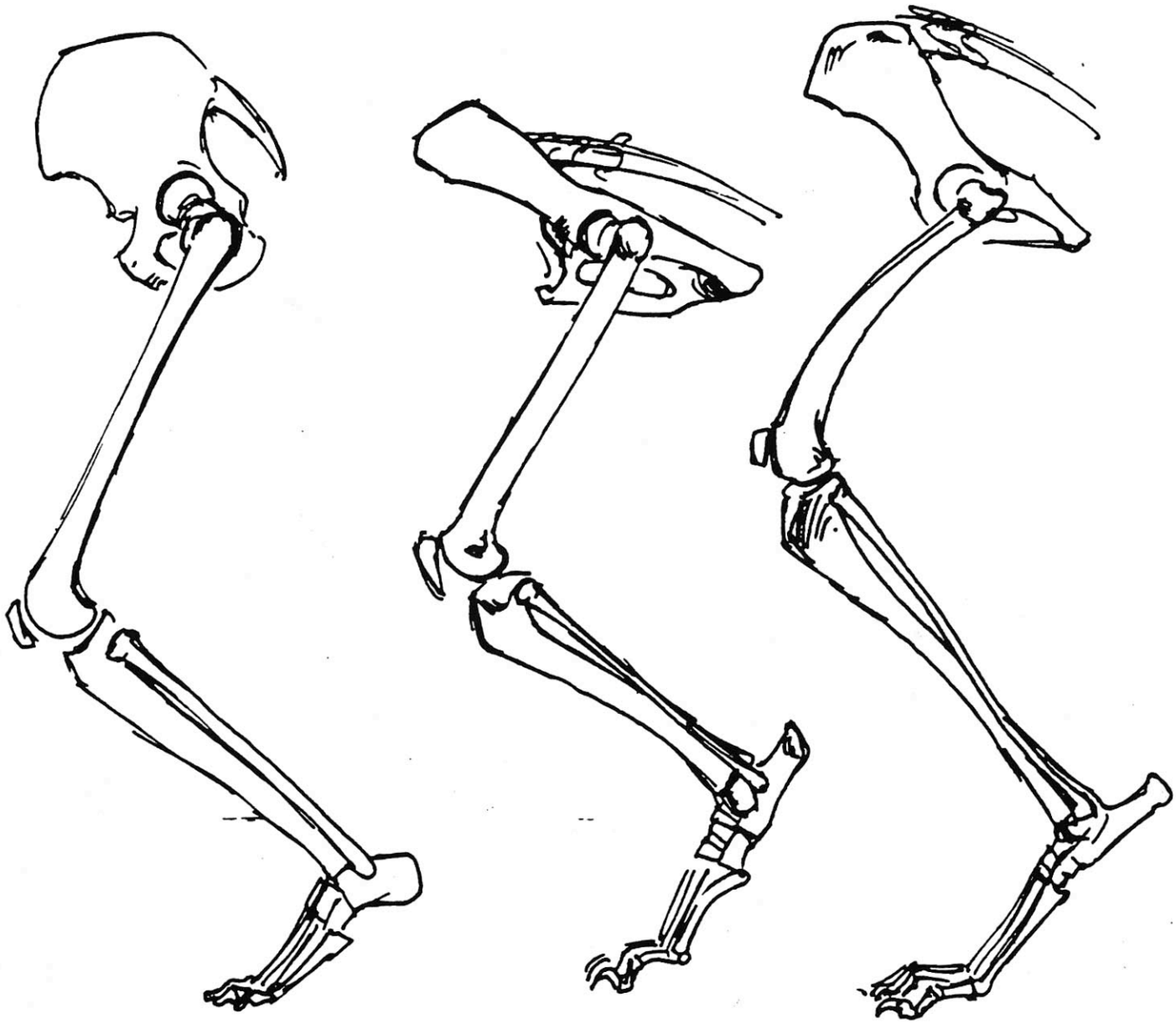
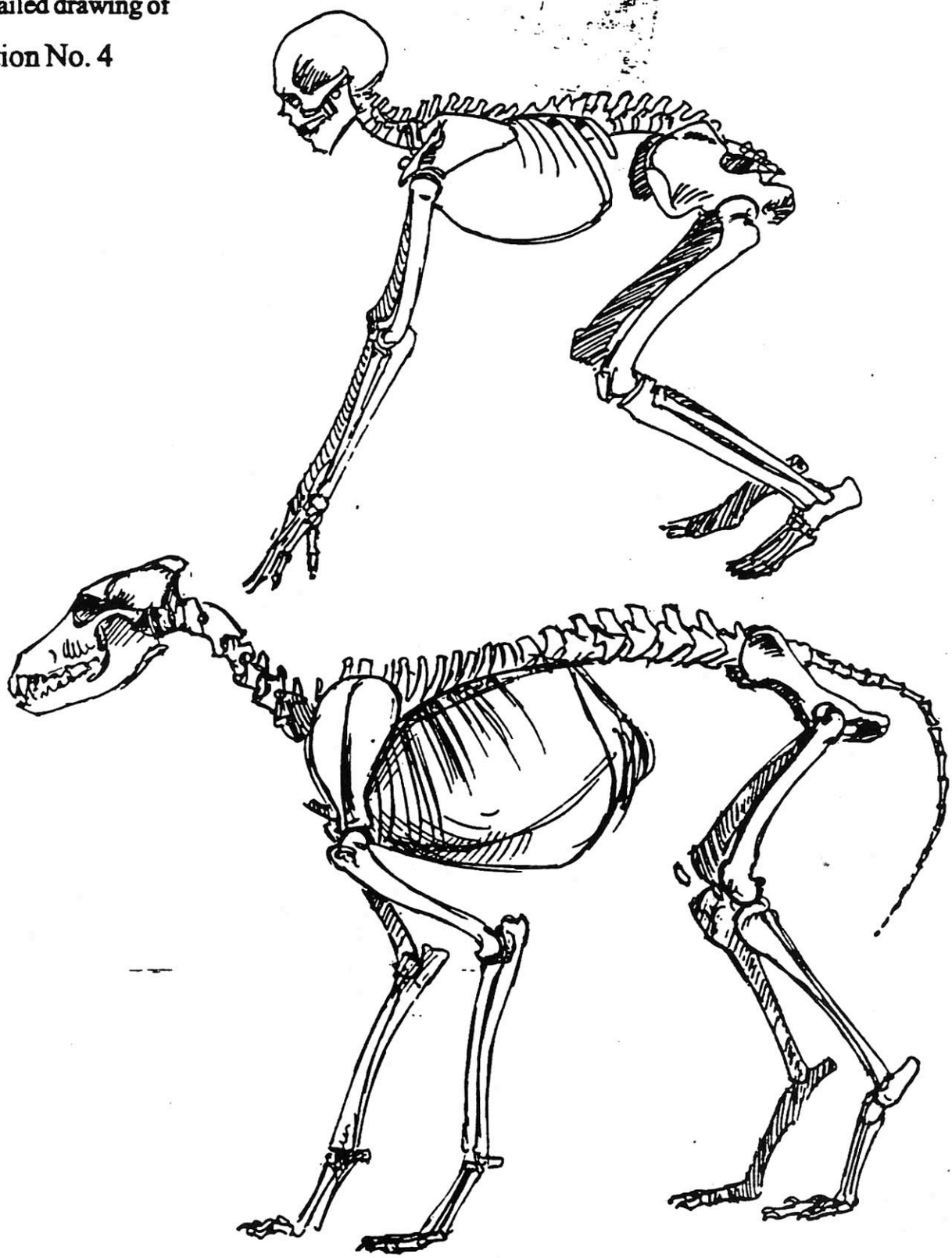
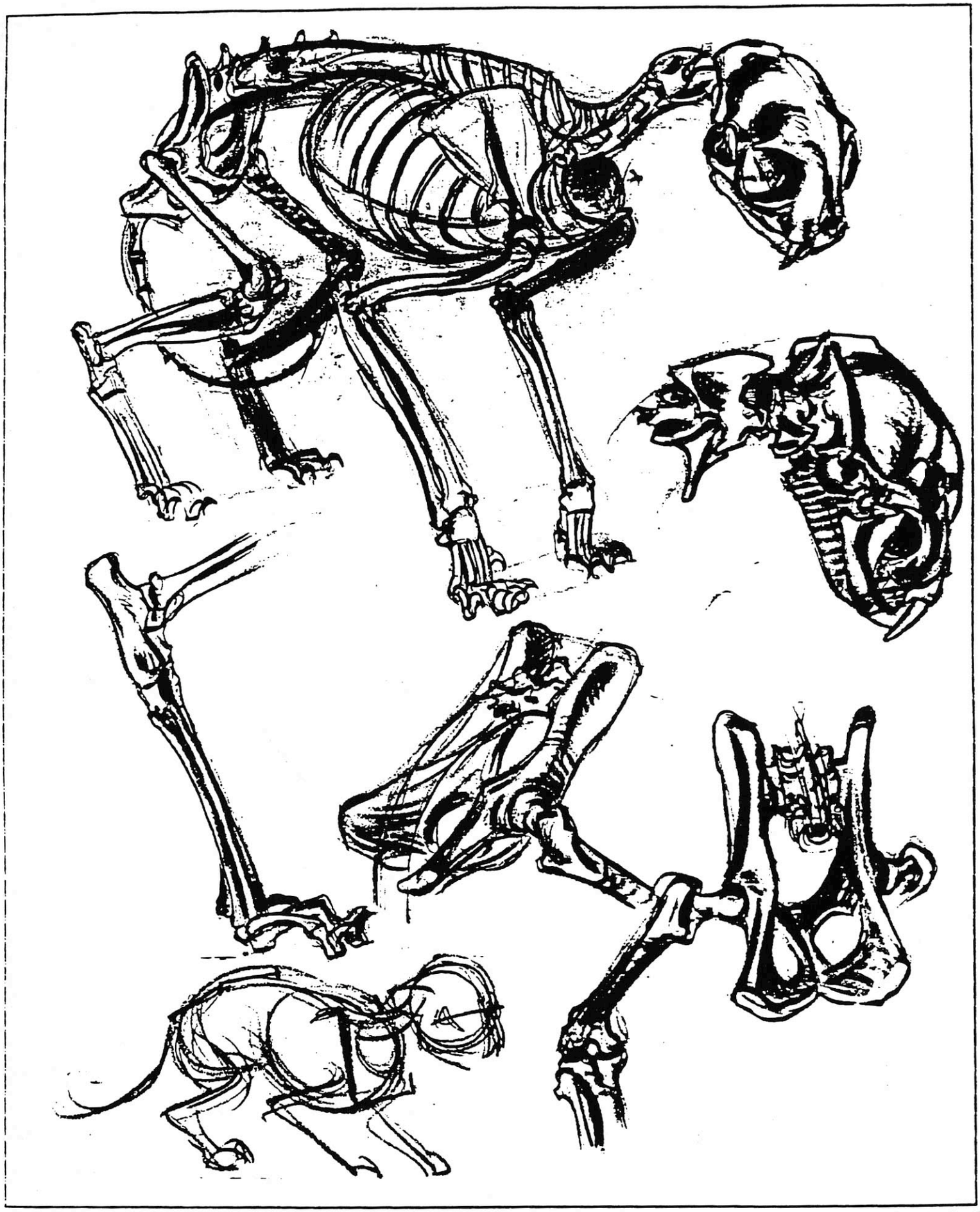
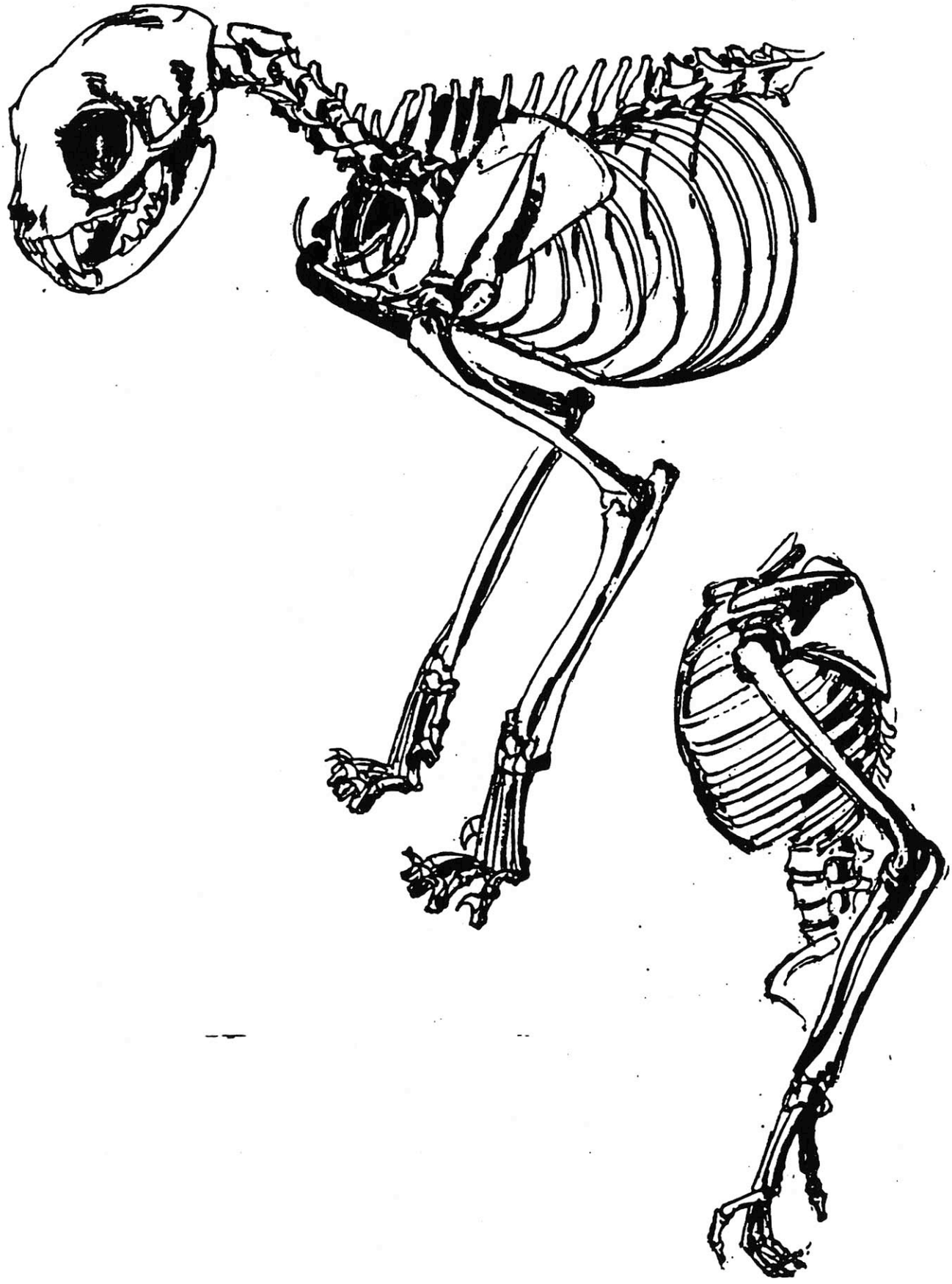


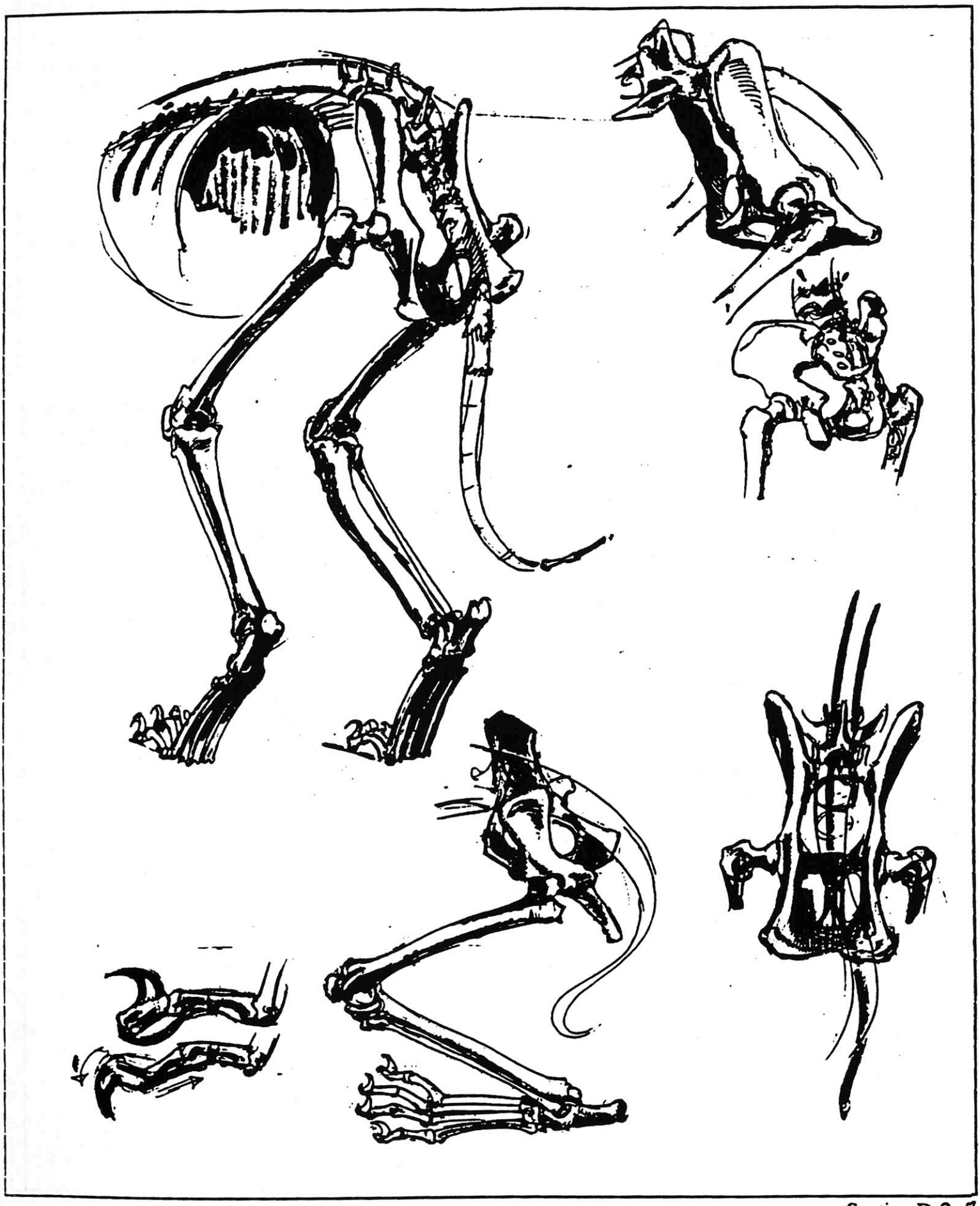
Illustration No. 4 gives you a comparison of the human skeleton on all fours in comparison to a dog. Illustration No. 5 on the next page is a more detailed drawing of a cat skeleton. I do not think it is necessary to know all of the names and muscles of an animal to draw it, but a strong general working knowledge of the anatomical structure will make your drawing more convincing and give you more confidence in your drawing.

Illustration No. 4

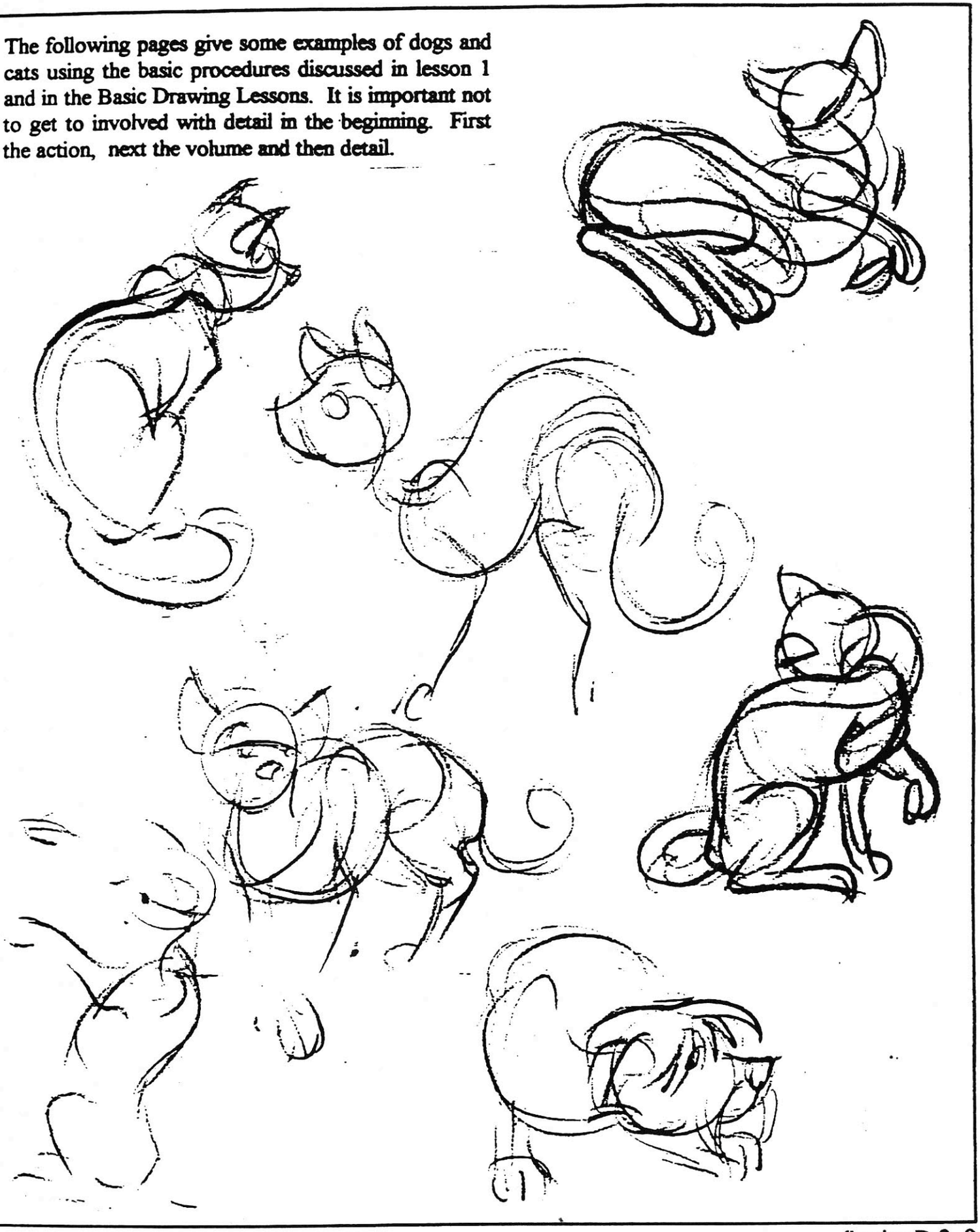


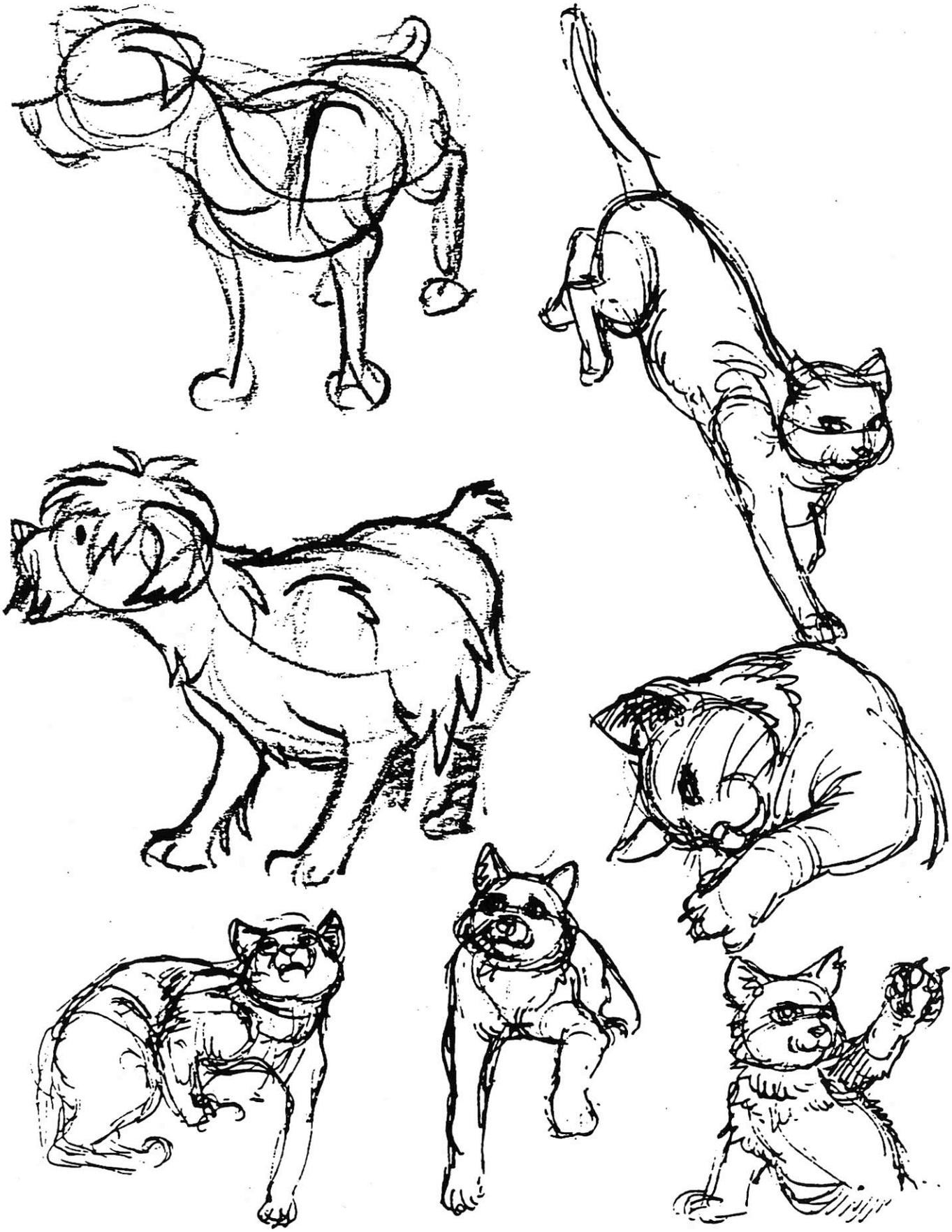


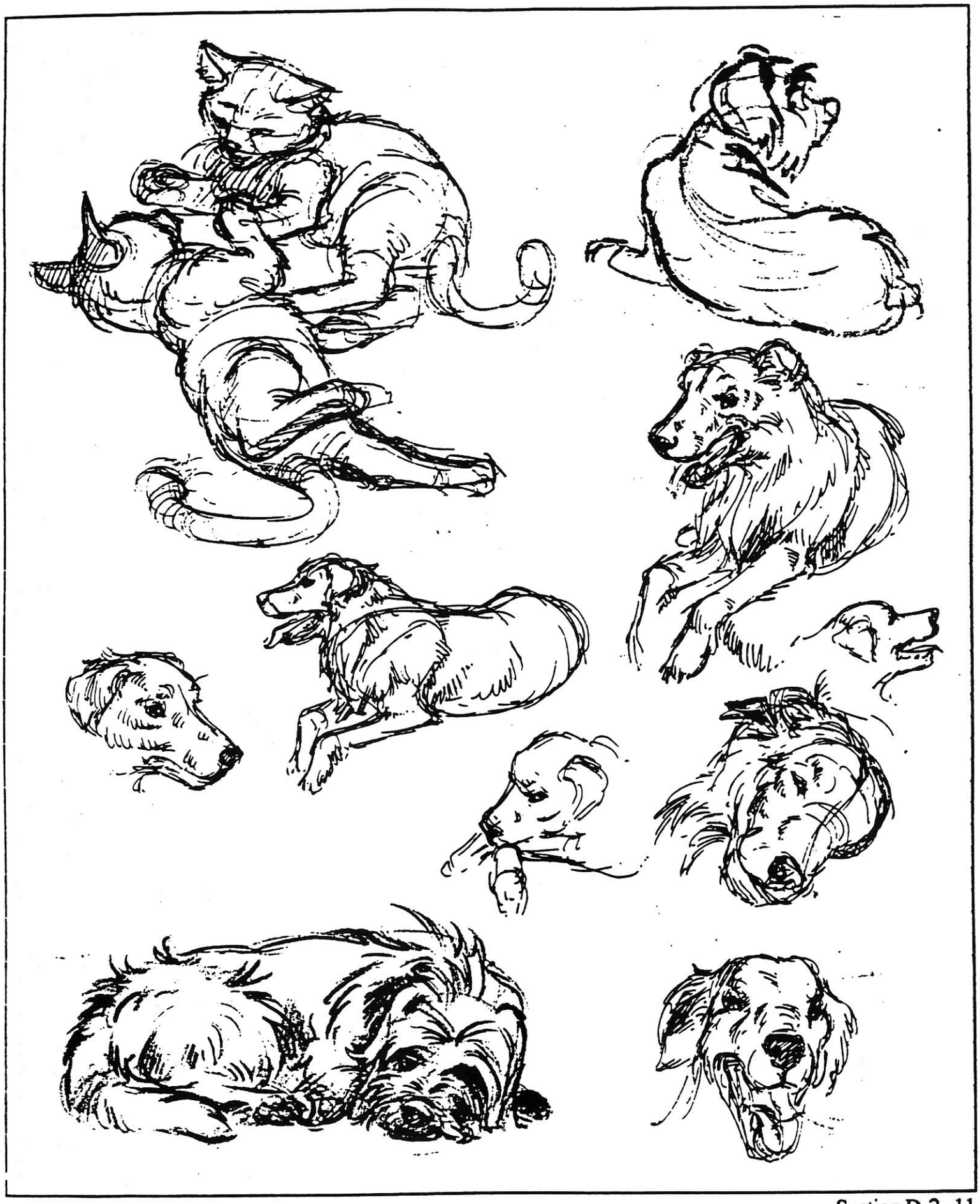


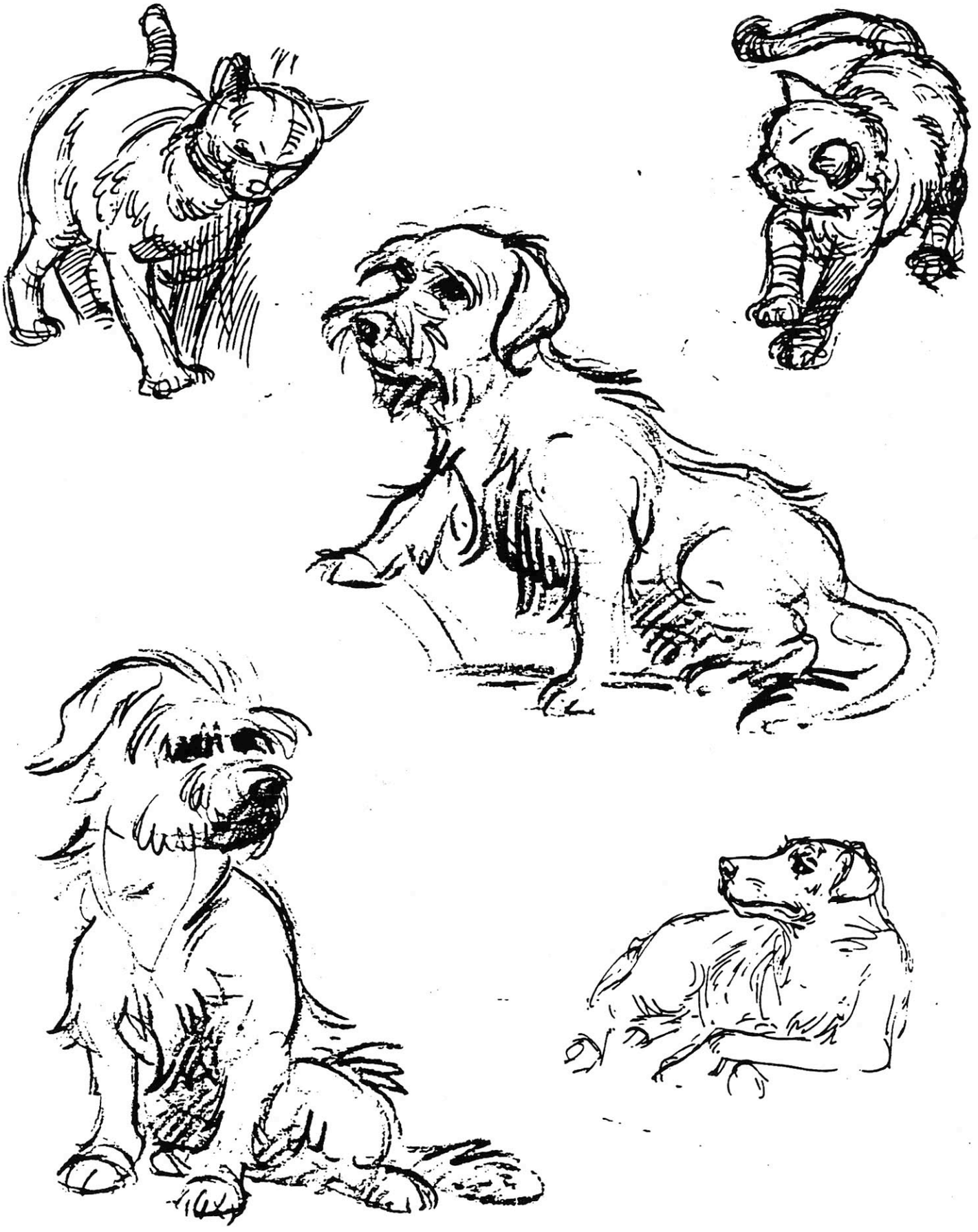


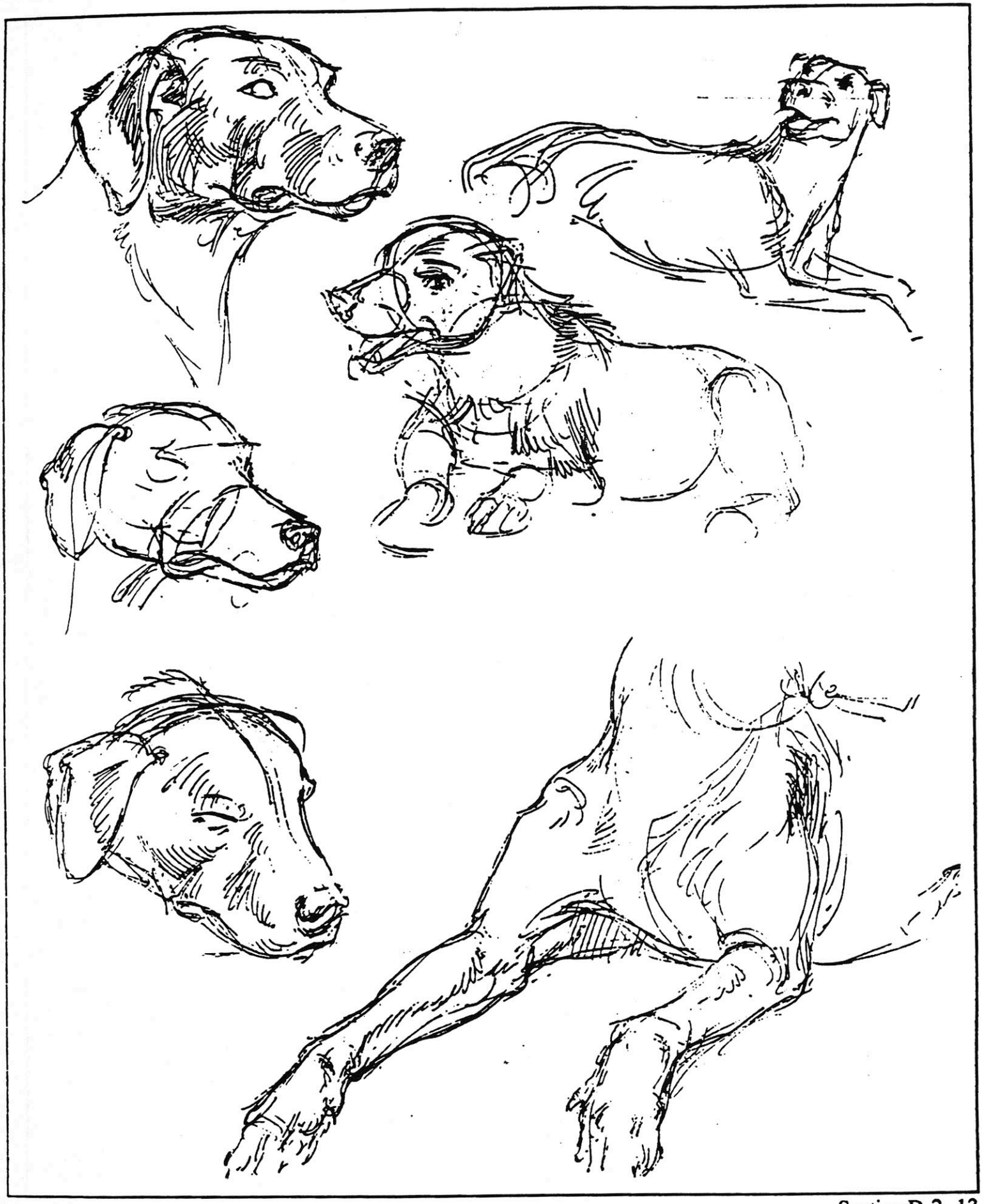
The following pages give some examples of dogs and cats using the basic procedures discussed in lesson 1 and in the Basic Drawing Lessons. It is important not to get to involved with detail in the beginning. First the action, next the volume and then detail.

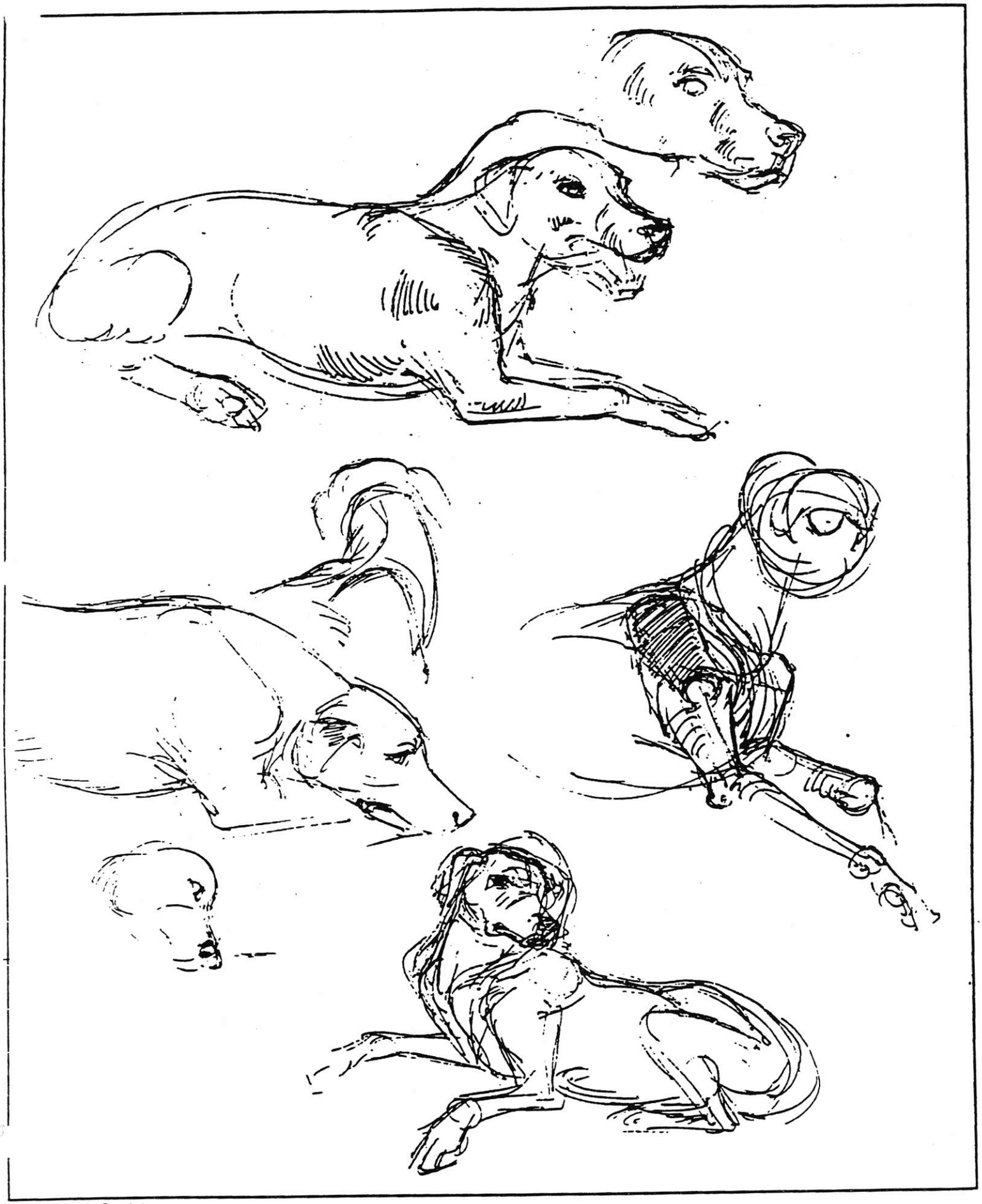


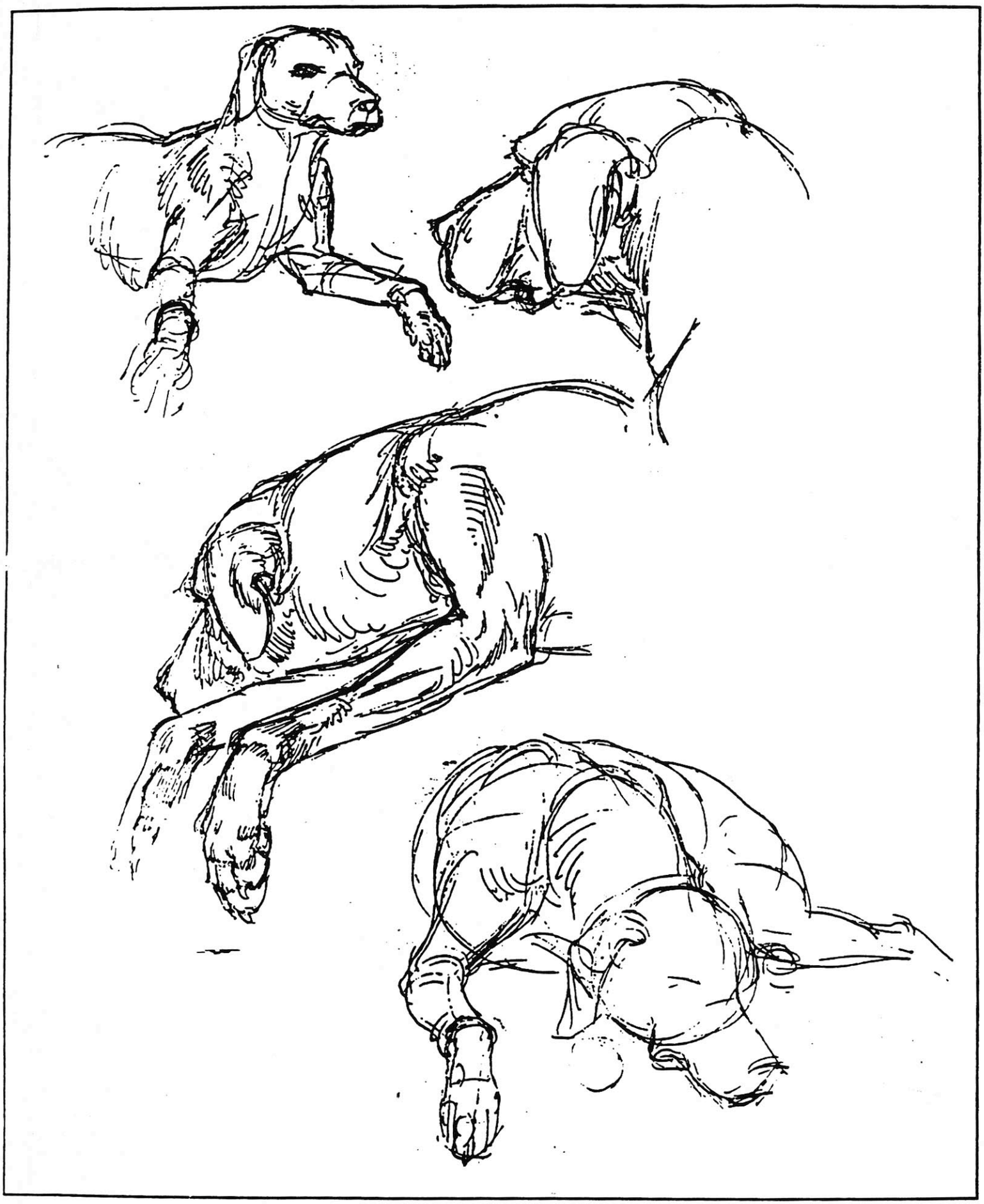


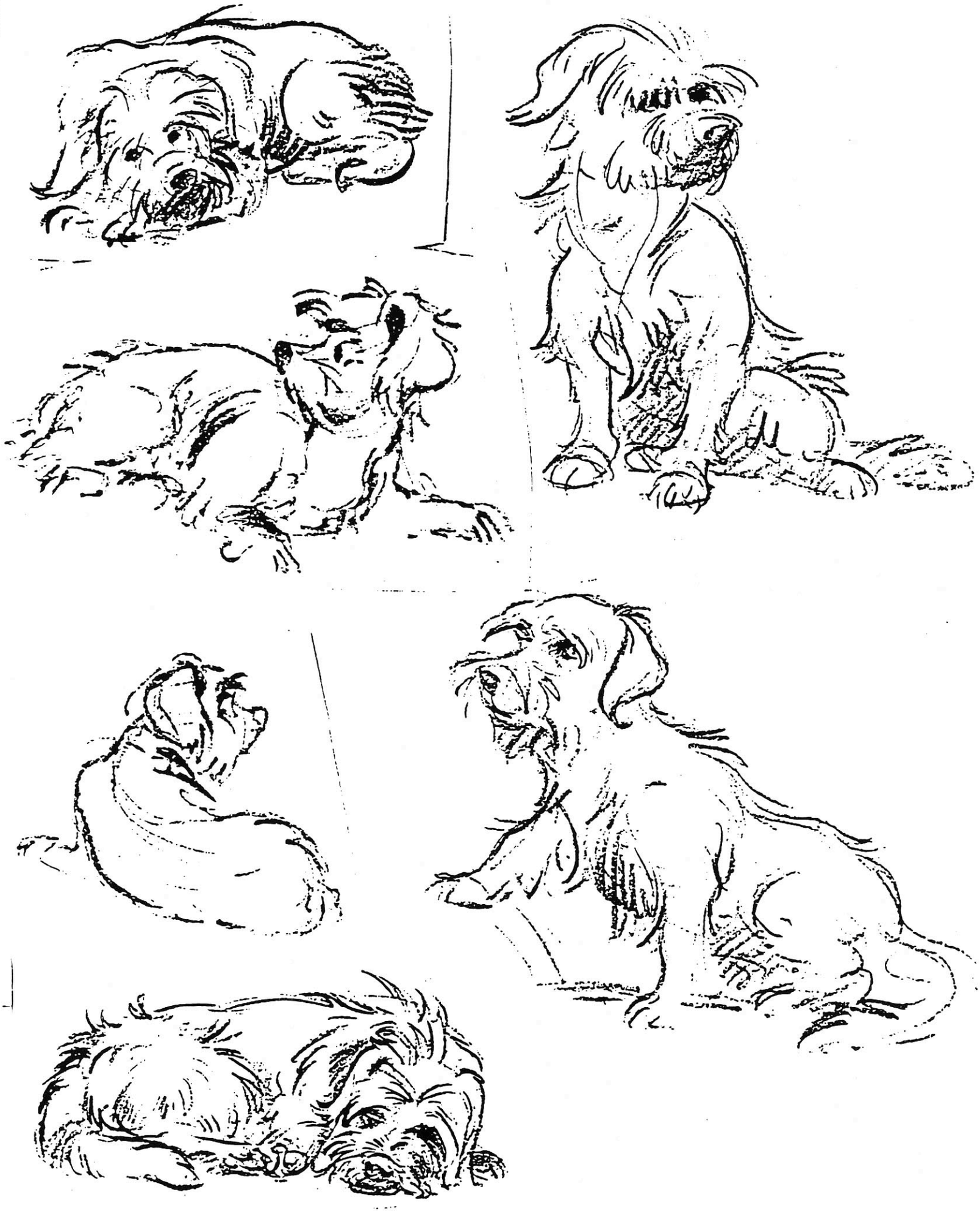


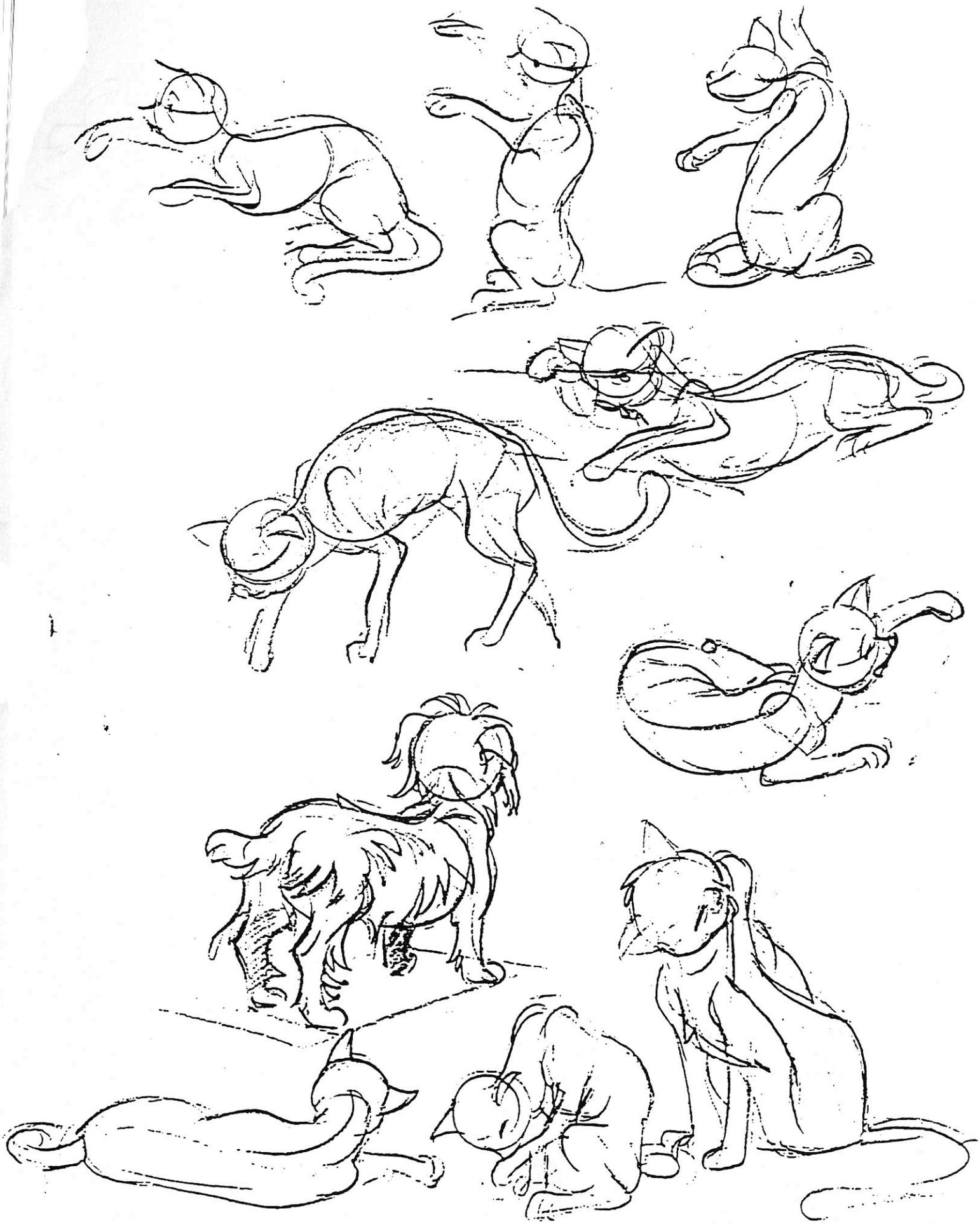


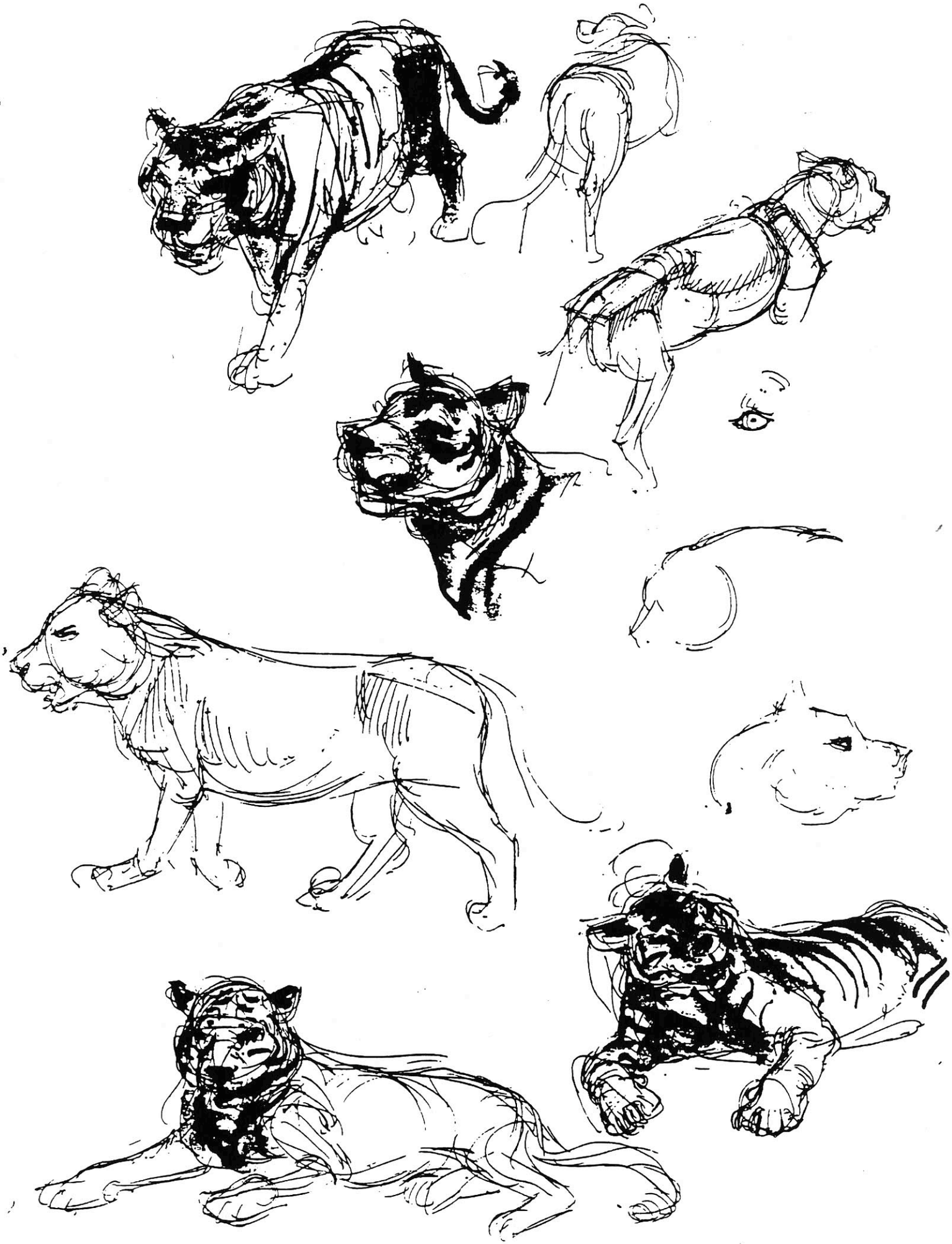


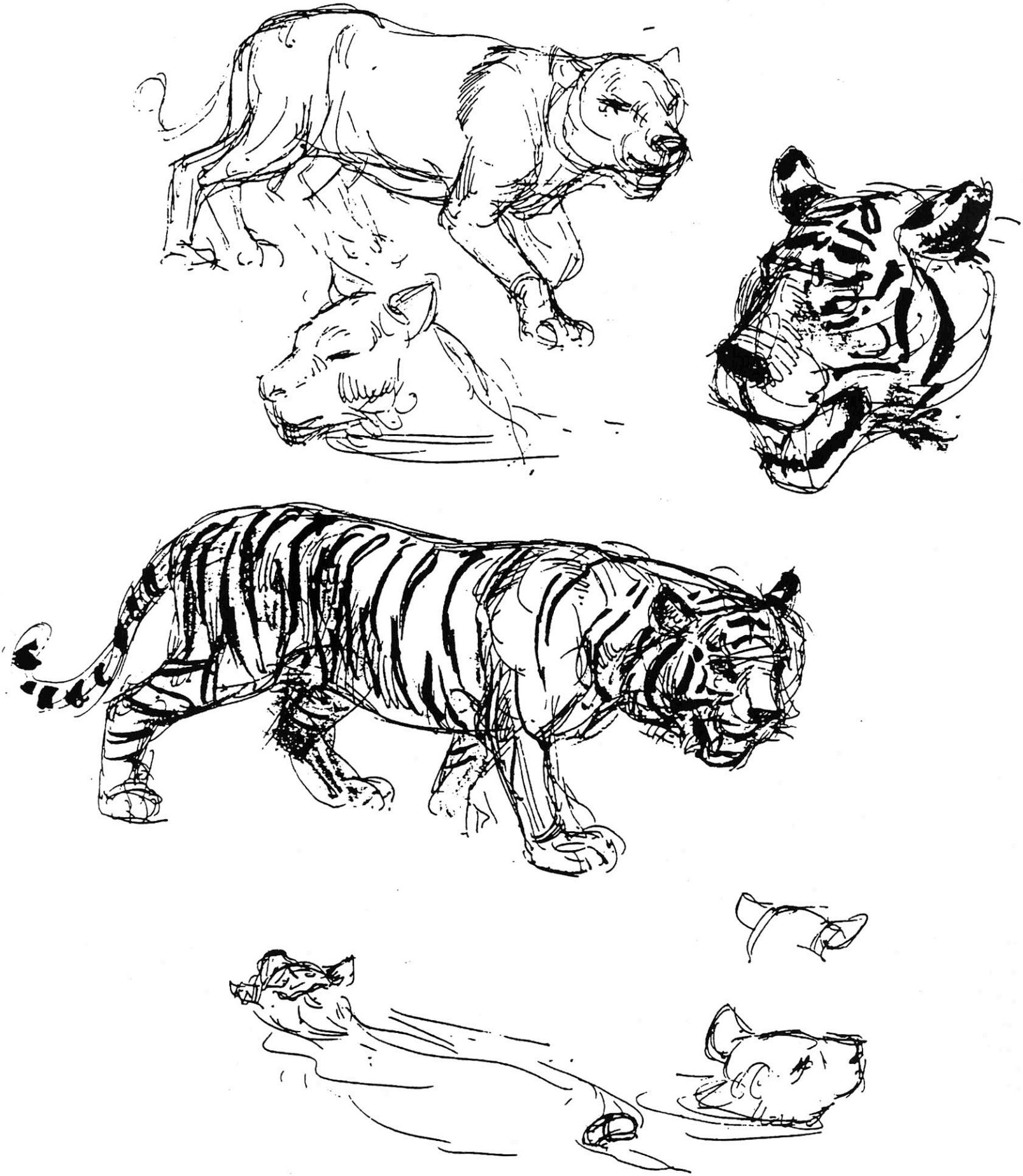




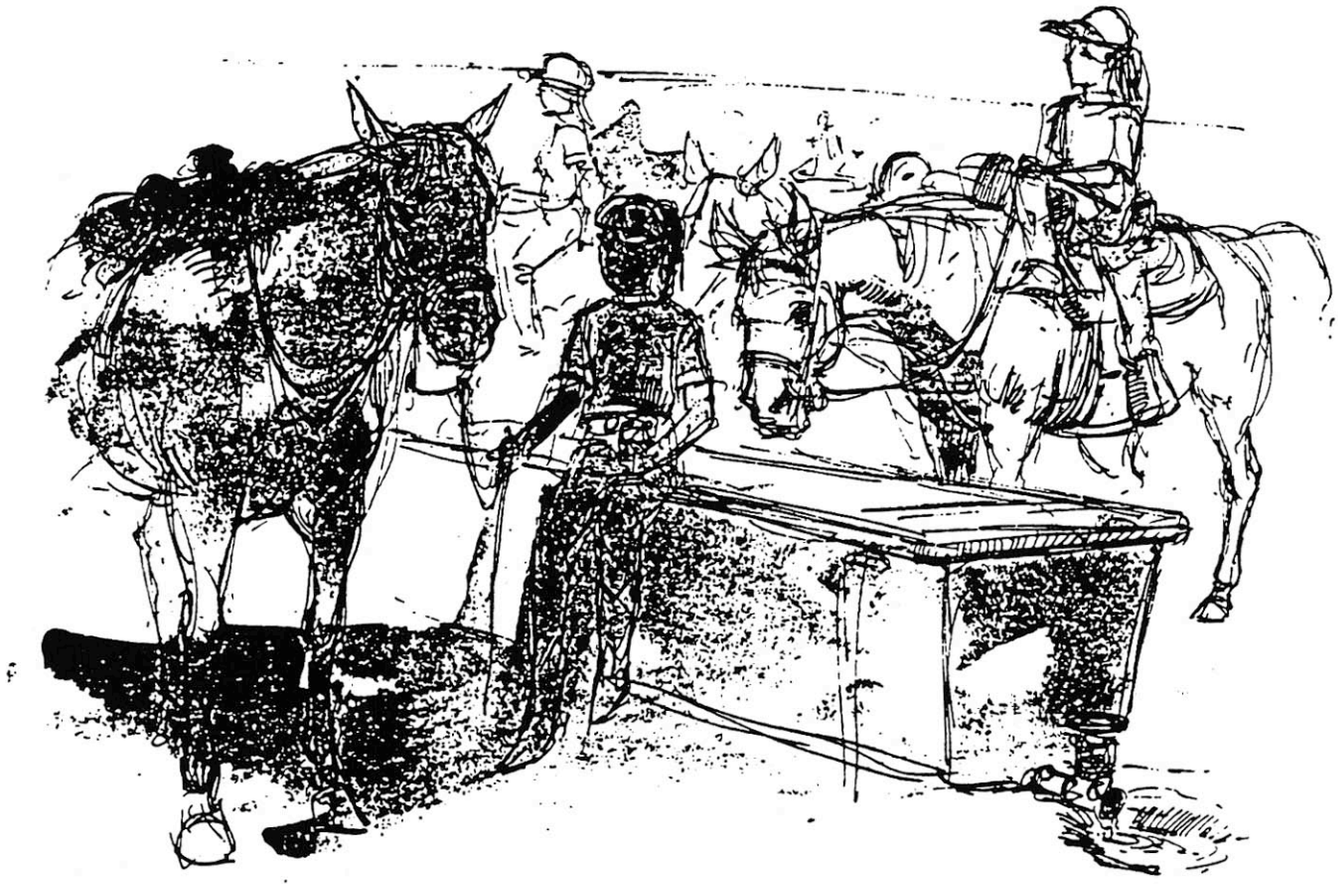








Horses

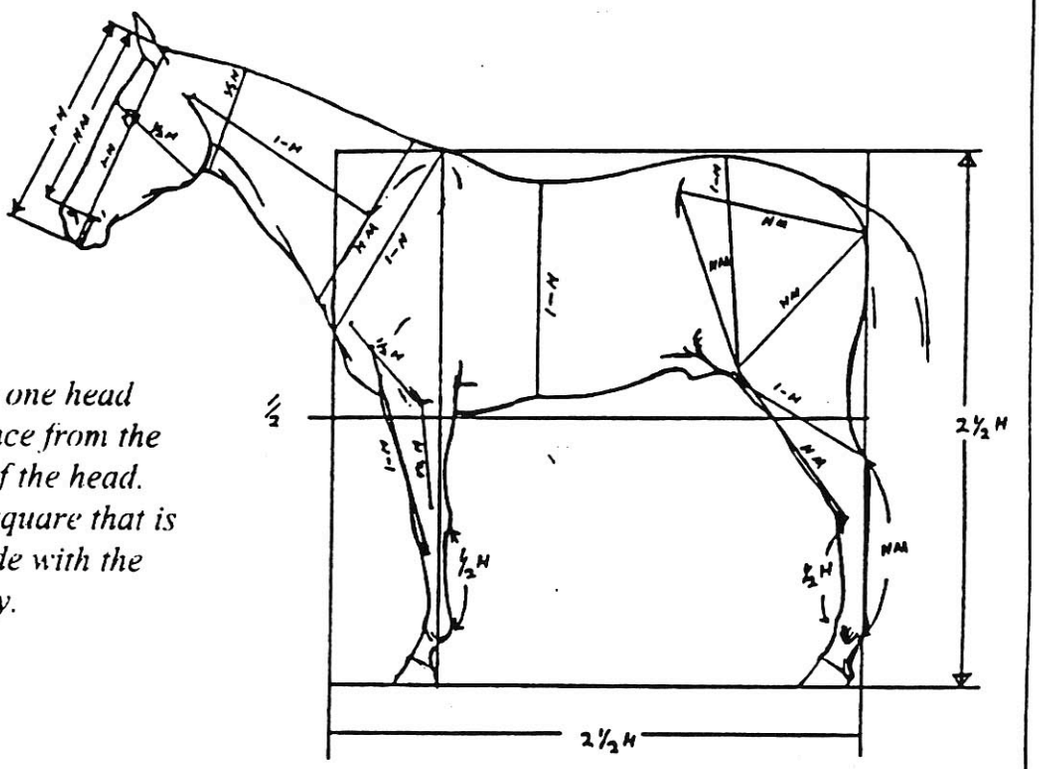


The horse and man have had a long association and consequently, we have developed a critical eye for its lines and proportions for purely aesthetic reasons. There is nothing more detracting from the enjoyment of a drawing or painting of a horse where the artist has made, what is to those who have or appreciate horses, basic anatomical or proportional mistakes. I am not talking of the beautifully stylized drawing such as the Chinese or many other cultures have made, but those drawing that are done through a lack of basic understanding of fundamental proportions and anatomy. To draw anything you must really understand it. When we draw we analyze, we do not copy our subject. The beautiful cave drawing of horses show an acute understanding and through familiarity with the subject. With the horse the line of the head that is not just right shows it to be of a different bred or of poor breeding. Every angle and form has meaning to those that can read them, so it becomes important that in drawing

"We analyze when we draw, we do not copy the model"

the horse you become familiar with fundamental relationships. So our first concern is basic proportions. Illustration No. 1 below gives you the basic proportions, and could be used as a starting point for the differences between breeds. We use the length of the head of the horse, in the same way that we do that of a human, as a standard unit of measurement. Notice that the length of the torso is about equal to the height at the shoulders, creating a square. Always try to use proportions that are easy to remember. Study the illustration carefully.

Illustration No. 1

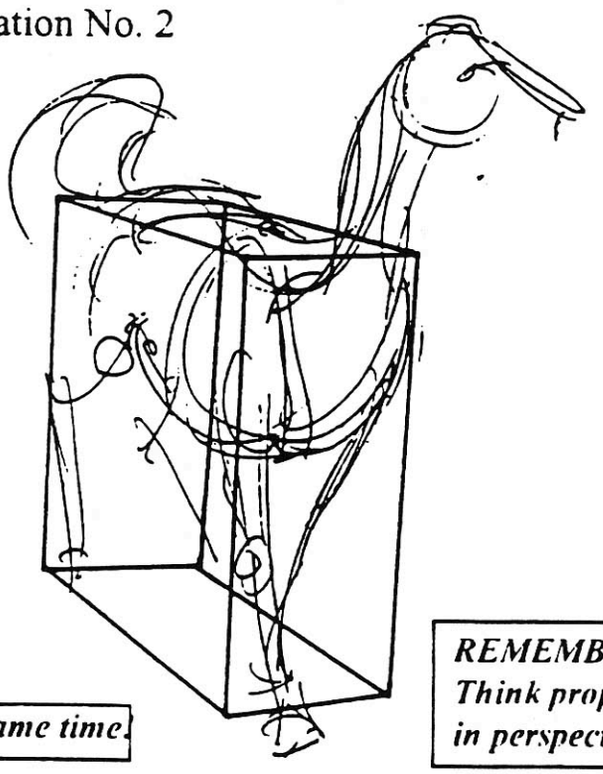


These proportions are based on the works of W. Frank Calderon in his book "Animal Painting and Anatomy", first published in 1936 and reprinted in 1975 by Dover Publications, Inc., N.Y.

In this illustration 1-H stands for one head length. H-M represents the distance from the corner of the mouth to the back of the head. The main torso and legs make a square that is approximatly 2 1/2 heads on a side with the bottom of the chest being half way.

As your doing the first exploratory lines of the action you should at the same time be making quick basic proportional comparisons. Look at the drawing on this page, (Illustration No. 2). As simple as they are, the major comparisons have alread been made.

Illustration No. 2

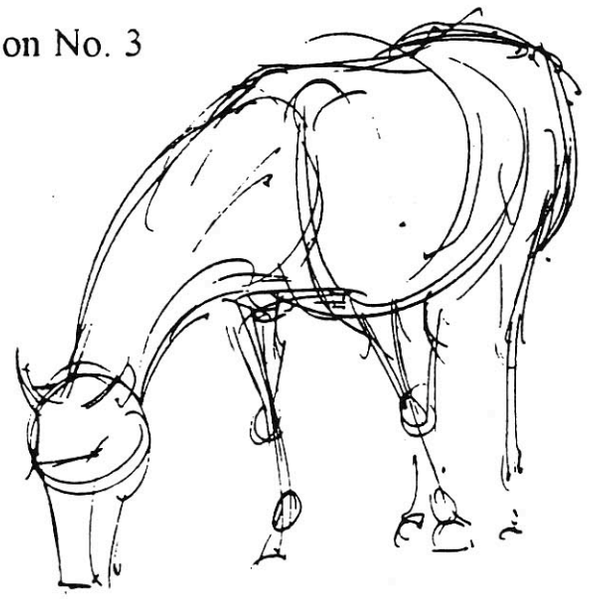


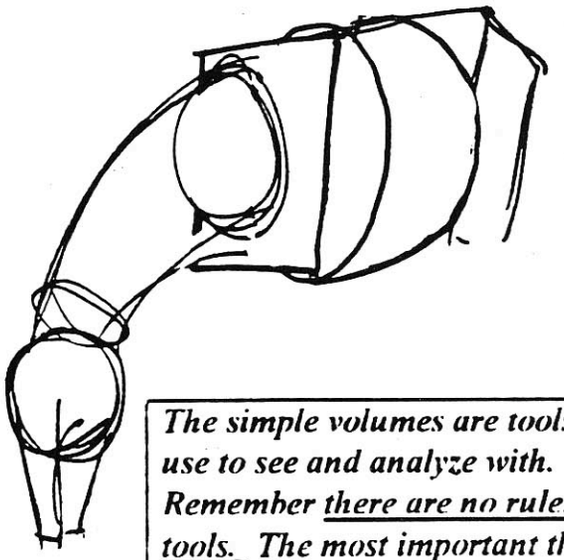
he action and proportion should be gotten at the same time.

REMEMBER
Think proportions in perspective

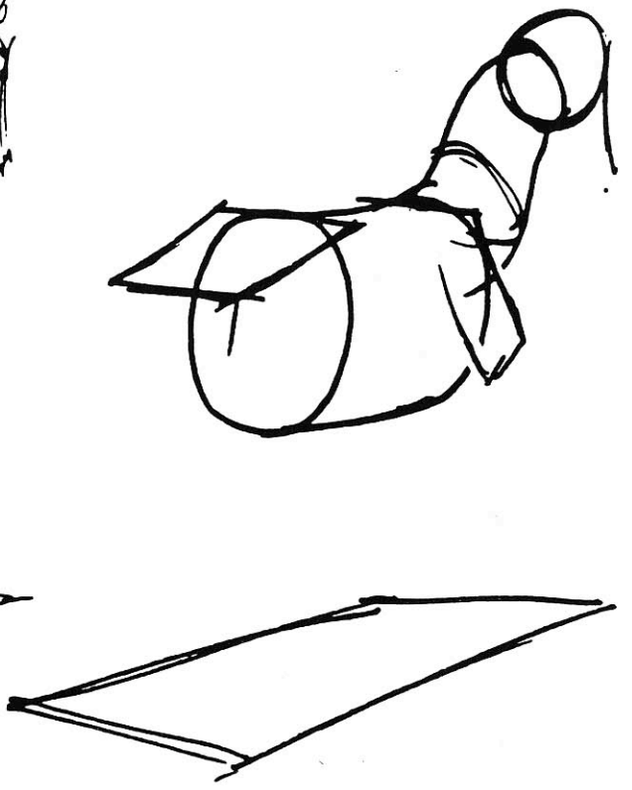
The next step in the drawing is to start defining the major volumes in the same manner that we did with the Cat and Dog in our last lesson. Of course when you become more familiar with the forms, you will already have taken them into consideration in your first quick liness of action and you would have also indicated the major anatomical elements. Illustration No. 3 shows you the main volumes you should be considering in your drawing.

Illustration No. 3





The simple volumes are tools that you use to see and analyze with. Remember <u>there are no ruless just tools.</u> The most important thing is still the action.



The legs of the horse are indicated in the beginning the same way that we handled the dog and cat - following the basic bone structure. The big difference is, of course, the hoofs. (see Ill. No. 4) Illustration No. 5 is a comparison of human and horse bone structure.
(The drawings are not to scale.)

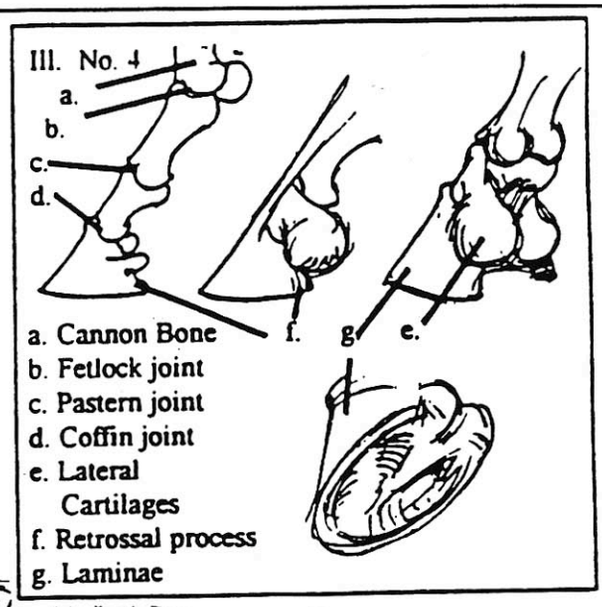


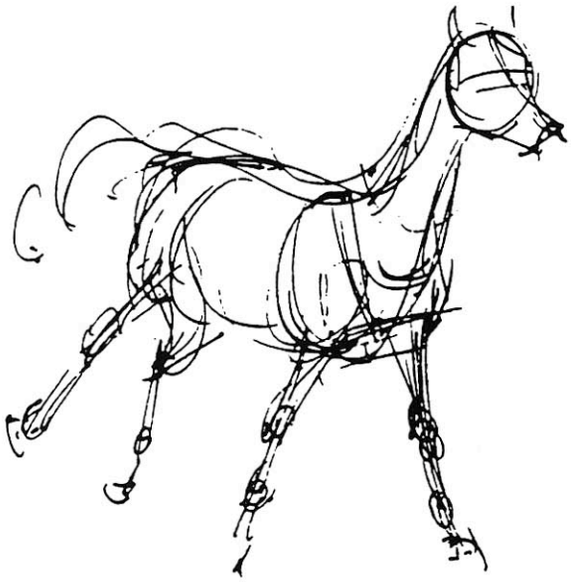
Illustration No. 5

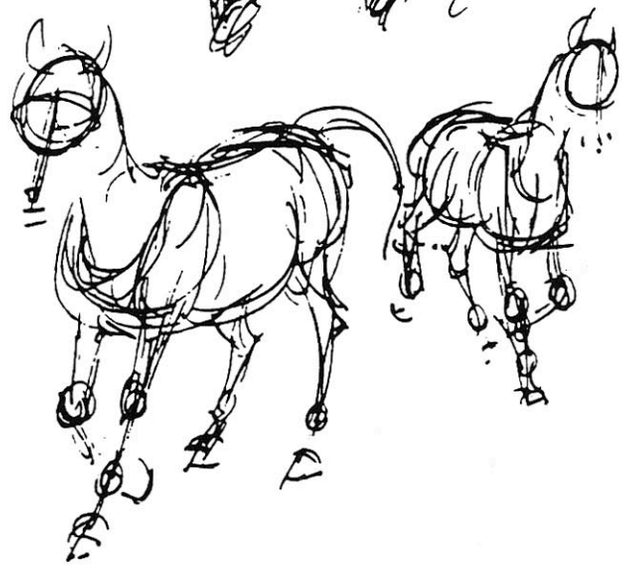
1. Scapula
2. Humerus
3. Radius
4. Ulna
5. Carpus
6. Metacarpus
7. Phalanges
8. Sacrum
9. Pelvis
10. Femur
11. Patella
12. Fibula
13. Tibia
14. Astragalus
15. Tarsus
16. Scapmoid
17. Cuneiform
18. Cuboid
19. Metatarsus
20. Sesamoids
21. Phalanges
22. Navicular Bone

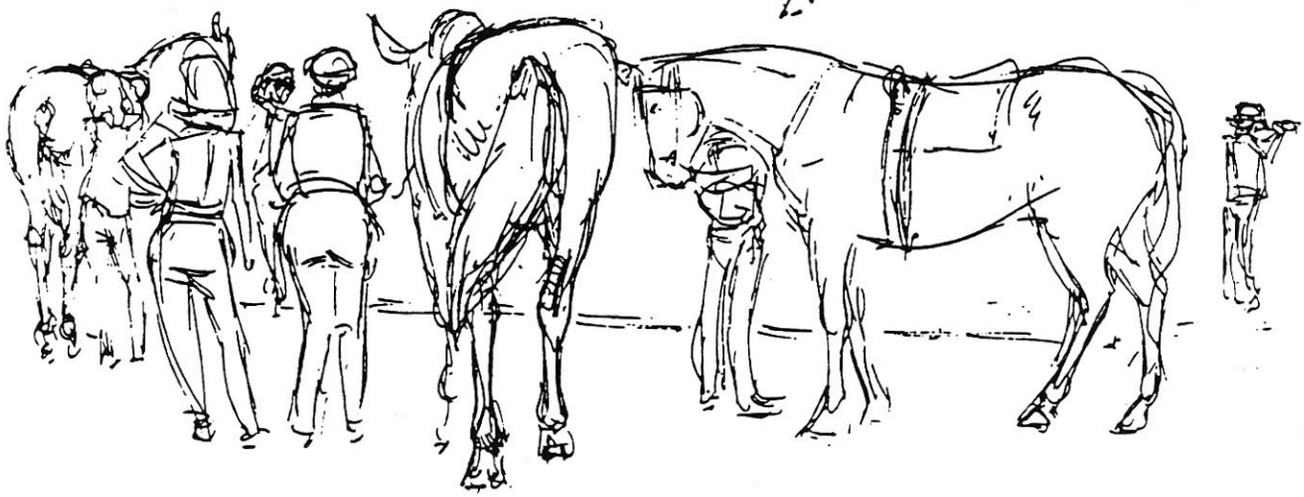
To accomplish anything you need to have a clear cut procedure. A procedure allows you to concentrate on one thing at a time. Try not to get ahead of yourself.

The procedure that I have been giving you so far is to go from the general to the specific - i.e. the total action to the specific anatomical details within the context of major forms controlled by the action. Illustration No. 6 shows examples of the stage that the drawings should be at present. Try to practice each step until you are comfortable at each stage.

Illustration No. 6







Let us begin our next level of studying the horse with the head. When you look at a horses head you can read much of it's breeding from the simple line of the contour and its' general carriage. Compare the skull of the horse to that of the dog and cat from the previous lesson.

Illustration No. 8

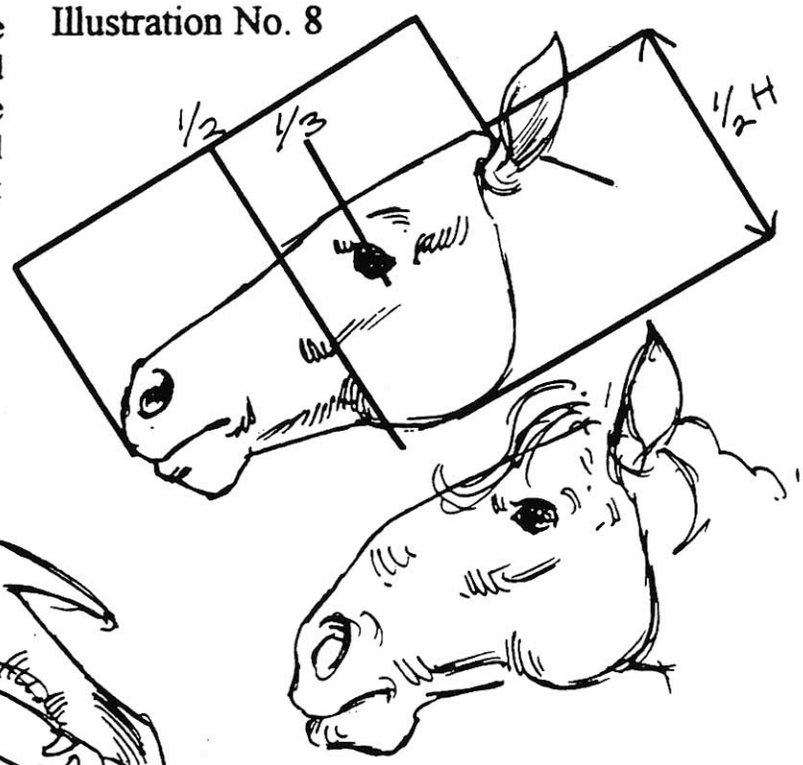
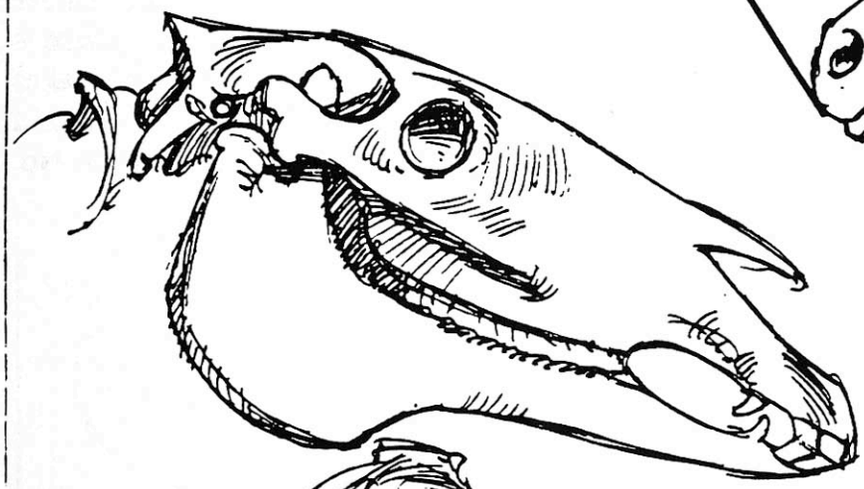


Illustration No. 7



Be careful with the profile line of the head. This line is one of the important distinguishing features of breed and breeding. See Illustration No. 8.

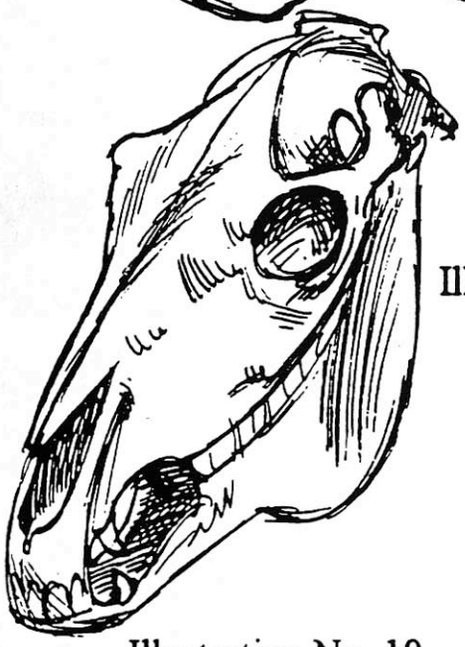
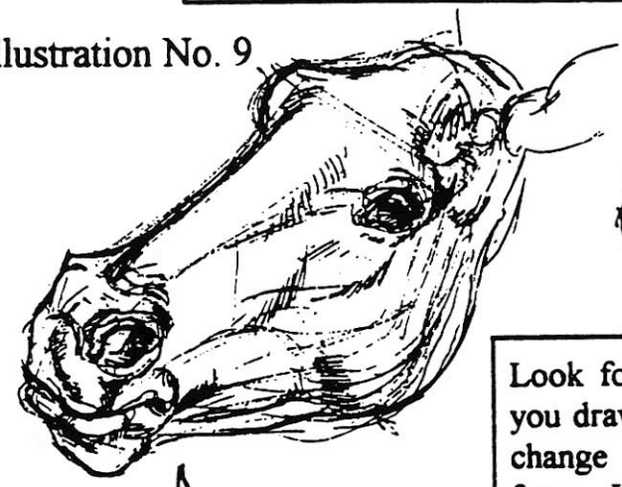
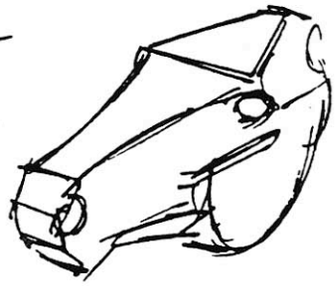


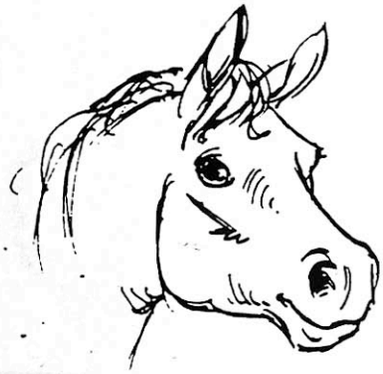
Illustration No. 9





Look for the corners. When you draw you are showing the change in the surface of the form. Visualize the form as a series of simple flat planes. See Illustration No. 9.

Illustration No. 10



The classic Arabian has a dished face with flaring nostrils.

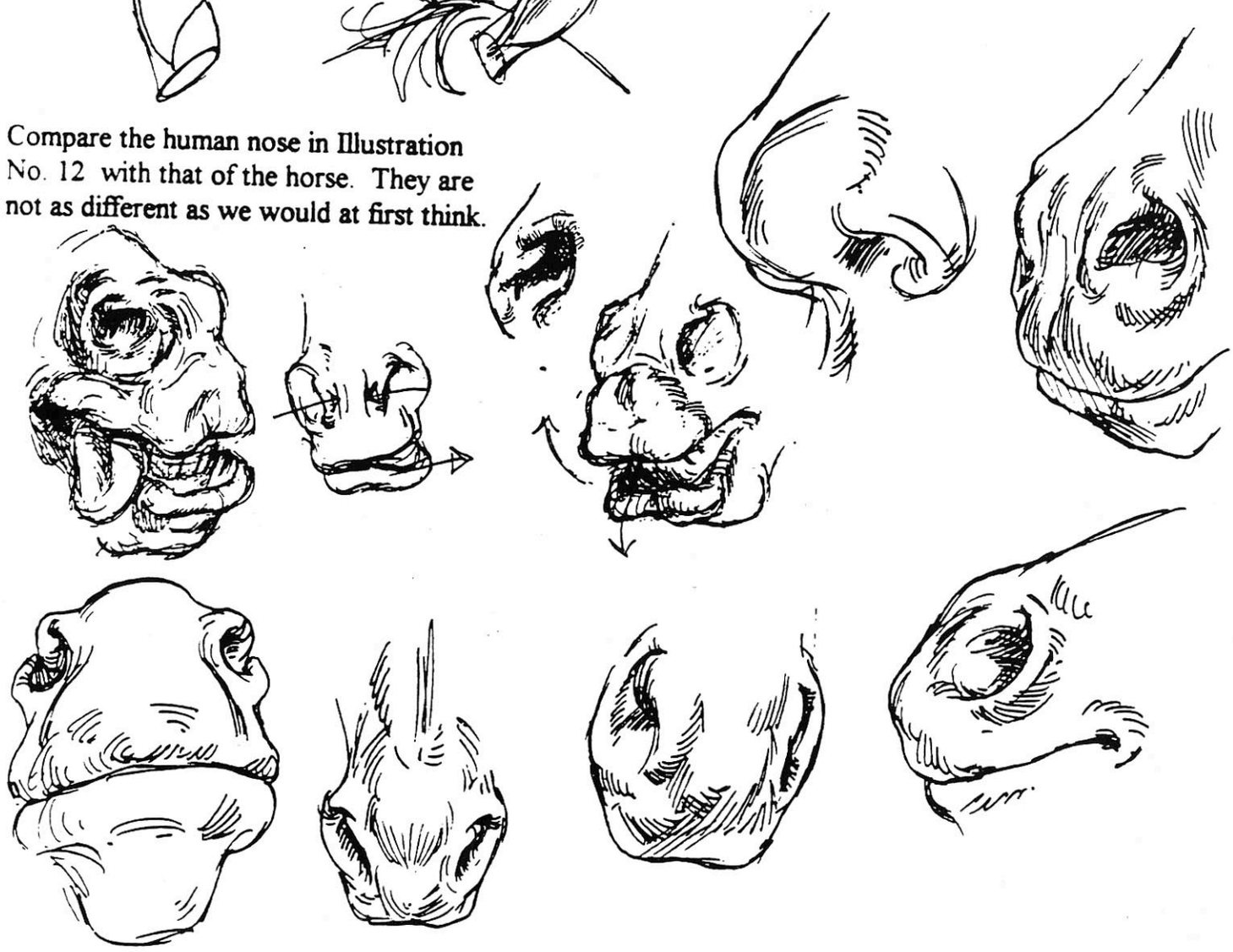
Illustration No. 11

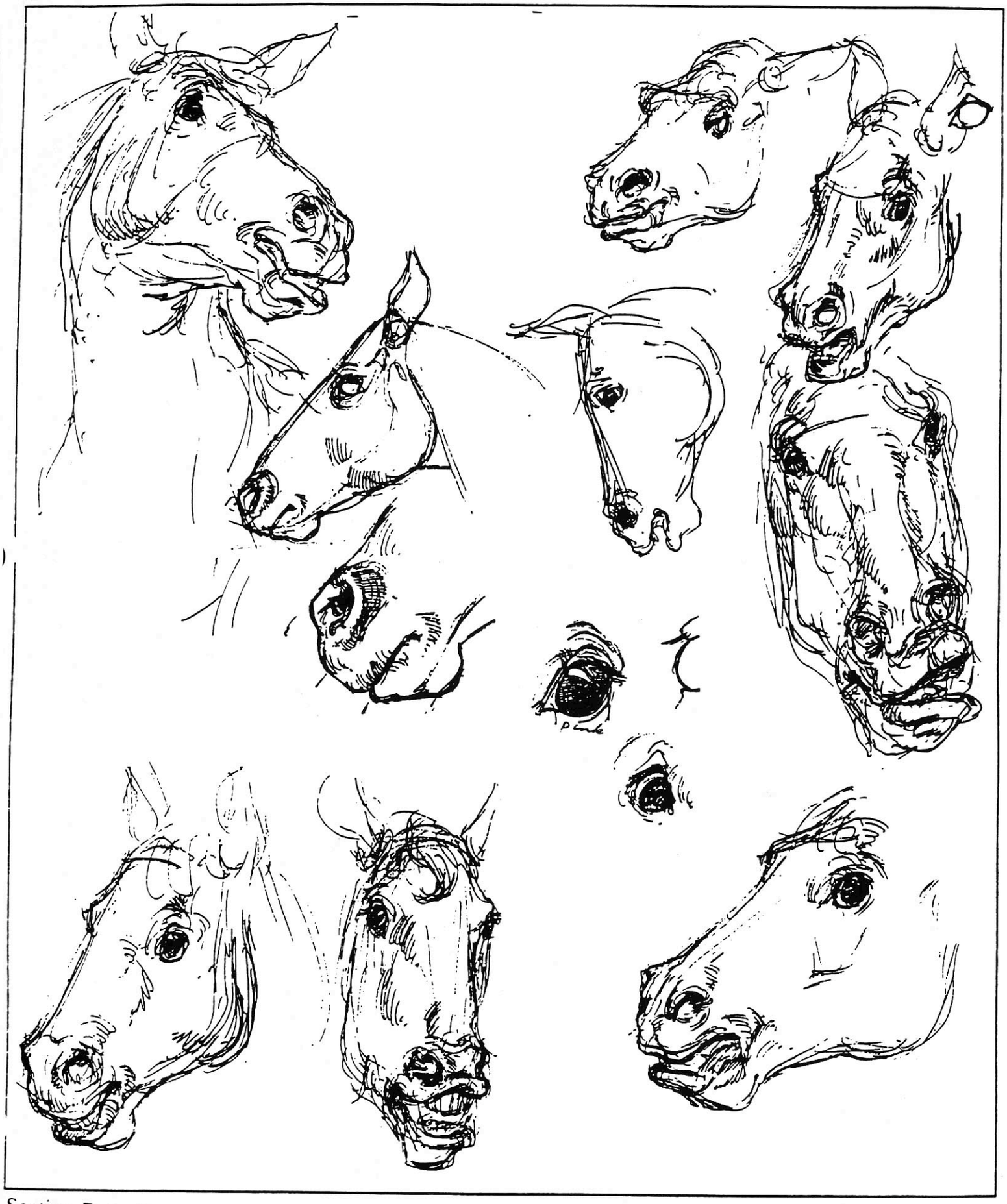
The ears move independently turning toward any sound. They also indicate mood. The ears lie back along the side of the head indicating that the horse is upset, and you should be on your guard. The ears straight up pointed forward indicates the horse is alert and being attentive.

The base of the ear is a siimple cylinder originating behind the cheek bone. There is a natural curve to the line that takes studying to master. The ear opens out almost like a flower. See Illustration No. 11.

Illustration No. 12

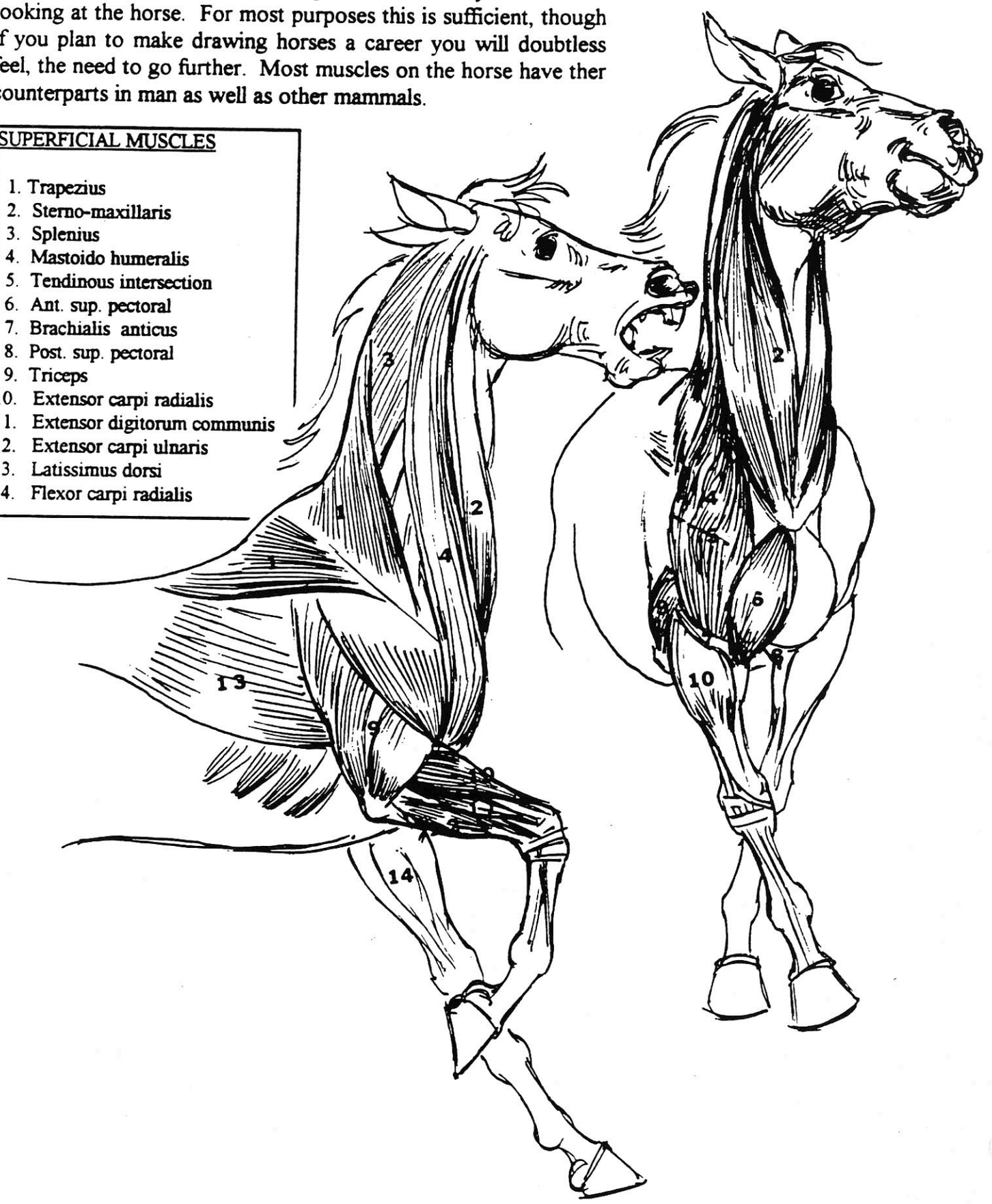
Compare the human nose in Illustration No. 12 with that of the horse. They are not as different as we would at first think.





The anatomy that I am presenting is primarily the superficial muscles that help in understanding the forms that you see when looking at the horse. For most purposes this is sufficient, though if you plan to make drawing horses a career you will doubtless feel, the need to go further. Most muscles on the horse have ther counterparts in man as well as other mammals.

Illustration No. 13



SUPERFICIAL MUSCLES

1. Trapezius
2. Sterno-maxillaris
3. Splenius
4. Mastoido humeralis
5. Tendinous intersection
6. Ant. sup. pectoral
7. Brachialis anticus
8. Post. sup. pectoral
9. Triceps
10. Extensor carpi radialis
11. Extensor digitorum communis
12. Extensor carpi ulnaris
13. Latissimus dorsi
14. Flexor carpi radialis

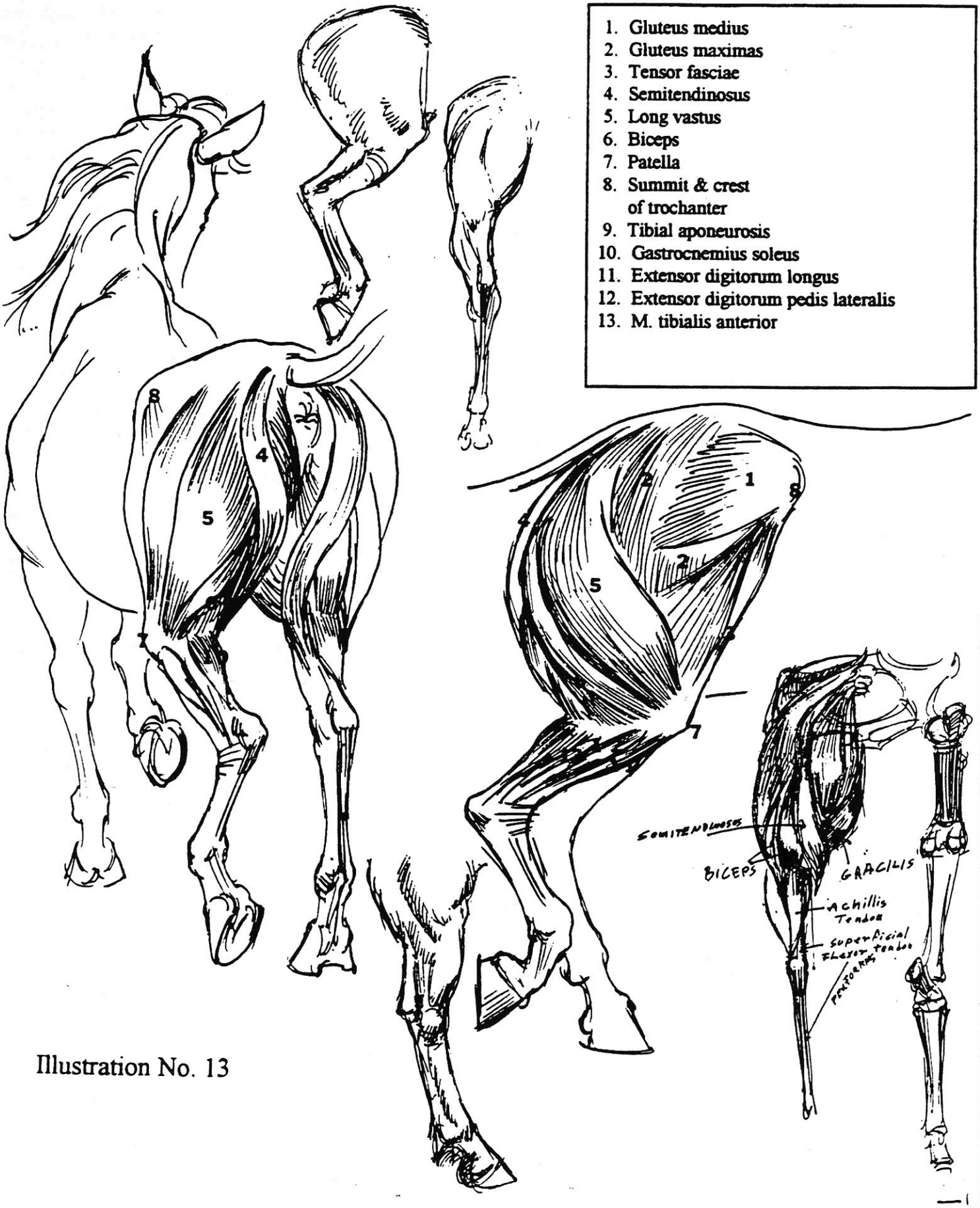
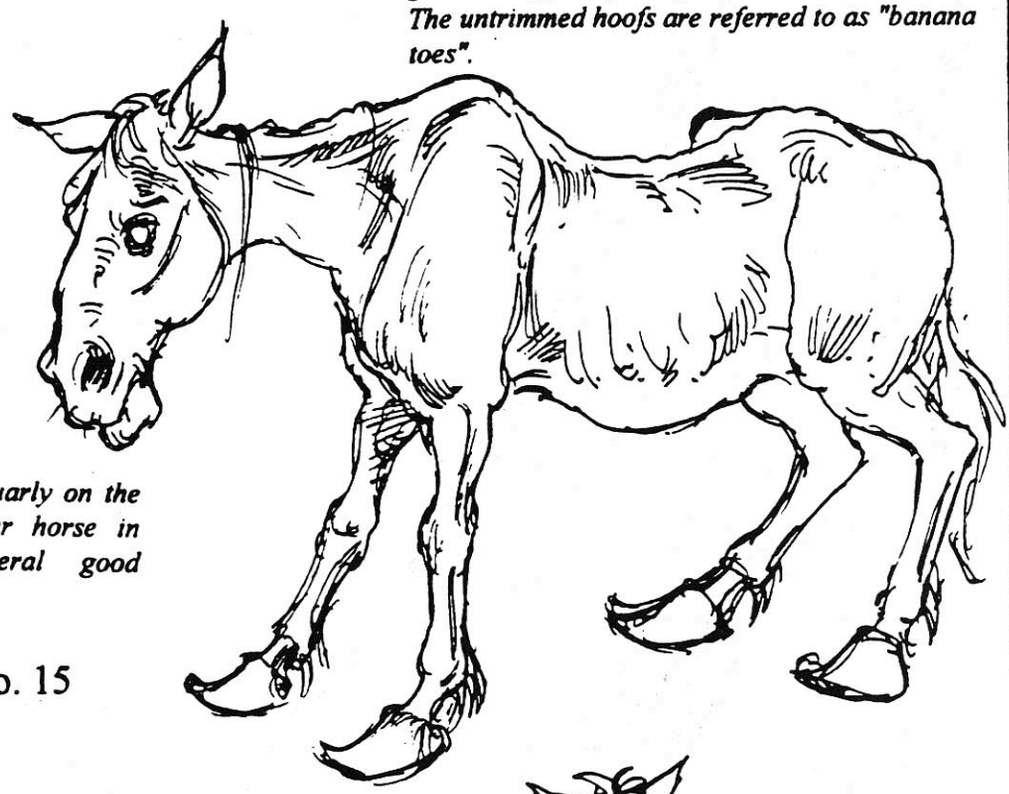


Illustration No. 13

Understanding what is considered good and bad conformation will not only help you draw the horsee more correctly but will aid you in designing horses with specific characteristics besides adding to your enjoyment of horses in general

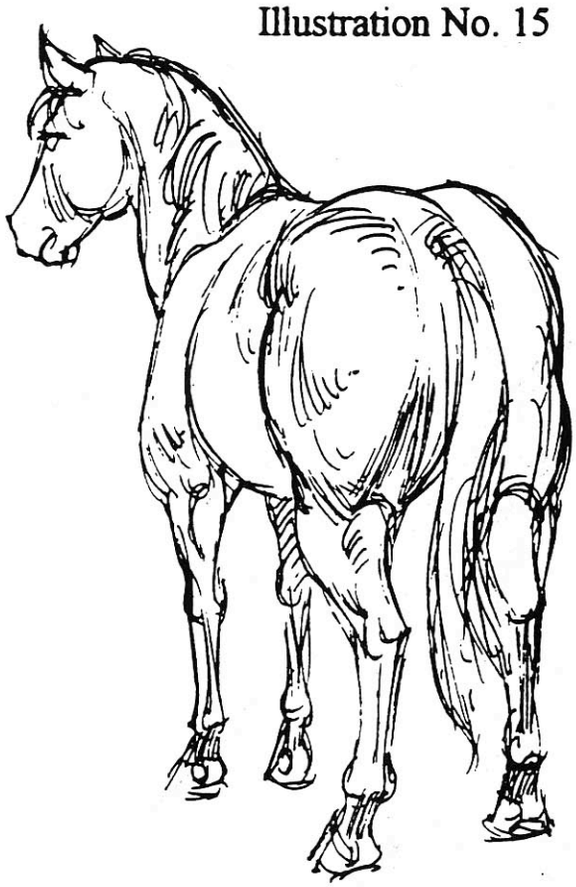
The "sway back" is the classic element of the comical horse, the one that all the children love and ride (all at ounce), one step away from the glue or dog food factory. **(see Illustration No. 14)** *The untrimmed hoofs are referred to as "banana toes".*

Illustration No. 14

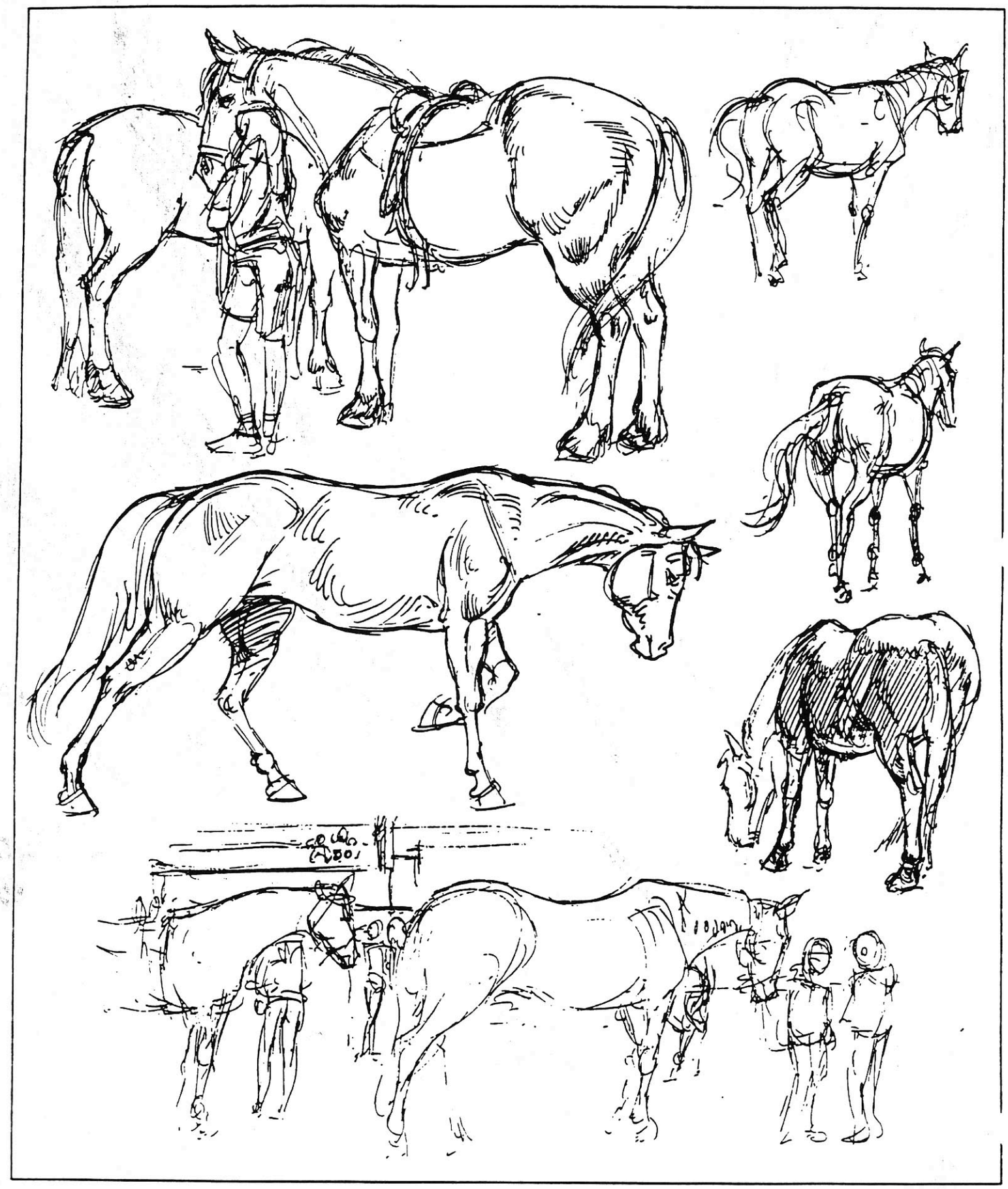


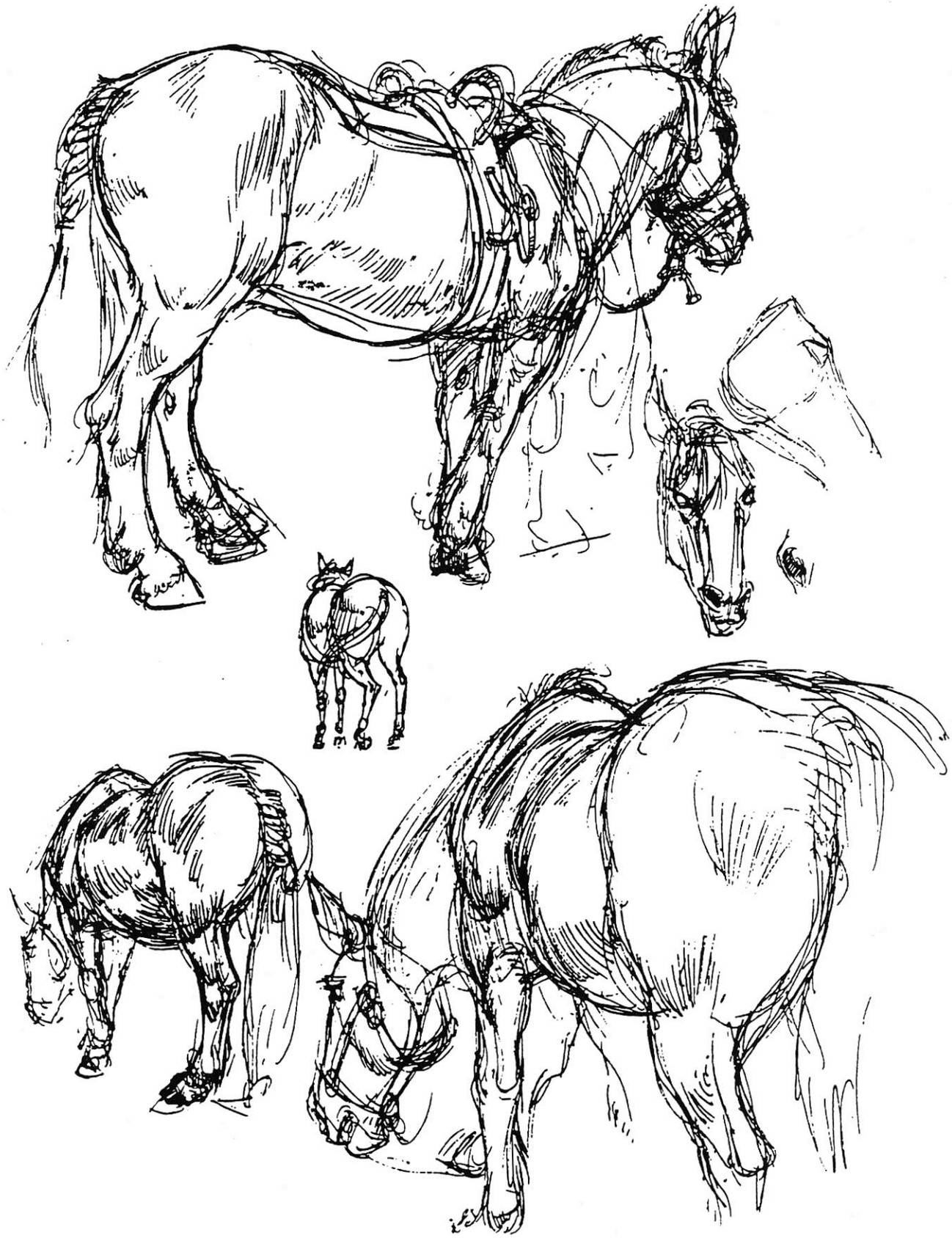
Legs stand straight well placed squarly on the ground. The drawing of a quarter horse in Illustration No. 15 shows general good conformation.

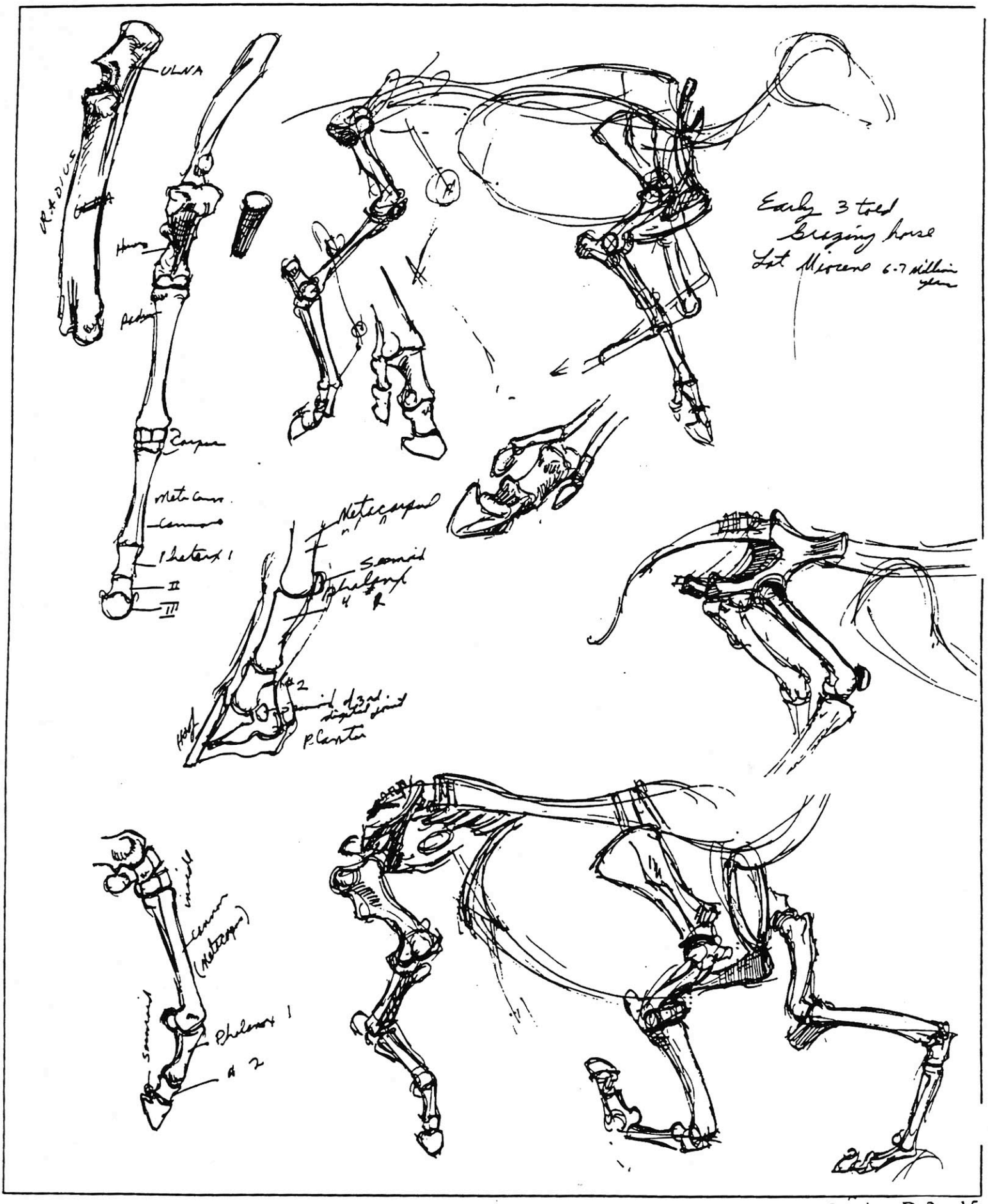
Illustration No. 15

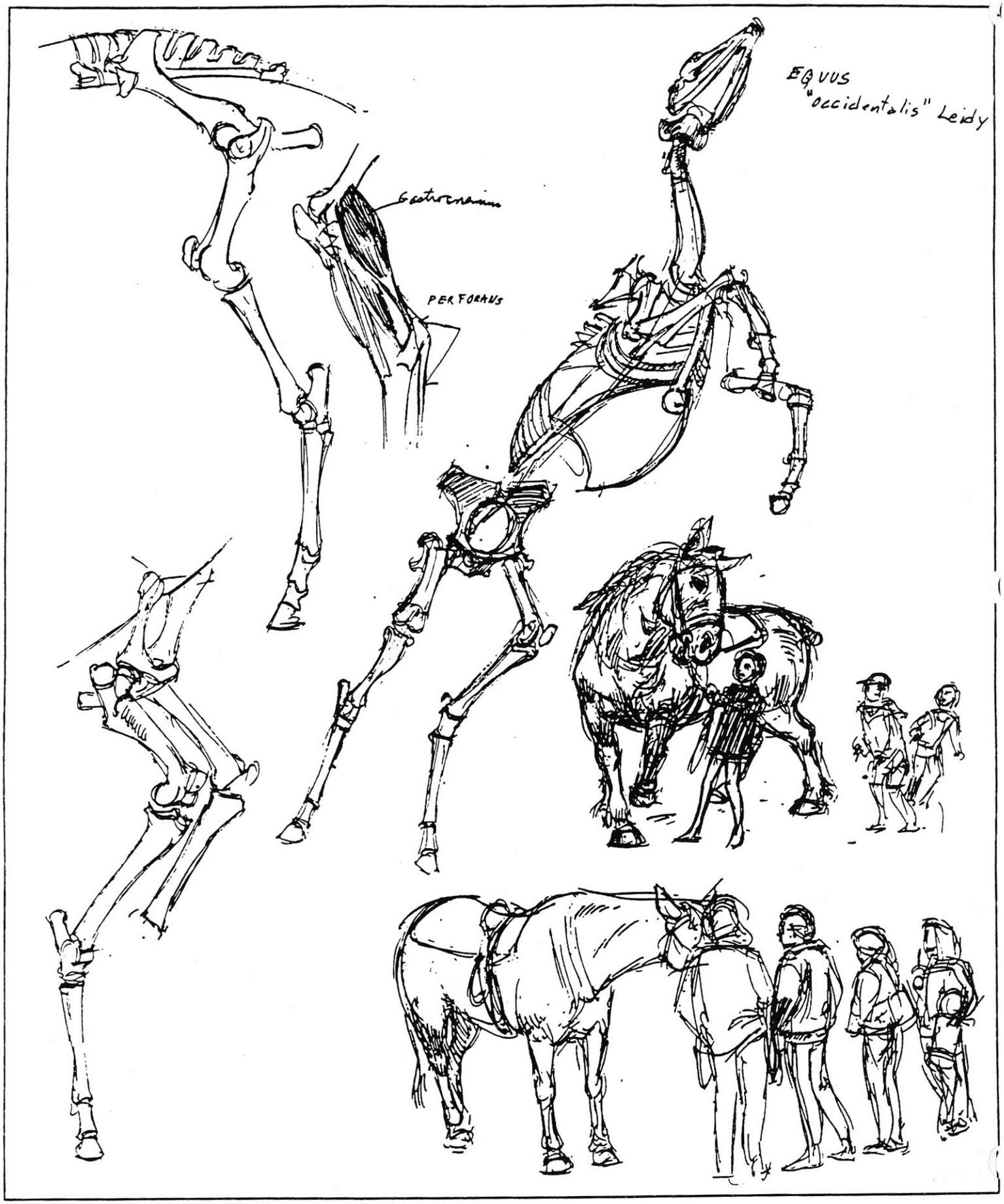


The hind quarters in this drawing are referred to as "cow hocked" because of the similarity to the hind quarters of a cow.

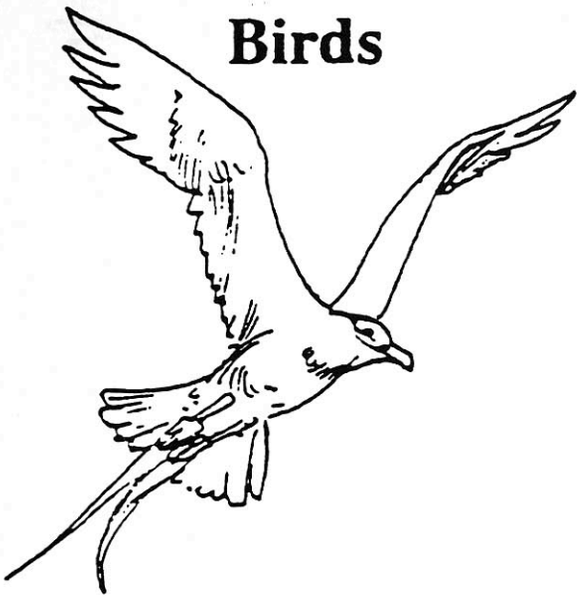





ULNA
RADIUS
Early 3 toed
Grazing horse
Lat Miocene 6-7 million years
Metacarpal
Phalanx 1
II
III
Phalanx 1
#2


EQUUS
"occidentalis" Leidy
PERFORANS

Birds



In discussing drawing the bird I will be a little more general due to the tremendous varieties of body, wing, bill shapes and range of sizes. In general all birds have basically the same elements. So to start with I will discuss a more or less the generic bird, the elements of which would apply to all with specialization of individual parts for a specific type.

The current scientific thinking is that the bird in all it's varieties is the decedent of the dinosaur. Another words the chicken may be related to Tyrannous Rex. If you have ever seen the dinosaur tracks in Arizona you couldn't help but be struck by the similarity to the tracks of a chicken. At least in drawing we know for sure all things are related. Drawing birds is no different than drawing horses or dogs. The main differences is that so much of the structure is hidden by the feathers in birds that we relay on the simplified construction of spherical forms even more so than with animals having definite surface anatomical landmarks.

Because so much of the basic structure is hidden does not mean that we can ignore the basic anatomical form. In some ways it is more important that you understand the structure even better, so that you can recognize the more subtle effect that the structure has on the surface forms that we see.

Of course the first step in the drawing is to get the gesture or action the same as for any animal, but that action is so dependent upon the basic structure that a familiarity with that structure must be the starting point.

The bird is very compact with a central mass with the other elements sticking out from this central form, to keeping it in balance. In illustration no. 1 I have simplified the basic elements showing a few different variations on the same basic elements. The primary differences in this first illustration are the lengths of the neck and legs in relationship to the torso without the wings or different types of beaks or feathers.. With the adjustment of these proportions only you can begin to recognize different kinds of birds from simple sparrows to the ostrich.

"Current scientific thinking is that the bird is a decendant of the dinosaur"

'ustration No. 1

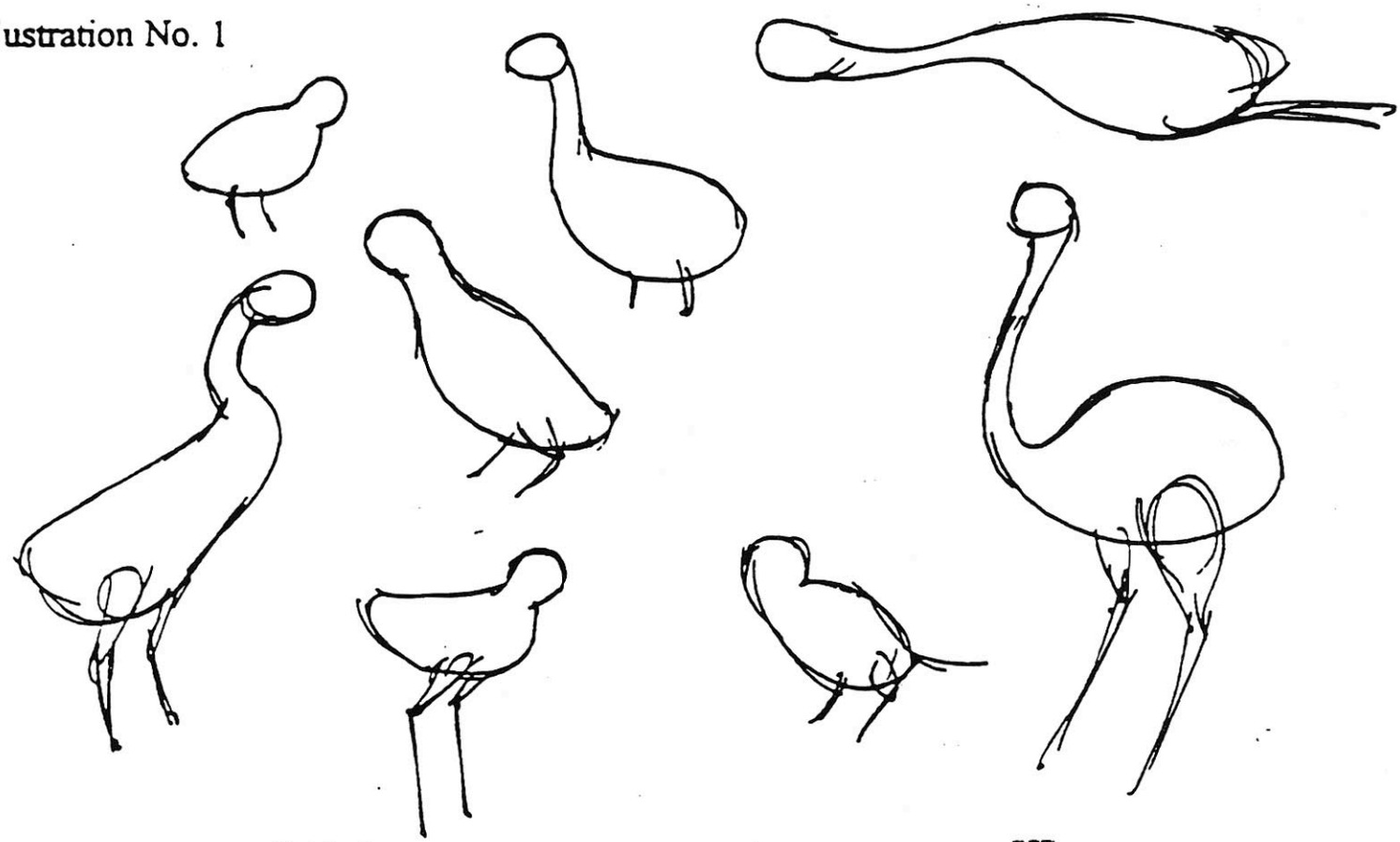
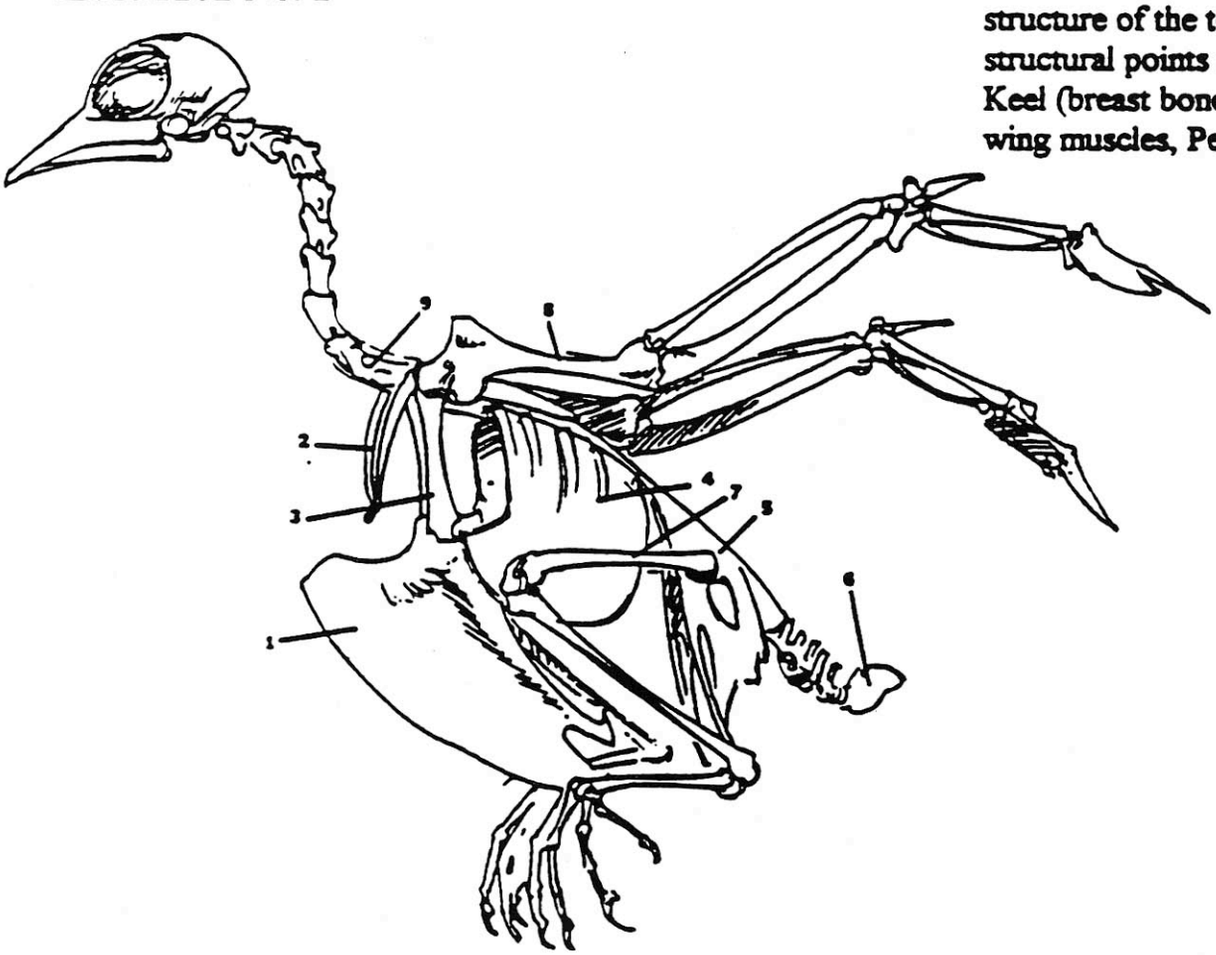


ıllustration No. 2

Illustration No.2 shows the basic skeletal structure of the torso. The important structural points for the artist are the Keel (breast bone), which anchors the wing muscles, Pelvis and wishbone.



1. Keel
2. Wish bone
3. Coracoid bone
4. Rib Cage
5. Pelvis
6. Pygostyle
7. Femur
8. Humerus
9. Backbone

Illustration No. 3 is your generic bony structure of a wing with a comparison to a human arm. Illustration No. 4 gives us the generic arrangement of feathers. Each type of bird has a different type of wing shape from a very pointed to relatively round , some being quite broad while others are very narrow. When drawing specific birds you really need to analyze very carefully the basic shapes that you are playing with.

Illustration No. 3

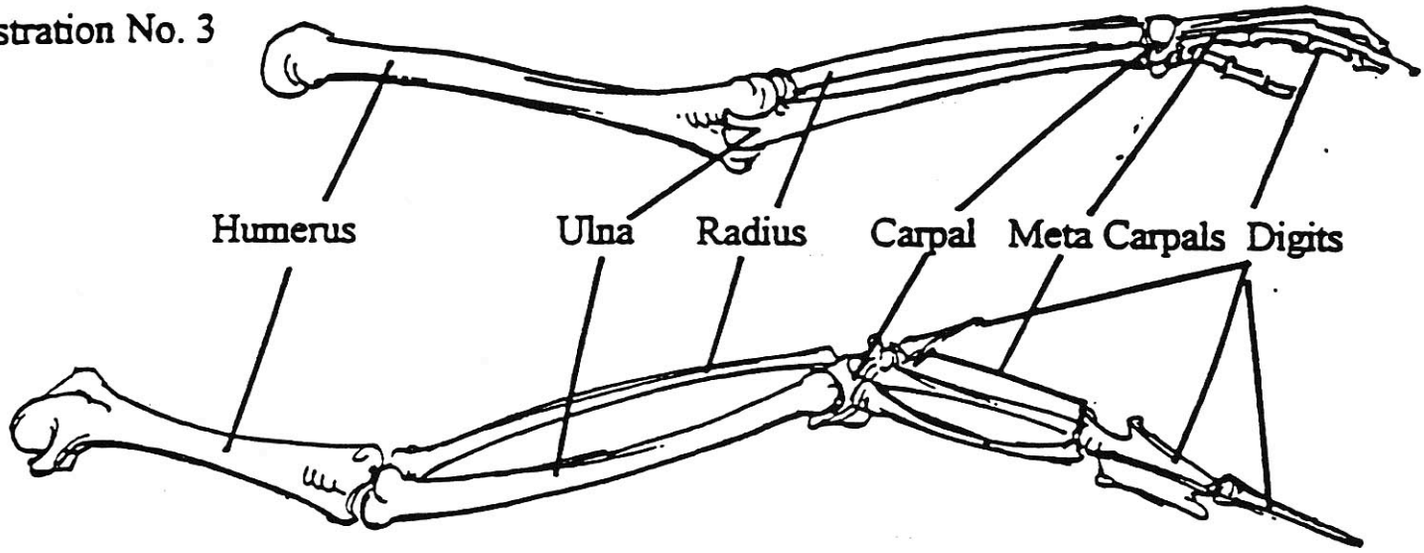
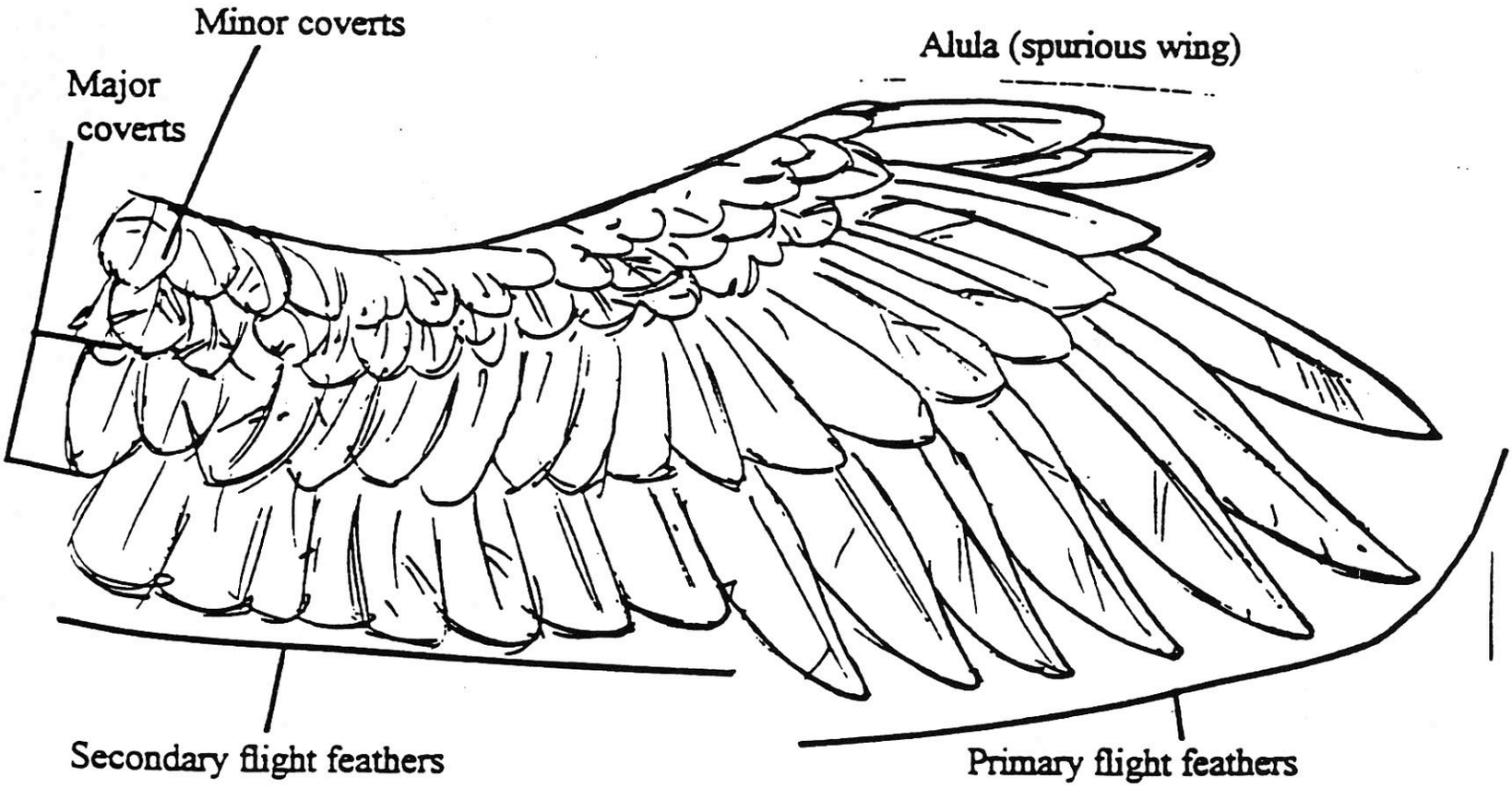
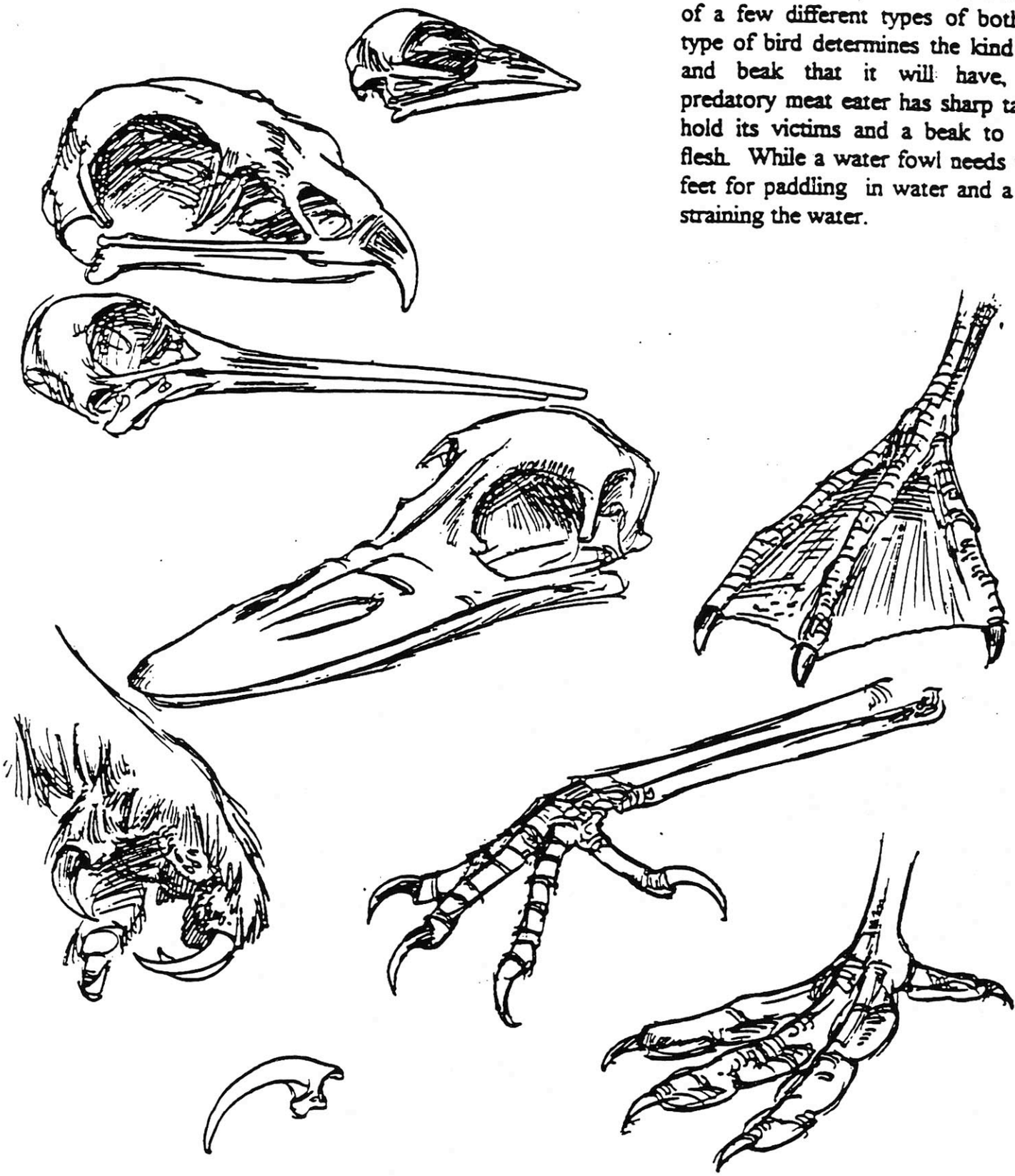


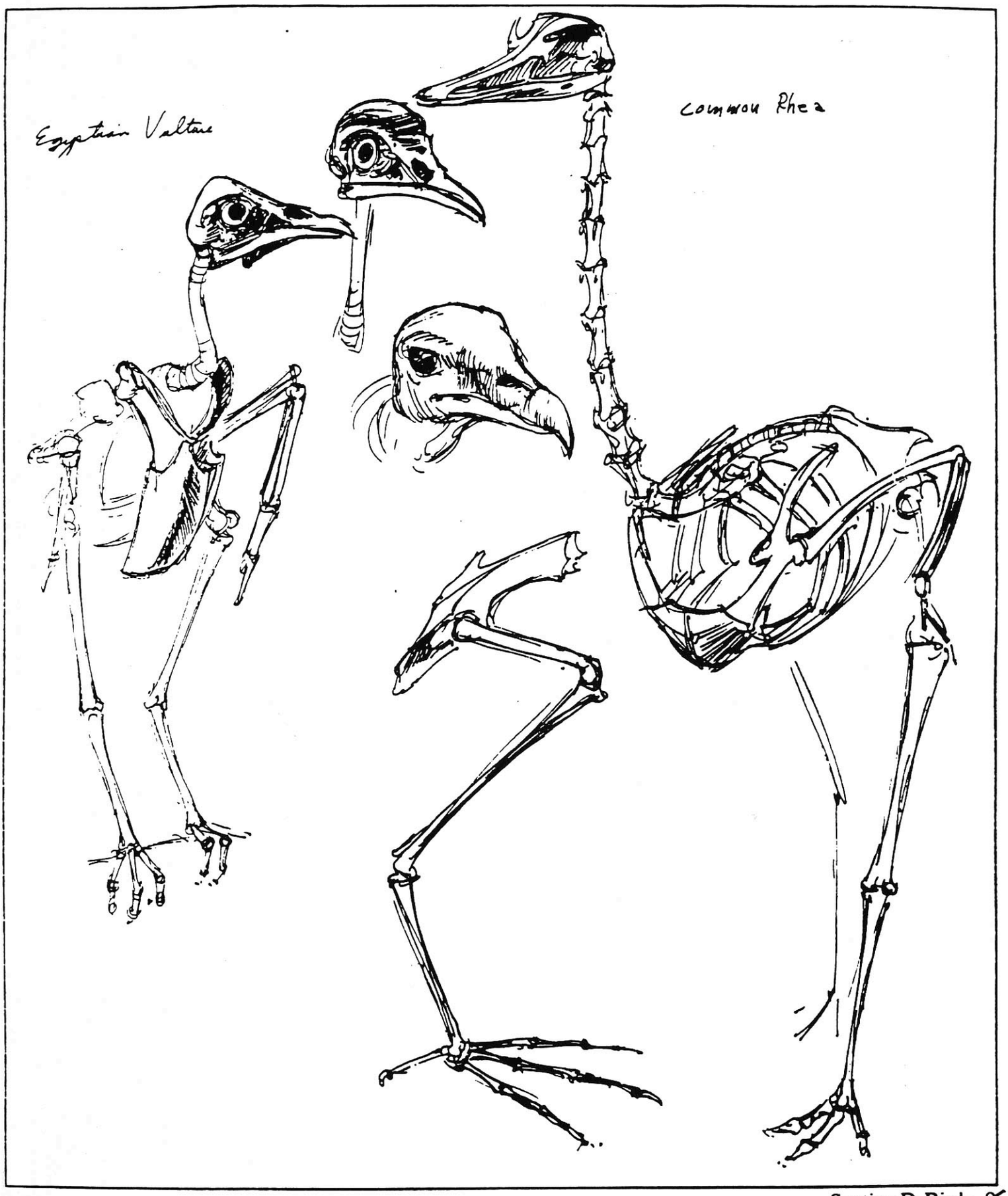
Illustration No. 4

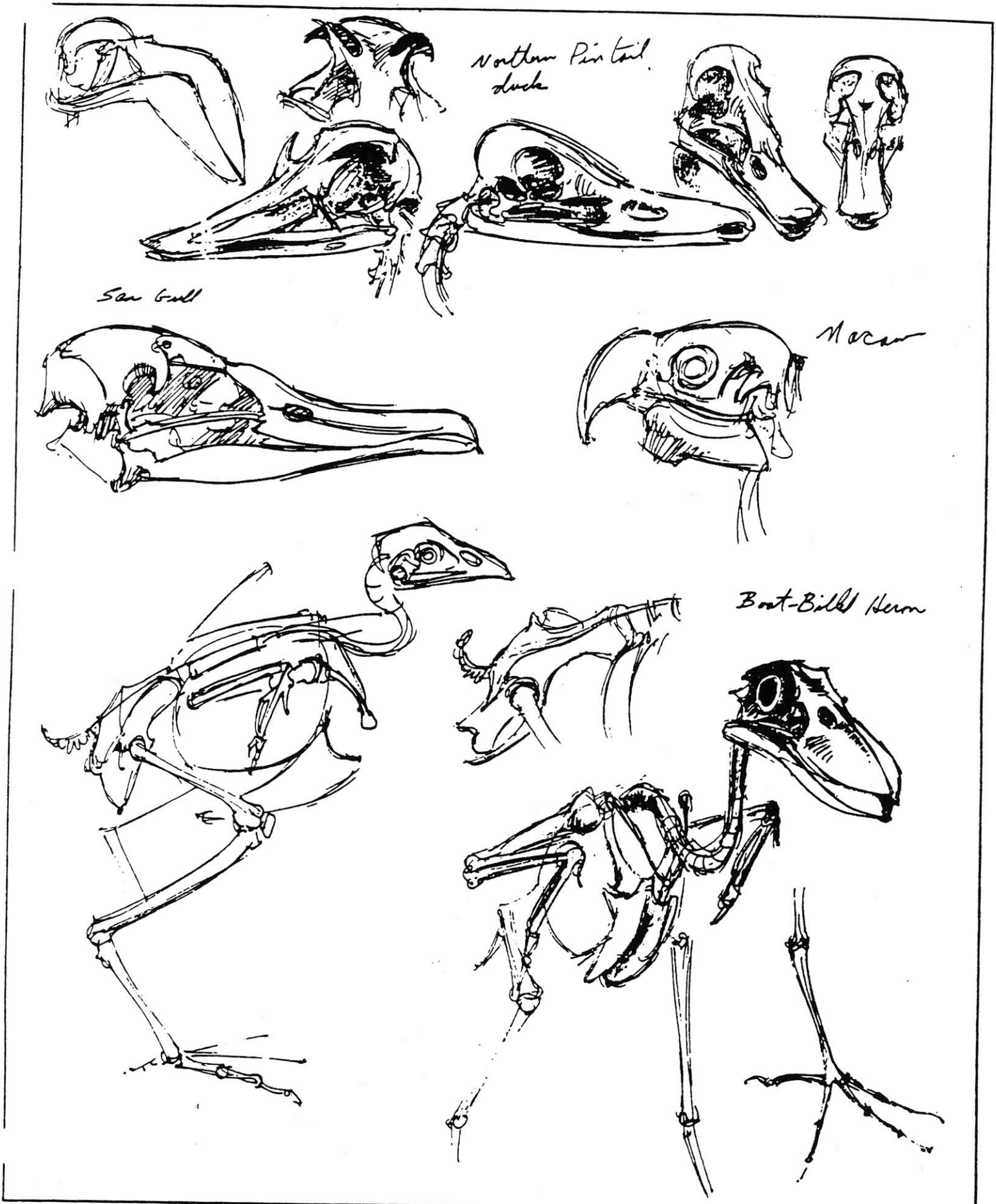


stration No. 5

We have the same variety in shapes of feet and beaks as we do in wings and bodies. Illustration No. 5 is a sampling of a few different types of both. The type of bird determines the kind of feet and beak that it will have, i.e. a predatory meat eater has sharp talons to hold its victims and a beak to tear its flesh. While a water fowl needs webbed feet for paddling in water and a bill for straining the water.



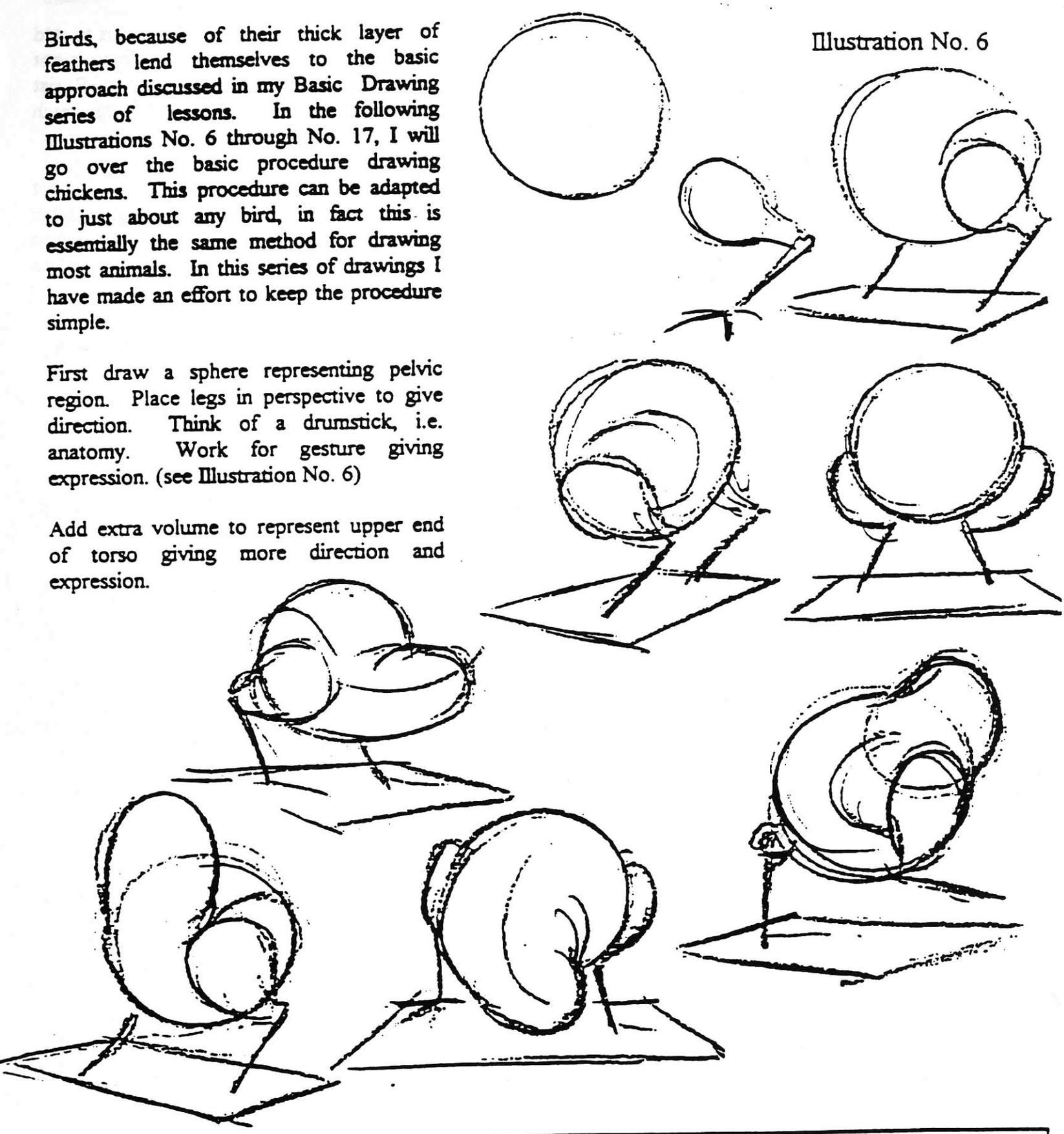

Egyptian Vulture
common Rhea


Northern Pin tail duck
Sea Gull
Macaw
Boat-Billed Heron

Birds, because of their thick layer of feathers lend themselves to the basic approach discussed in my Basic Drawing series of lessons. In the following Illustrations No. 6 through No. 17, I will go over the basic procedure drawing chickens. This procedure can be adapted to just about any bird, in fact this is essentially the same method for drawing most animals. In this series of drawings I have made an effort to keep the procedure simple.

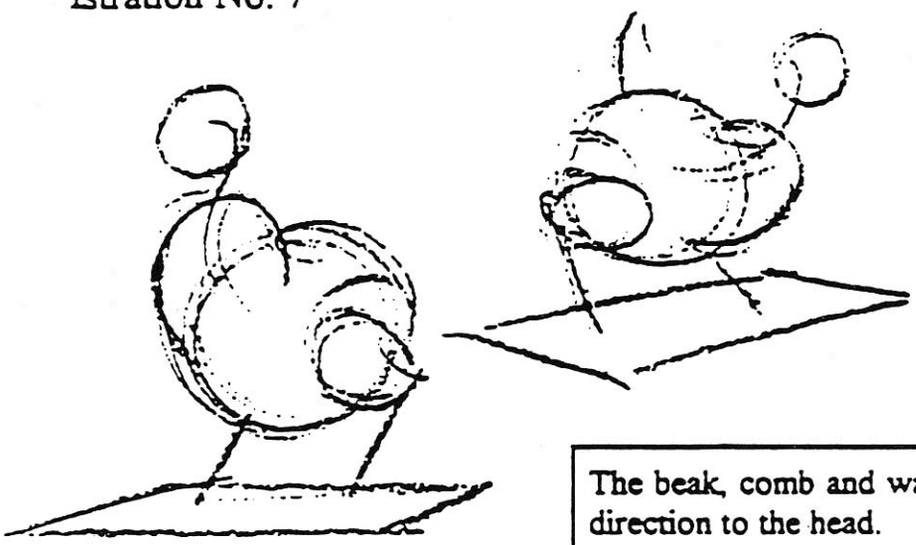
First draw a sphere representing pelvic region. Place legs in perspective to give direction. Think of a drumstick, i.e. anatomy. Work for gesture giving expression. (see Illustration No. 6)

Add extra volume to represent upper end of torso giving more direction and expression.



The primary concern here is the action of the large masses of form. As the drawing develops we will slowly add anatomical detail, modifying the basic forms as we go. It is important that you start out drawing these simple forms until you can see them very clearly in what ever you draw. When you are able to do this then you will be able to incorporate more structural information into the drawing while at the same time clearly defining the gesture and volume.

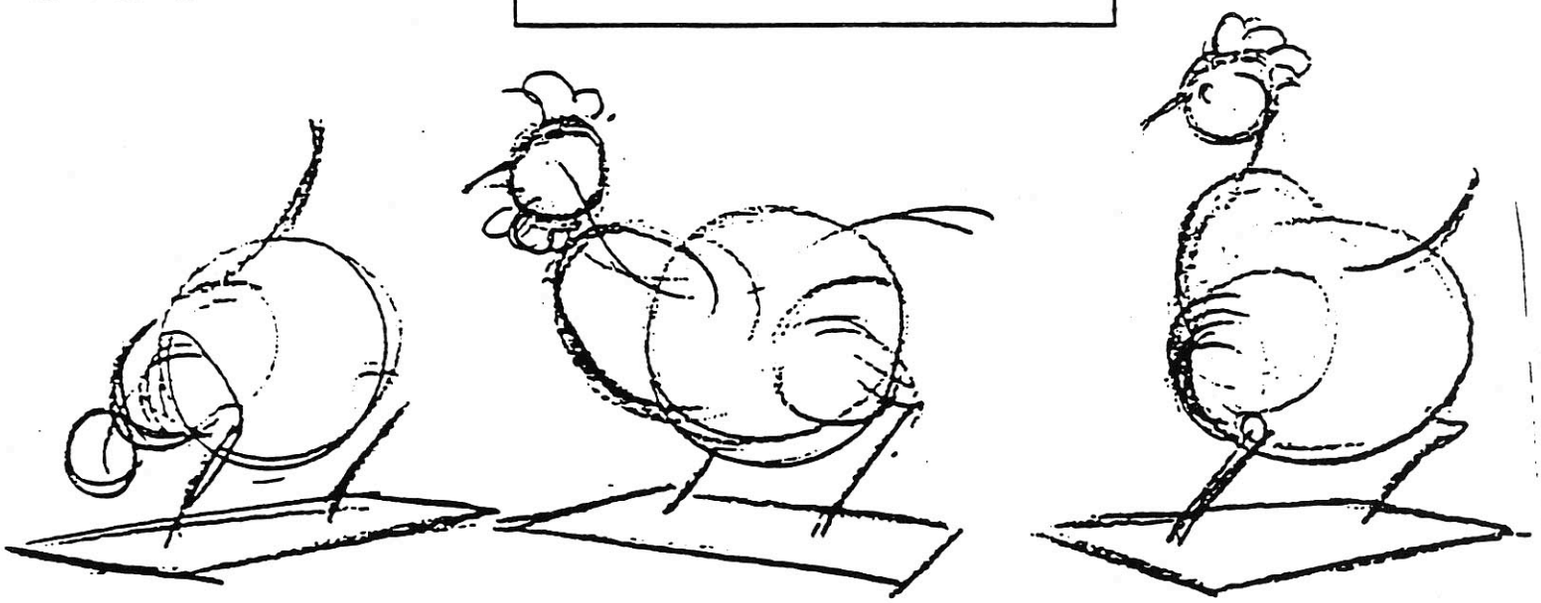
ıstration No. 7



In Illustration No. 7 we slowly start to add more elements. The important thing is not to loose the action or simple form. Resist the temptation to start putting in to much detail.

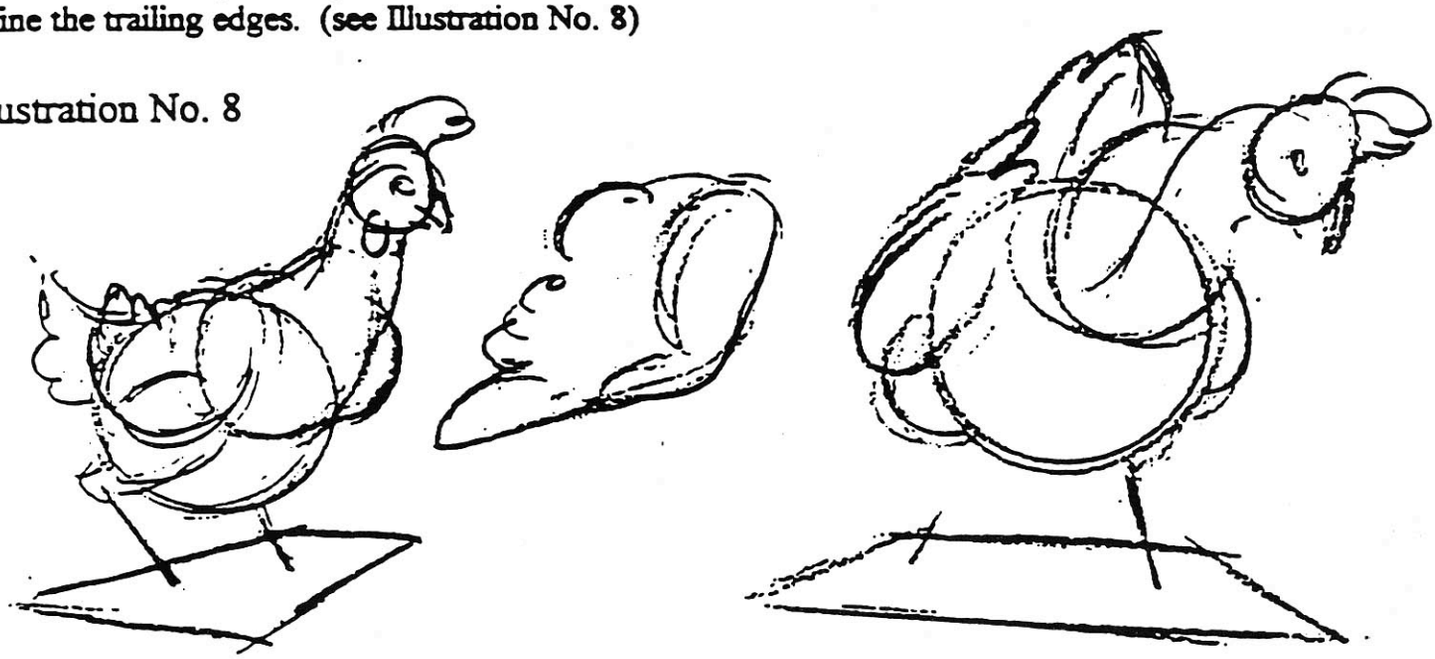
Now follow through with the line of action, adding spheres for the head. At the same time put on the tail. The tail help;s to show direction and gives emphasis to the action.

The beak, comb and wattle help to give direction to the head.



Now add the wings. Keep in mind the basic structure and draw large simple masses using feather tips to define the trailing edges. (see Illustration No. 8)

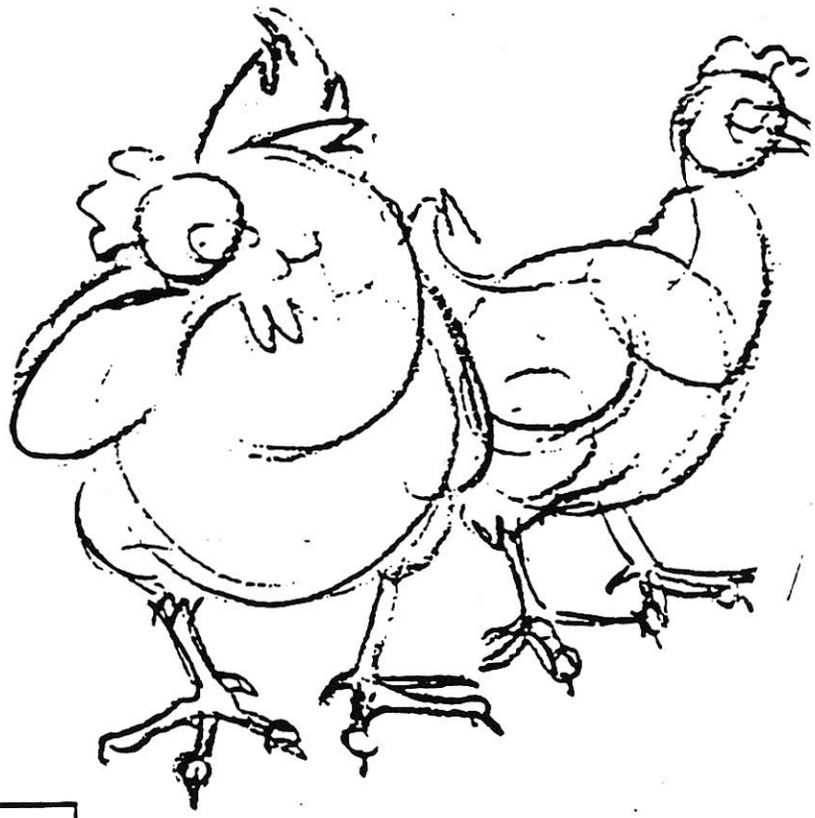
Illustration No. 8



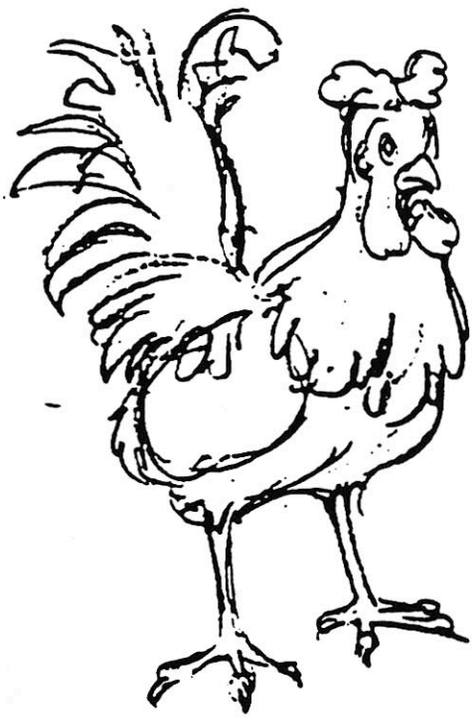
Now start adding the bulk created by the feathers paying attention to how these forms can help to give character and uniqueness to each bird. Do not be afraid to exaggerate. Maintain volume by never losing sight of the simple basic forms that you start with. Each addition should be in the form of volumes that create interesting shapes.

Pay particular attention to the face, eyes, ears, comb and wattle, look for detail that gives it uniqueness. No two are exactly alike.

Illustration No. 11



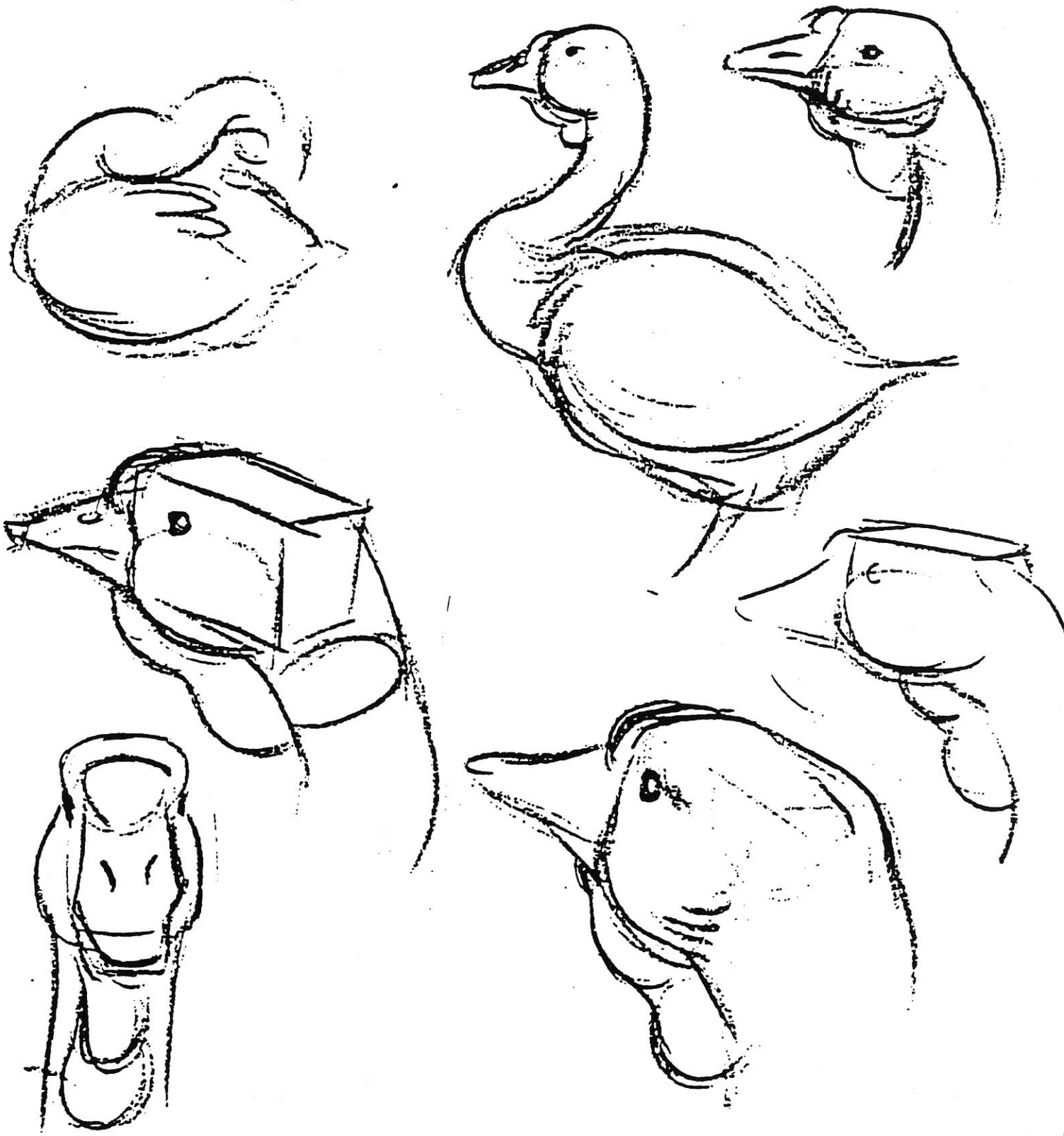
"Look for the uniqueness of each bird"

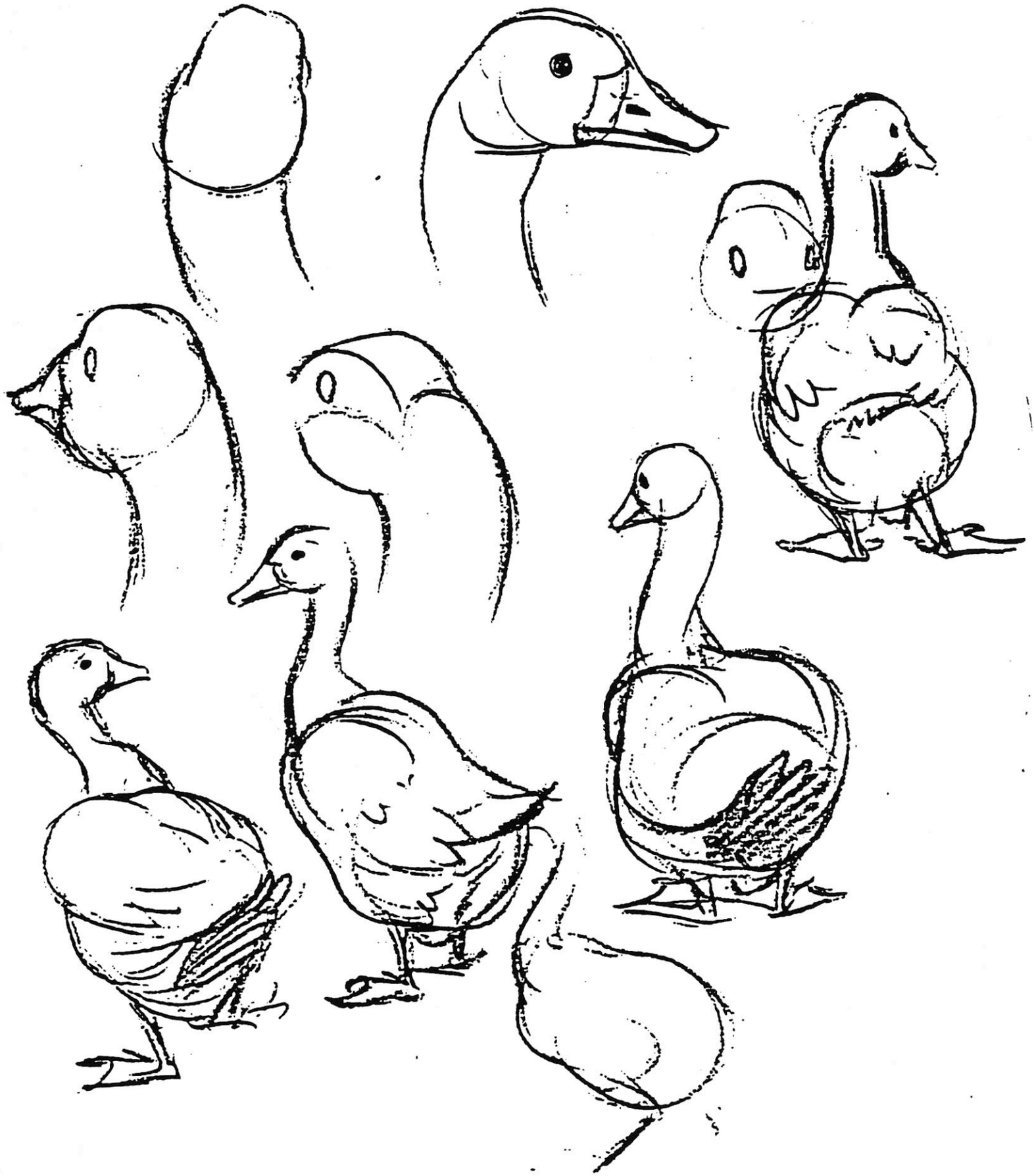


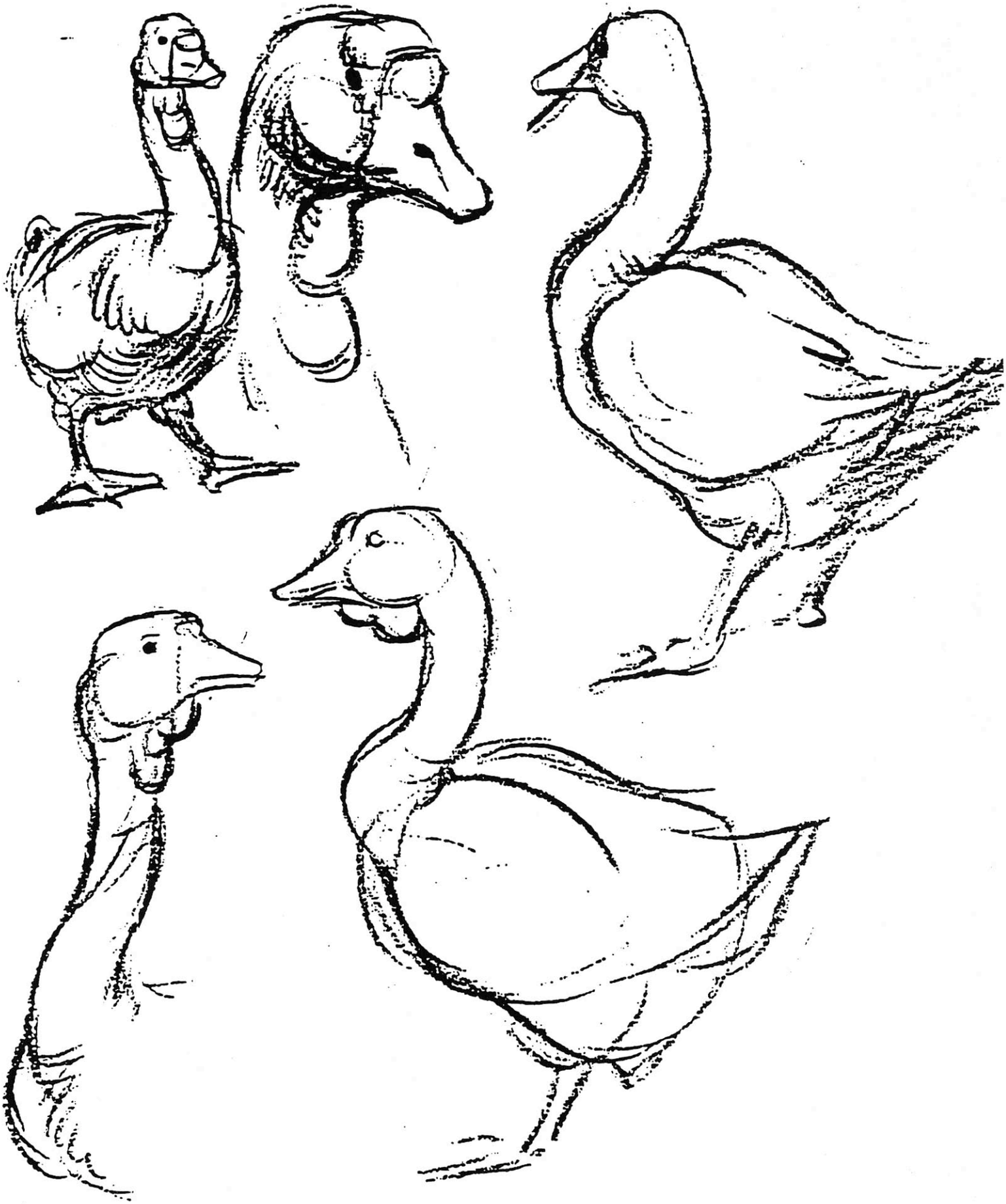
In these drawing of Geese, on this page and the next two pages, (Illustration No. 12) I used the same basic procedure as drawing the chickens with the exception of the head, where I used a box type form instead of the sphere. Using boxes and combining boxes and spheres were discussed in lessons No. 2 & 3 of Basic Drawing.

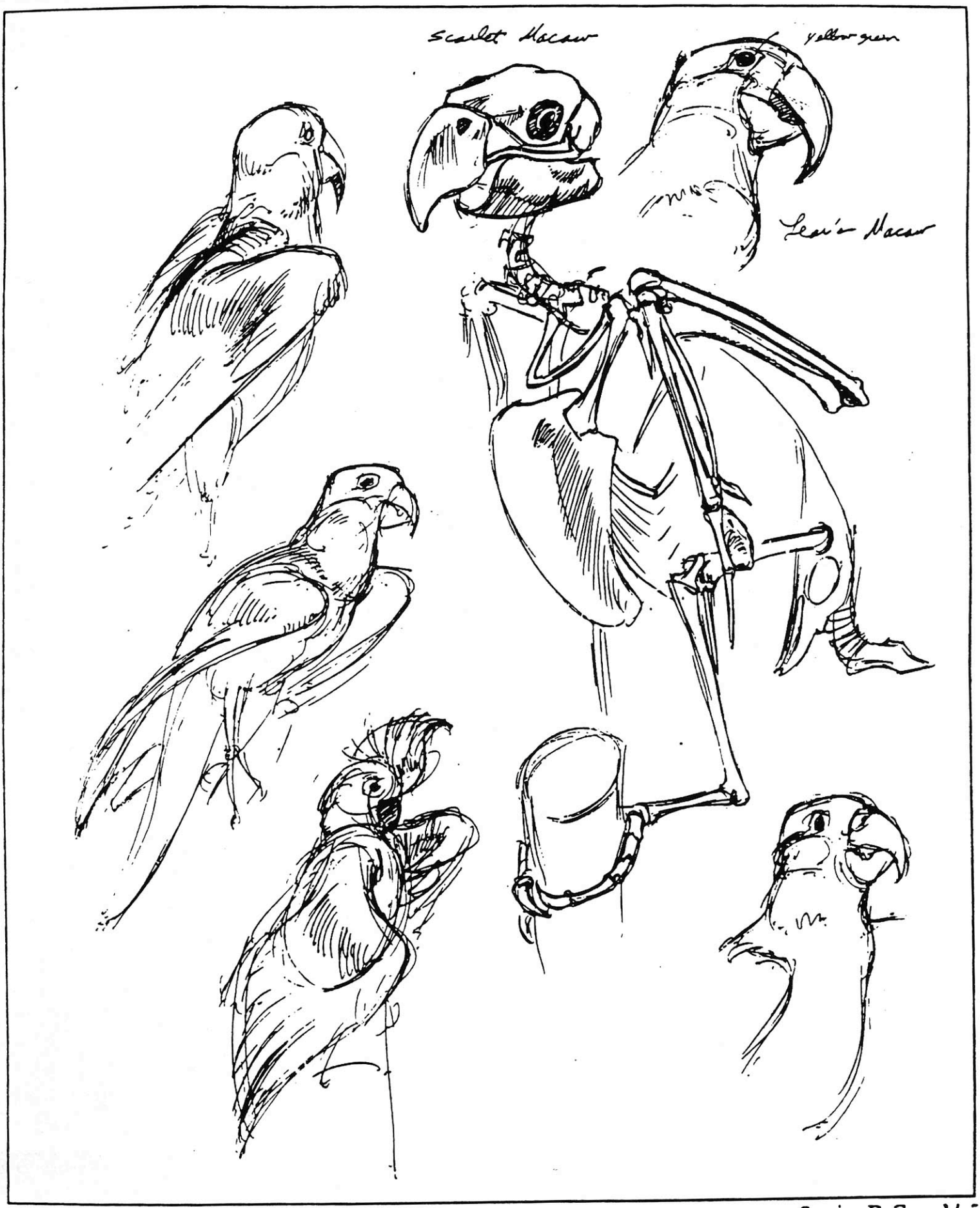
"Remember - There are NO RULES, JUST TOOLS"

Illustration No. 12

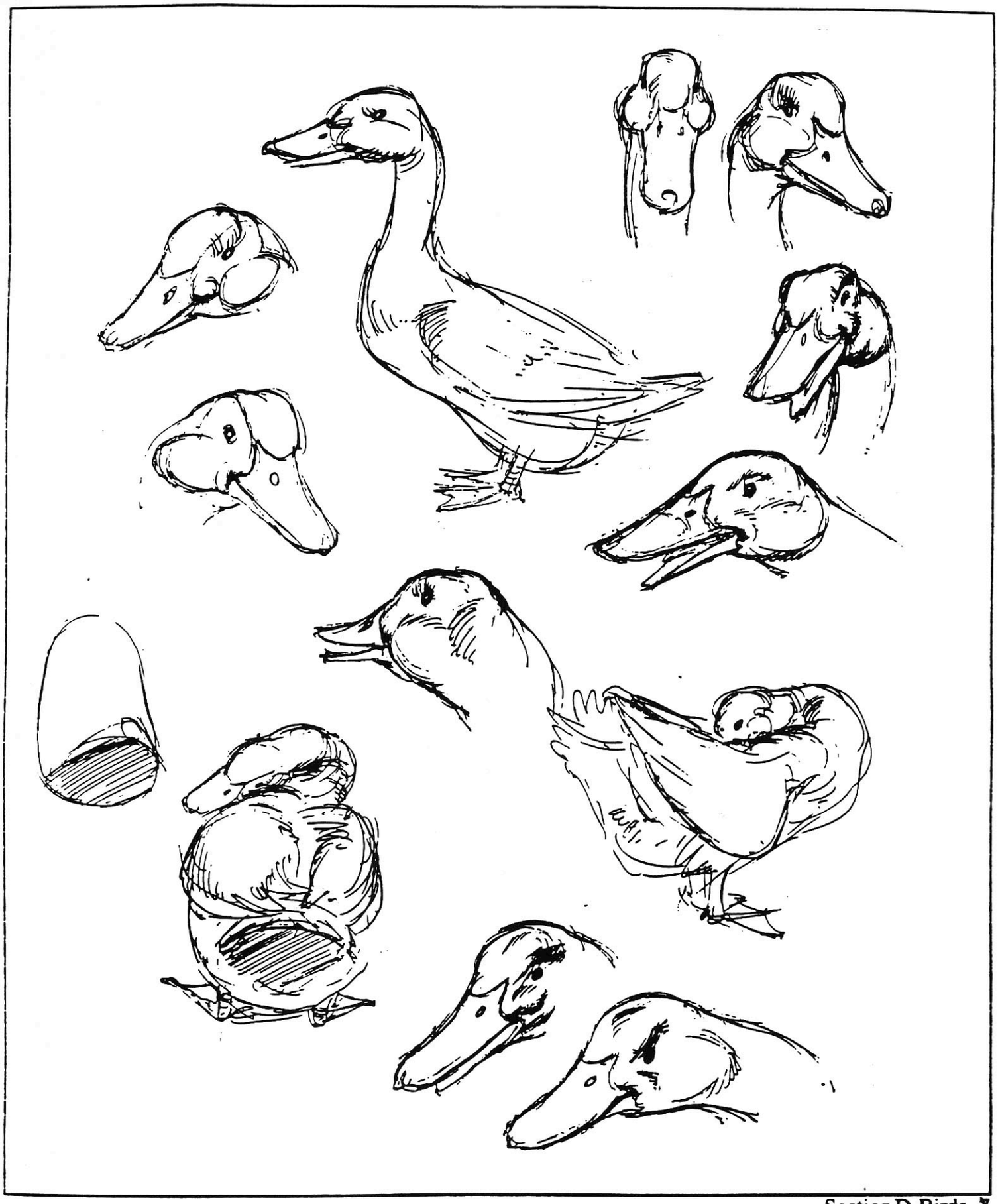


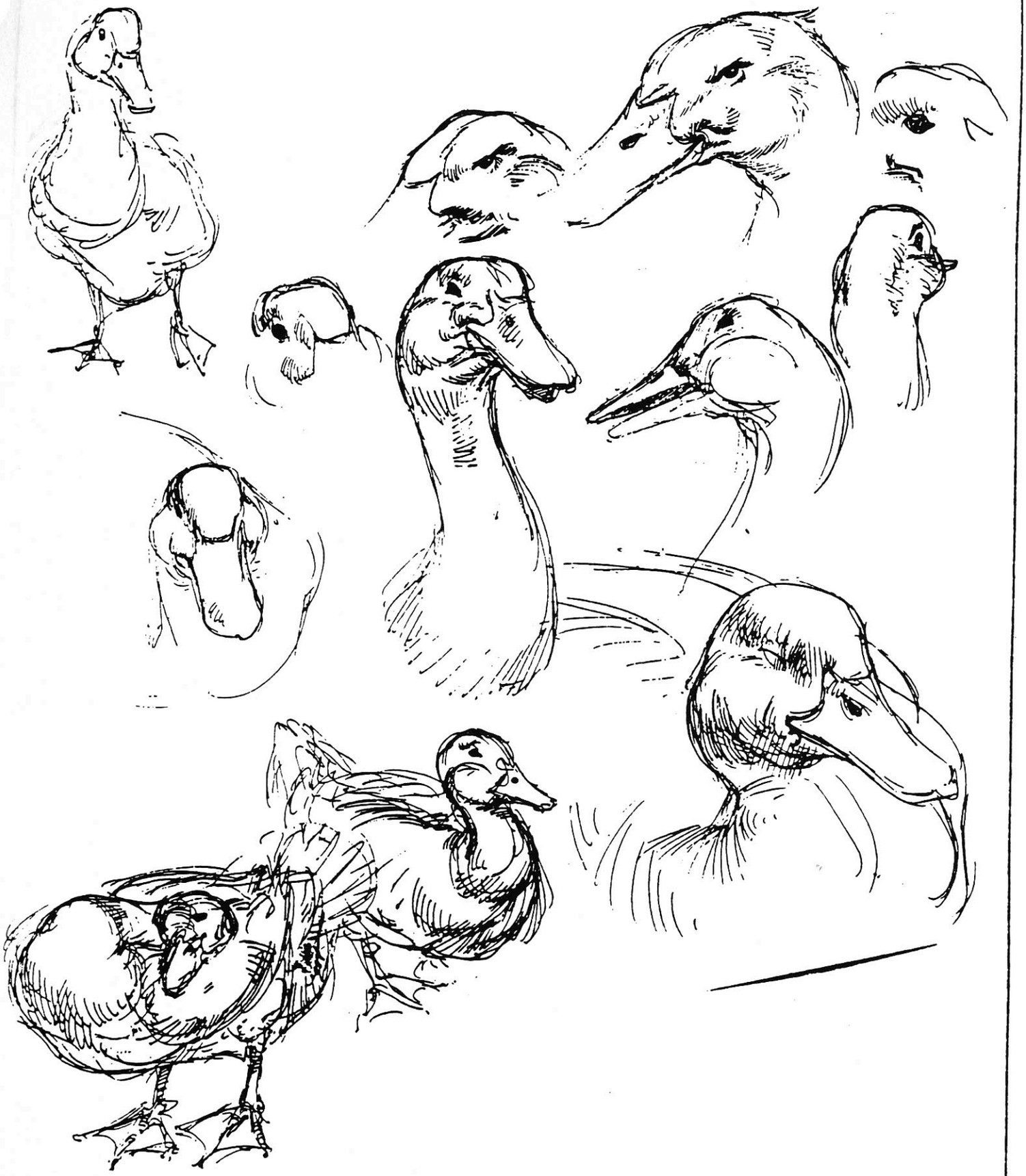


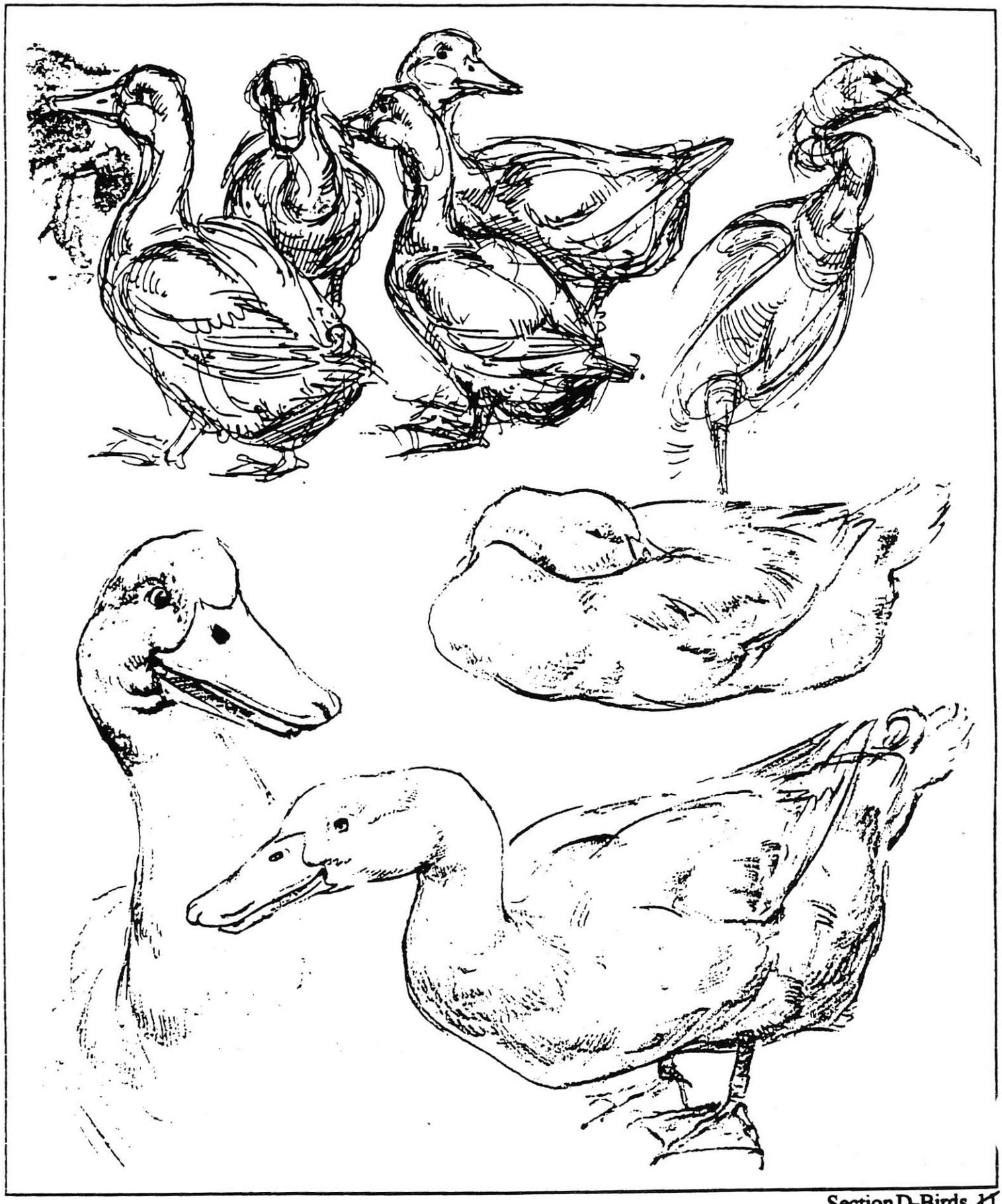


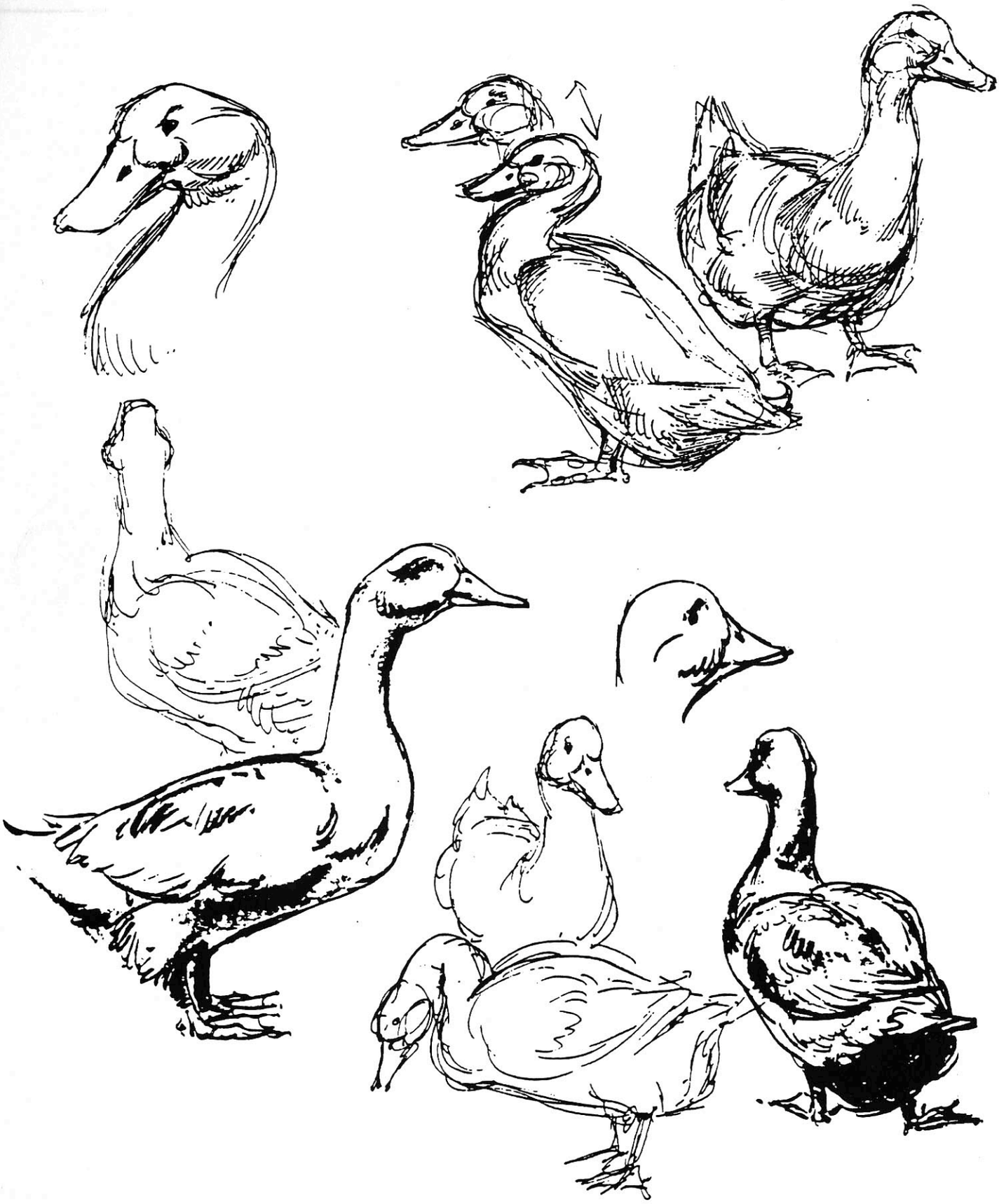

Scarlet Macaw
yellow green
Lear's Macaw

Great Horned Owl

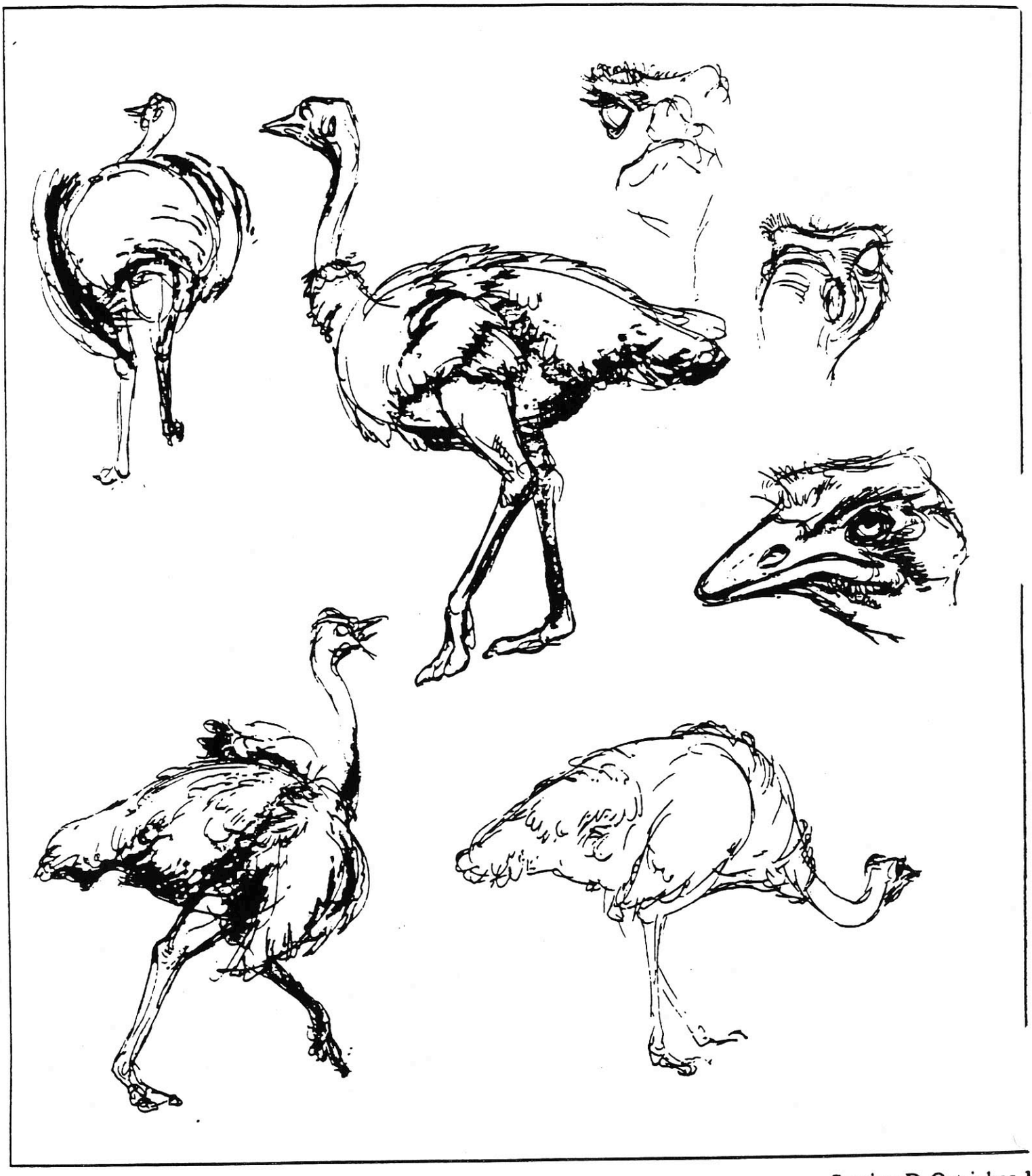


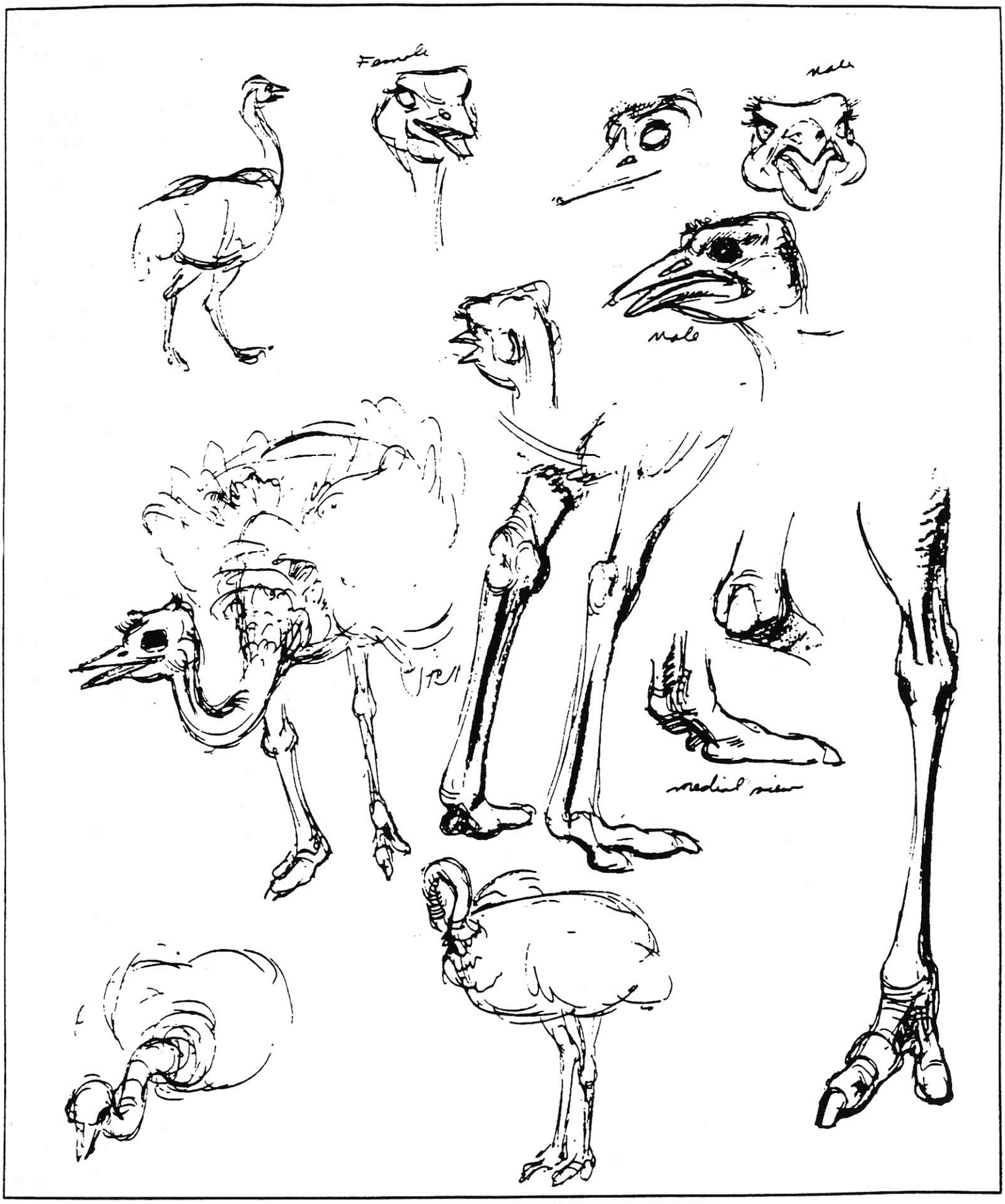


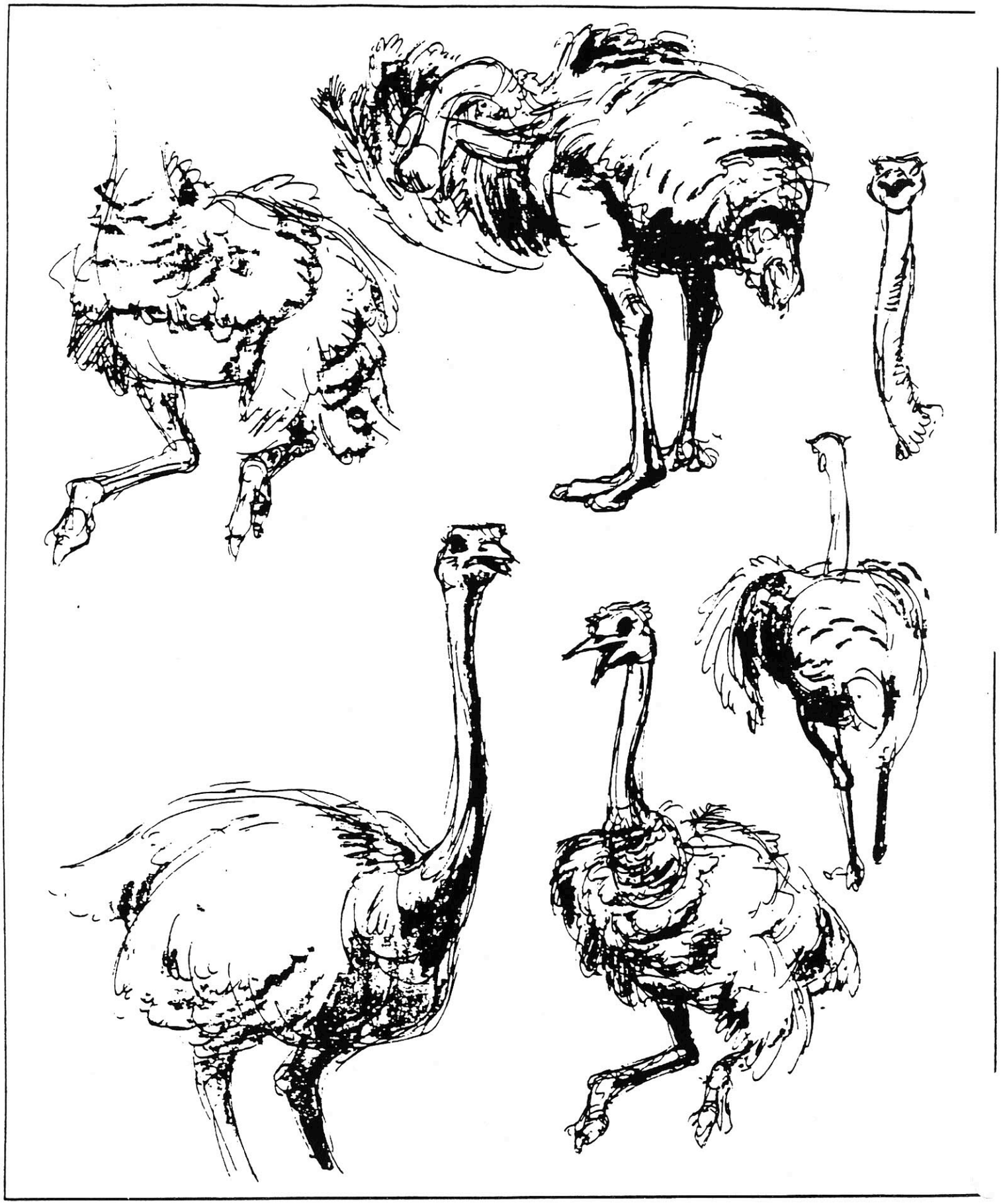


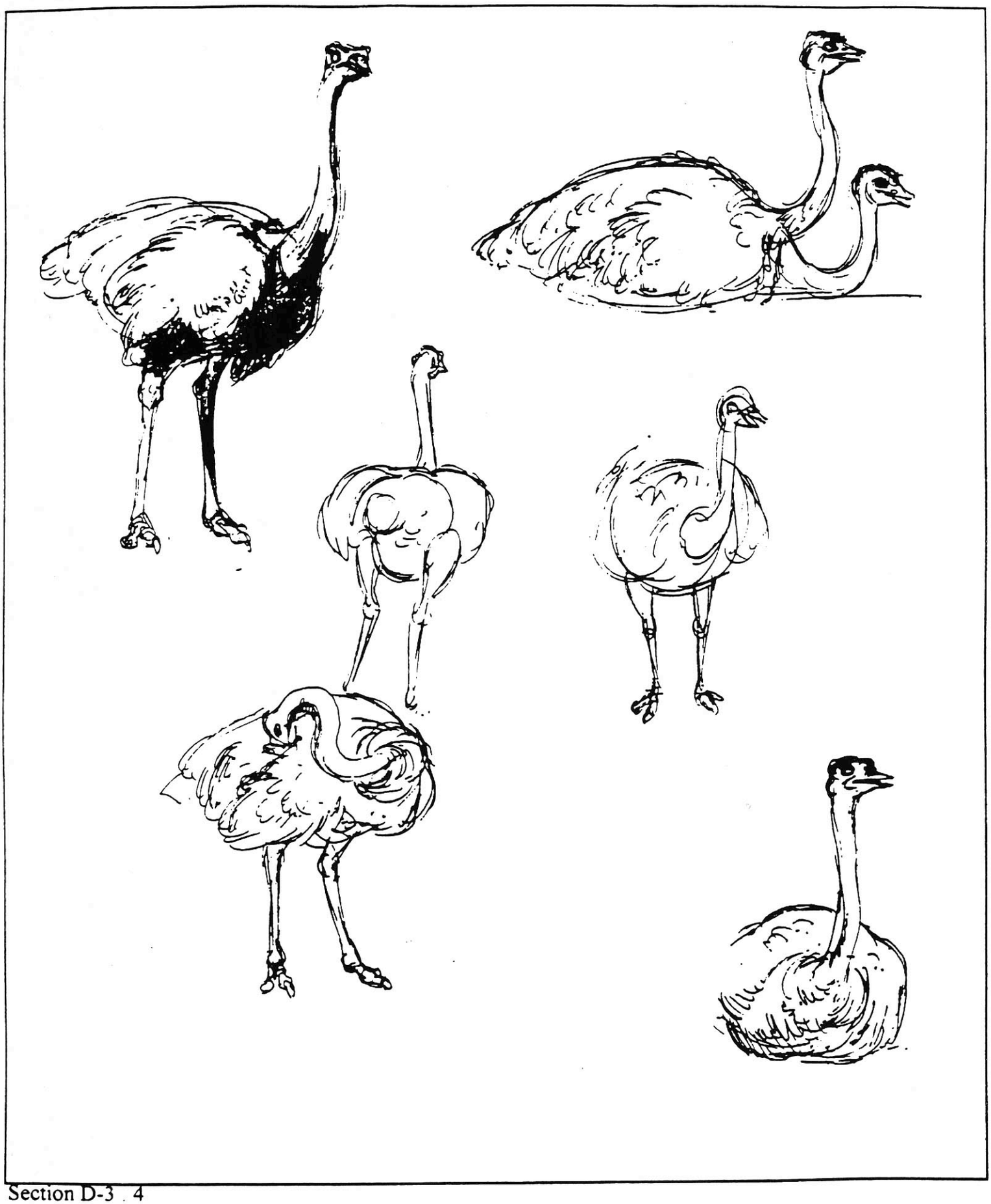


Ostriches

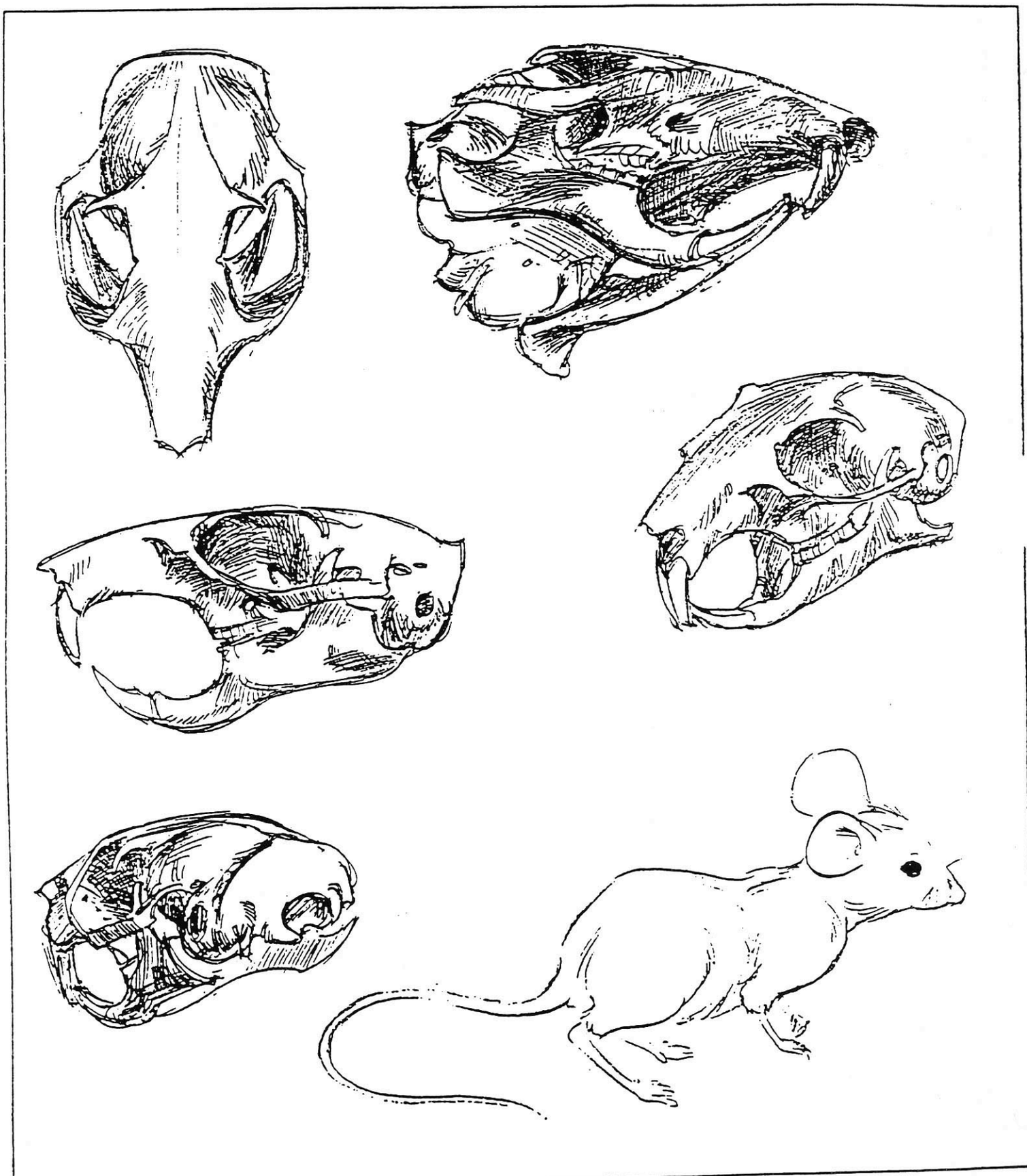


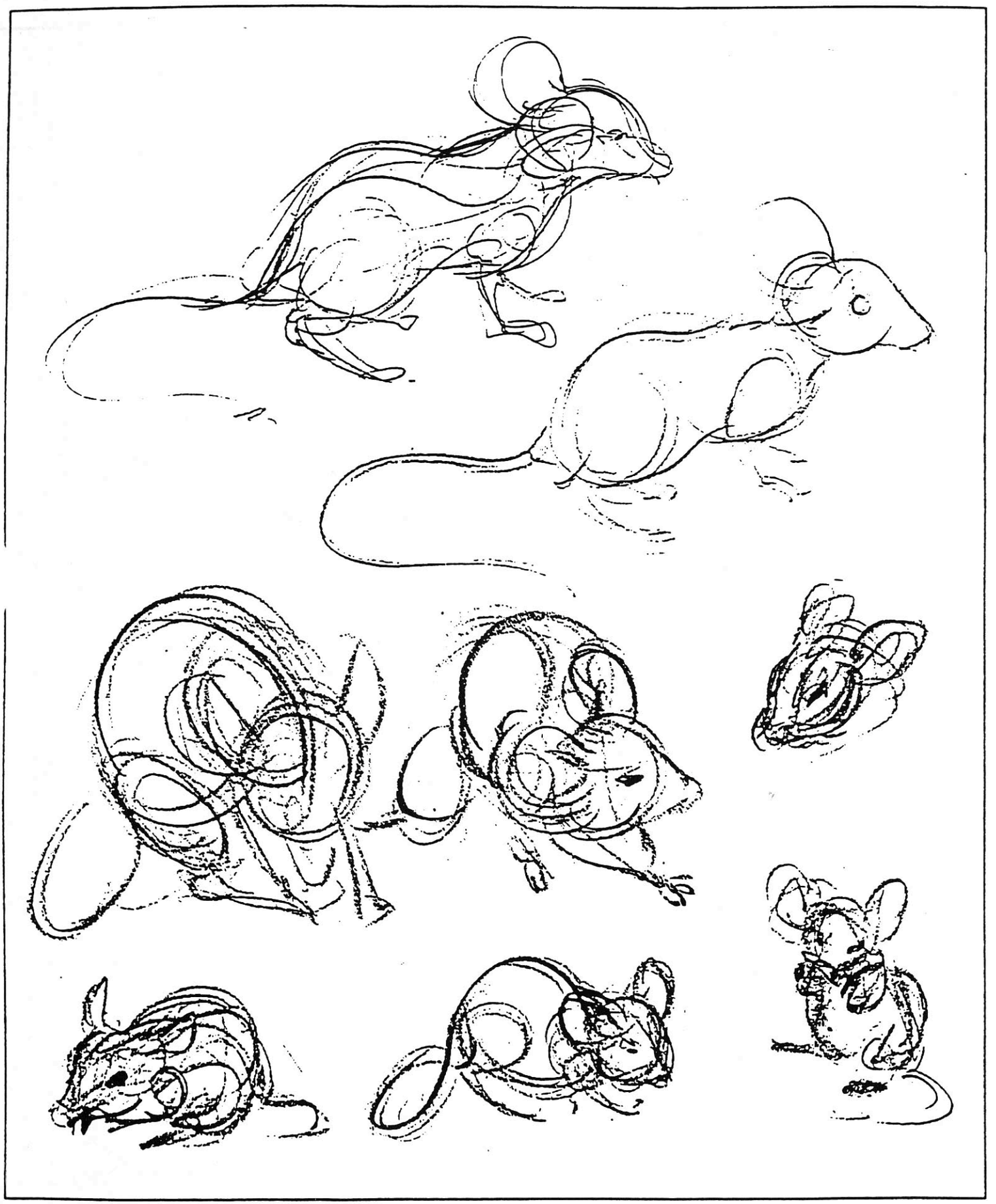

Female
Male
Male
medial view

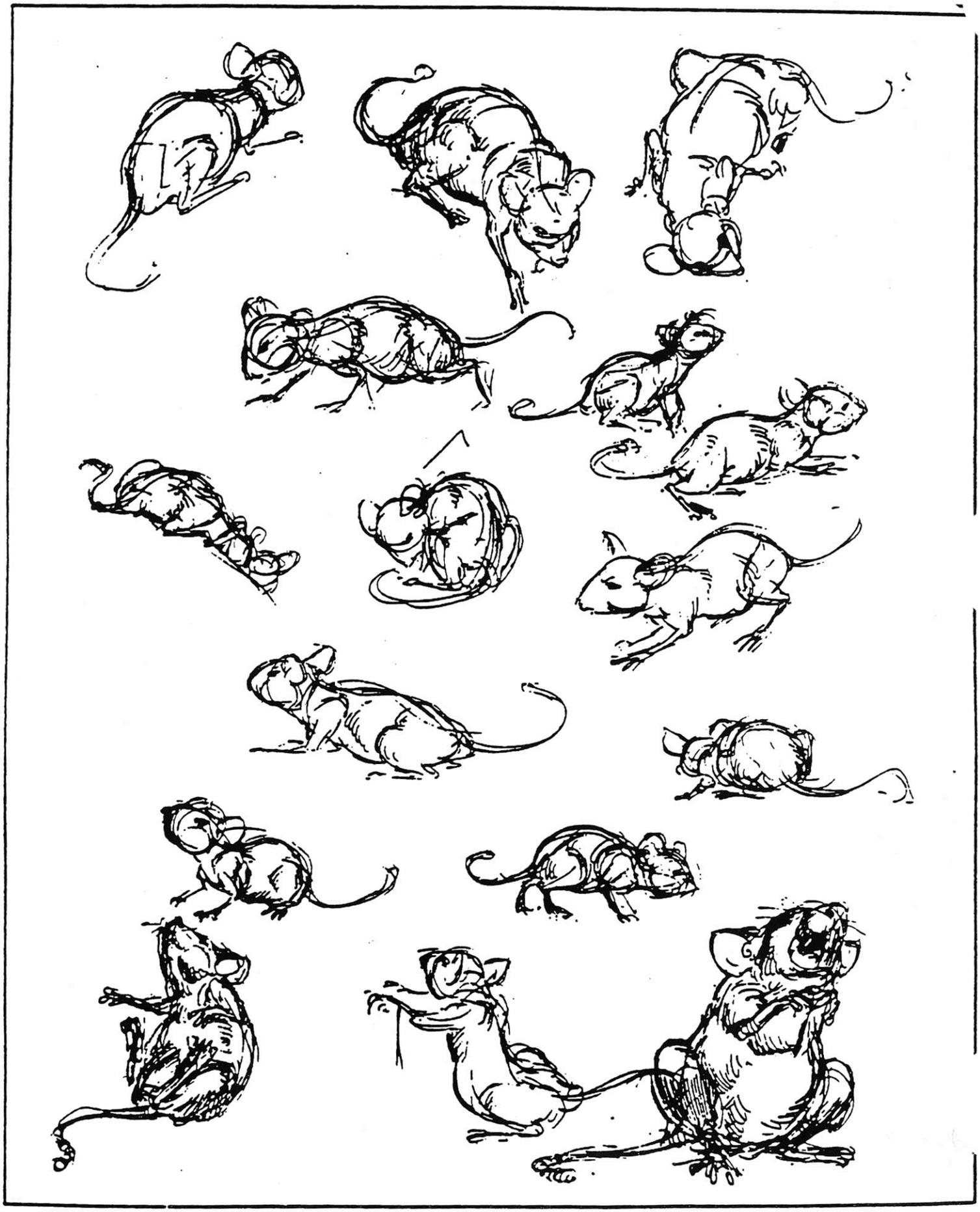


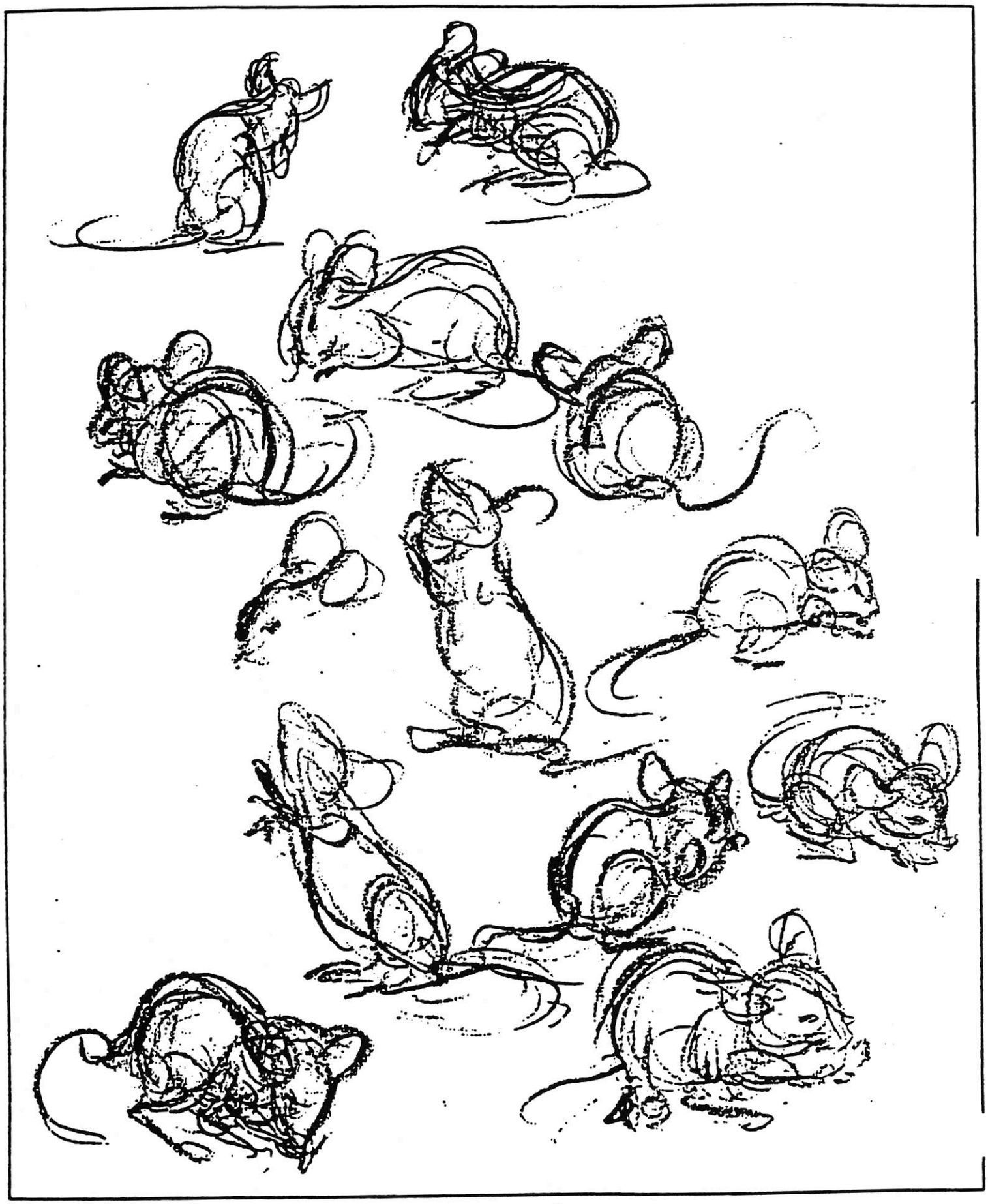


Rodents

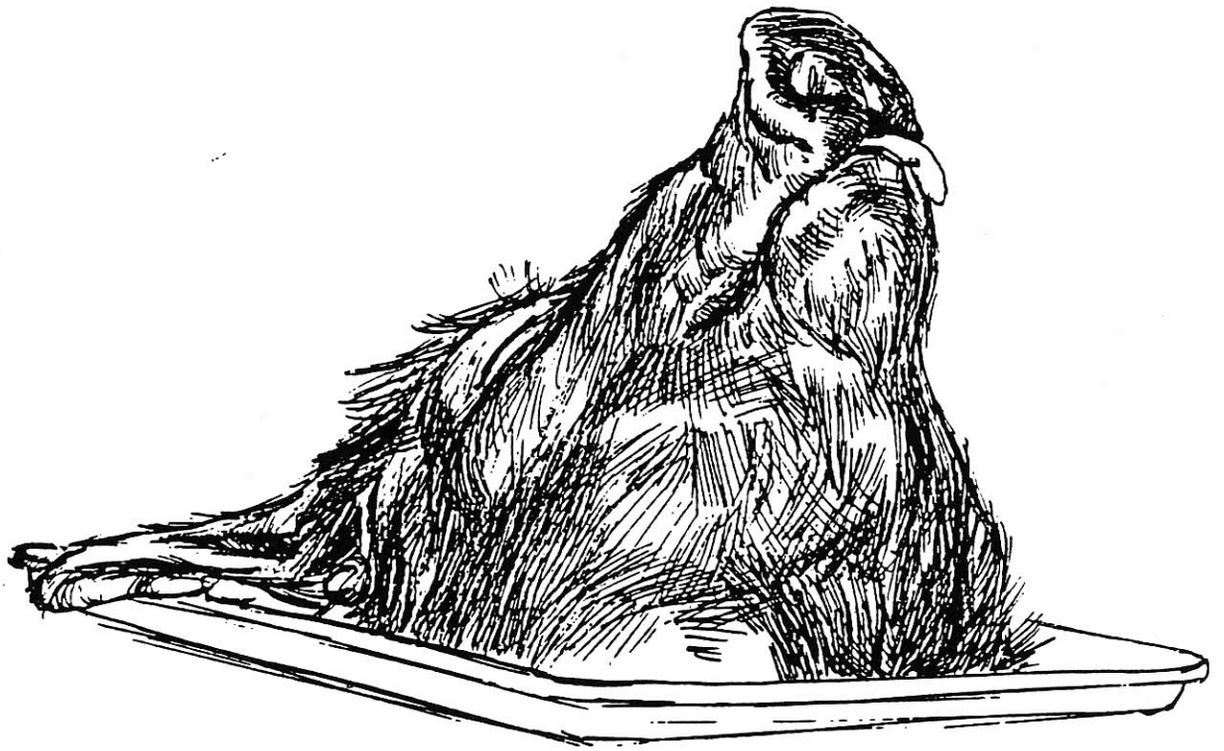


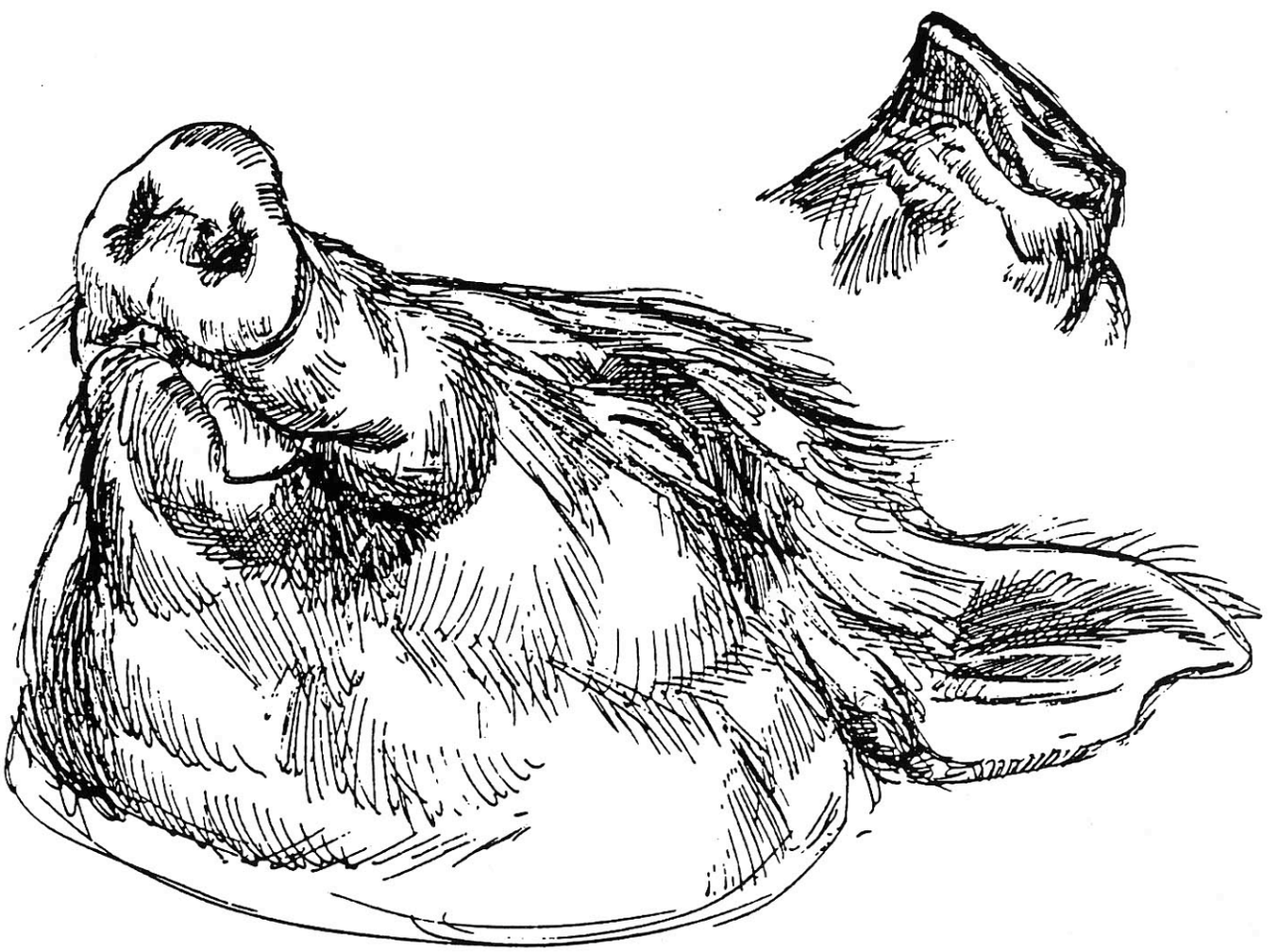


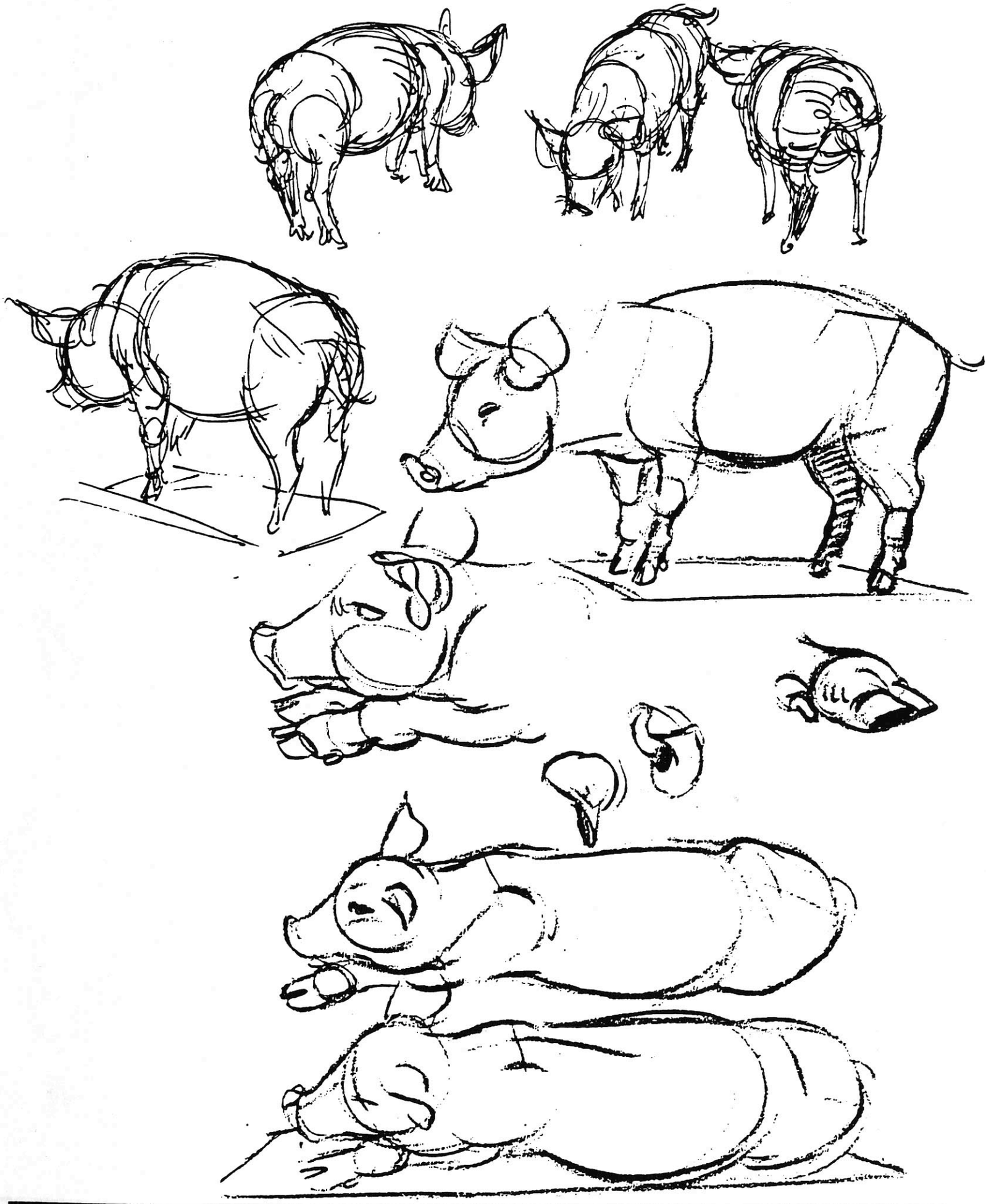


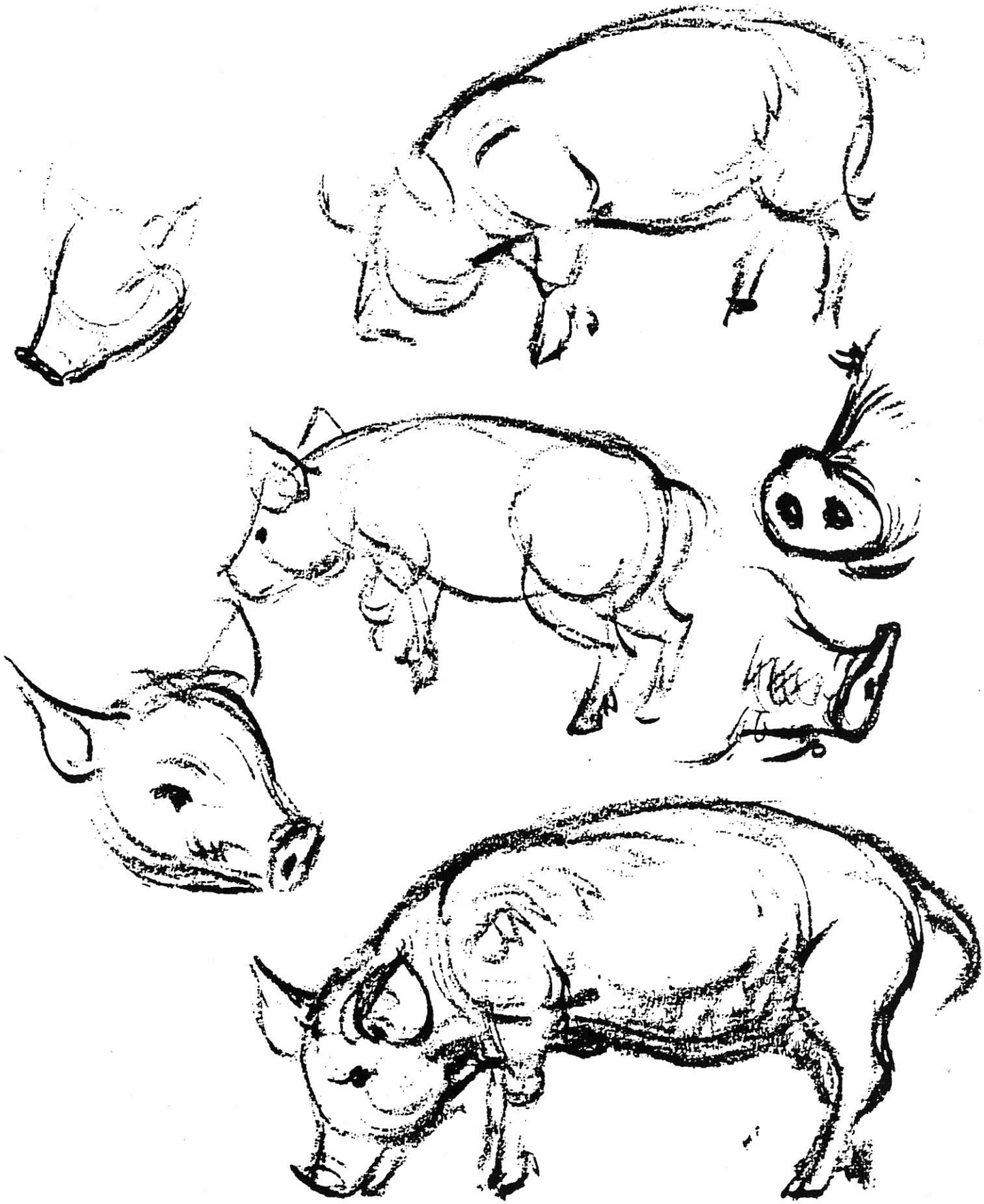


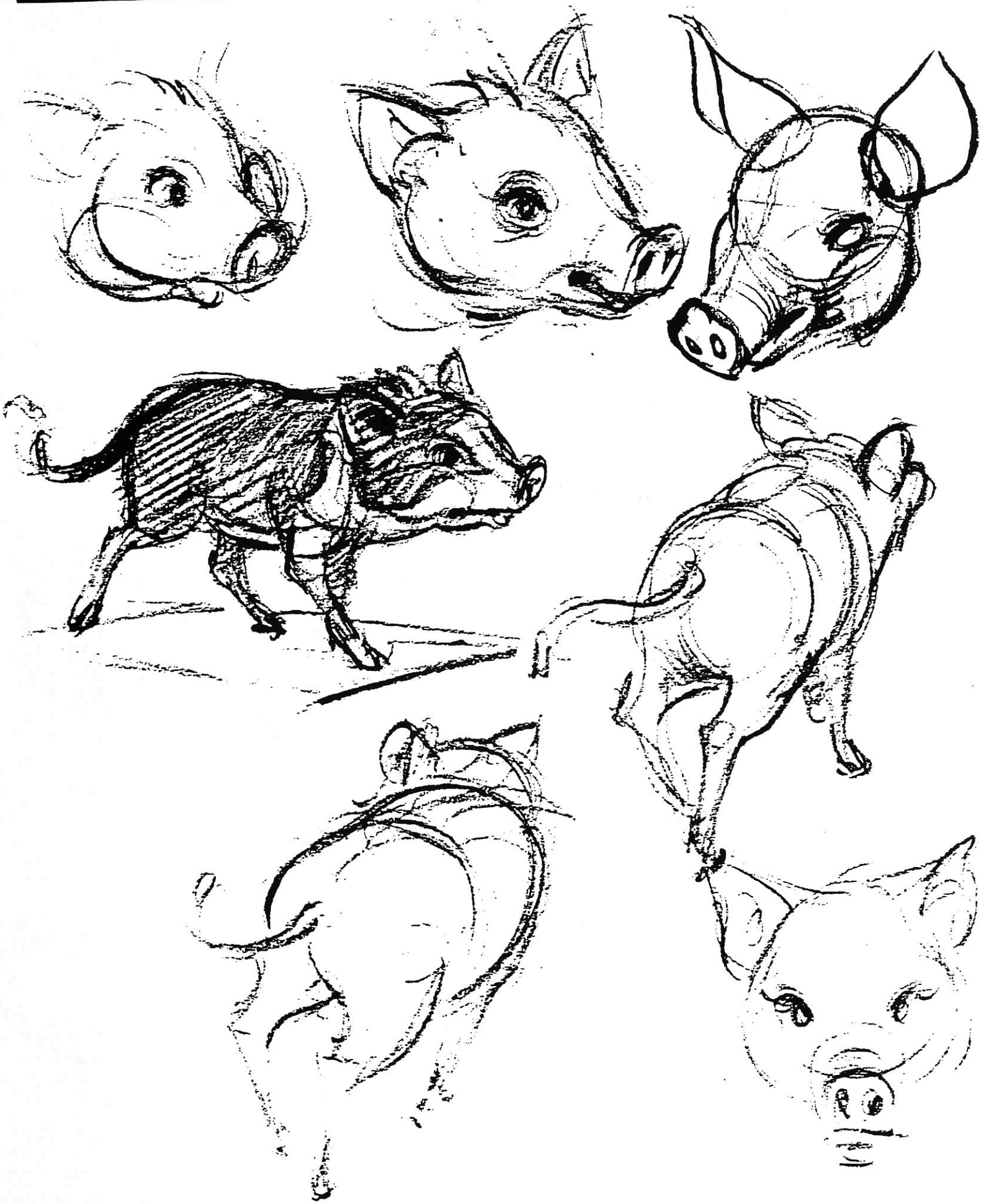
Pigs

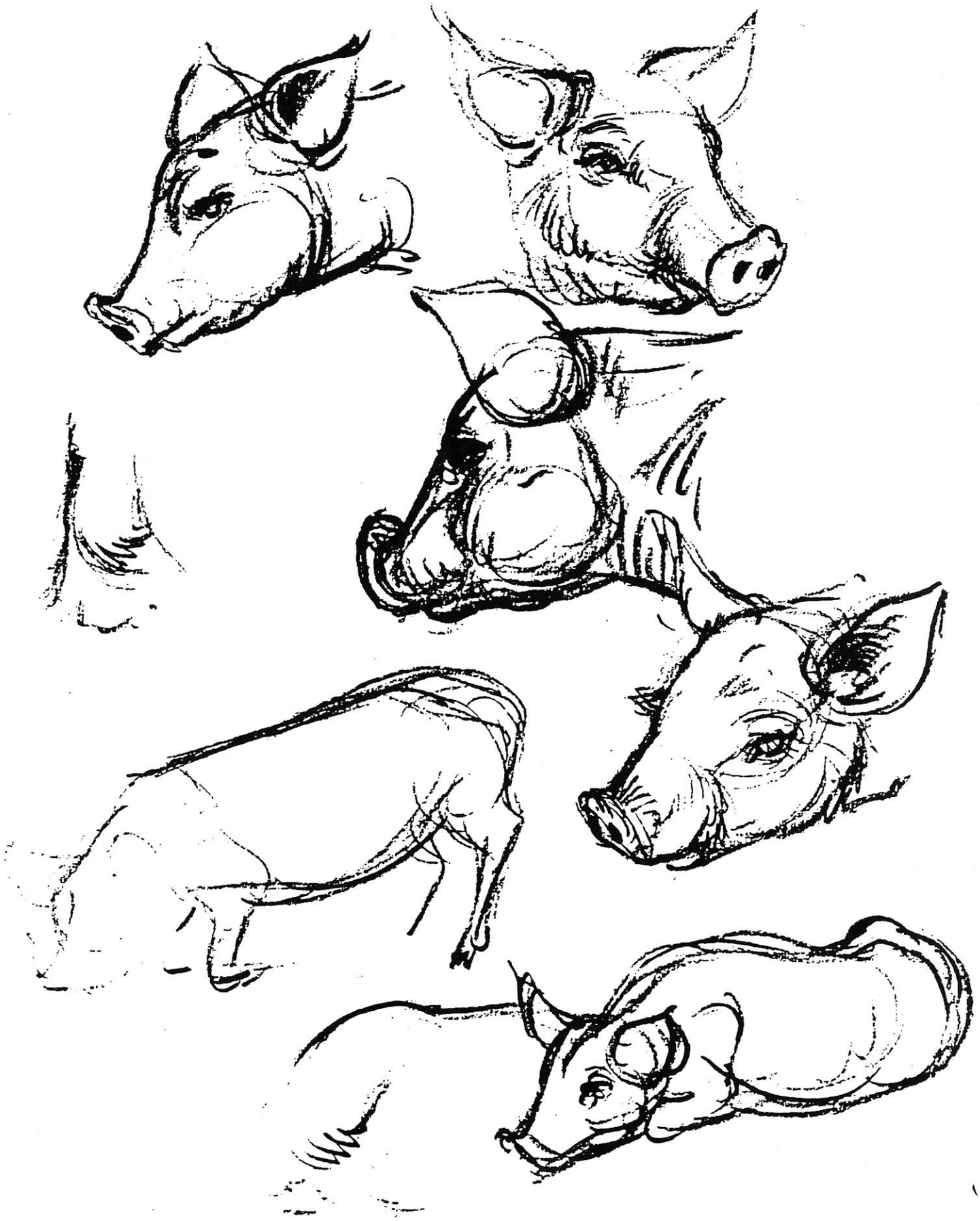


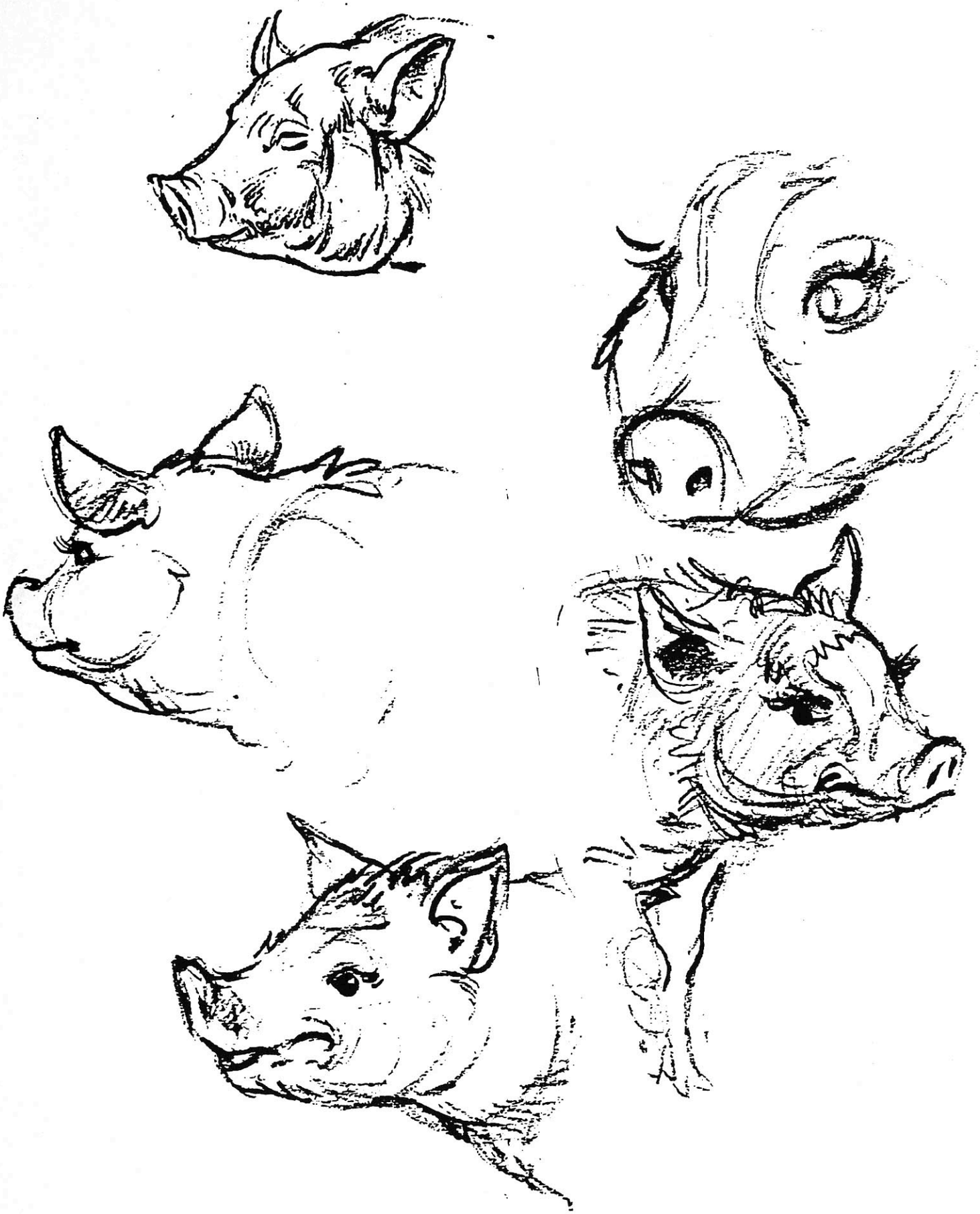


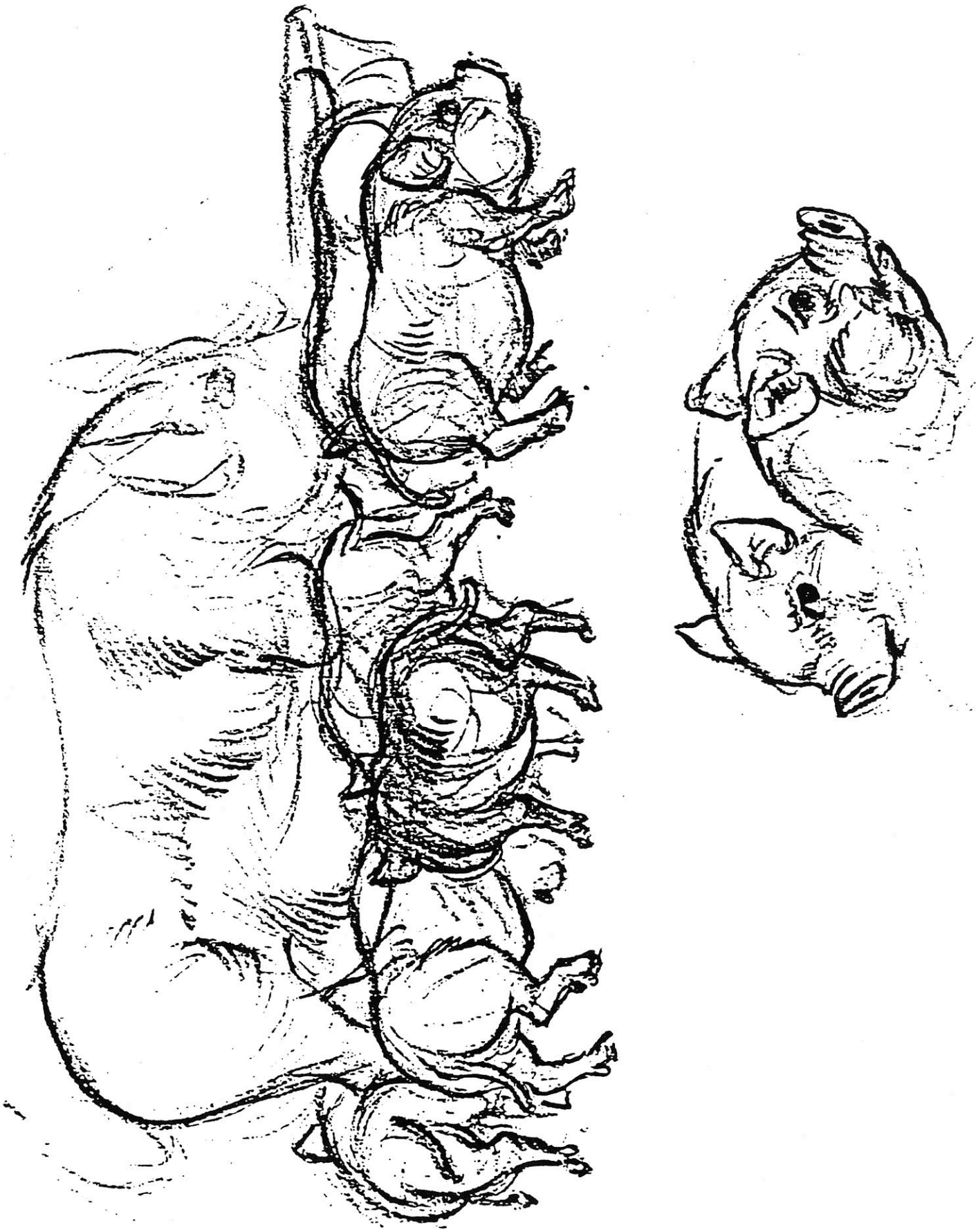


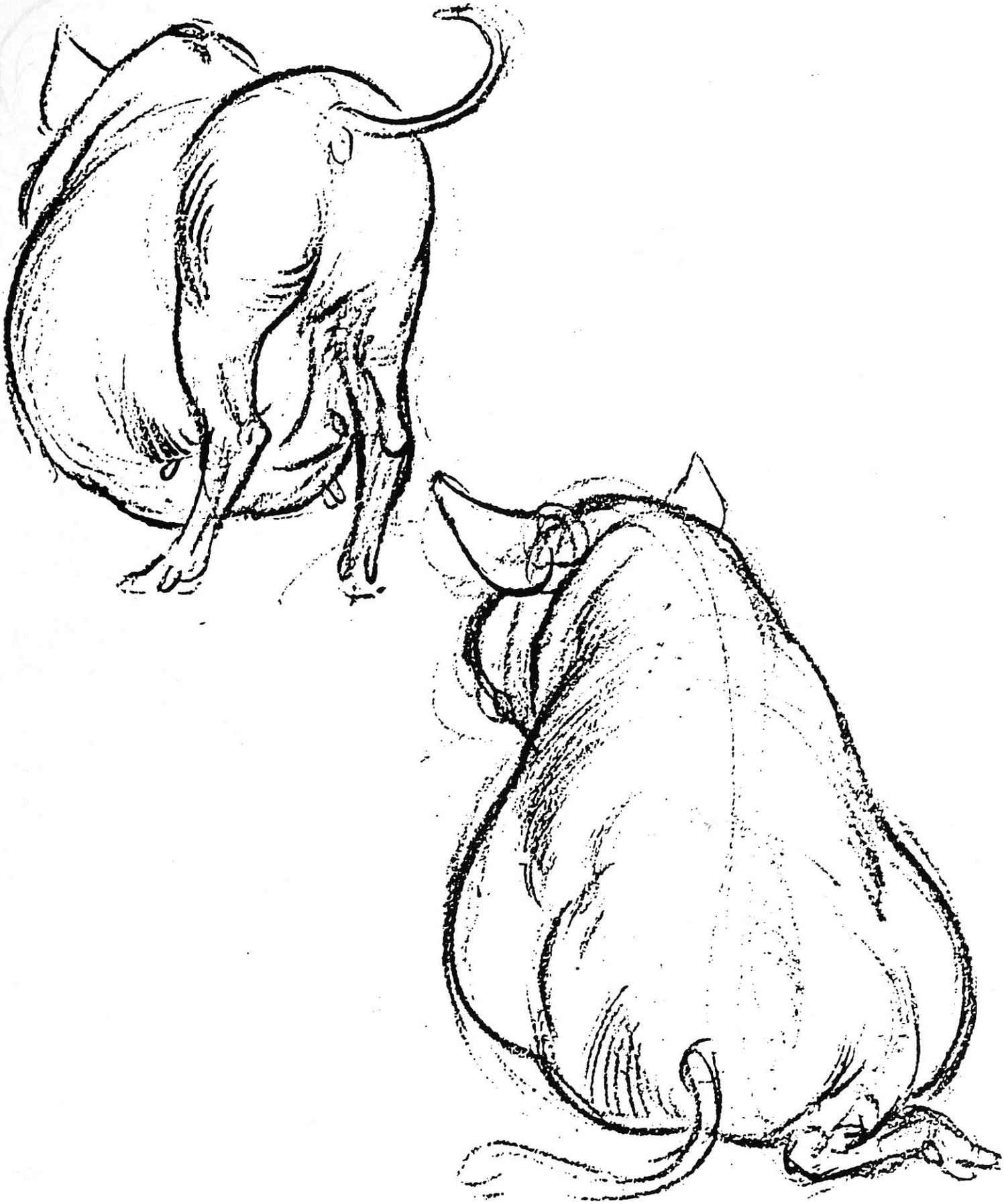


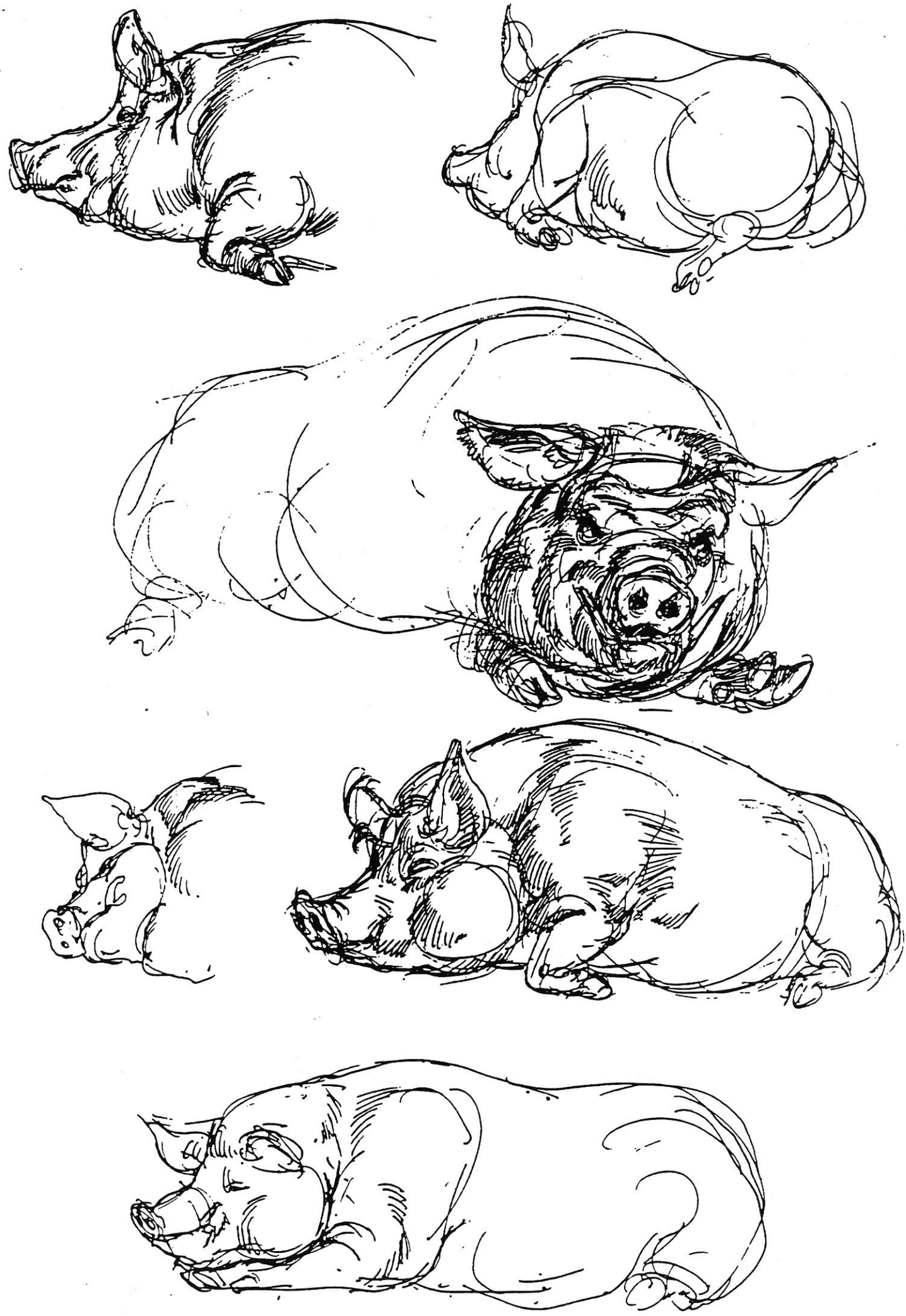




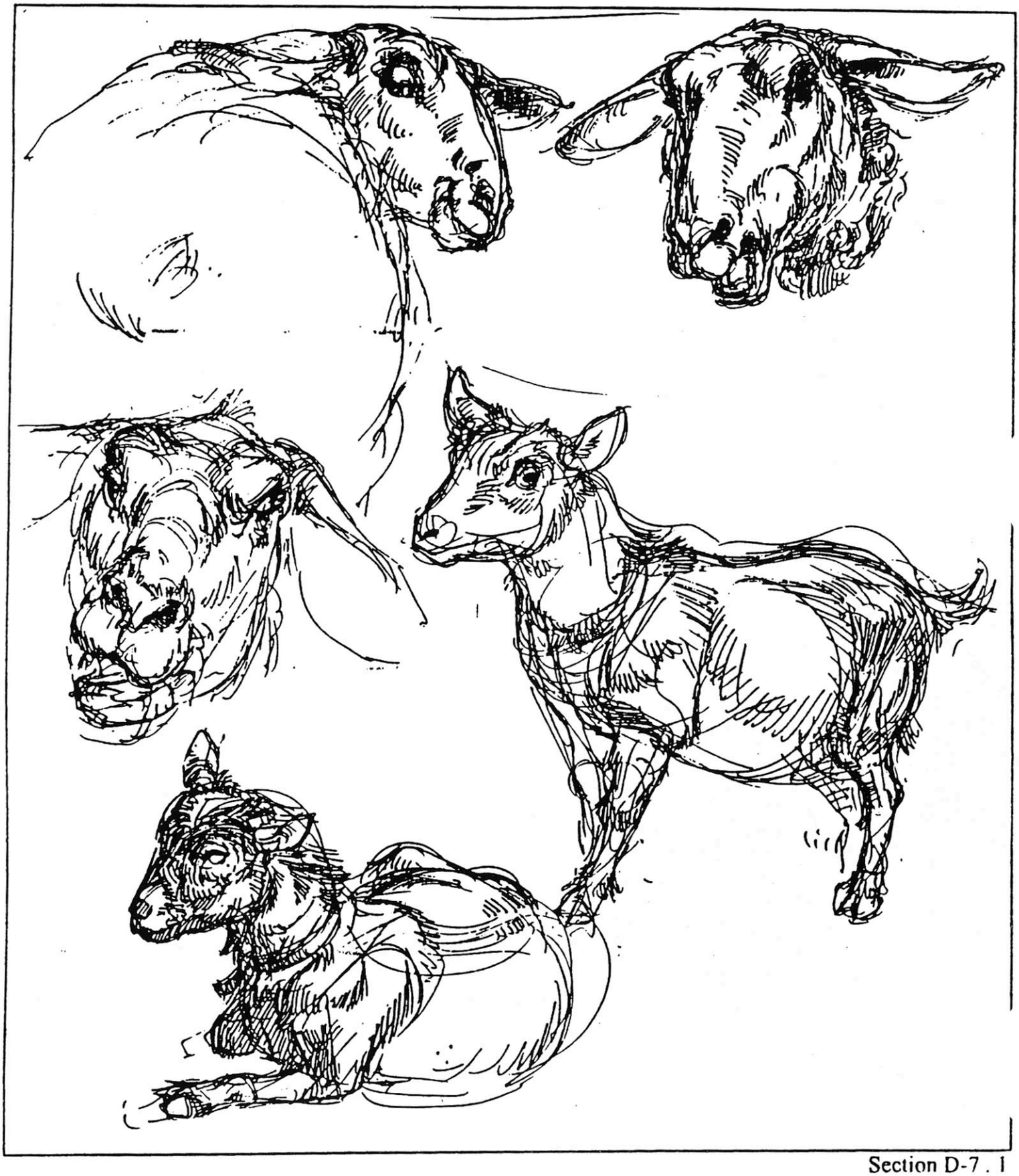


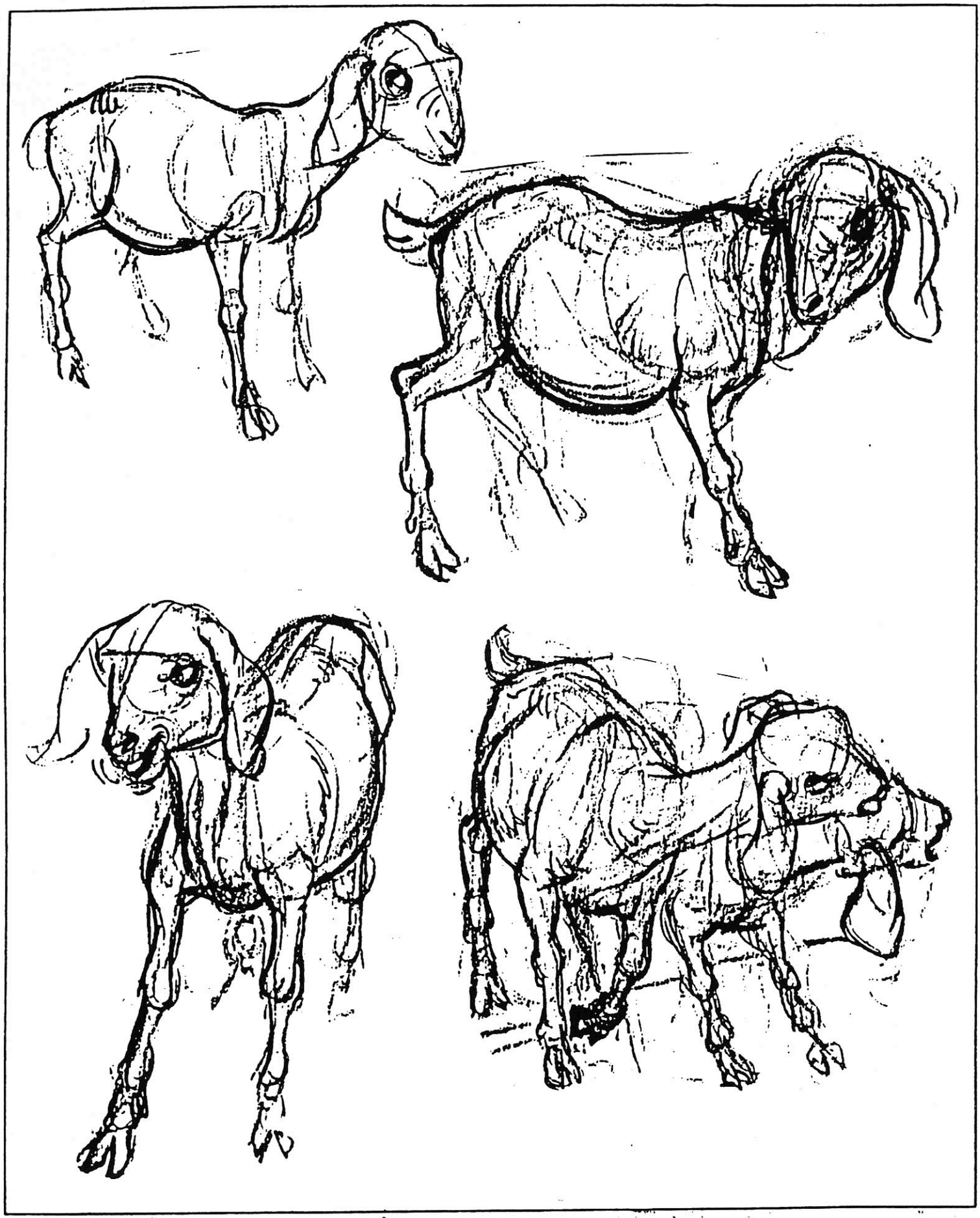


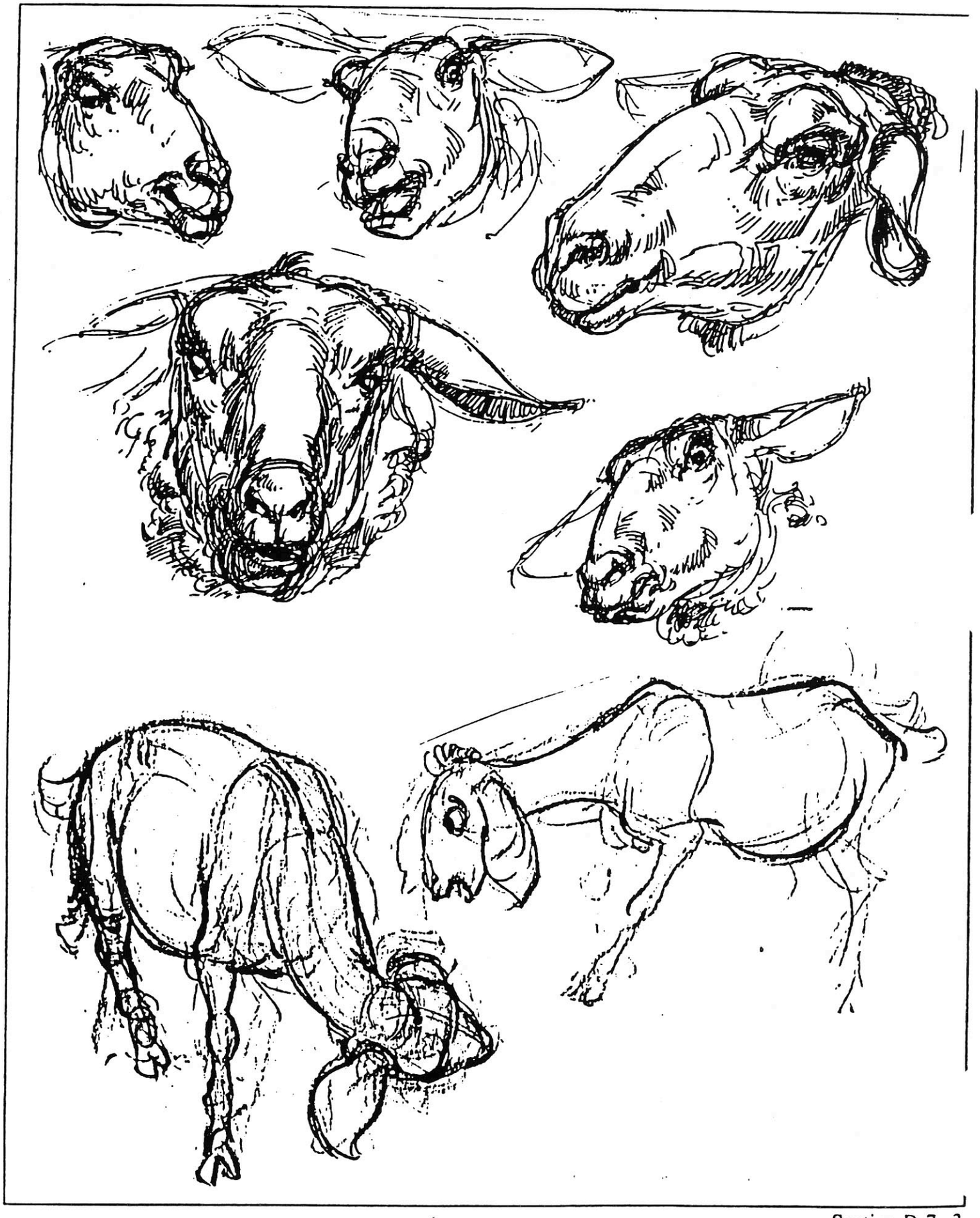


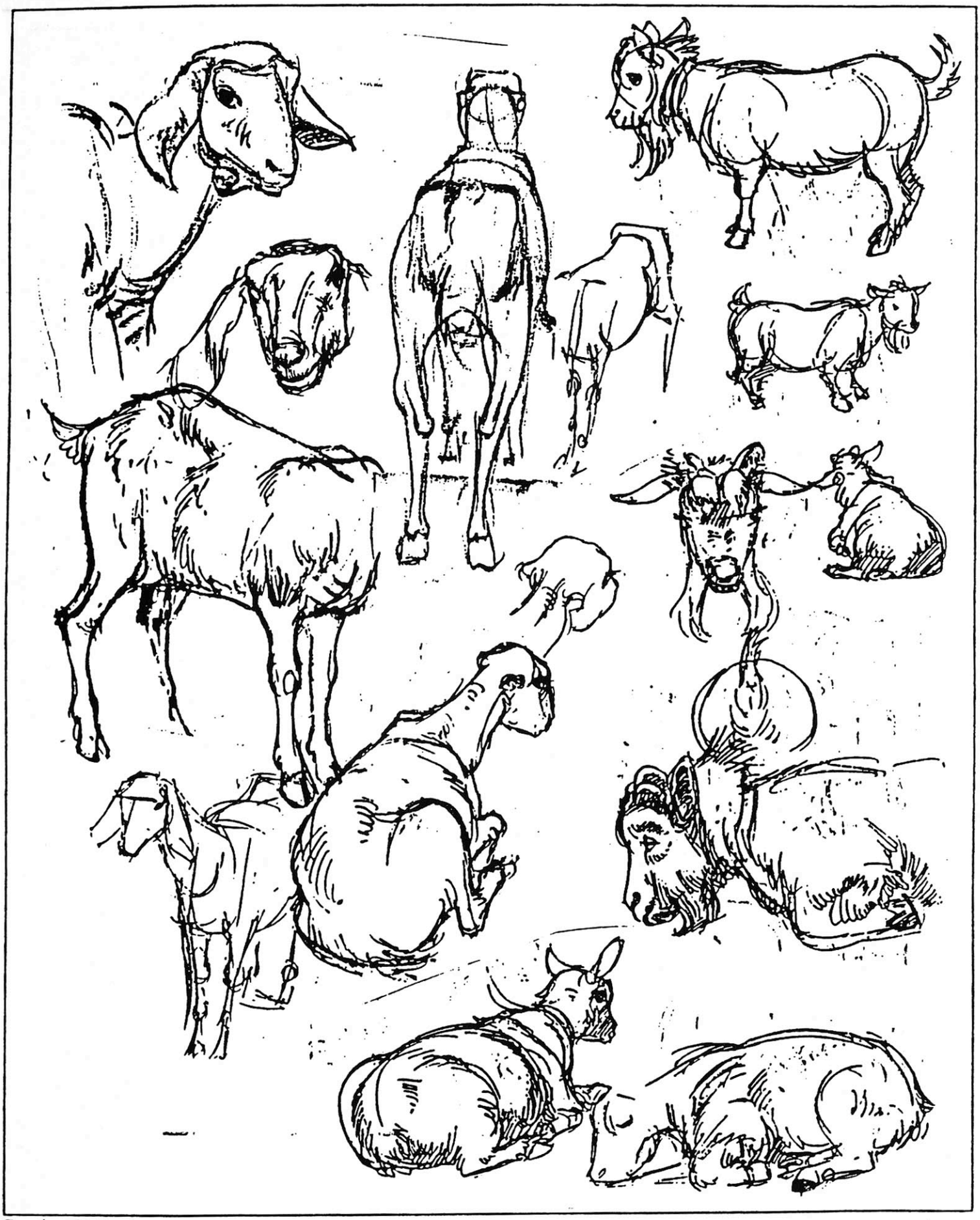


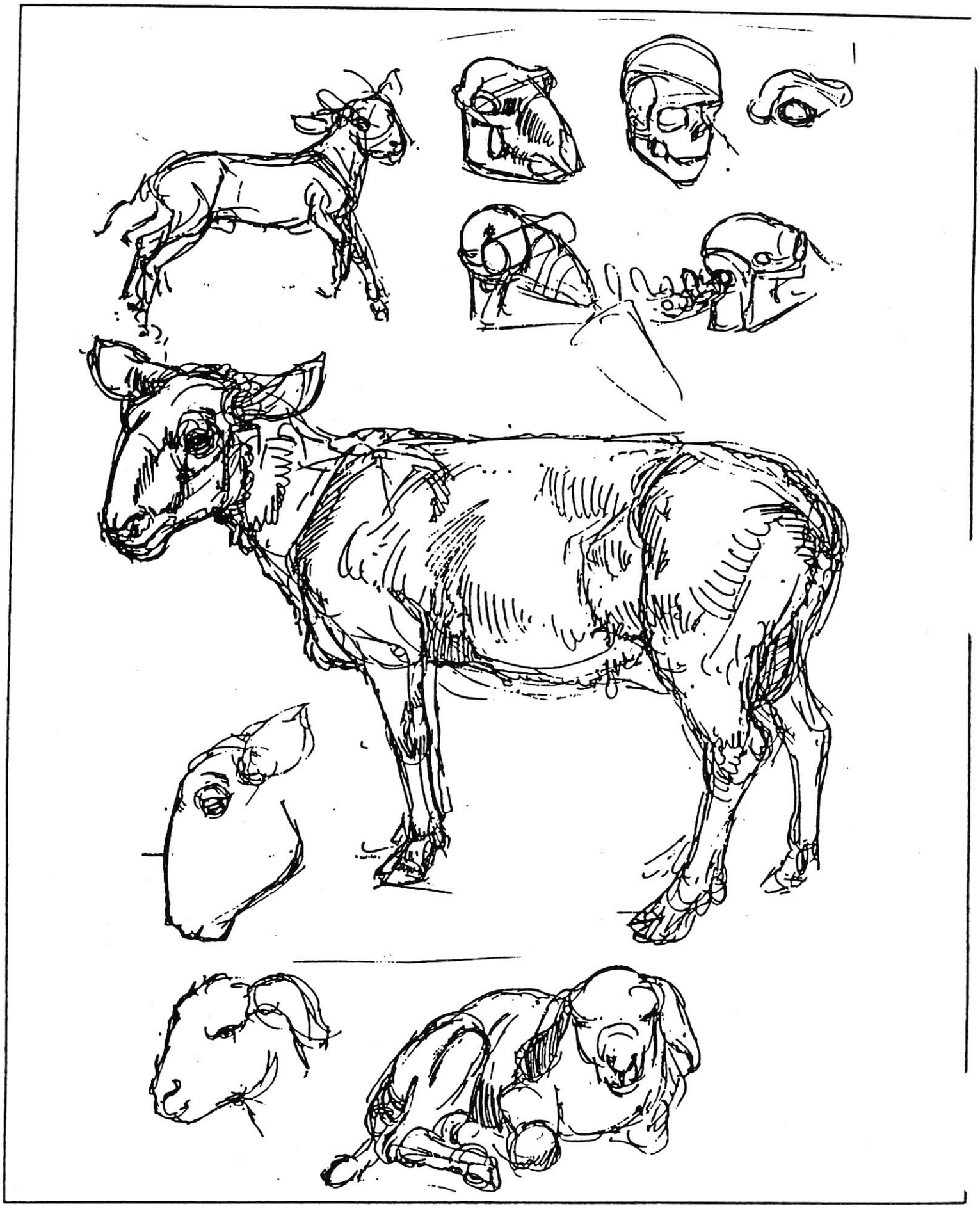
Goats and Sheep

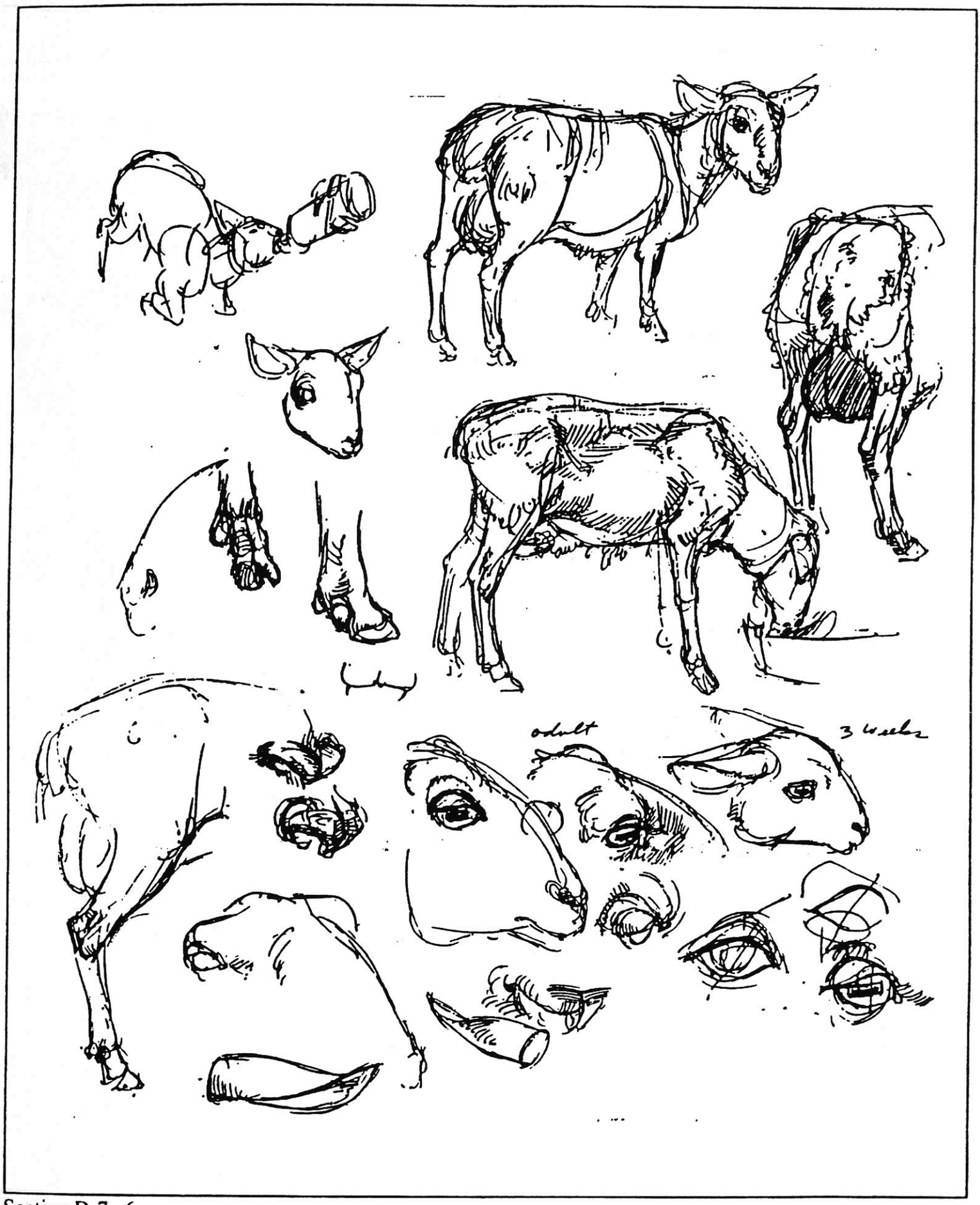


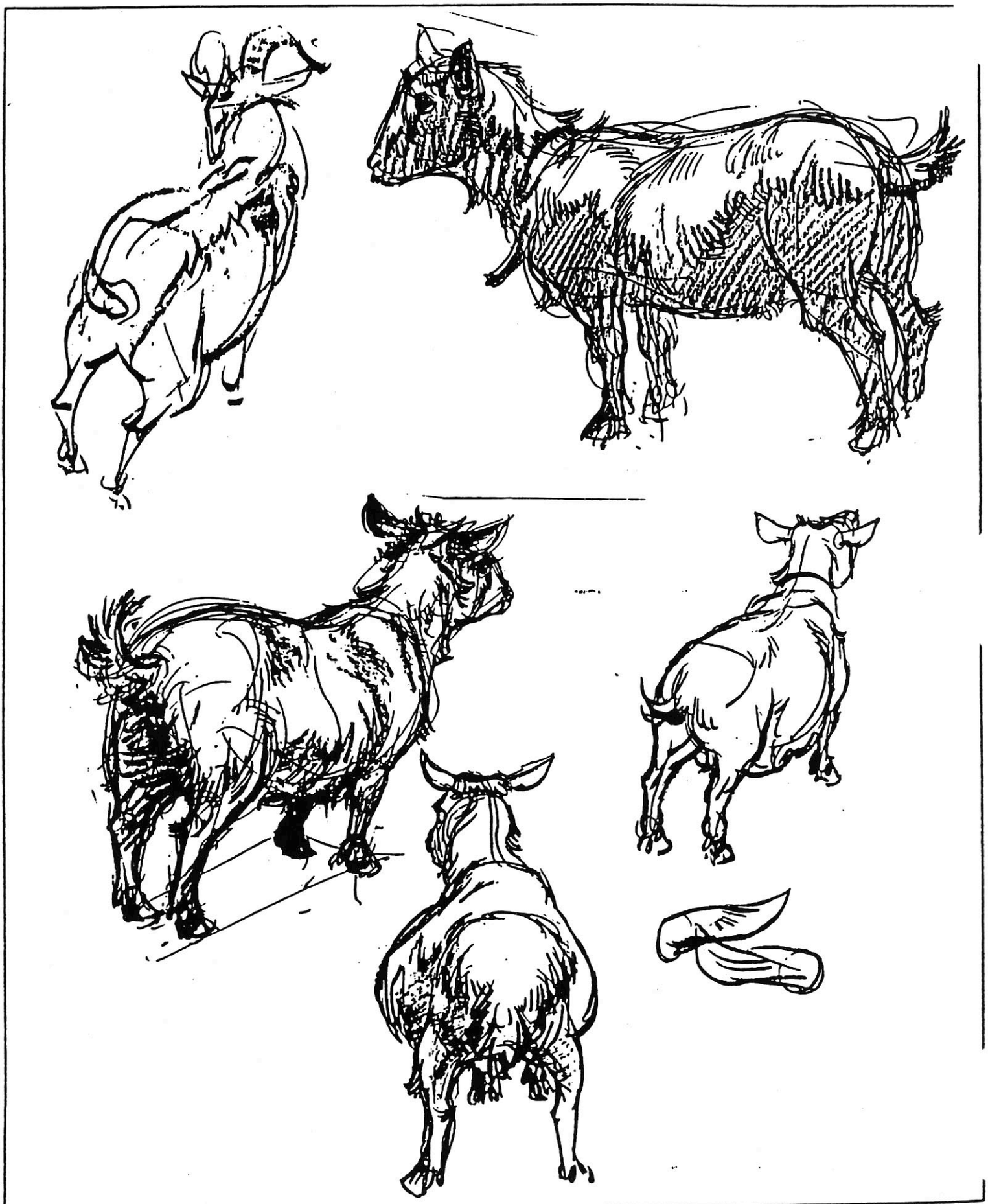






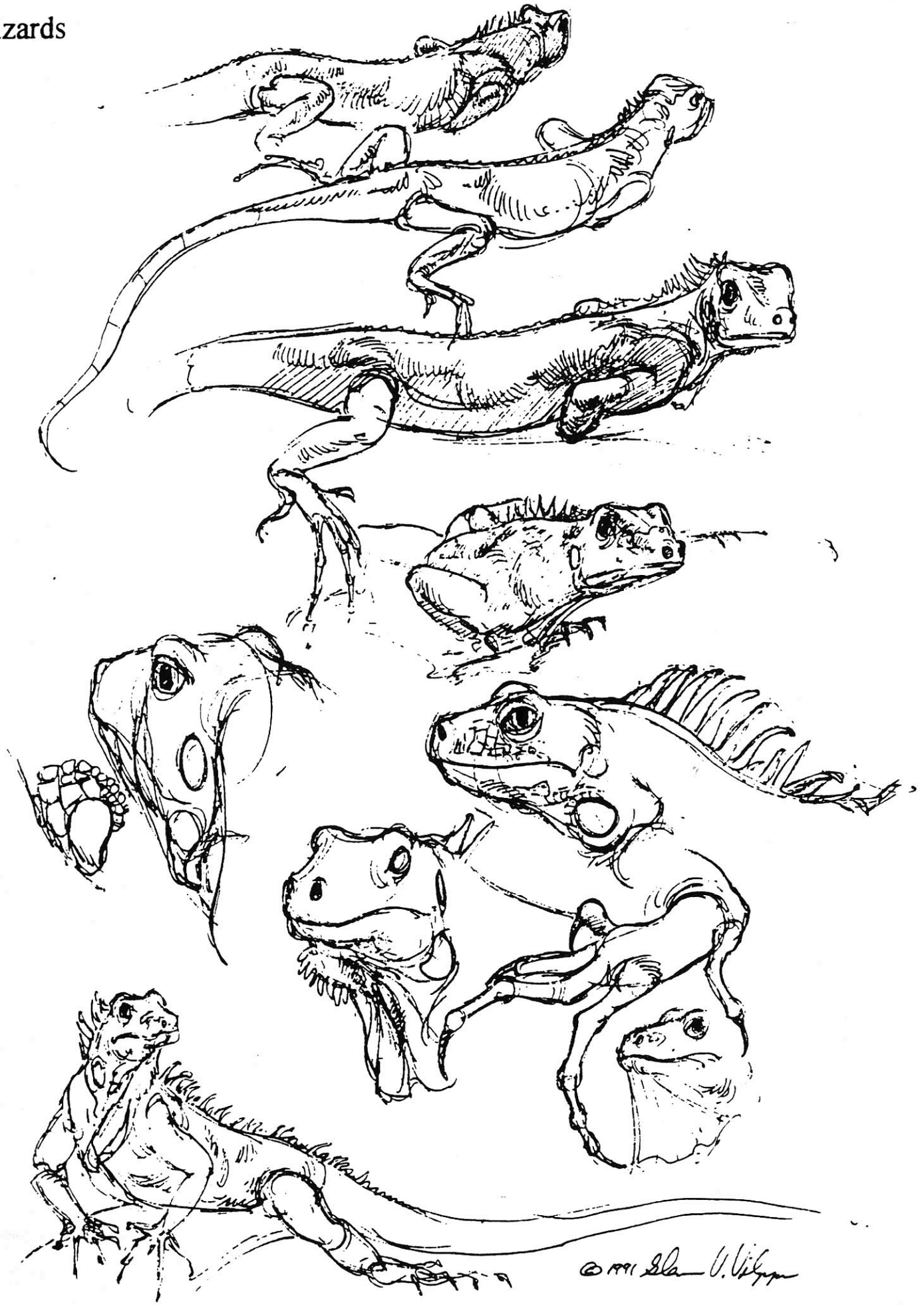



adult
3 weeks



Glenn Vilppu **DRAWING ANIMALS 8**

Lizards



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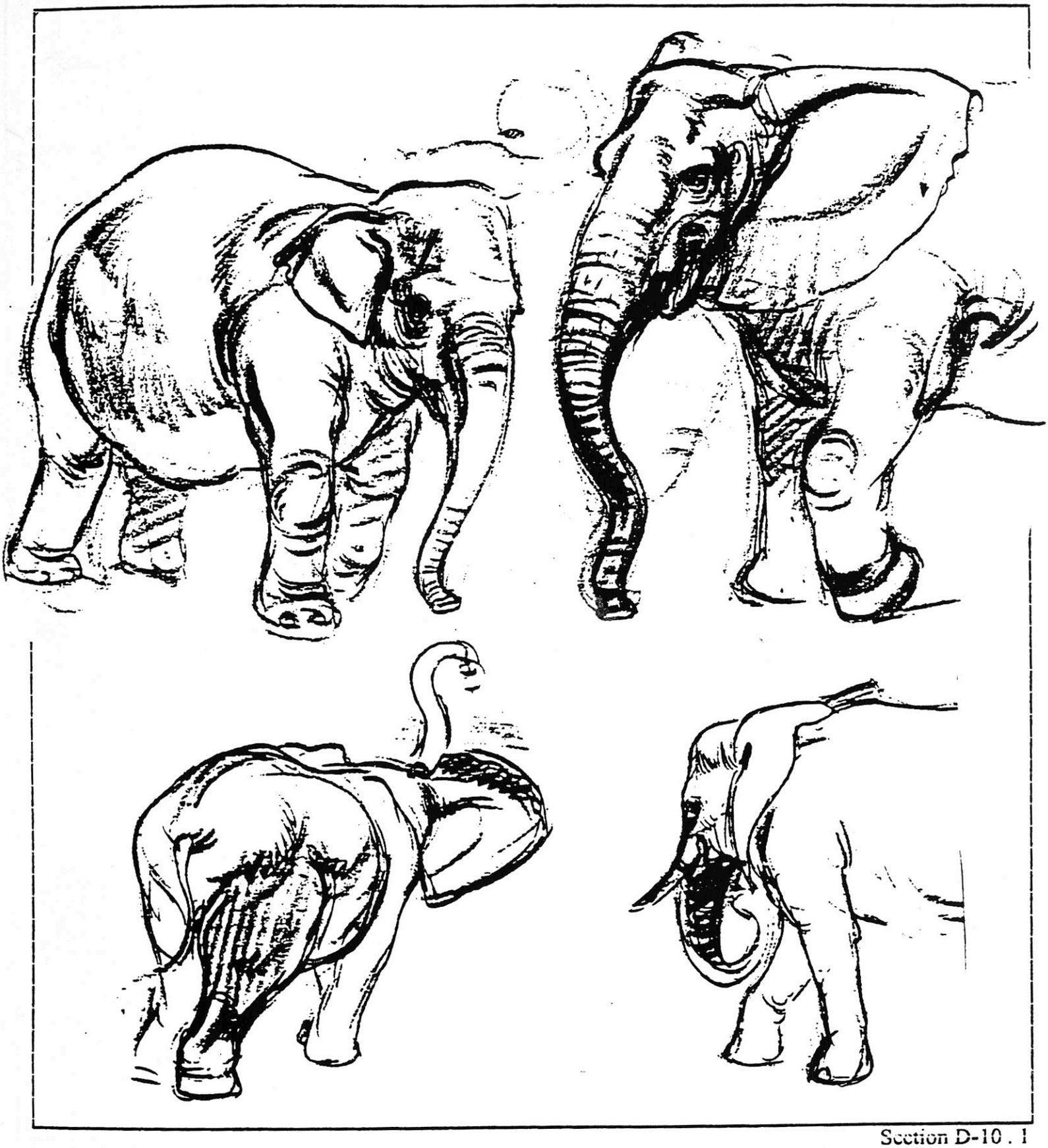
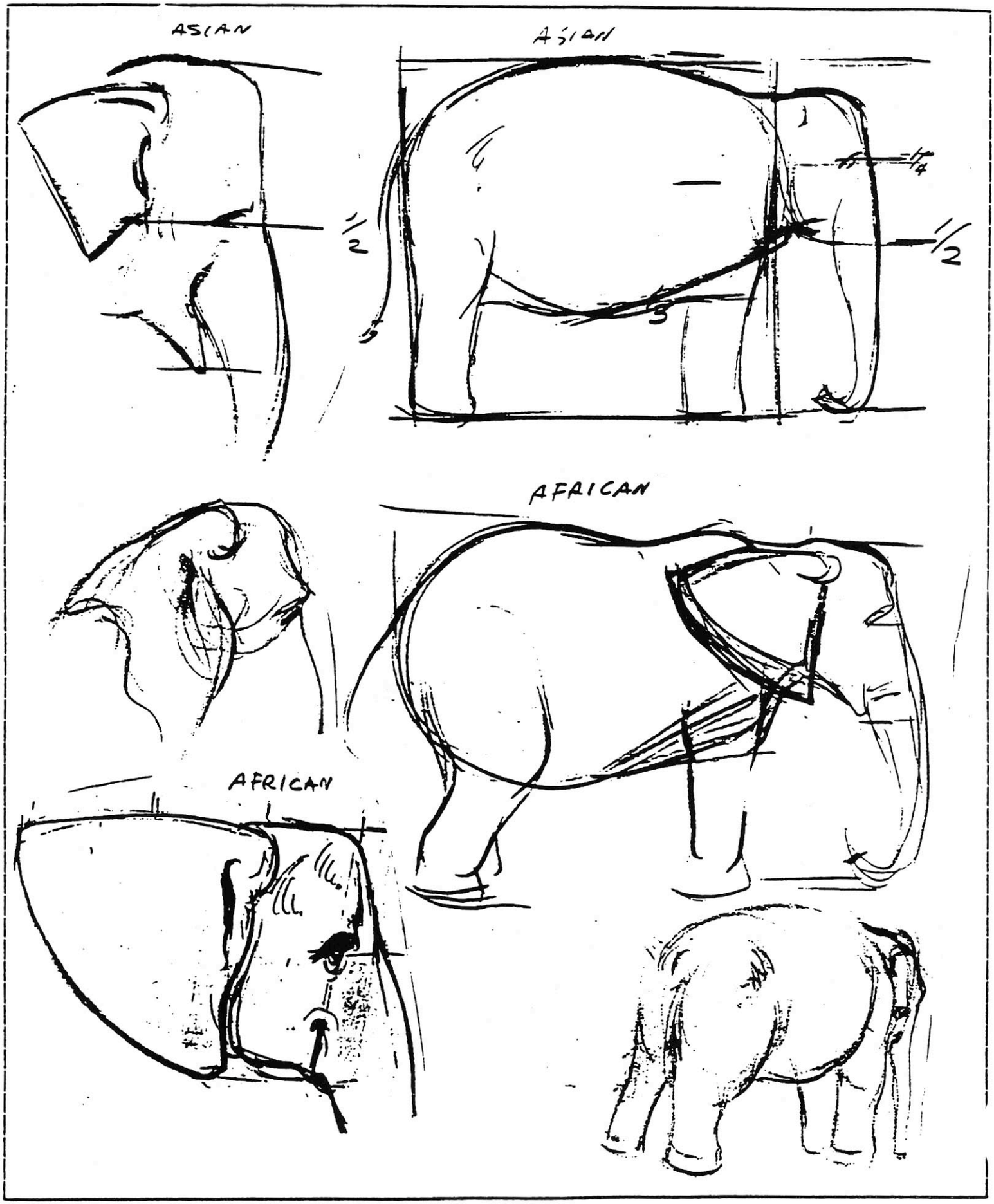
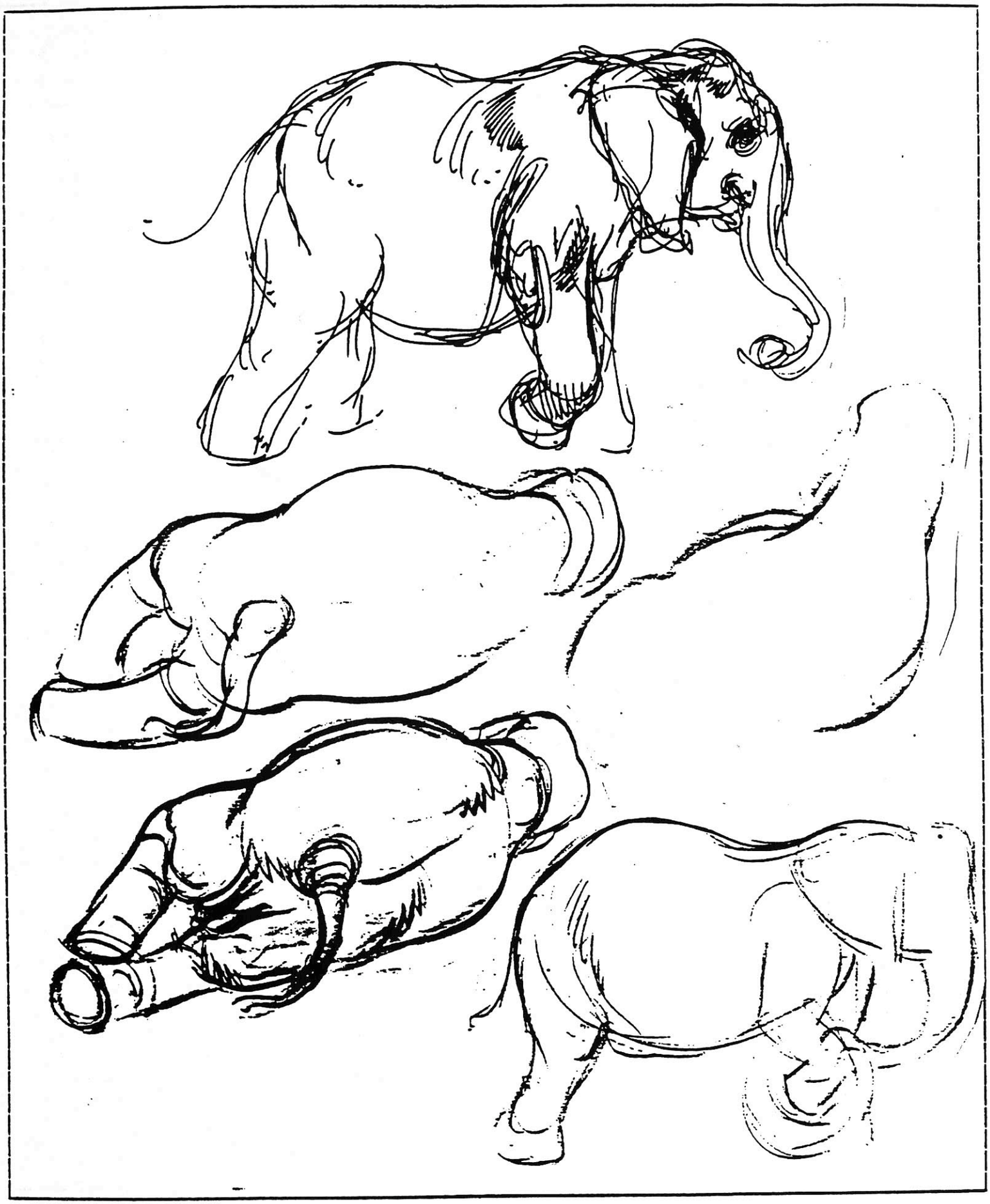
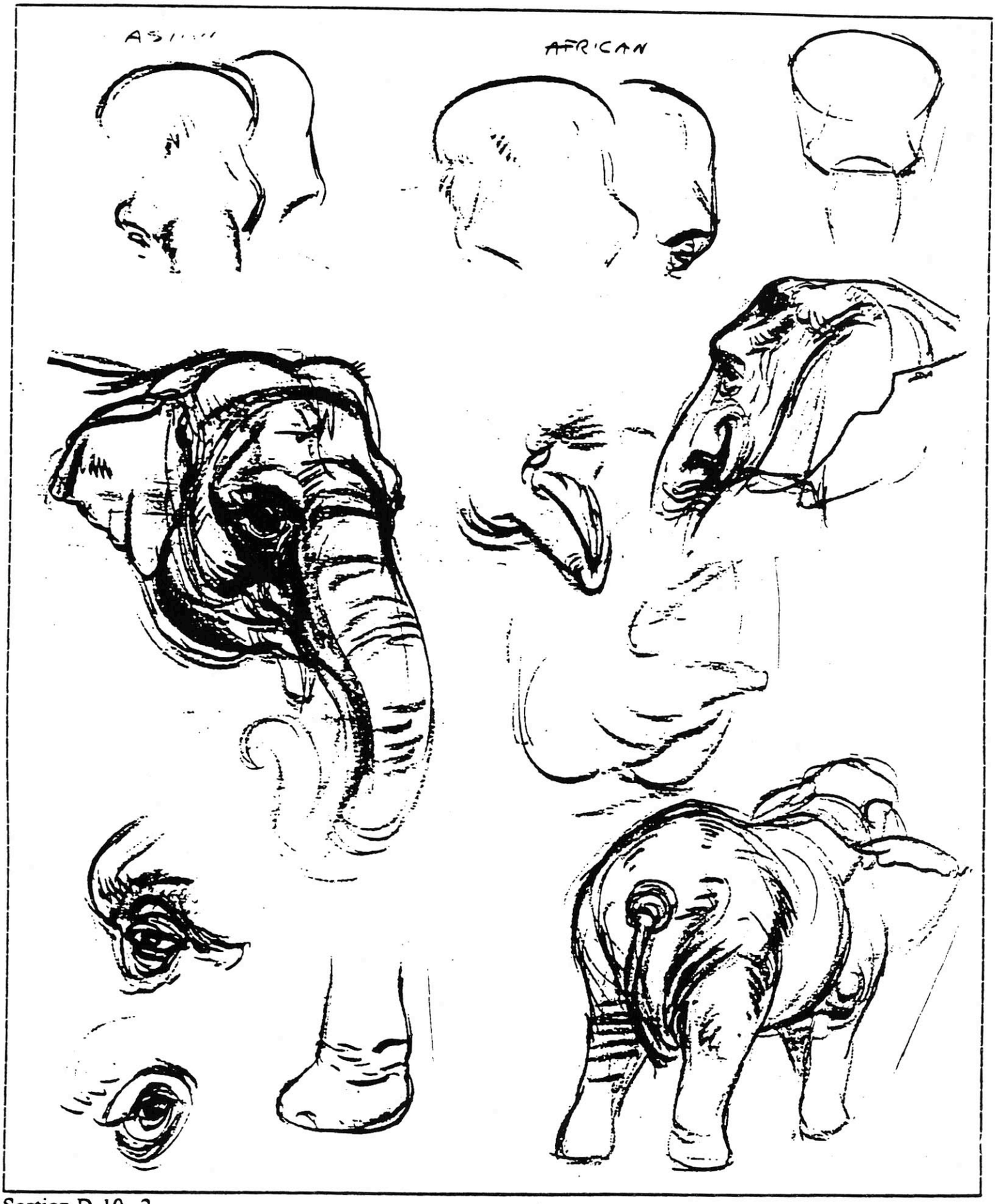
Elephants

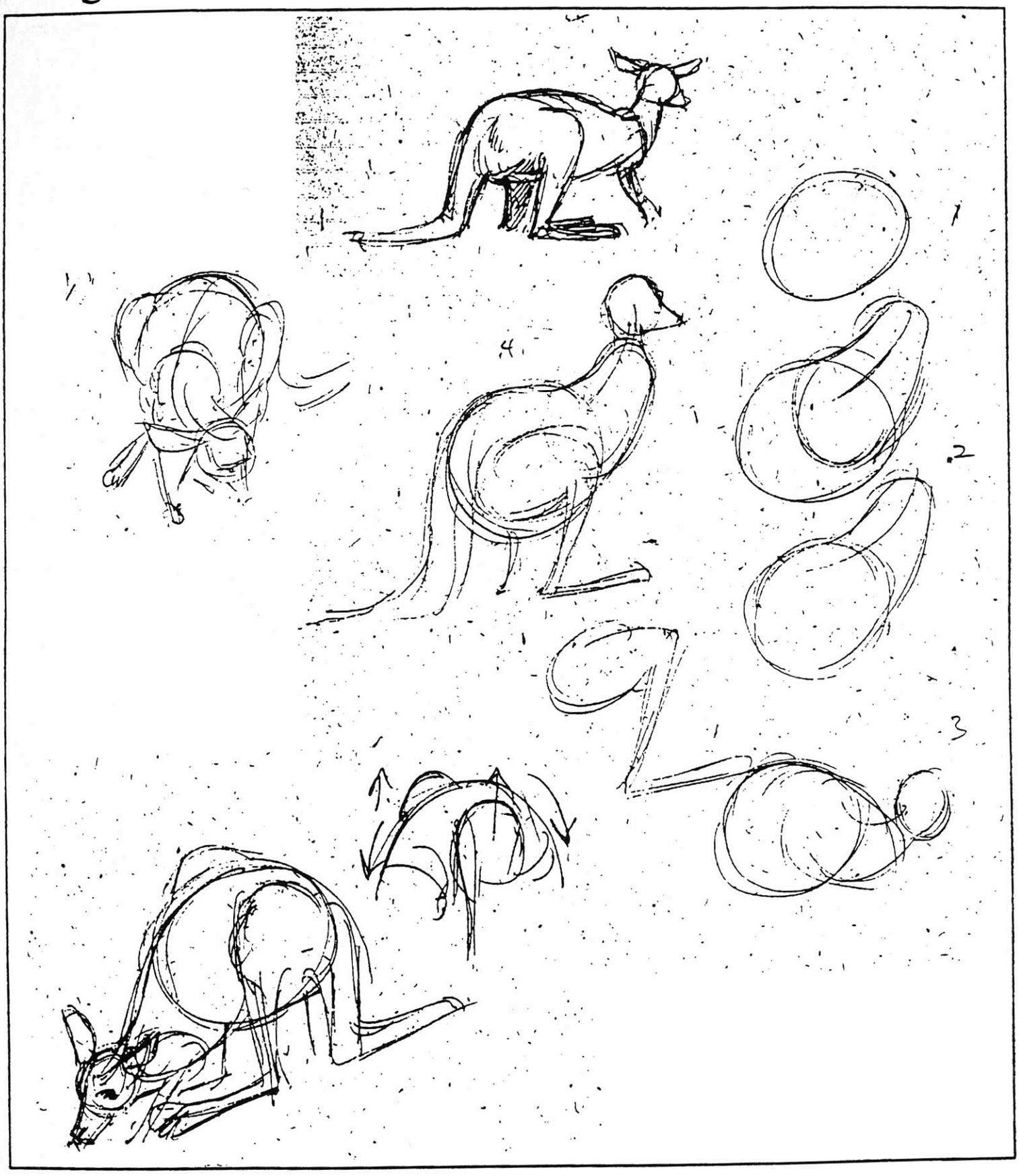


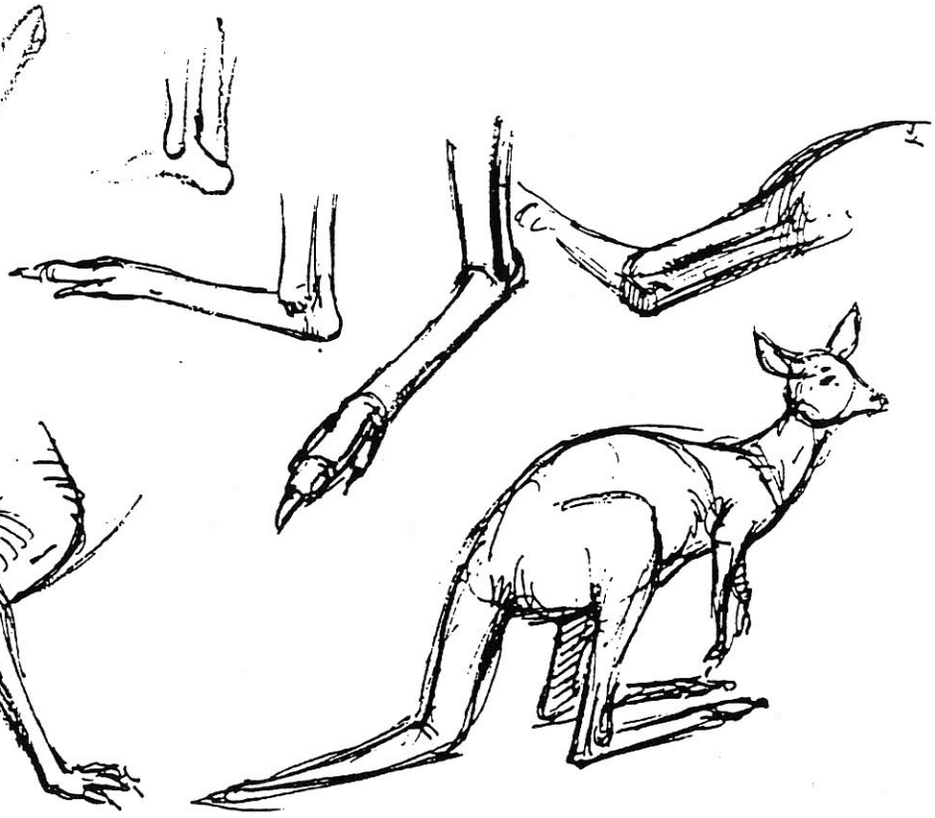

ASIAN
ASIAN
1/4
1/2
1/2
AFRICAN
AFRICAN

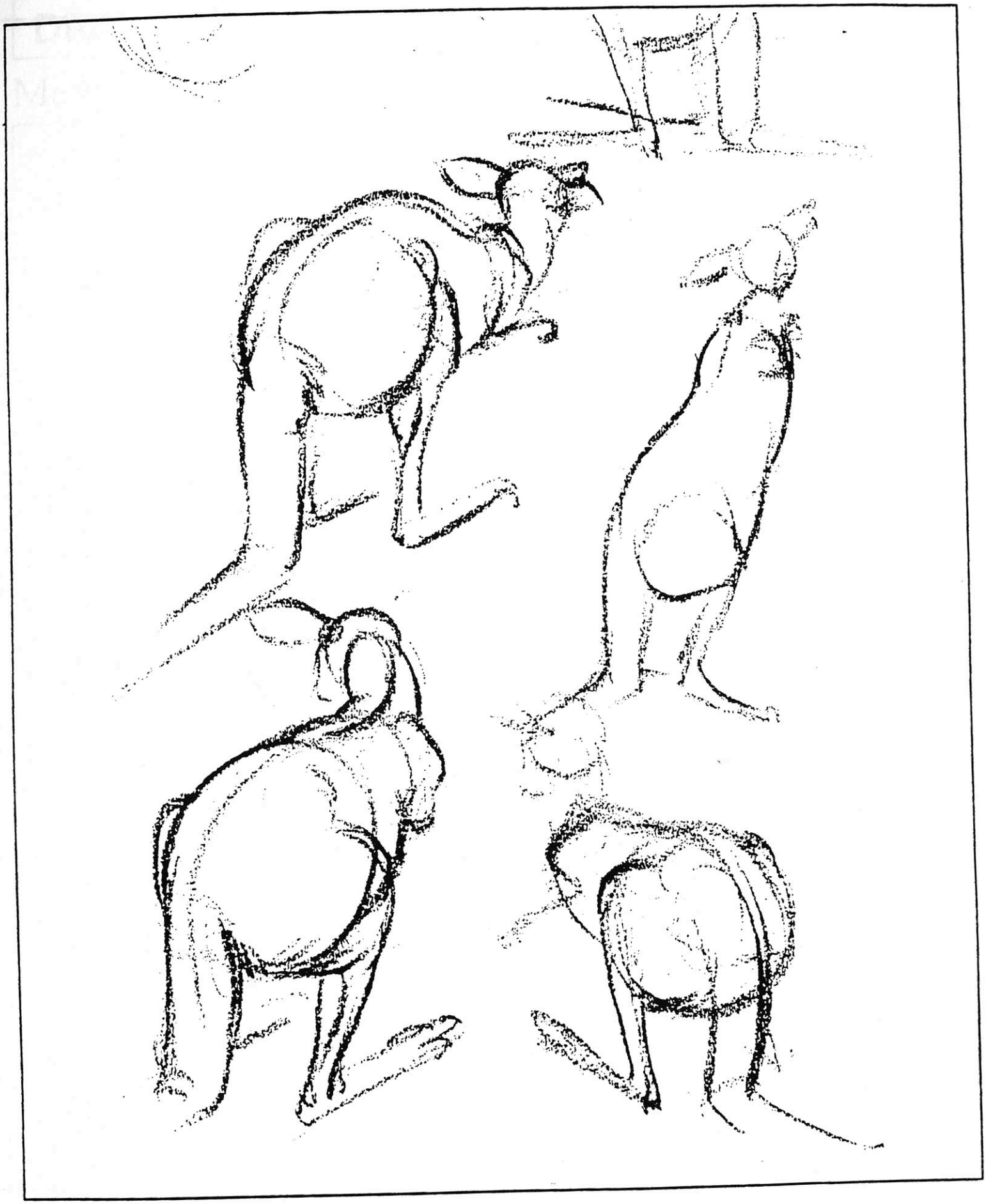


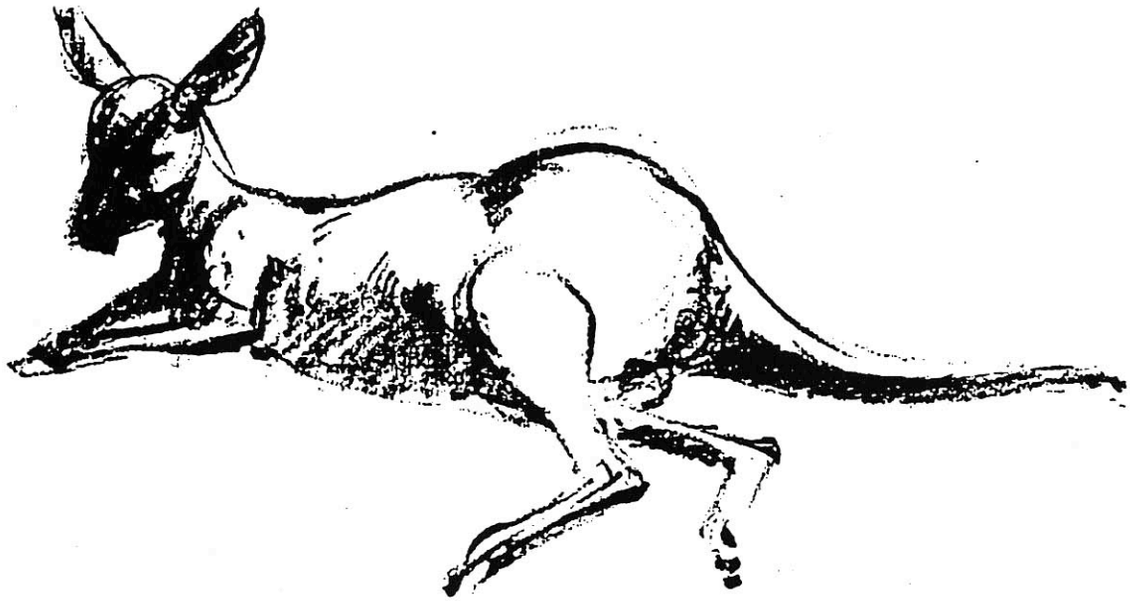

AFRICAN

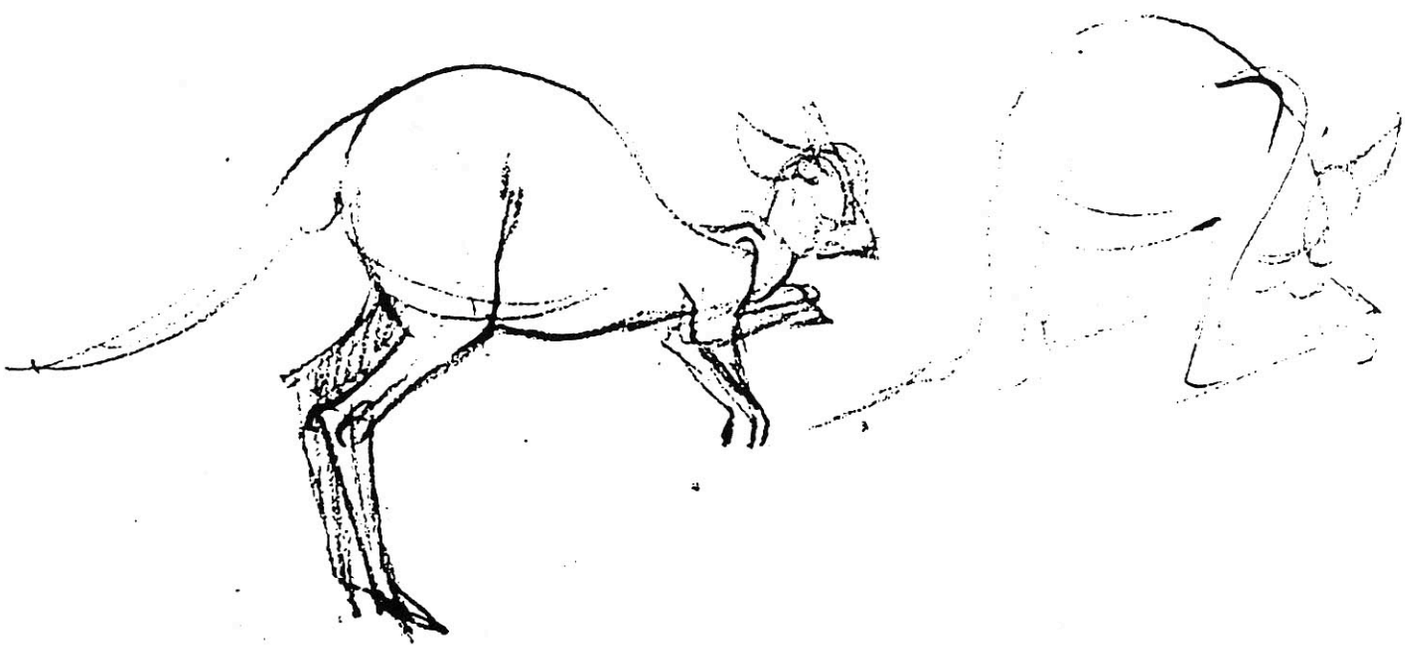
Kangaroo



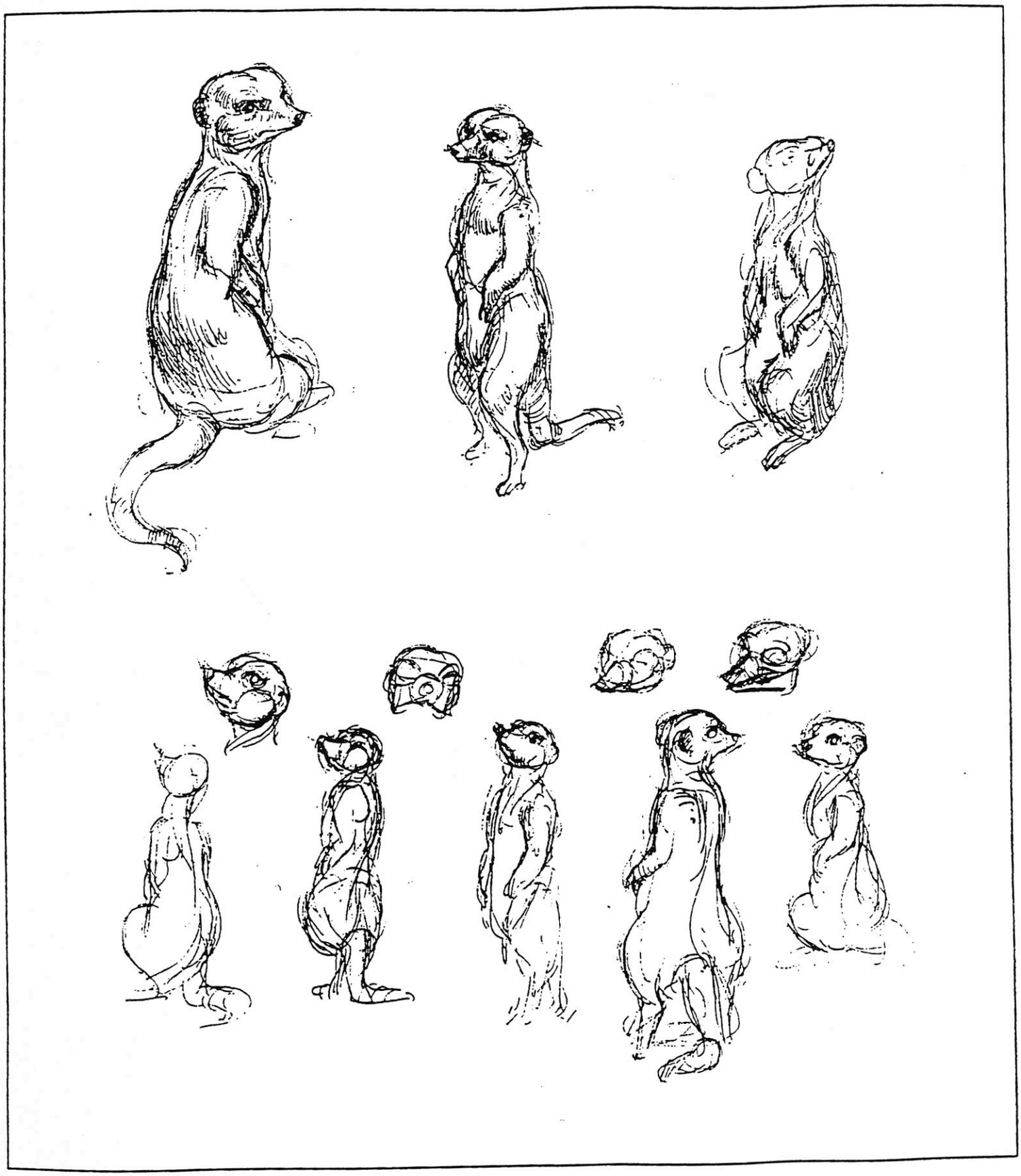




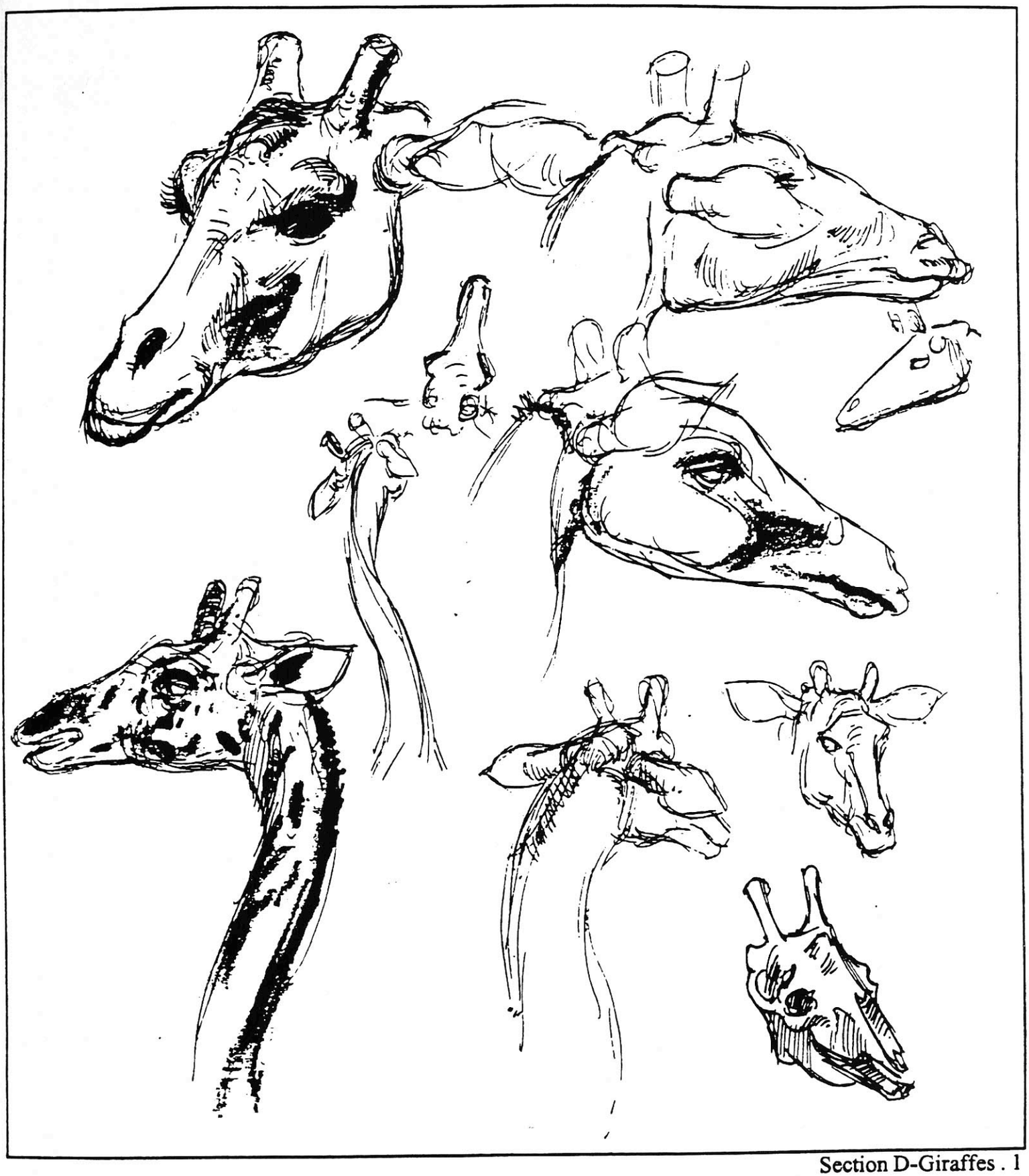


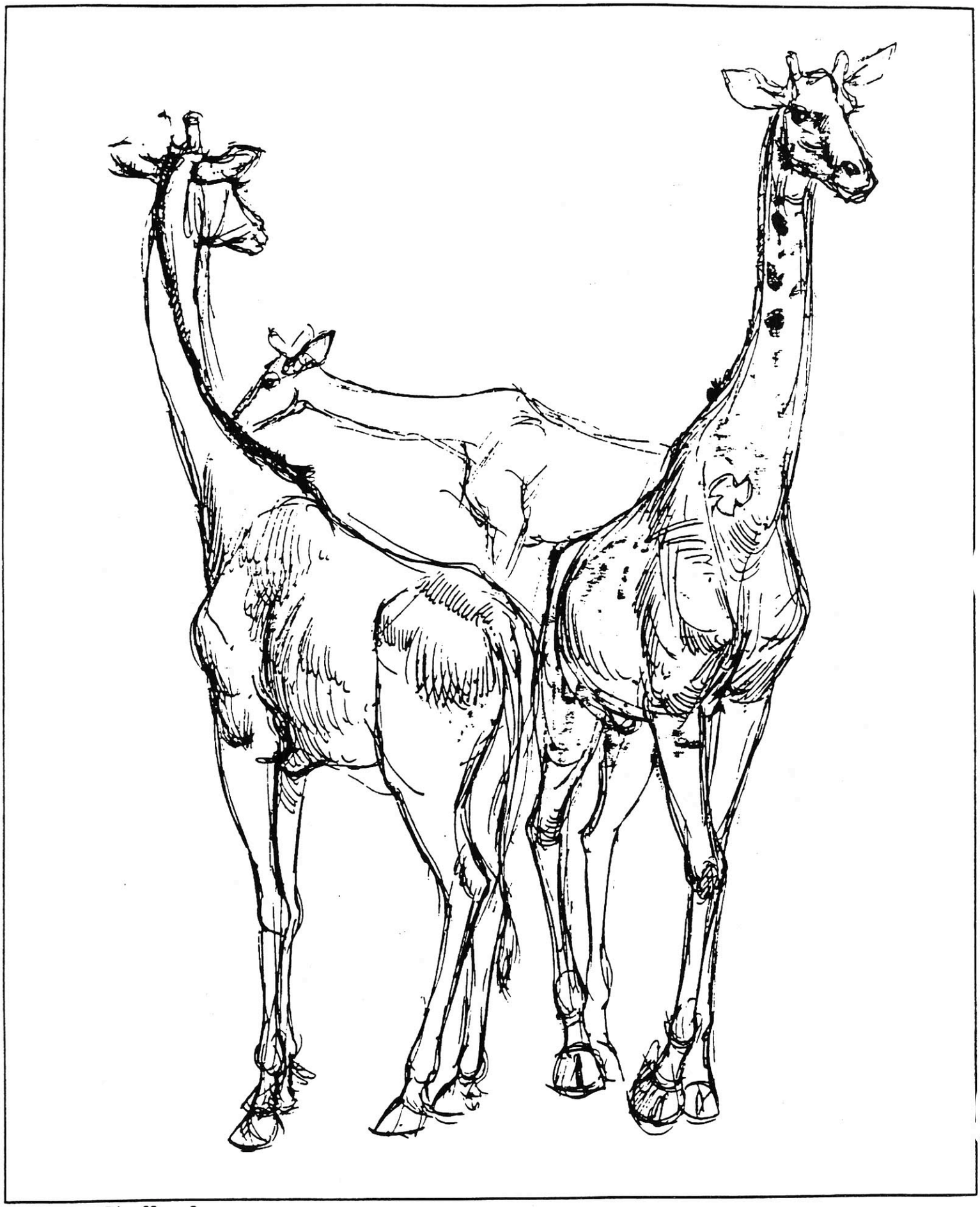


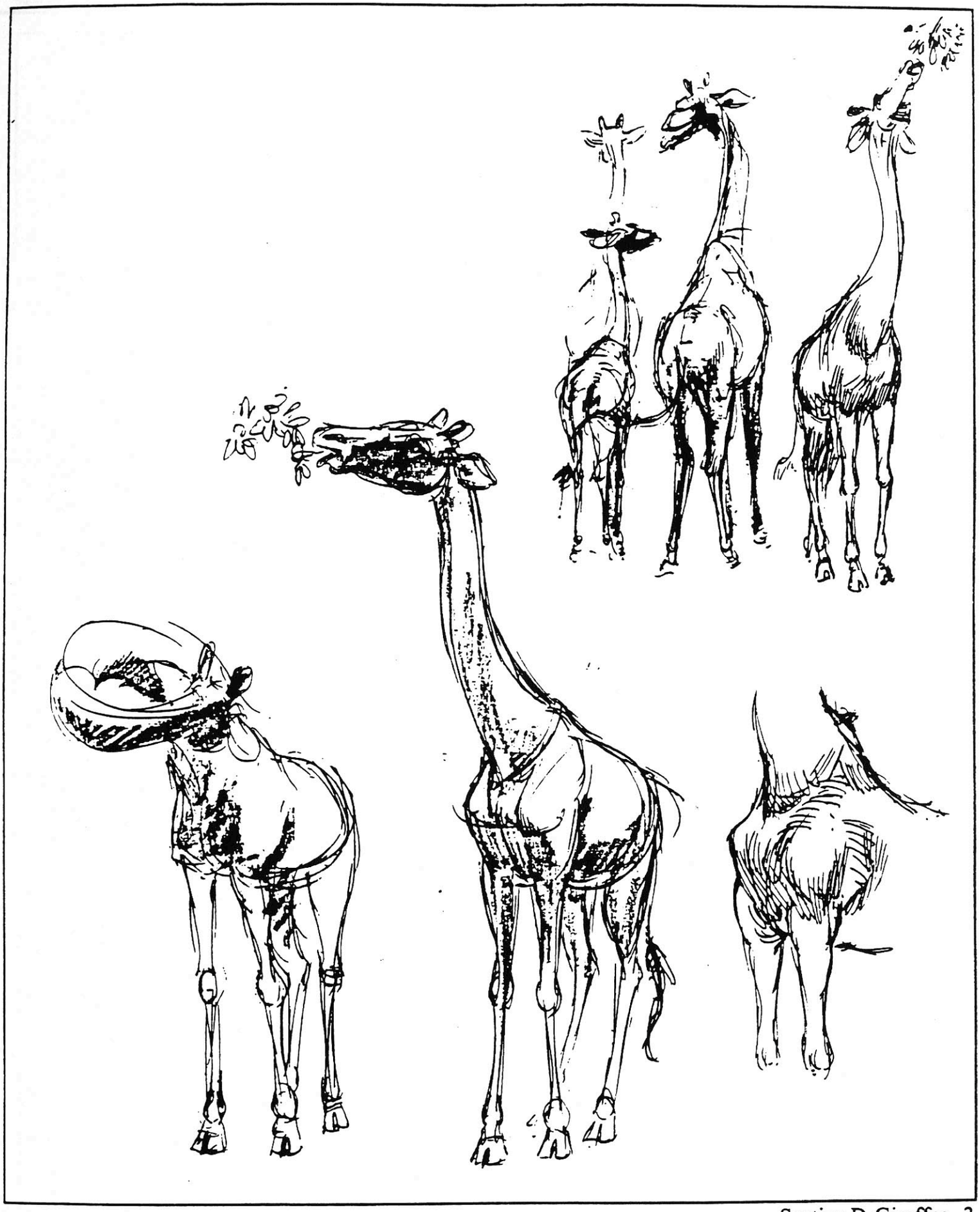
Meerkat

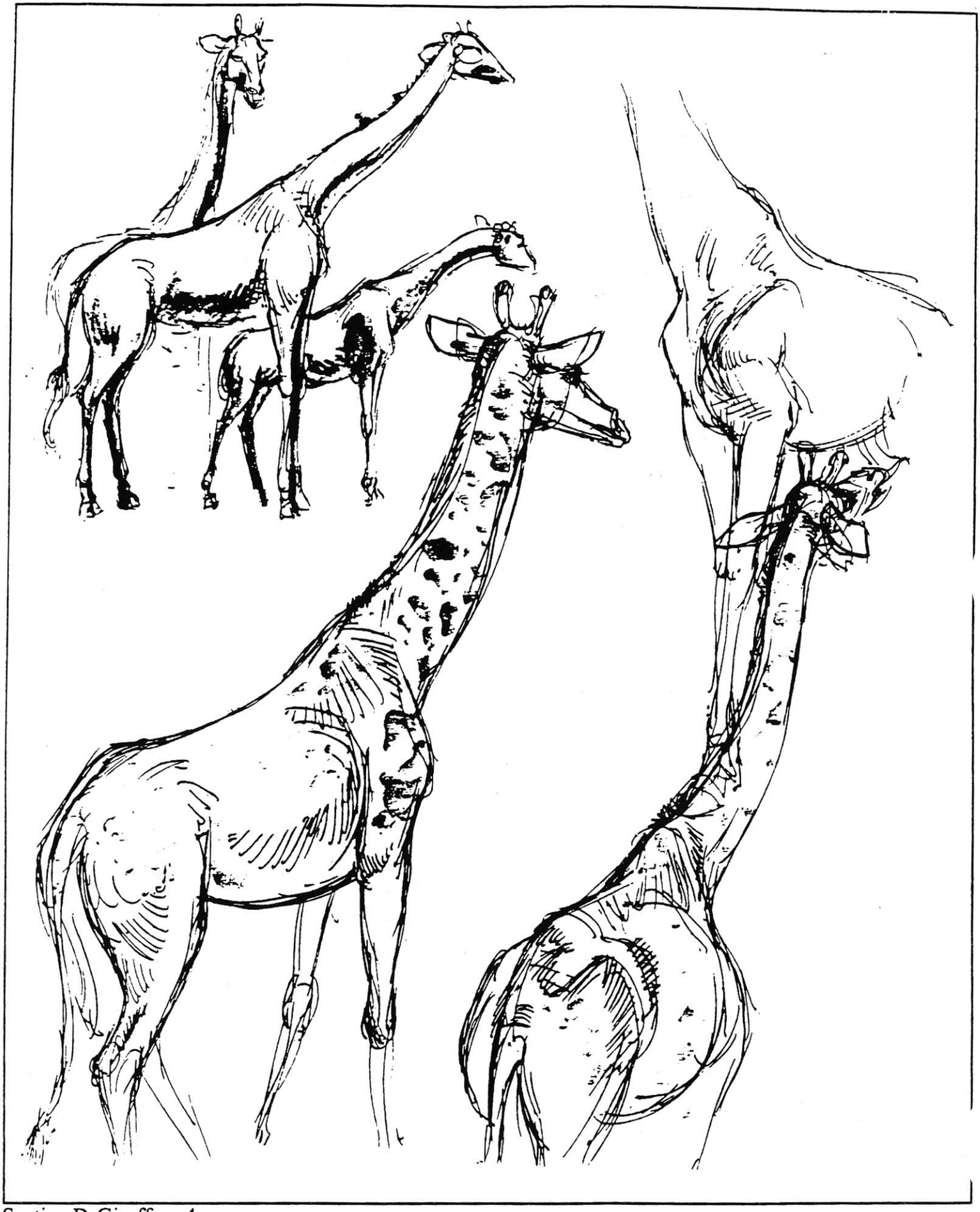


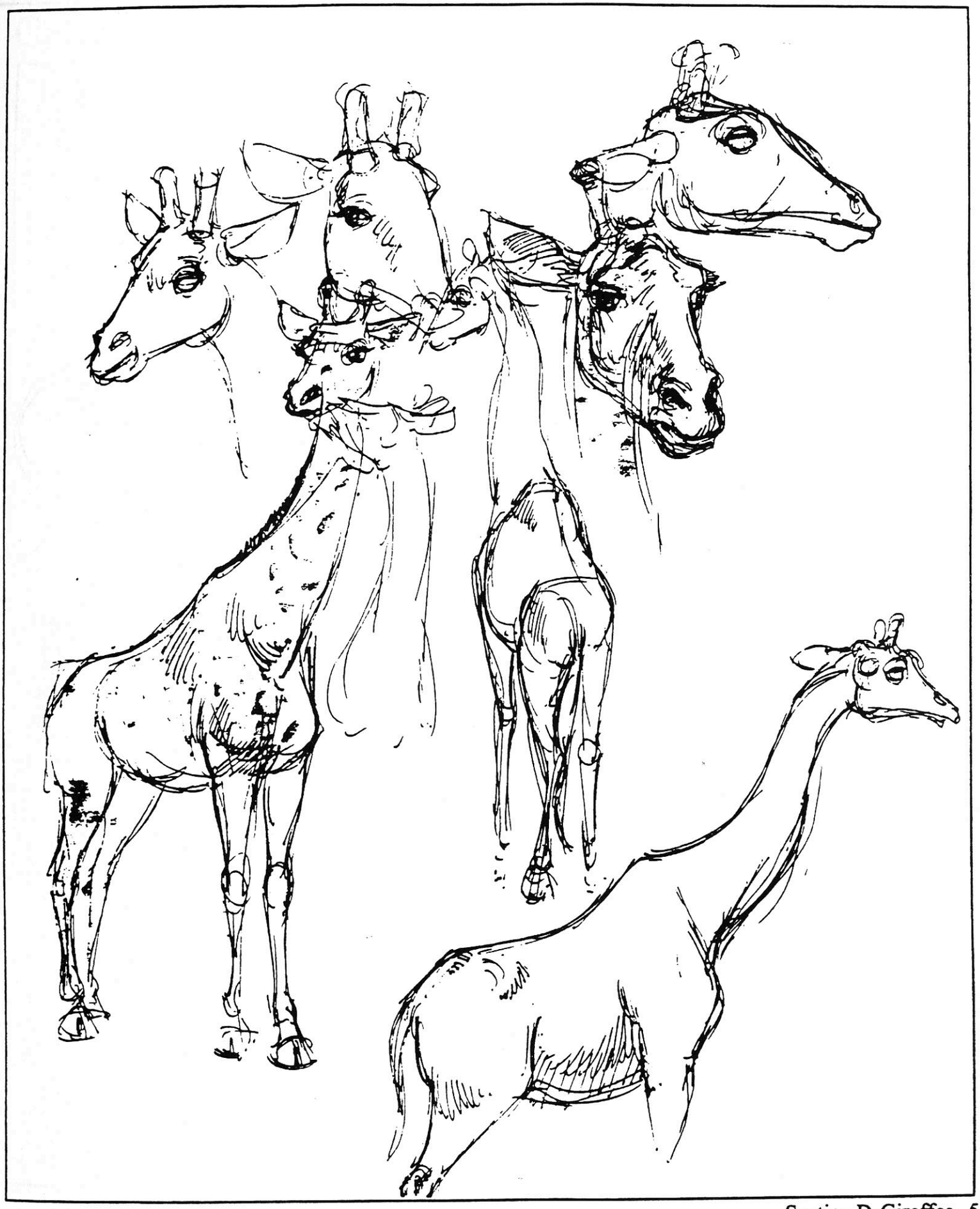
Giraffes

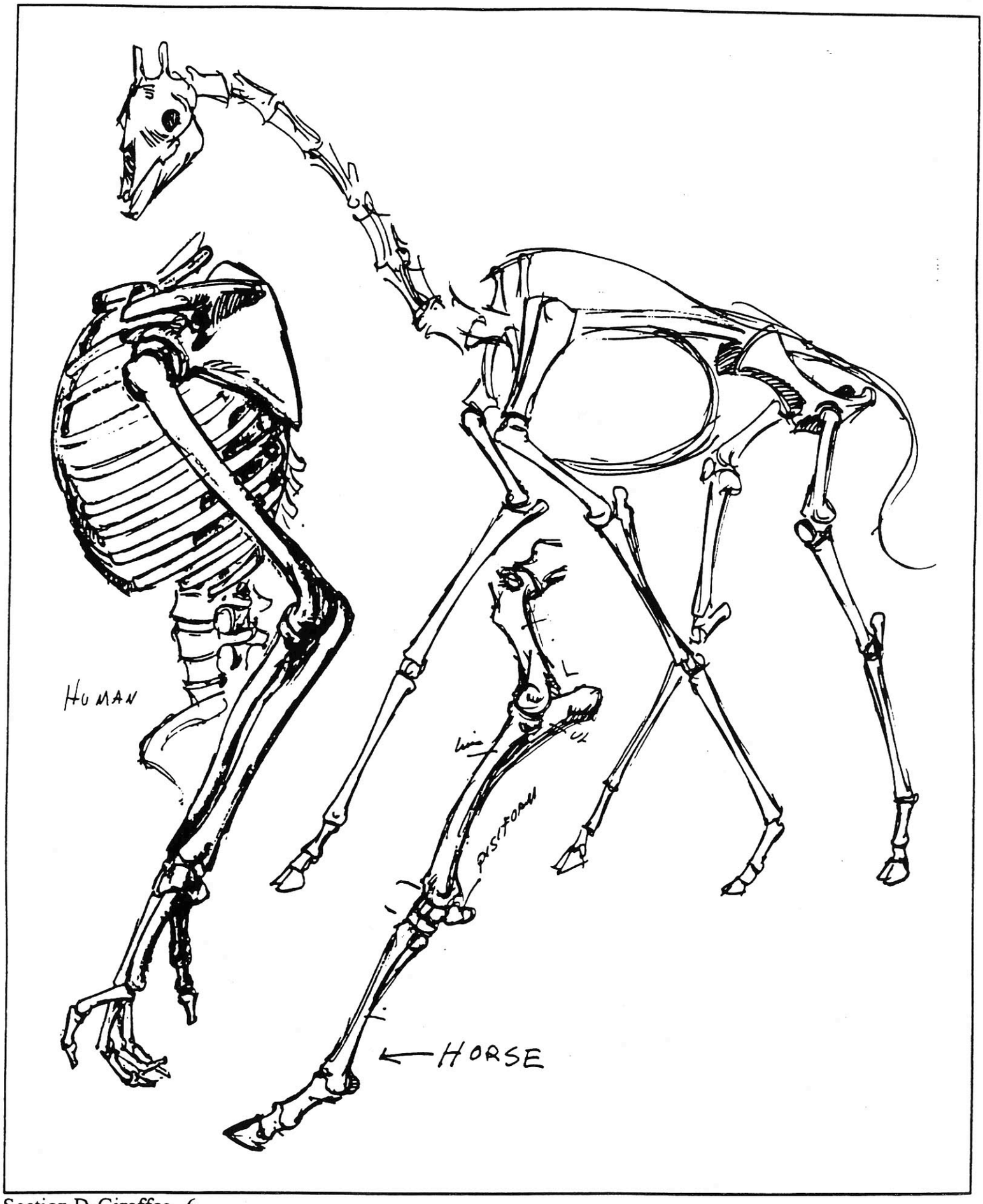




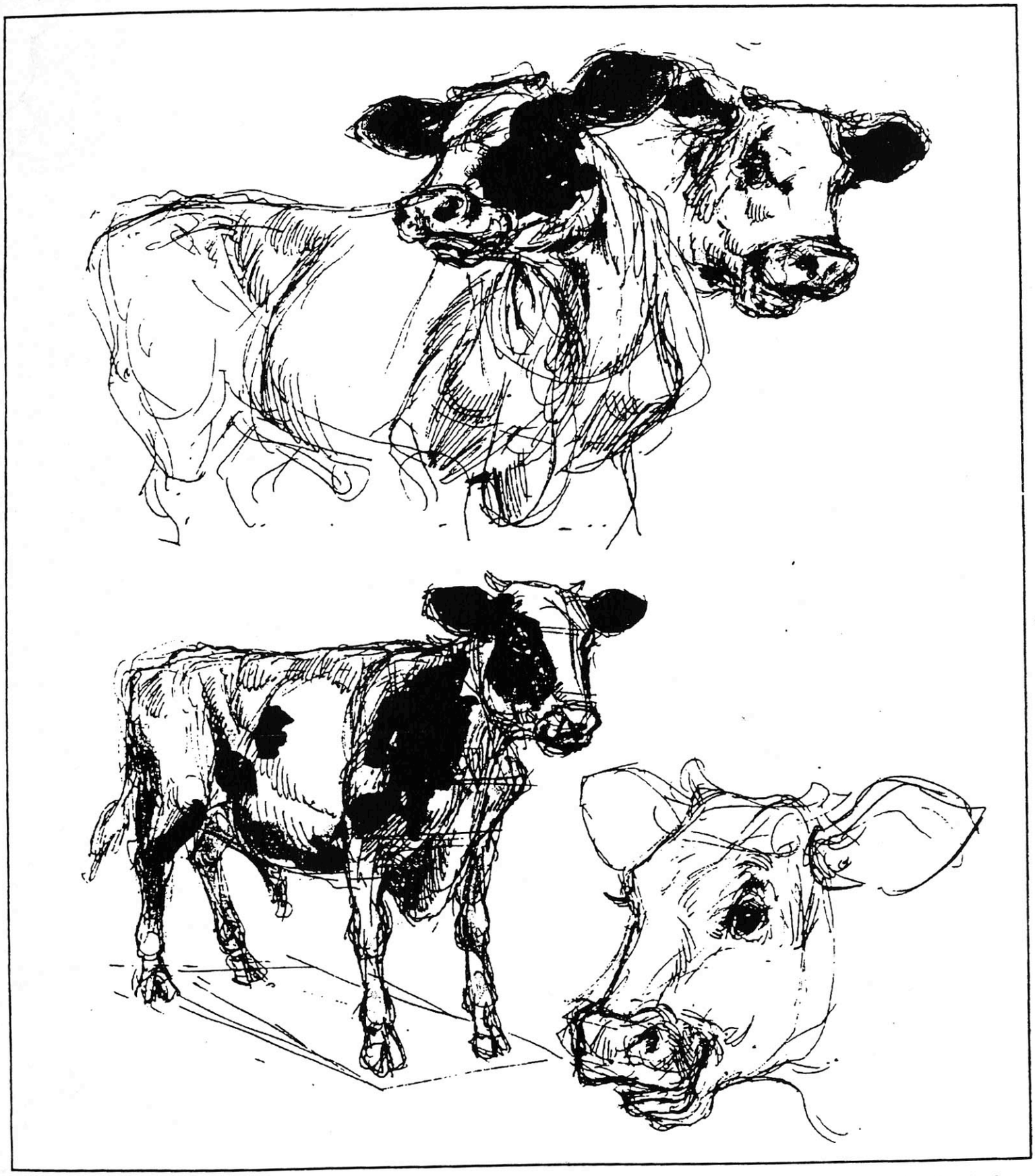


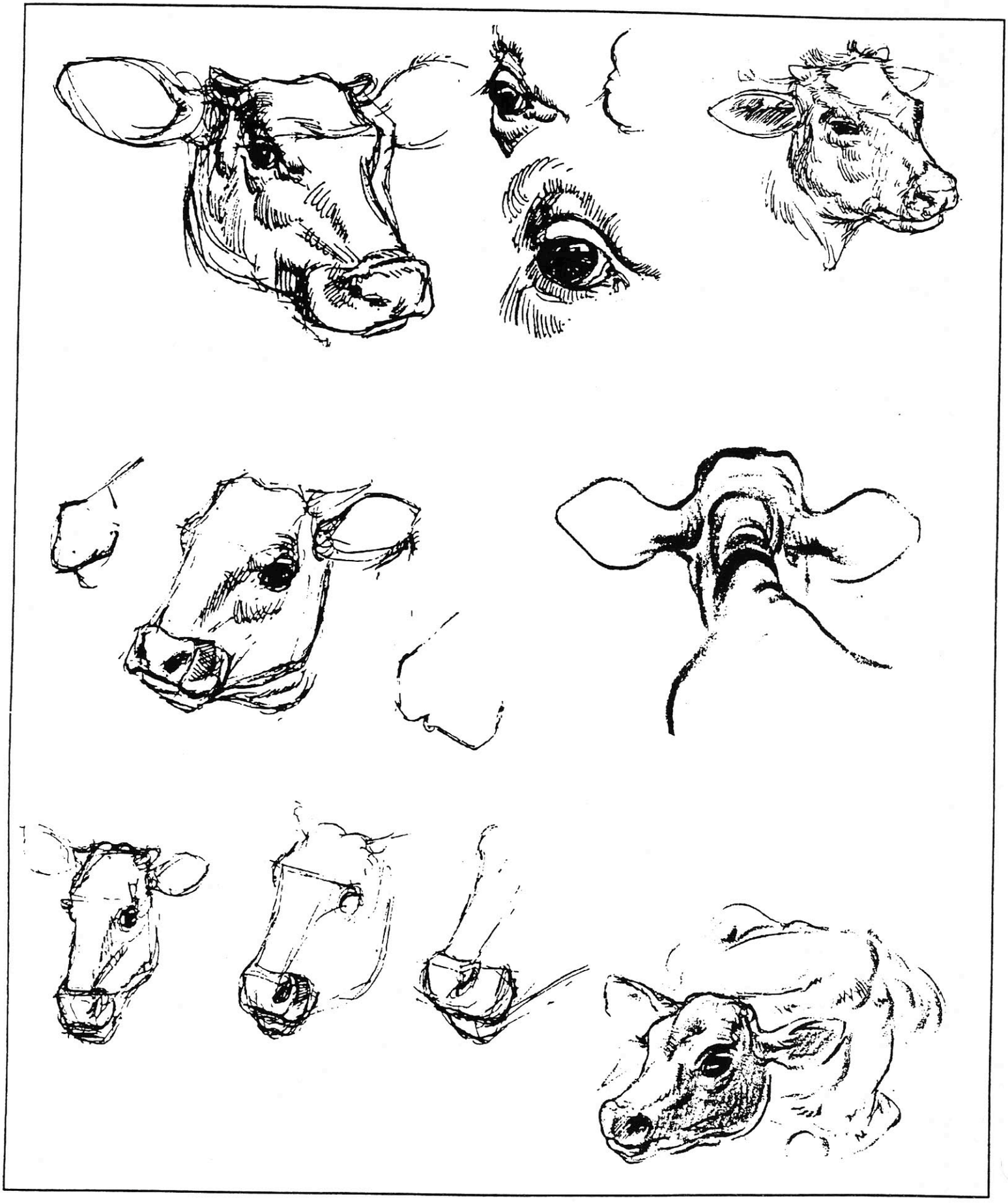


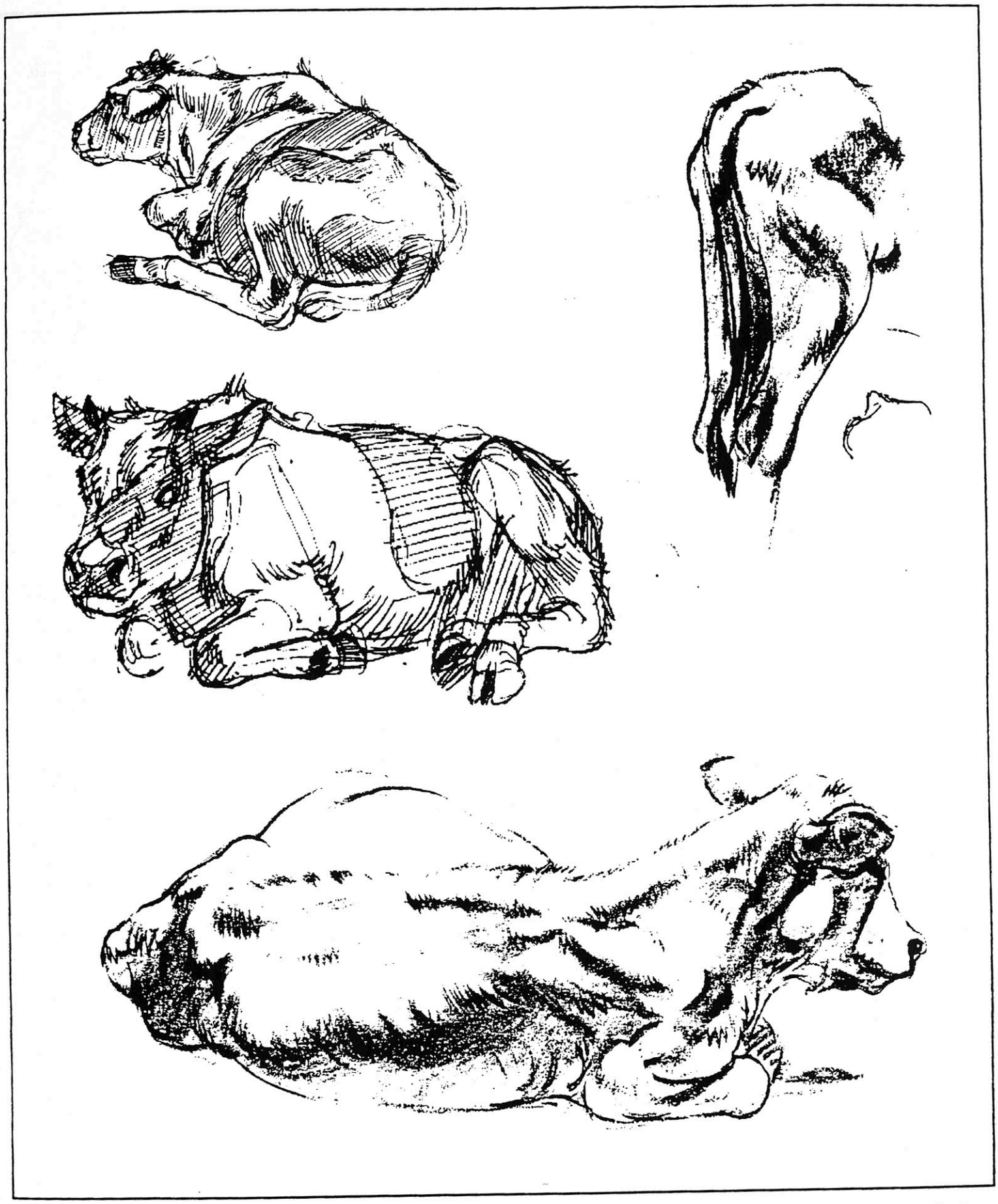


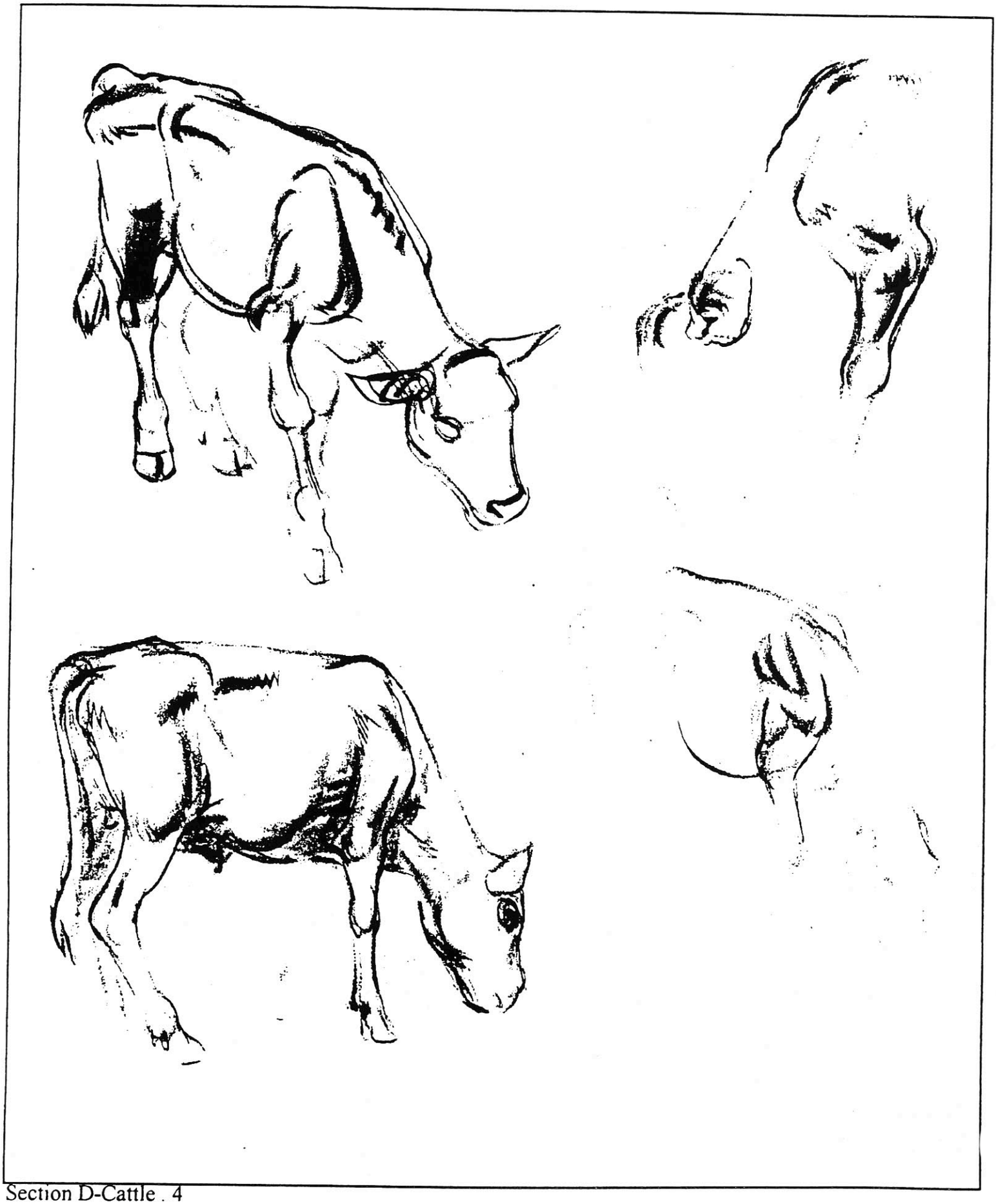

HUMAN
PISIFORM
HORSE

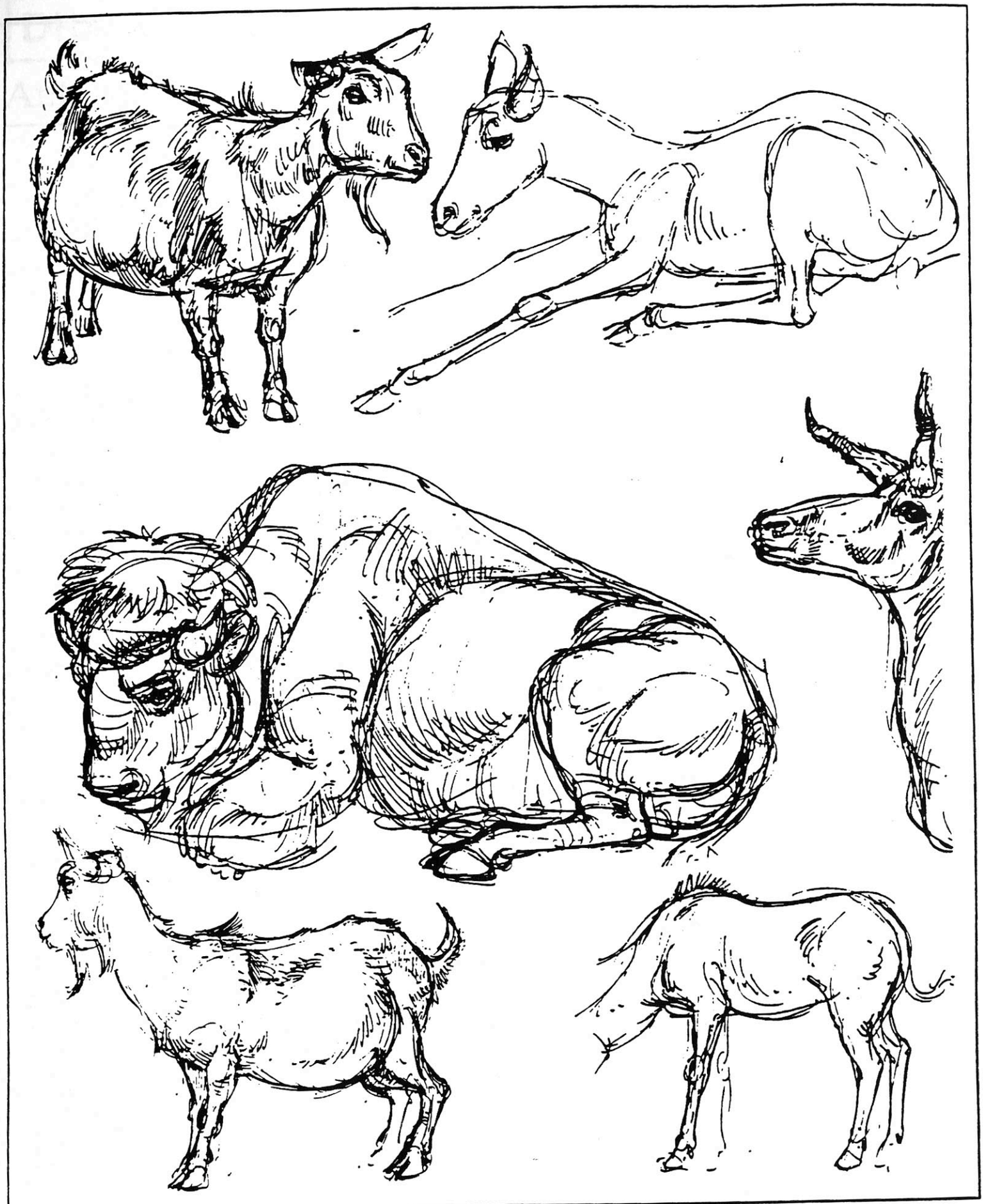
Cattle

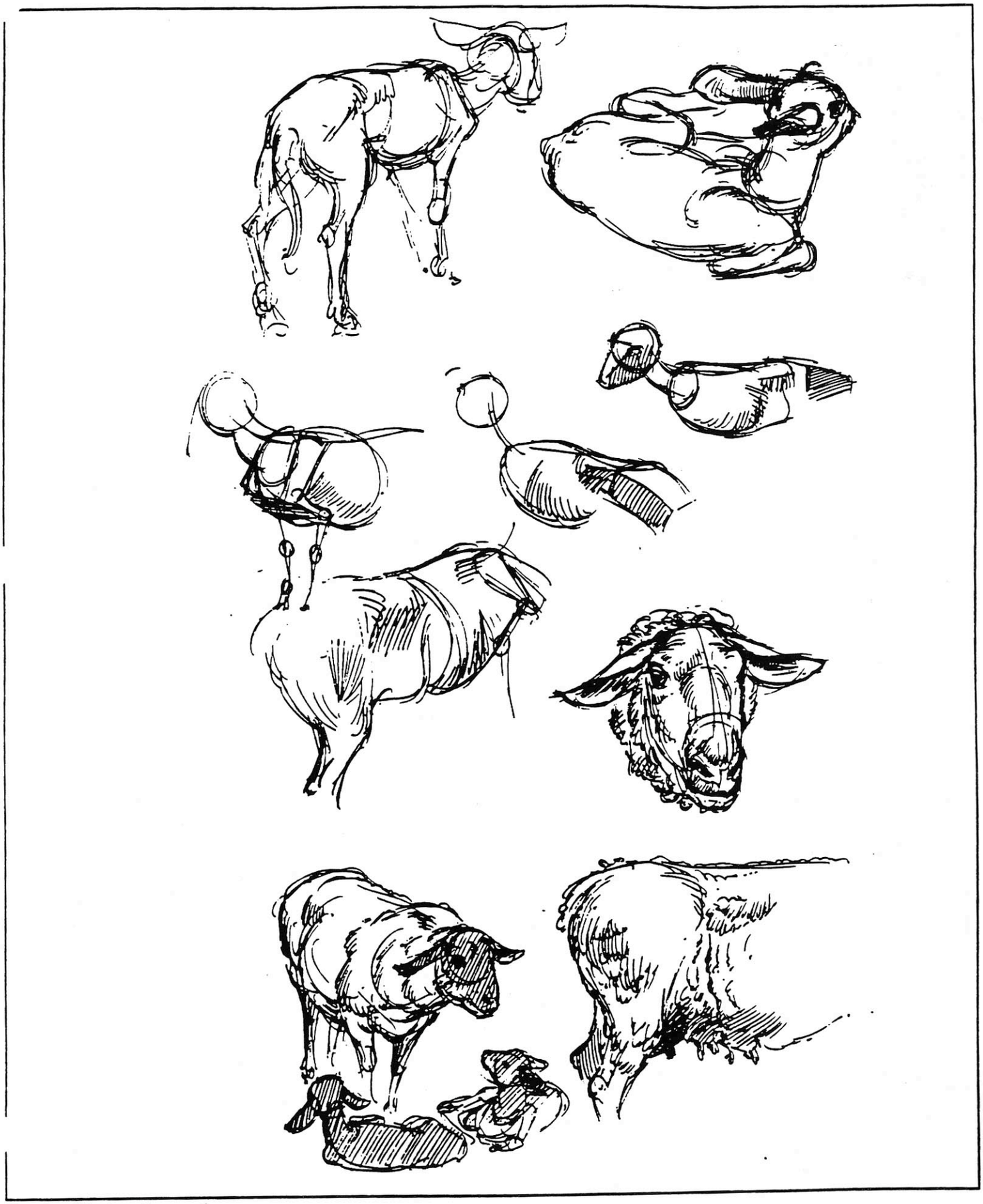




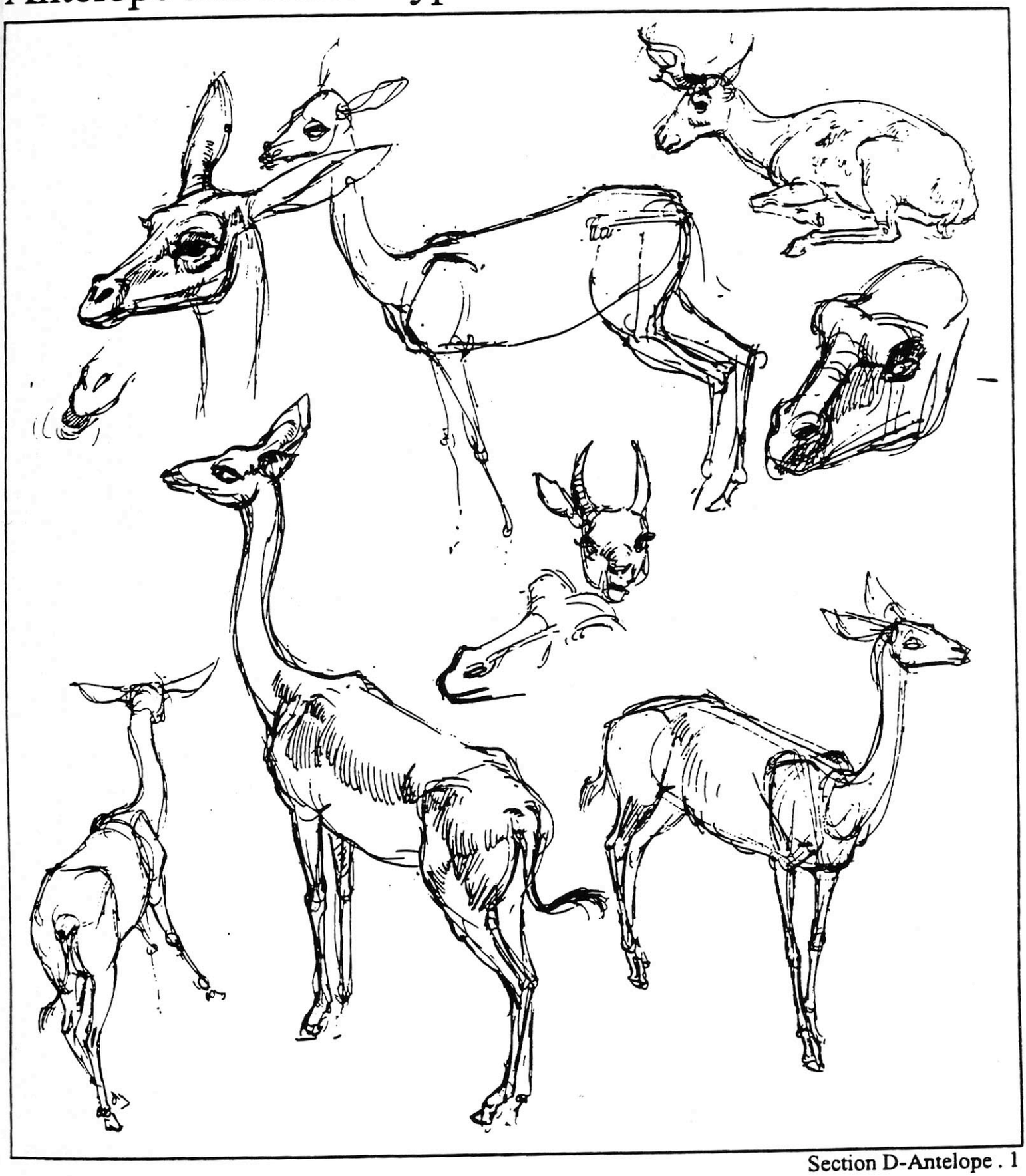


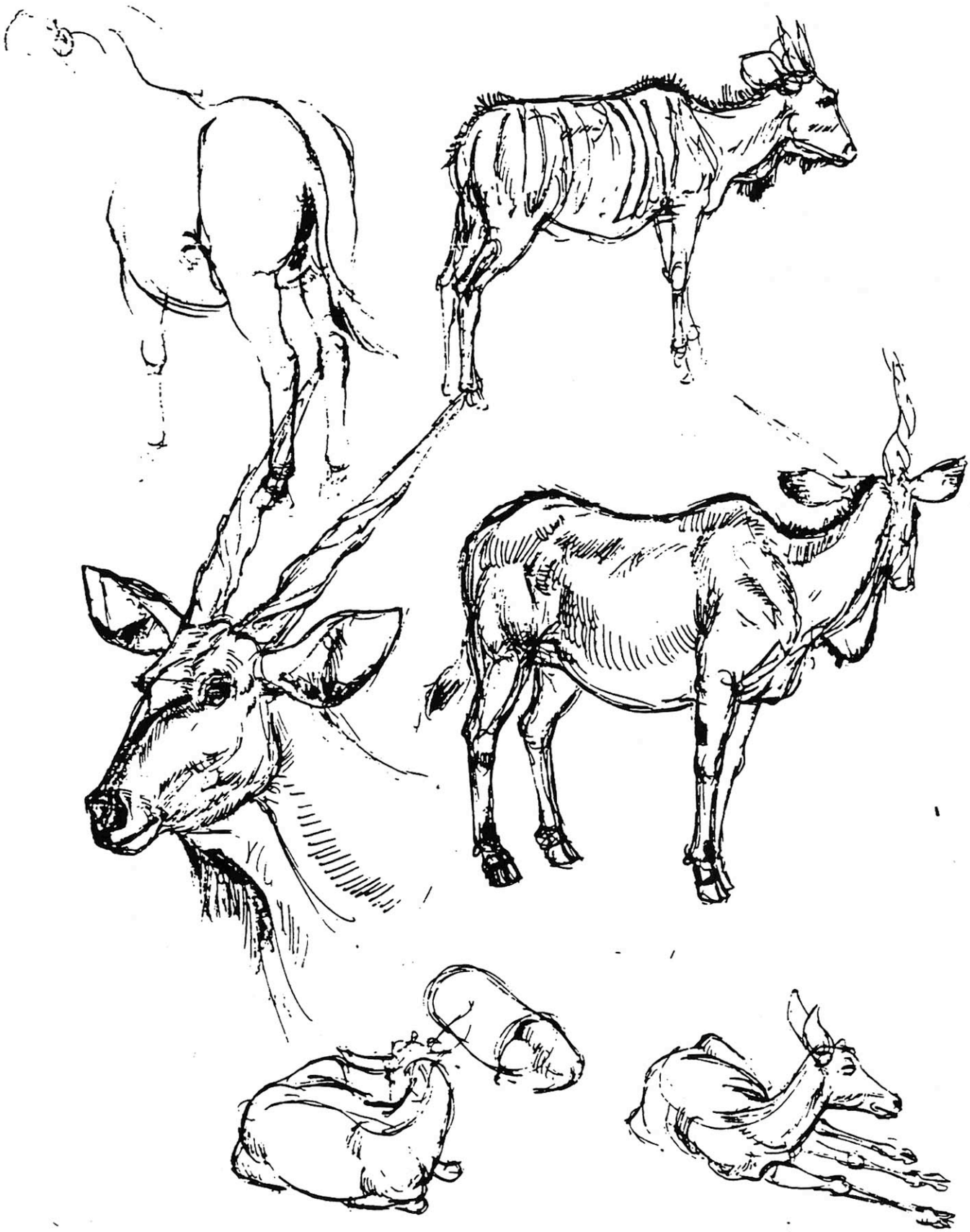


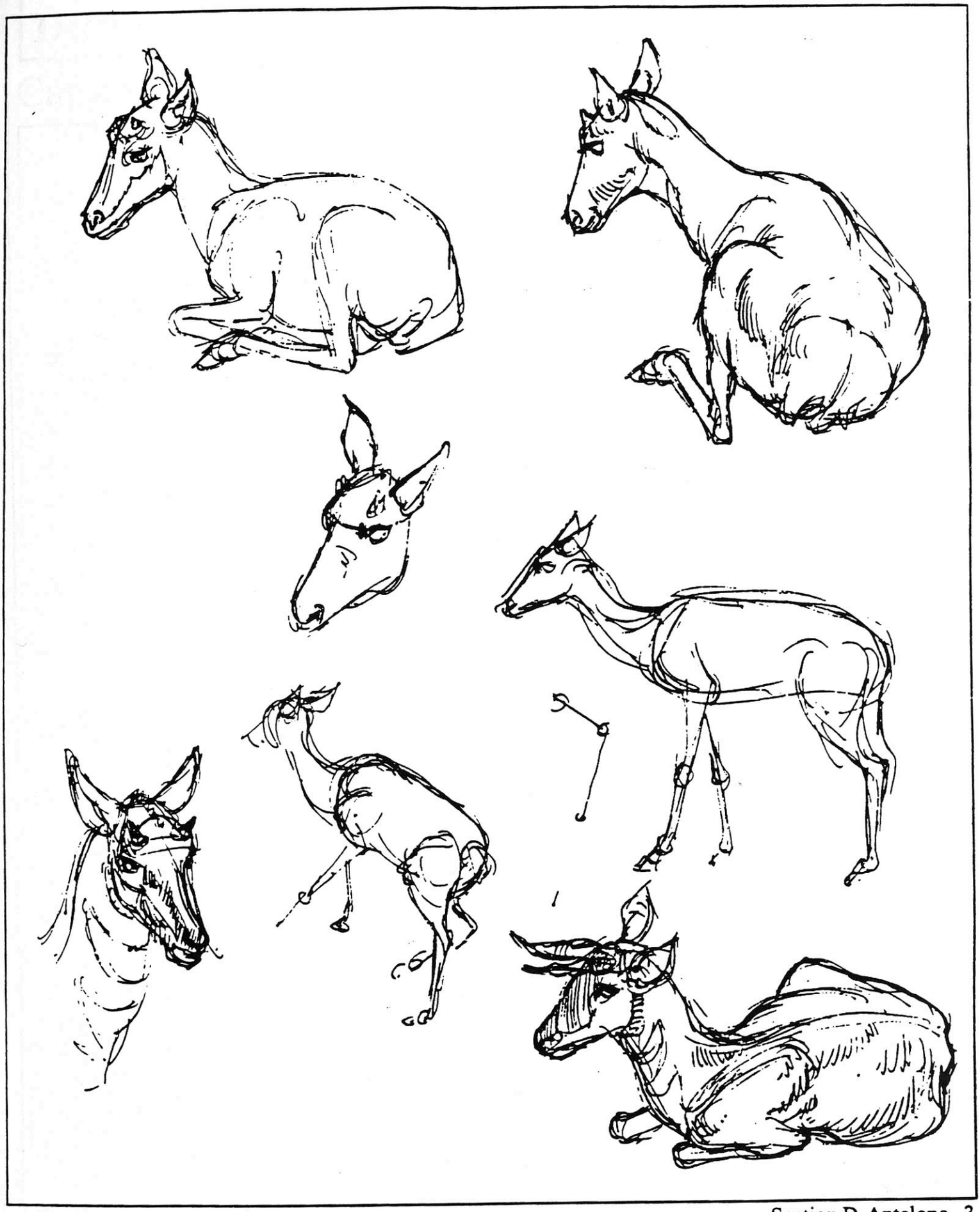




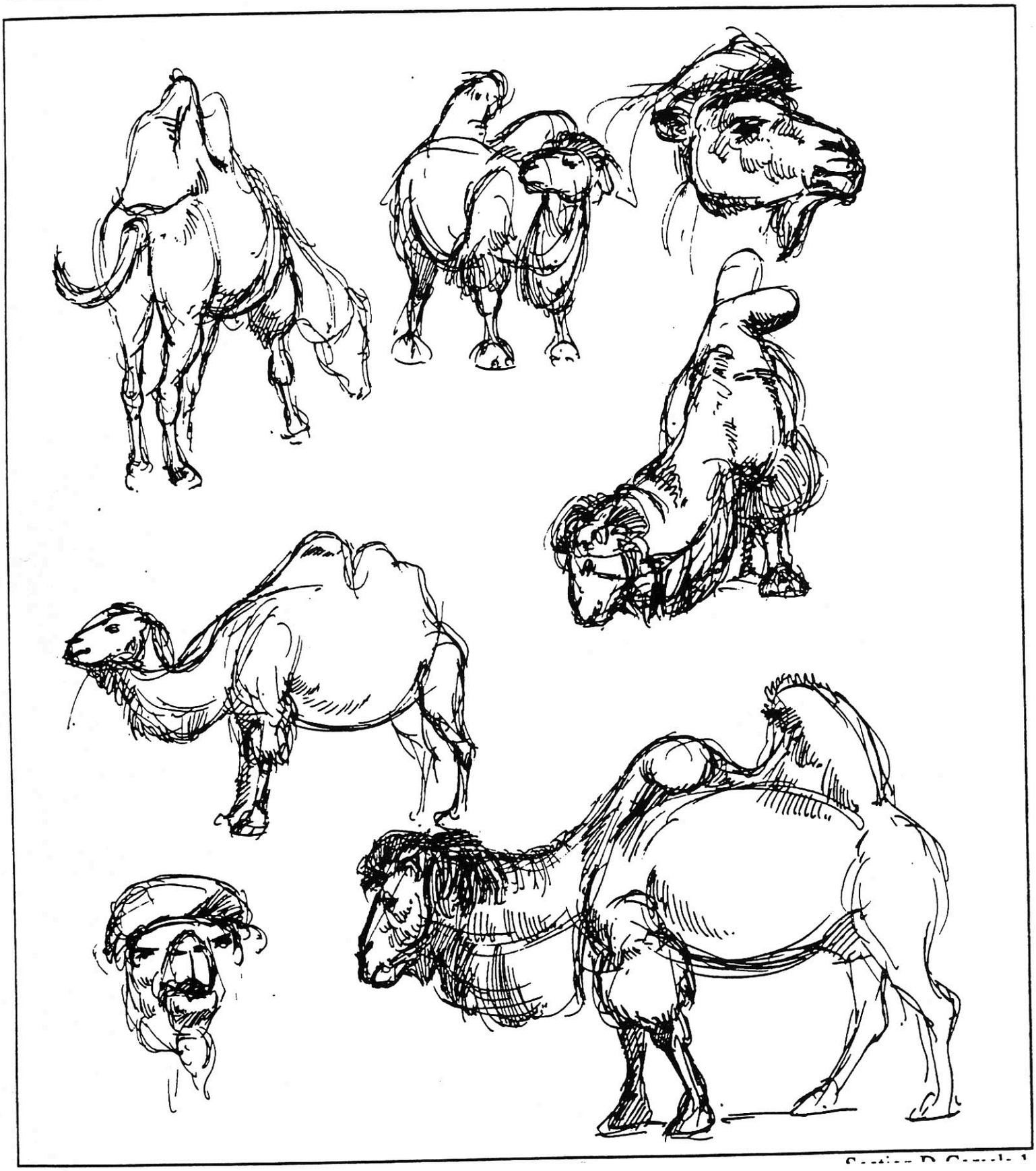
Antelope and related types

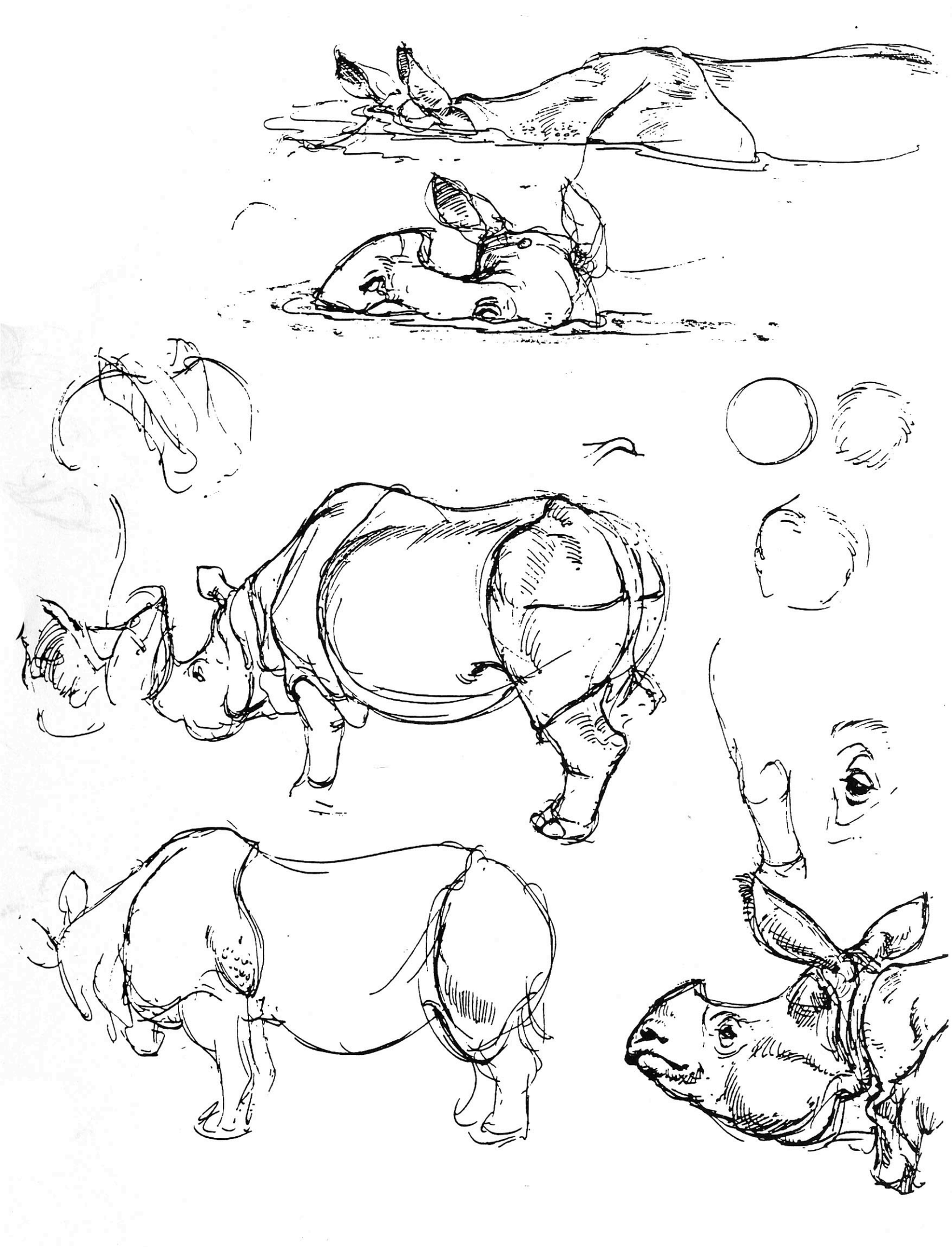


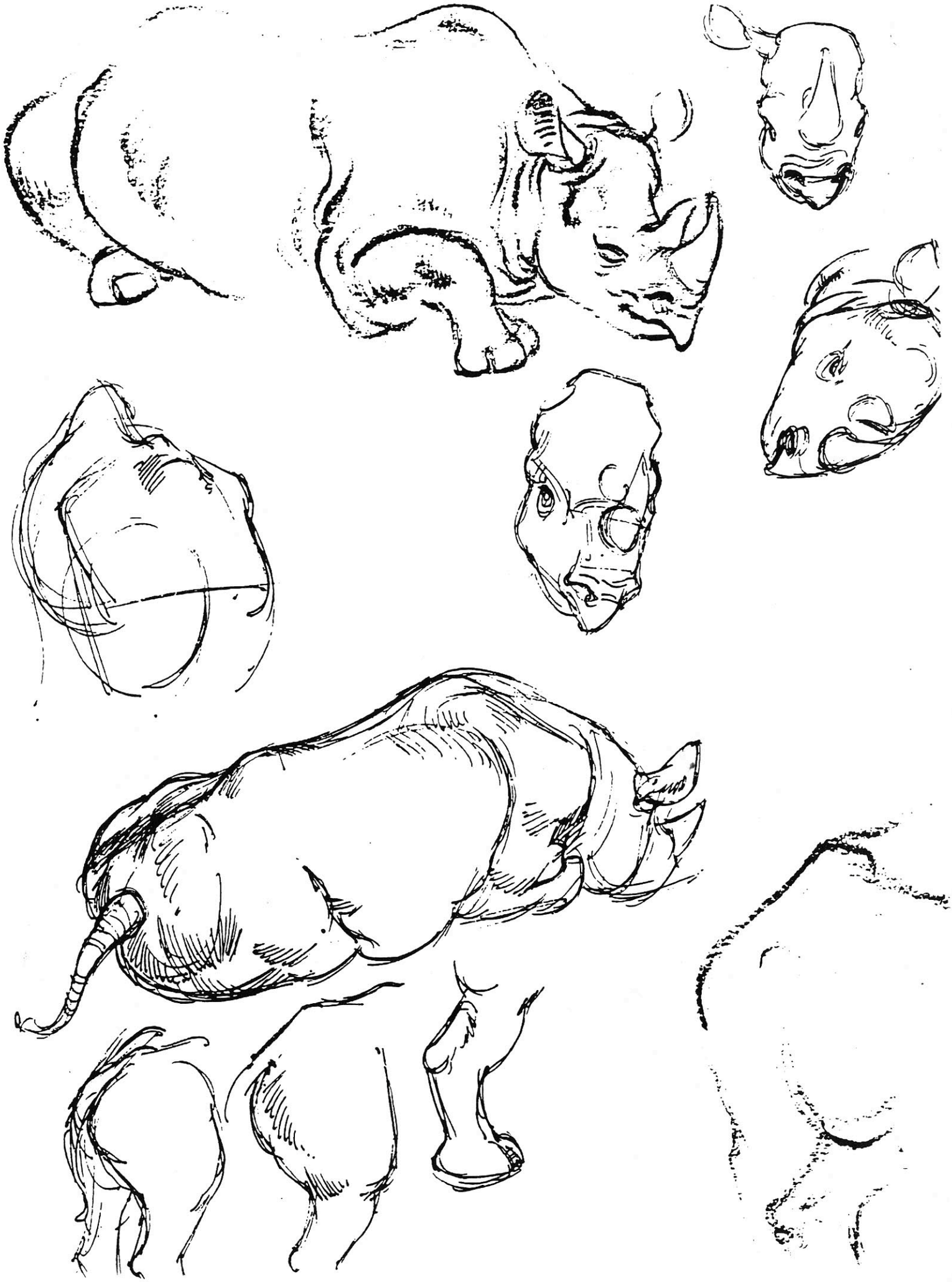




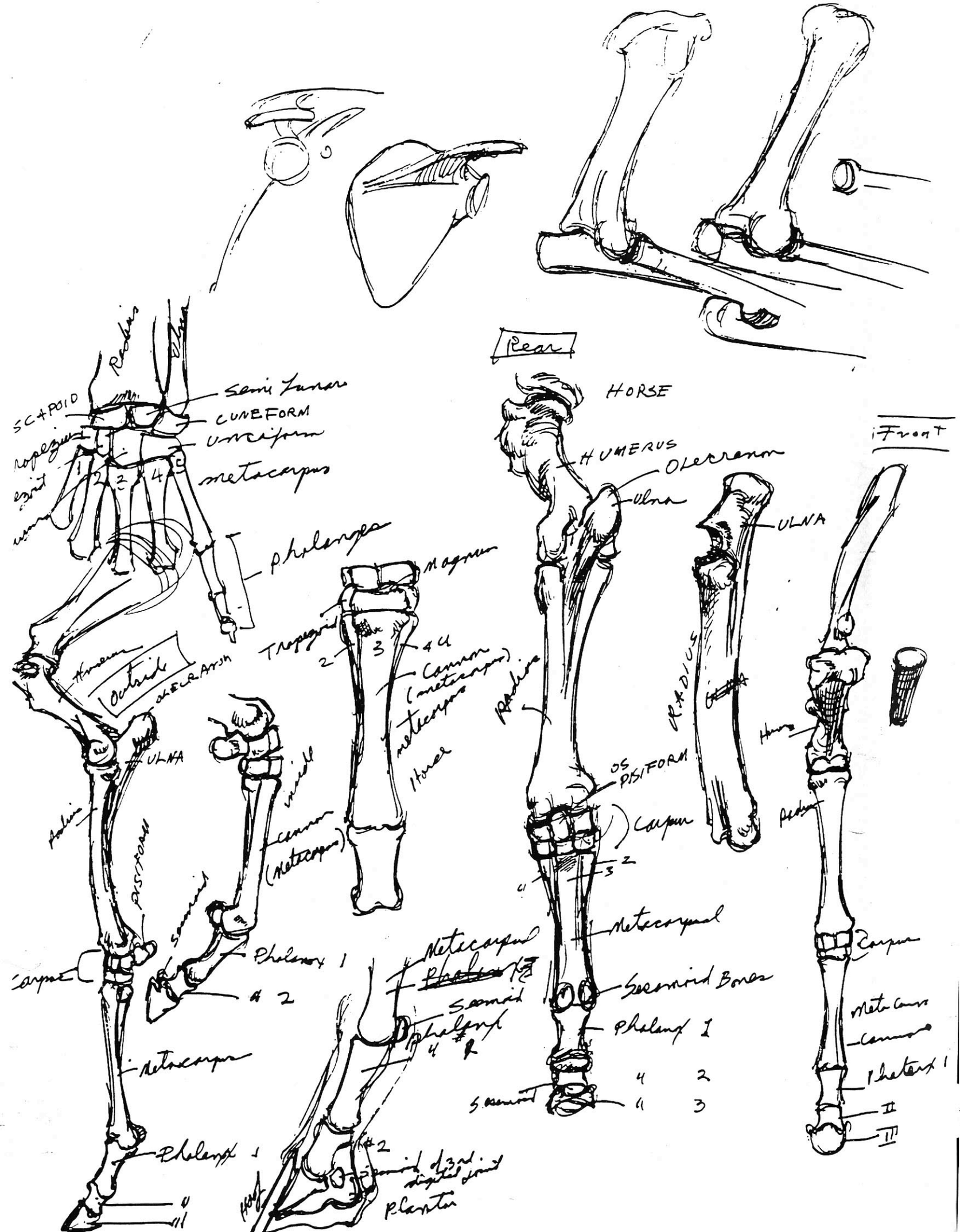
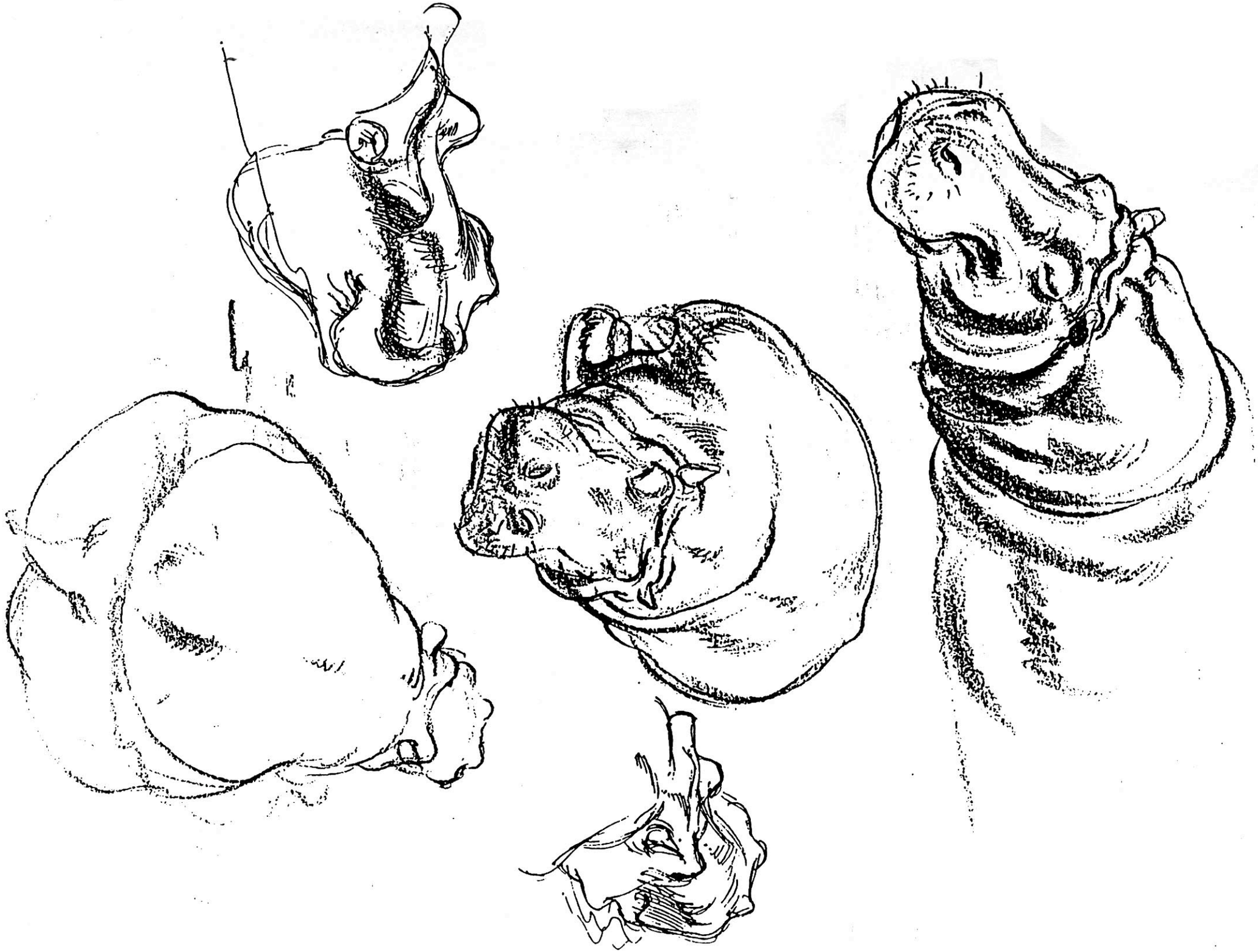
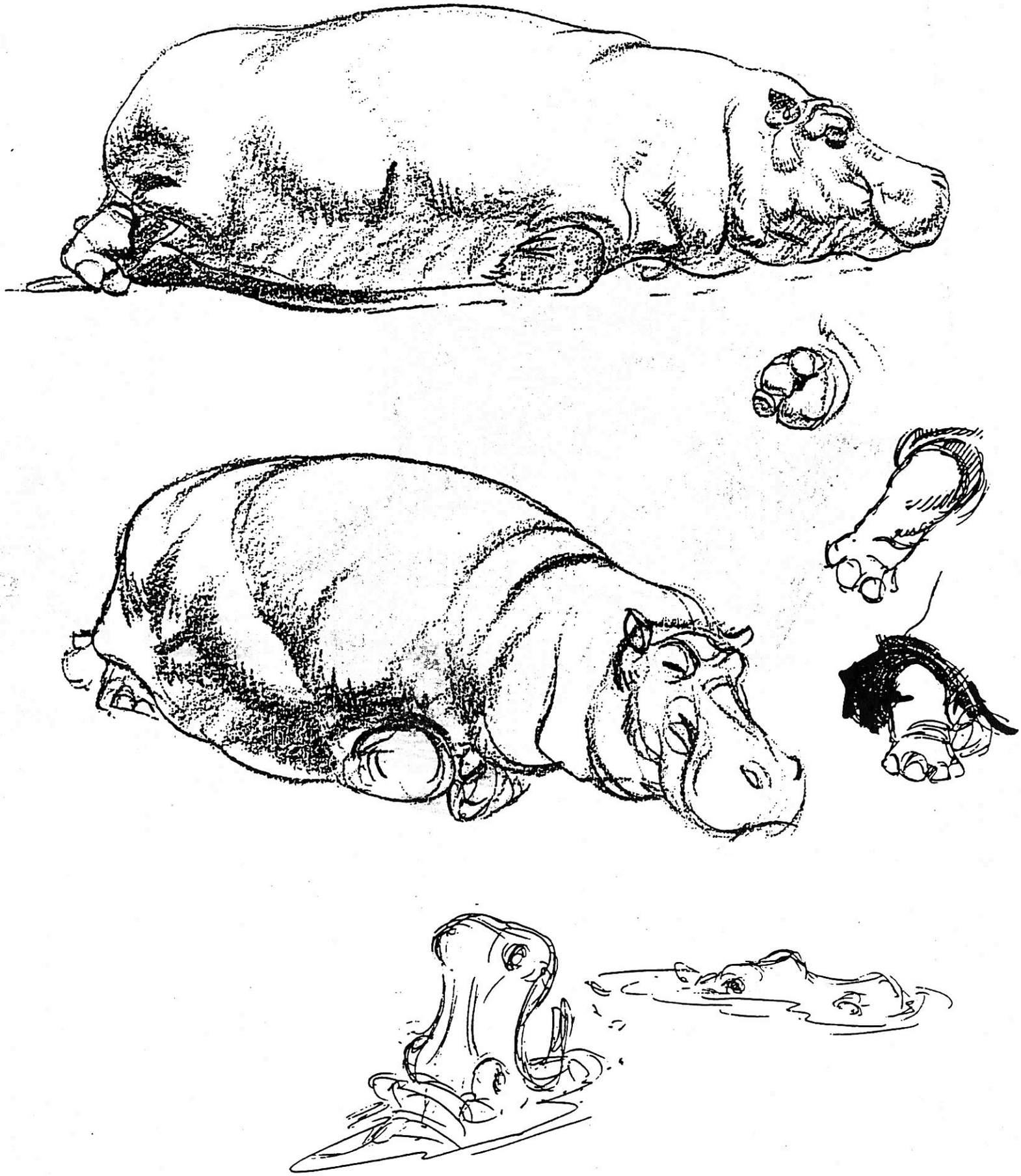
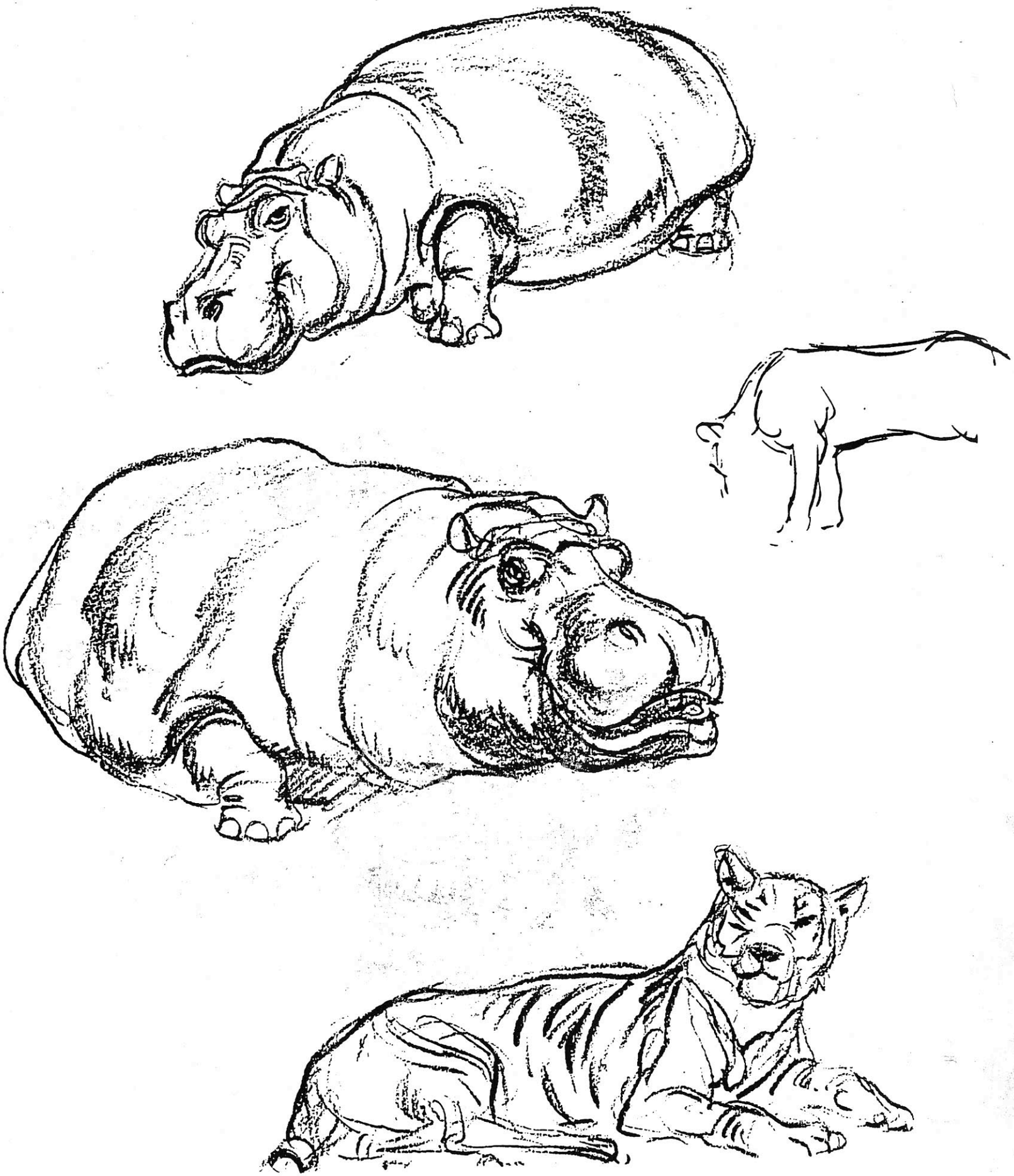
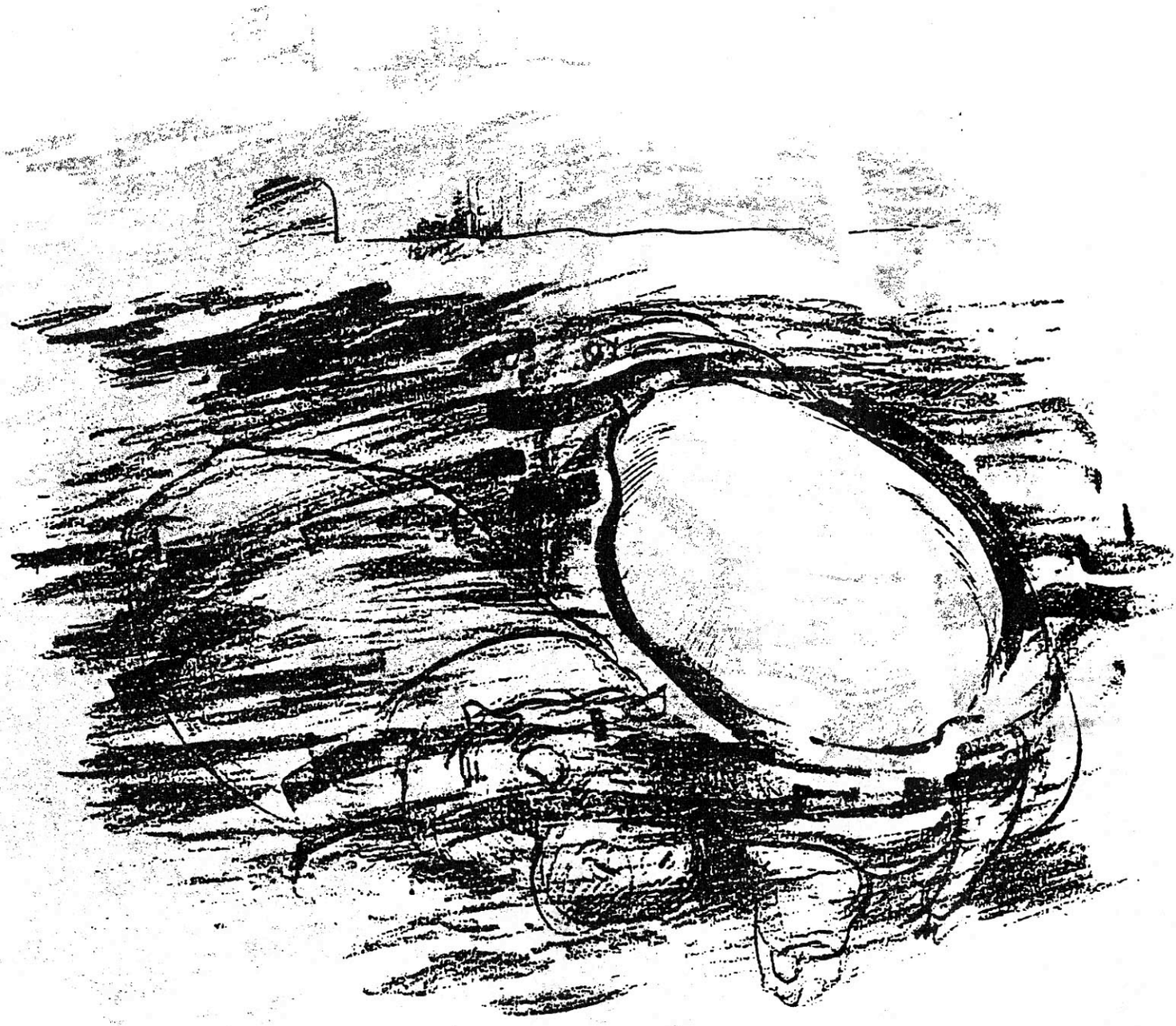
Camels







Rino



Rear
HORSE
HUMERUS
Olecranon
Ulna
ULNA
RADIUS
Front
Radius
Ulna
Semi Lunar
SCAPOID
CUNEFORM
Unciform
metacarpus
Phalanges
Magnum
Trapezoid
Cannon (metacarpus)
metacarpus
Horse
Outside
OLECRANON
ULNA
Radius
PISIFORM
Cannon (Metacarpus)
Sesamoid
Phalanx 1
Carpus
Metacarpus
Phalanx 1
Metacarpus
Sesamoid
Phalanx
Sesamoid
Phalanx 1
Sesamoid Bones
Phalanx 1
Sesamoid
Plantar
Carpus
Metacarpus
Cannon
Phalanx 1