The science of drawing. Being a progressive series of the characteristic forms of nature ... Part III. The human figure / By Frank Howard.

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FRANK HOWARD'S

SCIENCE OF DRAWING.

PART III.—HUMAN FIGURE.

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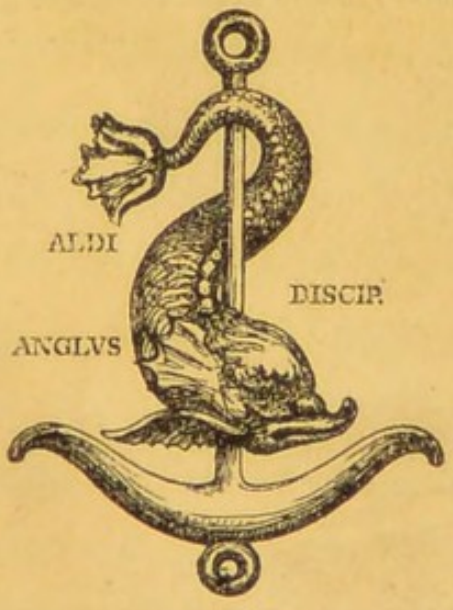
THE SCIENCE OF DRAWING

BEING A PROGRESSIVE SERIES OF THE CHARACTERISTIC FORMS OF NATURE

PART III—THE HUMAN FIGURE.

"Learn to sketch before you attempt to finish."
MICHEL ANGELO.

BY FRANK HOWARD.
AUTHOR OF THE "SKETCHER'S MANUAL," "COLOUR AS A MEANS OF ART," "THE SPIRIT OF SHAKESPEARE," ETC. ETC.



LONDON
WILLIAM PICKERING
1840

Two of far nobler shape, erect and tall,
Godlike erect, with native honour clad,
In naked majesty seem'd lords of all:
And worthy seem'd; for in their looks divine
The image of their glorious Maker shone.

. . . . . .

For contemplation he and valour form'd;
For softness she and sweet attractive grace.

MILTON. PARADISE LOST.

LONDON
C WHITTINGHAM TOOKS COURT
CHANCERY LANE

PRELIMINARY OBSERVATIONS.

In treating the subject of the present part, great care has been taken to render it as universally useful as the nature of the Human form would permit. The descriptions have been made as free from technical language as compatible with clearness; and the Author may be permitted to express his regret at the deficiency of some method of describing, in language generally intelligible, the precise nature of curves, without which it is scarcely possible to communicate with accuracy the idea of animal forms. The present work is not the place in which any plan, or discussion thereon, could be introduced; but under the circumstances, he must throw himself upon the consideration of the reader for any imperfect description, or apparent want of connection of the important parts, by reason of the omission of those which are

less important. The Human figure being under every one's eye, it has not been thought necessary to be so diffuse in enumeration and description of the several divisions of the frame, as in those of Quadrupeds, which are not so universally known. Every individual can test the extent to which his body or limbs have the capability of motion, and what position he can assume without distortion. The effects of Perspective upon the forms of the body and limbs when seen from different points, have not been alluded to, as they belong to a class of study which should be undertaken by itself, and will be found separately treated by the Author in a forthcoming work called Imitative Art. The forms themselves should be studied without relation to any particular views, and the means of representing them will be attained insensibly. The art of making the most of those forms by situation, will be added without the slightest difficulty, when the knowledge of the forms has been attained. It is the misfortune of all works on Drawing, that

they must shew particular views of the several objects; but the student will do most wisely who will take the description of the forms, and, comparing them with nature, fully appreciate the shapes, and attempt to draw his own view of them. The present series of works have been especially prepared in such a manner, as to be books on Drawing, and not Drawing books. It has been stated with truth, that every man educates himself in the most important points; and he will not do this the less easily, that certain landmarks or guides are communicated to him. Such guides, it has been the endeavour of the Author to supply: but he cannot omit to state, that the true method of education, and one which he would recommend to all those who are so situated as to be enabled to obtain the requisite assistance, would be, to have the moveable and variable portions of the form distinguished from the unalterable parts,—the alteration when under the influence of motion or excitement pointed out; and the general alternation of flatness and

curve explained from an example of strongly marked character, before they attempt to put pencil to paper. They should be made to study the form, length, and variation of every line, and be able to describe it in words, before they try to transfer it to paper: they should then devote their whole and undivided attention to drawing the line as they understand it to be: and the mechanical action of putting it down, even in a masterly manner, will be easily and speedily acquired.

CONTENTS.

CHARACTERISTICS OF HUMAN BEINGS.

The Characteristic forms of Trees, of Quadrupeds and Birds, had, until the publication of the two preceding parts of the present work, remained unnoticed, or undistinguished:—The reader and student are now conducted to a subject which has been the speculation of many able and ingenious men of all ages, from the earliest commencement of the art of representing forms,—the Characteristic forms of Human Beings.

The Egyptians had evidently reduced the Human form, as well as, probably, the forms of many, if not all, animals of the brute creation with which they were acquainted, to a type or diagram depending upon accurate

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measurement, rather than upon art, but which contains the germs of all the exquisite forms to which the Greeks added life, character, and expression. It is to be regretted that some account of this analysis, or the type, its result, has not been discovered. Flaxman, indeed, tells us, upon the authority of Denon's examination in Egypt, that the statues are generally seven heads and one-third in height;—in another place, says, the best statues are seven heads and a *half*, and that the whole height is divided into two equal portions, of which the head and trunk form the one, and the lower limbs the other; but the almost identity of all the best Egyptian statues in the details of the form, especially of the head and trunk, manifest a much more extensive system of regular proportion.

Dædalus, the supposed originator of Greek art, is stated to have measured the Egyptian statues, and probably derived his own ideas of form from what he was thus able to discover; but the system was not revealed to

him, or, if it were, in the attempt to add motion, by detaching the arms from the sides, and the legs from each other, he lost the benefit of his information. The Greeks gradually improved the Dædalian form, added life and expression, and having fixed a standard in Polycletus's Lance-bearer, which was thence called "the Rule," deduced a very complete system, of which, unfortunately, only a few fragments have been preserved. "The Rule" is destroyed or unknown; and Leonardo da Vinci in vain essayed to discover the three scales of proportion mentioned by Vitruvius. But to these endeavours we are indebted for a considerable portion of what is requisite in the present work,—the geometrical and numerical scales of proportion: the harmonic scale is not of importance to the class of readers and students to whom the following pages are addressed.

There appears to be a considerable variety in the numerical scales of proportion, as given by subsequent writers, who have carried the

measurement into minutiæ not mentioned by Leonardo da Vinci. A selection has therefore been made of such parts of each as are adapted to beginners and learners of form, by simplicity and evident connection; at the same time keeping in view the strictest regard to the essential characteristics of fine form.

CHAPTER I.

CHARACTERISTICS OF HUMAN BEINGS.

SECTION I.

General Character of the Class.

THIS class differs greatly in general character from the two preceding, in the form of the head,—in the form and functions of the anterior limbs,—in the form and position of the body,—in the form and situation of the posterior limbs, and in their application to support and motion.

The head has no facial projection, as in the snout of Quadrupeds, and in the beak of Birds: but the facial line is nearly vertical, and the general form of the head approaches that of the letter D. (Plate C. Fig. 1.)

The anterior limbs are no longer applied to the purpose of progression, but have a much greater developement of capacity, and a much greater latitude of motion, than in

the other classes of animals. (Plates B. C. and E.)

The body is materially altered in form by the detachment of the thighs from the abdomen, and is erect in position.

The thighs or upper portion of the posterior limbs, which in the preceding classes are folded up to, and nearly concealed in the body, in this class are extended in a line with the erect trunk, and with what are the lower parts of the legs of Human Beings, but which correspond to the upper parts of the hinder limbs of Birds and Quadrupeds. The whole figure is supported or based upon what, in Quadrupeds, forms the lower parts of the hind legs ; the heel corresponding with the hock of Quadrupeds. (Plate C. Fig. 1.)

The varieties in the Human form are principally confined to the differences between the adult male and female, and children. In the classes Quadrupeds and Birds, the most obvious distinction between the sexes consists in the decoration of the head with horns, or a crest, or in some difference of colour; but

the variation in general form requires a practised eye to detect it. Not so in the Human Being: the difference is very apparent both in the width of the hips and shoulders, and in the shape of the bosom. The varieties in Quadrupeds and Birds are mainly to be found in the extremities; the varieties in Human Beings are found in the trunk.

The general characteristic form of the Human Being will best be developed in that of an adult male.

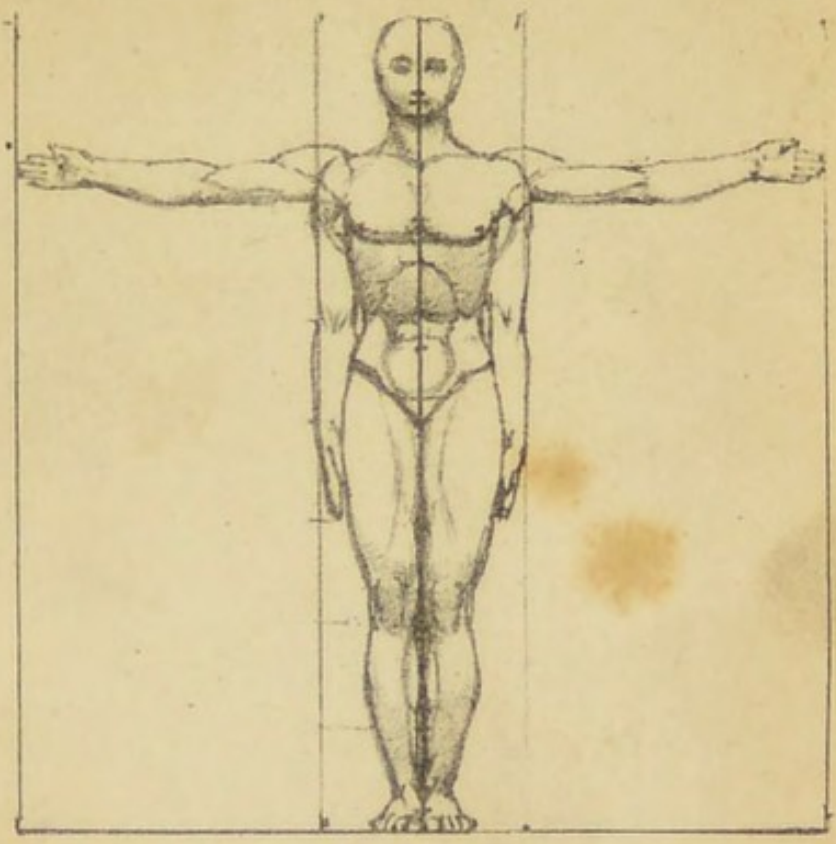
When standing erect on both feet, and quiescent, the whole figure will be contained within a parallelogram or oblong, which is four times as high as it is broad. (Plate B. Fig. 1.)

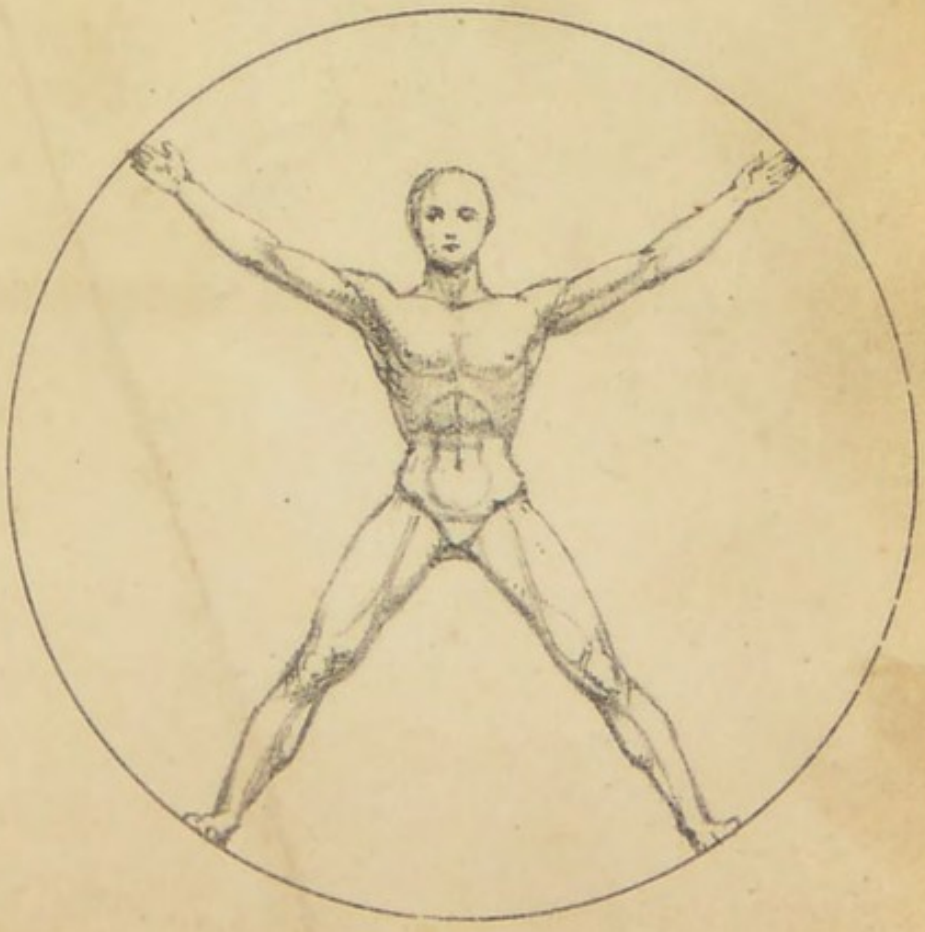
It may be objected that the exact proportion of eight heads to the whole height, is not the most general found among men, and that therefore it is unfit for the exemplification of the principles professed as the basis of the present system of Drawing. But plausible as this objection may appear, if the

position upon which it is founded be true, the objection is not just. The standard must be perfection, and not deformity; and must also be the medium between the two extremes, rather than that most commonly seen. Furthermore, this proportion is that usually referred to; larger becomes tall, and less becomes short. At the same time it should be observed, that, always beautiful, this proportion offers the most simple analysis of relations, the most symmetrical divisions of lengths and breadths, and avoids all perplexity of fractional divisions, and thus becomes peculiarly suited to the first essays of a student of the Human form.

With the arms extended the figure will occupy a square; the length, from the extremity of one hand to that of the other, is the same with that from the top of the head to the ground. (Fig. 1.)

When the arms are partially raised, and the legs are separated, the figure will be contained within a circle, of which the hands and feet will touch the circumference, and the navel will afford the centre. (Fig. 2.)





The whole figure may be divided into two equal portions, of which the upper will contain the head and trunk; the lower, the thighs and legs. (Fig. 1.) The upper part of the lower half, trenches upon the lower part of the trunk; being attached to an angular base, as will presently be more particularly noticed. (Fig. 1.)

The head in front is an oval form, the length of which is one-eighth of the whole height. The neck is considerably narrower than the head, and not quite half as long. The trunk occupies the remainder of the upper half of the figure, and is one-third of the whole height.

The shoulders should be two heads, or one-fourth of the height of the figure, in breadth, sloping gently from the sides of the neck, about half way from the head. The arms extend the length of a head below the trunk.

The width of the trunk from the chest downwards, should be about a head and a half.

The waist is situated at the length of a head above the central division of the figure.

The thighs and legs occupy the lower half of the figure, and when stationary in an erect position, the inner sides may be described by a straight line in a vertical direction, as they are in contact nearly throughout; and the outer sides, by two flattened curves connected by a flatness at the knee, inclined so as to make the diminution from the broad part of the thigh to the calf, and from thence to the ankle, in the proportions of three, two, and one. From the top of the knee to the ground, is rather less than one-third of the whole height. (Plate B. Fig. 1.)

In profile: the form of the head has been stated to resemble the letter D. The neck, attached to the lower part of the head, is the same width as in front, being nearly cylindrical, as in the other classes of animals, and is set on the shoulders in a direct line, without any angle, but rather nearer the back than the front of the body. The chest slopes outwards about the length of a head,

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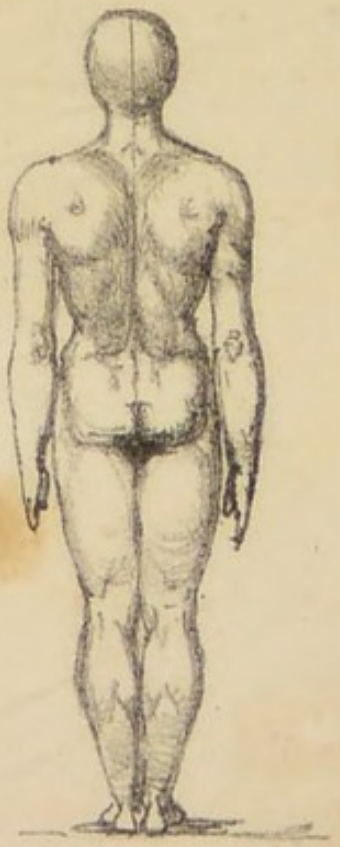

and from thence descends in a nearly vertical line to the lower part of the body. The back forms a slightly convex curve from the neck to the loins, which are the length of the head in depth from front to back; and from thence inclines outwards to the seat, which is bounded by a curve abruptly turning into the back of the thigh. As in front, the thighs and legs diminish to the ankle, and in about the same degree. The knee is a slightly projecting flatness. The heel resembles, in form, the hock of Quadrupeds, but is placed in a different position. The arms gradually diminish from the shoulder to the wrist. The length, from the shoulder to the elbow is equal to that from the elbow to the first range of knuckles; and should be such, that when the arm is bent, the elbow may rest upon the hip, which is situated at rather less than two-thirds of the height of the whole figure. (Plate C. Fig. 1.)

In looking at the back of the figure, the outline of the form of trunk and limbs, slightly tapering at the waist, from thence

descending in flattened curves to the knee, and from thence to the ankle, will be the same as in front. The heel assumes a triangular form.

The muscular divisions of the trunk and limbs will be noticed under their separate descriptions, in the following pages. It will be only necessary to mention here, that both in the front and back of the body there is a main central division, which is a straight vertical line while the figure is erect, quiet, and standing equally upon both feet. (Plate B. Fig. 1. and Plate C. Fig. 2.)

These forms will be sufficient to enable the reader to study the balance and motions of the figure, which will be the subject of the next section.


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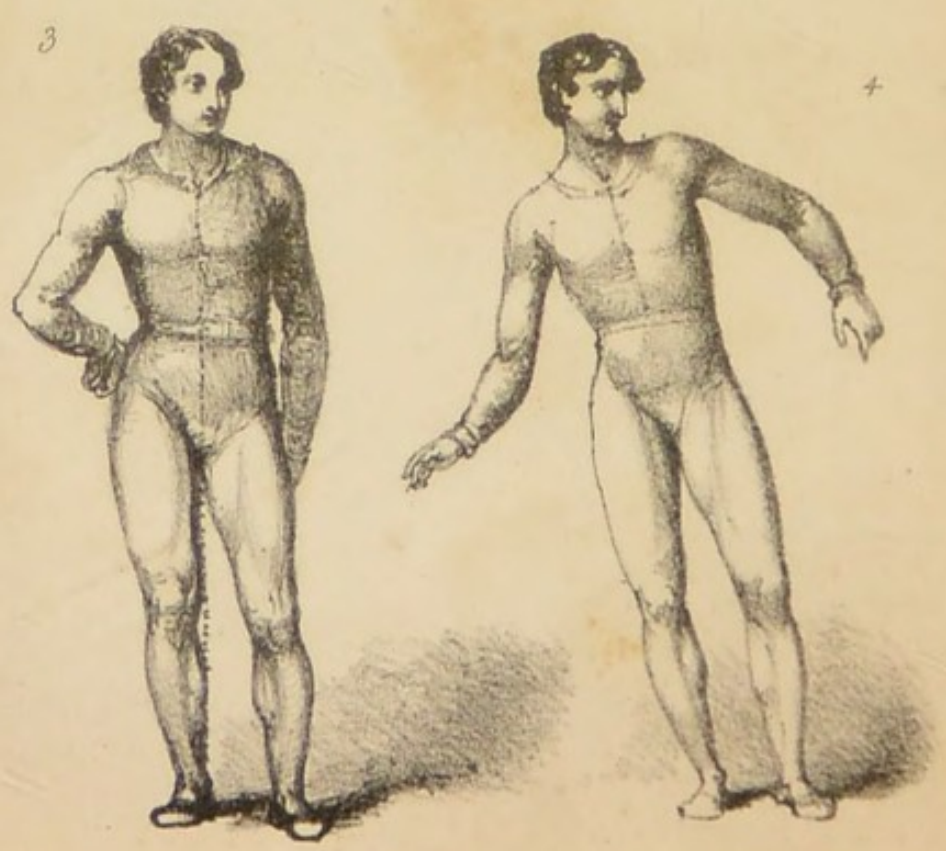
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Section II.

The Balance and Motion of Human Beings.

The Human Figure being supported in an erect position upon two comparatively small points, considerable attention is requisite in so placing the feet, in relation to the superincumbent weight, as to preserve the equilibrium, whether the figure be stationary or in motion. The effect of the weight, as affecting the balance of the figure, is deduced from the situation of the hollow between the collar-bones, in relation to the feet. When the figure is stationary equally upon both feet, a line dropped vertically from this hollow between the collar-bones or clavicles, which for convenience is frequently abbreviated into the clavicle, will fall between, but rather in front of, the ankles, at an equal distance from each foot, however close or separated they may be. (Plate D. Figs. 1 and 2.)

It is in infancy, old age, or under some circumstance of feebleness, that the figure is supported on both feet. But when maturity is attained, and sufficient strength to support itself with ease, the weight is generally thrown upon one leg. The clavicle must then be exactly over the heel of the foot upon which the figure stands. (Fig. 3.) The least inclination to one side or other of this point, will give the appearance of unsteadiness or tendency to fall. (Fig. 4.) This will be more evident on examining the motions of Human Beings.

The arms of Human Beings are capable of motion in every direction, to a very considerable extent, but the elbow joint is a simple hinge, which bends only one way. (Plate E. Fig. 1. and Plates B. C. D. and F.)

The greatest extent of motion in the leg is in front. When the leg is straight, it can be raised to form a right angle with the body; (Fig. 2.) and when the knee is bent, it can be raised to such a height, that the thigh will come in contact with the body.

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(Fig. 3.) The lateral motion of the leg is considerable: we see dancers raise them to an horizontal position; but what may be considered as natural capability is something short of that. (Fig. 4.) The backward motion of the leg is not great, as it relates to the body; (Fig. 5.) but the motion of the leg below the knee is directly backward, till it comes in contact with the thigh; (Fig. 6.) and it is not capable of being moved in any other way.

The progressive motions of Human Beings are walking, running, and jumping.

In walking, the legs, nearly straight, are projected alternately, and the clavicle is always in advance of the heel of the foot which supports the weight. (Plate F. Figs. 1 and 2.)

In running, the knees are bent, the weight of the figure is principally thrown upon the toes, and the degree of speed is indicated by the extent to which the clavicle overhangs, or is in advance of, the supporting point. (Figs. 3 and 4.)

In jumping, both feet are raised from the

ground simultaneously, or nearly so; and the clavicle is in advance of the feet, until they again approach the ground on alighting: then the body will be thrown back, and the clavicle will retire behind the feet, to counteract the forward impetus occasioned by the spring at the commencement of the jump. (Figs. 5 and 6.)

The variations in form occasioned by the different motions and modes of poising the figure, are more important than considerable, and are most apparent in the trunk. When the figure is supported equally upon both feet, both shoulders, both hips, and both knees are at equal heights with each other. The outline of the two sides of the body symmetrically correspond. (Plate B. Fig. 1.)

When the figure is on one foot only, the hip and knee on that side are raised up, and the shoulder is lowered; on the other side the shoulder is raised, and the hip and knee are lowered. (Plate D. Fig. 3.)

In the first instance, lines drawn across from shoulder to shoulder, from hip to hip,


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and from knee to knee, will be parallel horizontal lines; in the second, the line of the shoulders will incline in one direction, while those of the hips and knees, still parallel, will incline in the other. The waist will appear to go in much more on the side of the leg which supports the weight, and appear to swell out on the other so as to form almost a straight line from the arm to the left insertion of the thigh.

If the figure be looking down, the head will generally incline to the lower shoulder; if looking up, to the higher shoulder.

When standing on both feet, and both the arms are raised, the shoulders appear to grow wider, and the waist narrower. (Plate G. Fig. 1.)

If only one arm is raised, the other shoulder is lowered, and the spine curved from the hip, by which the waist appear to lose width on the shortened side considerably more than on the side of which the arm is raised. (Fig. 2.)

When sitting down in profile, the measure-

ment from the top of the shoulder to the seat, from the lower part of the back to the front of the knee, and from the top of the knee to the ground, are the same length. For the female figure, in consequence of the variation of form, the measurement must be taken from the shoulder to the point at which the thigh bends upon the body (the head of the thigh bone) and from thence to the front of the knee, and from the top of the knee to the ground. (Figs. 3 and 4.)

These proportions, the balance of the figure in every attitude, and the alterations in form mentioned as consequent upon the changes of position, should be studied without any attempt at beauty of form except as dependant upon proportion: straight lines giving the breadth, length, and thickness, being quite sufficient.

When this has been tolerably acquired, the pupil may become more discriminative with regard to form.

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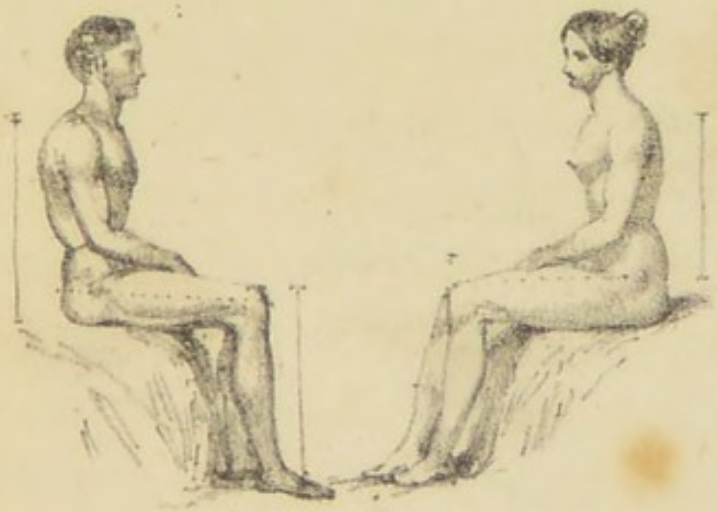

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CHAPTER II.

CHARACTERISTICS OF HUMAN BEINGS.

Details.

SECTION I.

The Trunk.

THE trunk or body of Human Beings, may be conveniently considered in three parts,—the bust, or chest and shoulders, the waist, and the loins; answering to the forehand, body, and quarter of Quadrupeds.

The shoulders, it has been stated, should be in width two heads, or one-fourth part of the height of the whole figure; and this division of the trunk should be nearly one head in depth from the clavicle to the lower lines of the pectoral muscles, or muscles of the breast. These, in the male figure, should be square and flat in character, the exterior boundaries inclining outwards to join the deltoids, or

great muscles of the shoulders, which slightly encroach upon the upper part of the pectoral muscles, and assume nearly the form of right-angled triangles. The collar-bones rise on each side in gentle sweeps from the pit in the front of the throat, to the tops of the shoulders. It has been stated that this pit between the clavicles, or collar-bones, and the nipples, should be so situated as to form an equilateral triangle; but this proportion gives a contracted chest: the nipples should be so much wider apart as to make the imaginary lines from them to the clavicle parallel with the inner boundary of the deltoid muscles. A small lozenge form marks the end of the sternum or breast-bone, and divides the lower line of the pectoral muscles from each other, and from the margin of the ribs, which are distinguished as a nearly semicircular arch, descending to, and blending into the lower boundary of the waist, or middle portion of the trunk. The general form and proportion of these two portions, the chest and waist, convey the idea of an

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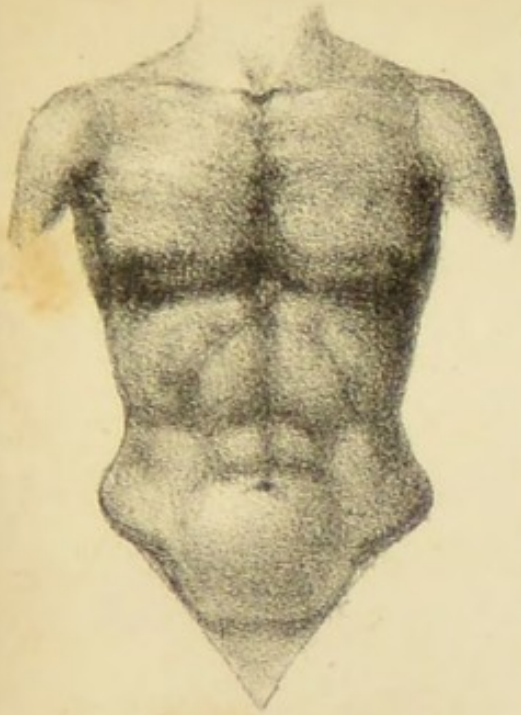

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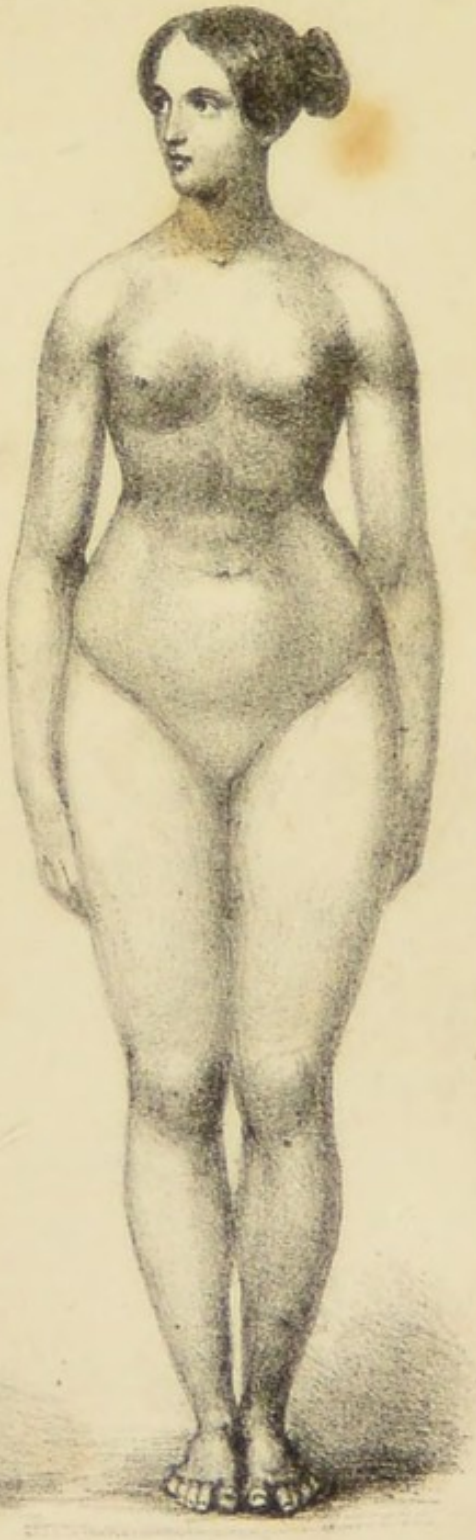

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inverted truncated cone, and they are frequently called the upper cone of the body; the propriety of such designation being most evident from the female figure, as will presently be further noticed. The whole trunk is considered as formed of two cones, one inverted over the other; and the relative proportions of these two cones to each other, are mainly characteristic of the different sexes when arrived at maturity. In the male figure the upper cone of the body is the larger; in the female the lower cone is the larger.

The loins expand from the waist to the point of the hip-bone, about half the length of the head, and less than the depth of the waist from the lower boundaries of the pectoral muscles; from hence the trunk is terminated by oblique lines that descend to the point exactly half of the whole height of the figure: within these lines, slightly varied in a more horizontal direction, the lower boundaries of the muscles of the sides proceed to join a flattened semicircular line, which is called the rim of the abdomen.

A vertical line runs down the front of the body from the clavicle between the pectoral muscles and the recti, or straight muscles of the abdomen, to the navel, which is so situated as, with the lower boundary of the pectoral muscles, to divide the trunk into three equal lengths. The recti, or straight muscles, fill the arch, the margin of the ribs, to the line of the waist, in the large lobes; below which are two other smaller lobes, terminating above the navel; and the form of the abdomen from thence expands into a flattened globular projection. (Plate H. Fig. 1.)

If we look at the side of the trunk, the pectoral muscles incline outward, shewing the thickness of their mass at the lower boundaries; the margin of the ribs slightly incline in an opposite direction, outside of which a flattened curve indicates the upper lobes of the recti muscles; a flat depression shews the second lobe; and the flattened projection of the abdomen completes the front of the trunk. At the back, a gradual curve from the line of the neck to the loins, slightly de-

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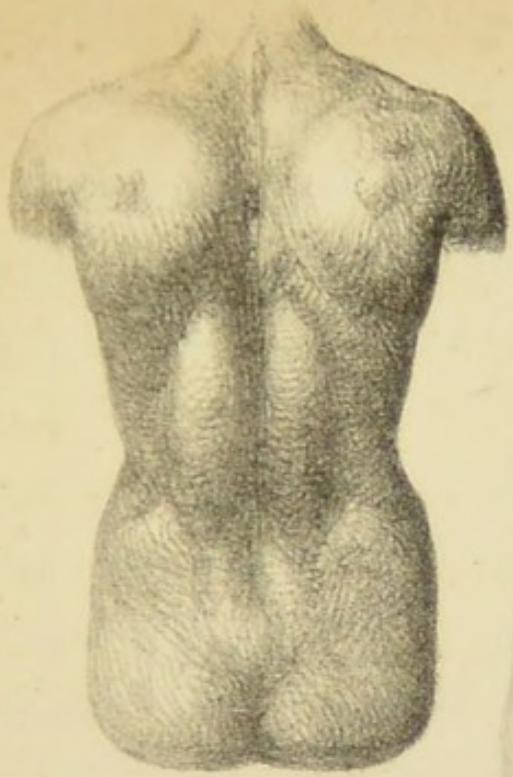
pressed below the blade-bone, is terminated by a flat that is intersected by the outline of the hip, which, in this view, becomes so united with the thigh, that the form will be better appreciated by considering them together as one division.

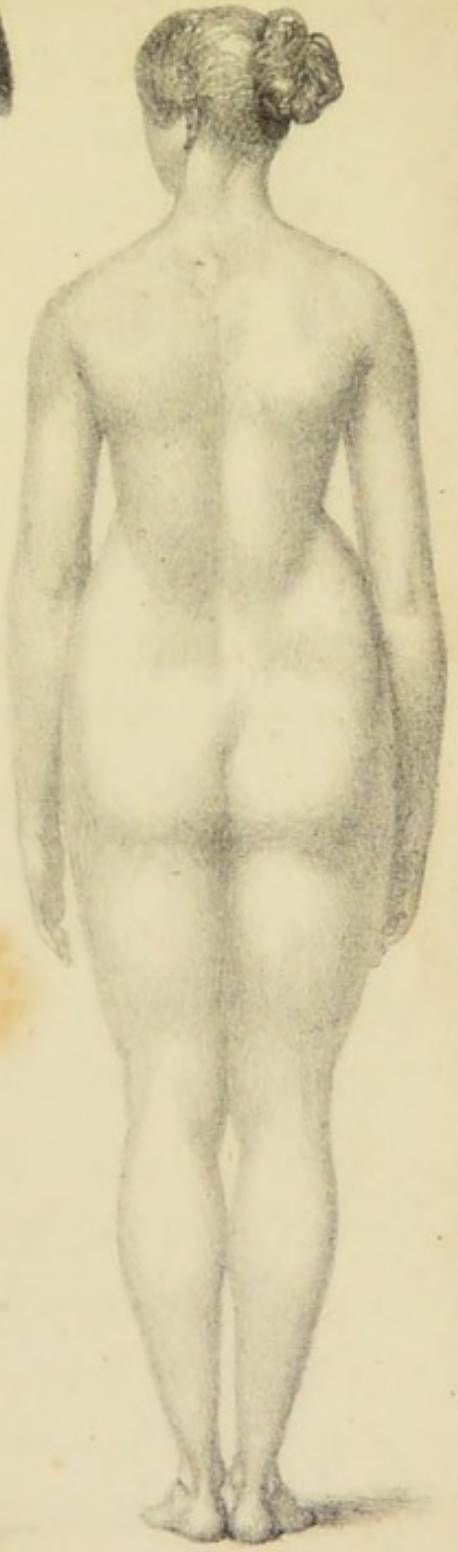
The top of the hip-bone is flat; the front slightly inclines outward to the joint of the thigh; from whence, with great convexity, it descends to very near the knee, where it becomes flat to the patella or knee-pan. Behind, the hip decidedly inclines outward rather more than the length of a head, and then suddenly curves inwards to complete the trunk, leaving sufficient thickness for the thigh, which descends in slight curves two-thirds of the length to the knee, the remainder being flat. The shoulder is broad and flat at the top, the shape of a Greek Delta Δ inverted, from which the muscle takes its name, inclining from both front and back to a point in the middle of the arm. (Plate I. Fig. 1.)

The back of the trunk is divided by a

vertical line into two large masses of muscle, extending from the neck to the loins; in which the most prominent features are the protuberance of the shoulder-blades; and two columnar lobes, divided from each other by the point of the trapezius muscle, which covers the neck, extends to the full width of the shoulders, and descends in a point to about the middle of the back. The body is terminated by the nearly square mass of the glutœi muscles. (Plate K. Fig. 1.)

The main distinctions in general form between the sexes in Human Beings, consist in the shape of the pectoral muscles, and in the relative proportions of the cones of the body. In the female, the lower part of the pectoral muscles assume a greater projection, in a beautifully rounded form, on the apex of which the nipple is situated. The upper cone of the body is the smaller of the two, and tapers more than in the male figure towards the waist, from whence the lower cone swells out laterally in beautiful oval curves, which, if completed below, will contain the





whole of the thighs, and the patellas or knee-pans. The anatomical markings are much softened, and the whole trunk is larger in proportion to the limbs, than in the male figure. (Plates H. I. and K. Fig. 2.)

In children there is no distinction in general form between the sexes. The pectoral muscles resemble those of a mature male, but softened in outline: and the whole figure is much rounder in character, the limbs being very small in comparison with the trunk. (Fig. 3.)

Such being the forms of the trunks of Human Beings when stationary, and supported upon both feet, it will be necessary to point out the variations in form, consequent upon the change of position.

It has been stated, that when the figure is supported upon both legs, and both arms are raised, the shoulders appear to grow wider, and the waist narrower. The additional width of the shoulders is occasioned by the lateral protrusion of the deltoid muscles, the blade-bones, and the masses of muscle in

which they are enveloped. In front, the pectoral muscles are considerably contracted in width, and are drawn up into conjunction with the deltoid muscles of the shoulders, which encroach upon the collar-bones, so as to make the shoulders appear almost in contact with the neck; and the convex forms of the ribs are traced up, on each side, to the hollow under the arm, called the arm-pit, enclosed in the *serrati* muscles, which appear to clasp the upper part of the ribs, as if with fingers. (Plate L. Fig. 1.)

Looking at the back of the figure in this position, the lateral projection of the blade-bones is very apparent, as well as the projection of the deltoids. The forms of the latter are distinctly traced to have moved from the side forwards, and are now seen from the back in the triangular shape from which they derive their name, upraised above the angles of the trapezius, which, though diminished in width, are very distinctly marked as the pivots upon which the motion of the muscles of the shoulder has turned. But it

should be observed that the portion of the deltoid muscle that is nearest the neck, will vary in size with the height to which the arm is raised: the points of the collar-bone and the trapezius muscle on the shoulder, assuming a distinct appearance with the slightest raising of the arm.

When the arm is raised, it may be well also to remark that the deltoid muscle, from one even mass, becomes divided into three apparent heads: the head of the bone of the arm, which in the middle rests in contact with the point of the collar-bone, anatomically described as the *acromion,* or *crows-bill process;* the mass of muscle which is connected so closely with the pectoral muscle, and traverses the front of the body; and the mass of muscle which terminates in a point about the middle of the blade-bone. Below the latter, the muscles covering the point of the blade-bone, are seen to form a distinct projection, and from thence the form tapers to the waist. (Fig. 2.)

When the figure is supported upon one

foot, that side of the body is shortened, by the dropping of the shoulder, and the rising of the hip. The waist becomes more decidedly marked on that side, and less so on the other. The line between the recti muscles of the abdomen in front, and the line which marks the situation of the spine in the back, become curved towards the shortened side. The diminution on that side takes place in the middle portion and lower portion of the trunk, the ribs sinking so as almost to meet the hips, the upper outline of which becomes much more inclined than when the figure is supported equally upon both feet. (Figs. 3 and 4.)

When the figure is seated, the alteration in form of the trunk is confined to the raising the front of the abdomen, so as almost to lose the middle lobes of the recti muscles. (Fig. 5.)

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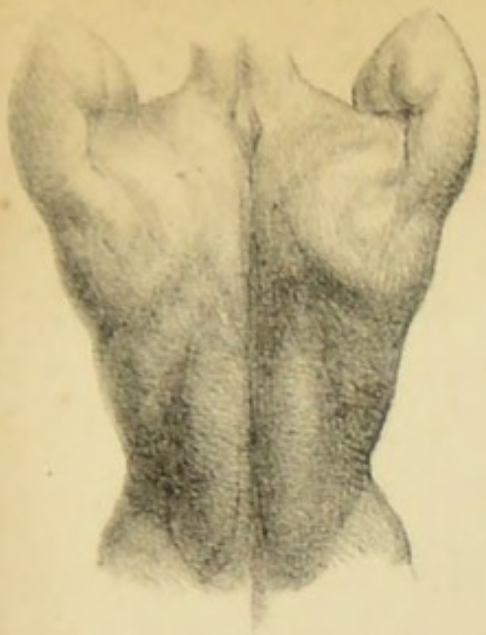

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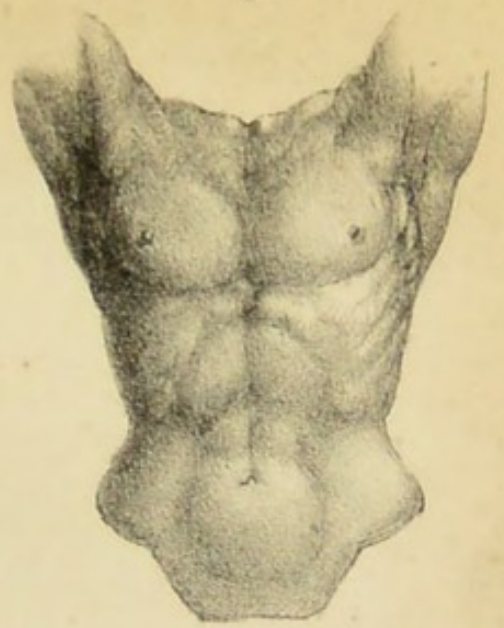

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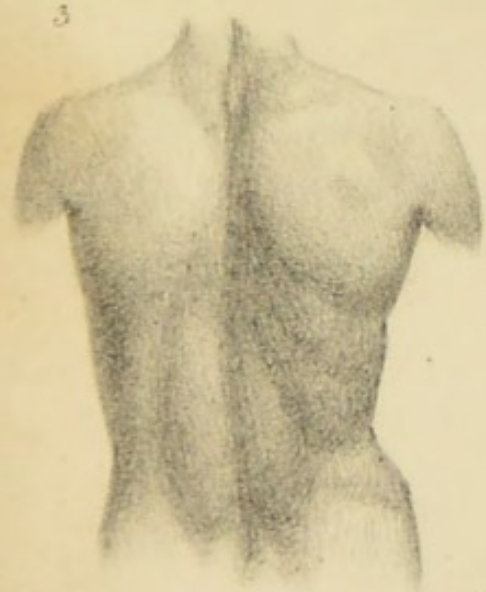

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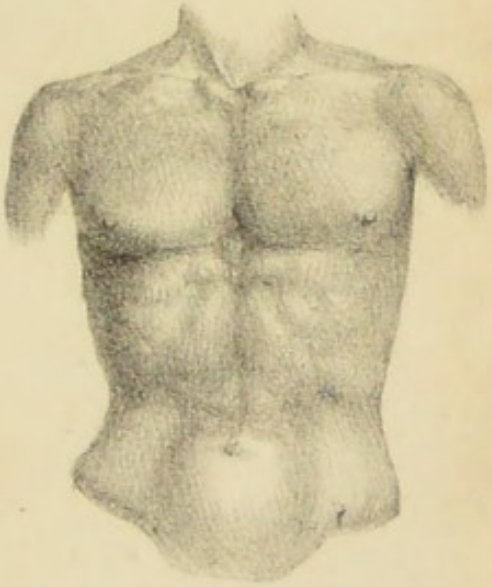

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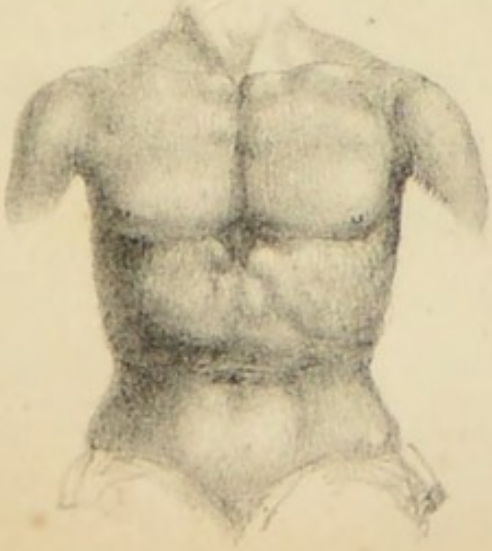


Section II.

The Arms.

The proportionate length of the arms to the whole figure, has been stated to be such, that when down by the sides with the fingers extended, they should reach to the middle of the thigh: or, the arms being extended on each side, the length, from the tips of the fingers of one hand to the tips of the fingers of the other, should be the same with the whole height of the figure. The form of the deltoid has also been noticed in describing the trunk.

From the lower point of the deltoid a line descends, dividing the muscles in front of the arm, which bend it, from those behind the arm, which extend or straighten it. The back of the arm is nearly straight to the elbow, where the point of the bone is very

distinctly marked. The muscles in the front of the arm are described by a flattened curve, which does not extend so low as the point of the elbow. The lower part of the arm appears to be attached to the side of the upper by an oval lobe of muscles, occupying about half of this part of the arm; from thence the arm is straight, but tapering to the wrist, forming a slight angle with the oval curve in front; but the line at the back being continuous, and without any angle, the hand, from the wrist, tapers slightly in depth to the ends of the fingers, which have an inclination back and front to what is called an ogee curve, or the line of beauty. (Plate M. Fig. 1.)

When the arm is bent, the muscles in front swell out and rise towards the deltoid, shewing a straight tendon, which is inserted between the two oval lobes of the lower part of the arm. (Fig. 2.)

When the palm of the hand is turned upward, at the same time that the elbow is bent, the swelling of the muscles in front is consi-

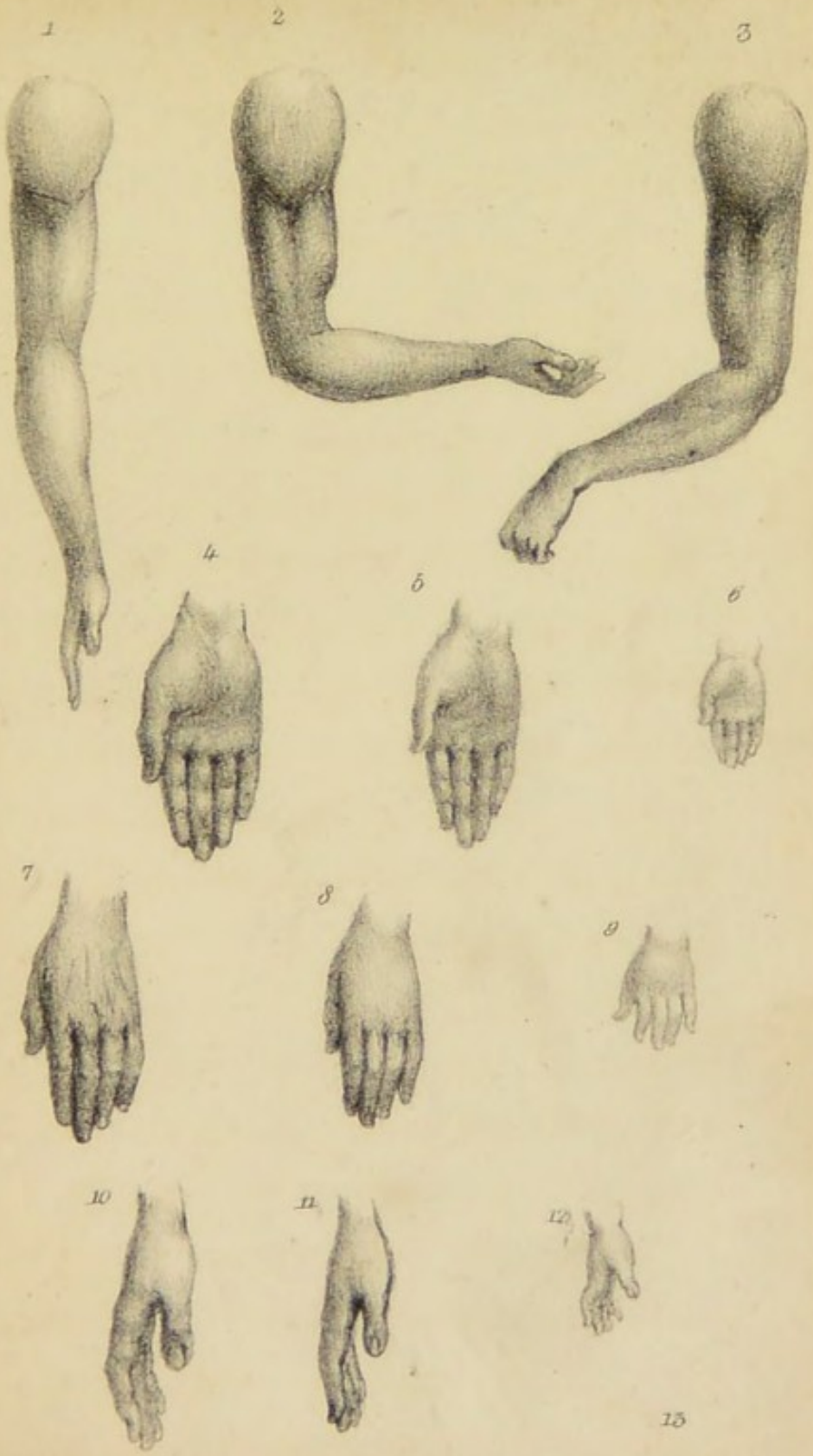
derably greater than when the hand is turned downwards. The alteration in the lower part of the arm by these rotatory motions called pronation, or turning down the palm of the hand, and supination, or turning up the palm, is principally observable in the oval lobes before mentioned. When the hand is turned up, the outer lobe falls back so as to extend considerably beyond the elbow. (Fig. 2.) But when the hand is turned down, this lobe is drawn forward, and divided into three separate muscles, ranged side by side, and each extending beyond the other, till the third reaches the wrist. (Fig. 3.)

The hand is generally of an oval form, the middle finger being the longest, the first and third fingers about equal in length to each other, and the little finger the shortest. The thumb is about the same length as the forefinger. In the inside or front of the hand, the oval is nearly equally divided between the palm of the hand and the fingers. The latter taper slightly to their tips, and the joints are marked by slight hollows. The

palm of the hand is rather hollow, and the peculiar form of the thumb occupies the greater part of one side. (Figs. 4, 5 and 6.)

The back of the hand is distinguished by the knuckles, which range in a slight curve, dividing the hand so as to leave the greatest proportion to the fingers. These knuckles tend towards a triangular shape, so placed that one angle occupies the middle of the finger; those at the joints of the fingers are more nearly square. The nails, of the form of filberts, occupy rather more than half the portion of the fingers in which they are respectively situated. The thumb is of peculiar shape, having only two joints of equal length, considerably larger than any of the fingers, detached from the palm of the hand. The end of the thumb is of oval form, tapering slightly towards the point; the nail is large and flattish. (Figs. 7, 8 and 9.)

The hand tapers in thickness from the wrist to the ends of the fingers, which turn up slightly from the last joint. In the upper outline, the distinction between the angular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joint, the flat tendon, and swelling muscle, may be easily perceived; but these variations must be delicate, and must not disturb the general tendency to a serpentine curve. The under outline is composed of three convex curves, which must likewise be so tenderly marked as to coincide with another serpentine curve, nearly parallel to the first, but tapering so as to meet at a short distance from the extremity of the finger. This method of drawing two serpentine curves, within which the fingers were to be cut off at the requisite length, was adopted by Parmegiano, and may be consulted with great advantage by the student until the character of the form is so distinctly impressed on his mind as to enable him to superadd the most minute distinction of outline without distorting the general form. (Fig. 13.)

Section III.

The Legs.

The general form of the legs has already been stated, as tapering from the thigh to the ankle; and that the general outline of the side of the thighs may be obtained by an oval, which shall include the hips and knees. The outline of the legs, from the knees to the ankles, may be obtained by an oval, which shall also include the knees. The relative depth of the knees is also readily obtained by means of these ovals.

The inside of the legs but slightly vary from straight lines. The deviations are occasioned by an almost imperceptible curve from the upper part, to rather below the middle of the thigh, intersected by another curve which descends to the lowest part of the knee, where it suddenly turns in as if to separate the knee from the leg. The curve is then inverted, and

becomes almost parallel to the curve on the outside of the leg, as it descends to the ankle, which is described by a right angle. The intermediate space between these curves, which indicate the shin bones, is filled up by the calves of the legs, which descend in flattened curves to half way from the top of the knee to the ground, when they suddenly turn up to join the shin-bone. Below the calves the muscles descend to the ankle in almost imperceptible curves, which, though not in contact, must be strictly parallel in direction with the imaginary vertical line dividing the legs. The deviations therefore from this straight line will be an almost imperceptible lozenge at what is called the hollow of the thigh; a larger vacuity below the knees between the calves in the form of a trapezius, or lozenge with the lowest point elongated; and a small parallelogram between the calves and the ankles. The inside of the feet will be in contact with the straight line, and will each be included in a right-angled triangle; the upper part of the foot

is apparently inserted into the front of the leg: and the width is principally acquired on the outside, by a curve in a diagonal direction for the instep, and a still further projection for the toes. The foot, at this the widest part, should be the same width as the knee. The form of the foot will be considered separately. The ankles project in points, the inner one being the highest. (Plate N. Fig. 1.)

The form of the outside of the leg in profile, to the knee, has been described in connection with the trunk. From the hip the thigh swells out into a prominent curve, till it nearly reaches the knee, where it becomes straight. The knee is a very slight flattish projection. The shin-bone may be considered a straight line, which is connected with the foot by a short angle formed by the tendon. The instep is arched, occupies one-third of the length in the middle of the foot, and the toes are flat. The foot should be in length half that of the leg from the knee to the ground. (Fig. 2.)

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In the inside, the swelling of the upper part of the thigh is discovered to be of triangular form. The point of this is met by another lobe of oval form, which reaches the knee. A serpentine line is remarkable, which descends from the front of the thigh, along the side of the triangular mass of muscle first mentioned, and passes behind the oval or pear-shaped mass, blends into the straight part of the outline at the back of the thigh, and defines the form of the back and lower part of the knee so distinctly, as nearly to separate it from the lower part of the leg; but when it has reached the middle of the knee, it descends in an easy curve to the ankle, marking the hollow between the shin-bone and the calf of the leg. There the line is inverted, passes round the lower part of the ankle, and, in a very slight curve, descends to blend in with the hollow of the instep; and therewith to form parts of the sole of the foot. The calf of the leg is a pear-shaped lobe, one side of which is bounded by this line. From the knee to the

greatest projection of the calf, should be the same length as from the latter to the ground. (Fig. 3.)

Looking at the back, the tendons of the muscles of the thigh, which occasion the flatness or straightness before mentioned, are seen to pass down on each side of the knee; between which, and out of a hollow, the calves of the leg descend in pear-shaped lobes, the lower parts of which are separated by the angular head of a mass of muscle, which envelopes the whole width of the back of the leg, and descends tapering to the tendon between the ankles, called the tendo Achillis, or the tendon of Achilles, where it joins the triangular mass of the heel. The projection of the ankles in points, the inner one the highest, complete the back of the leg. The width of the foot will be perceived beyond, principally on the outer side. (Fig. 4.)

The general form of the foot having been already noticed, the pupil will be prepared to observe, that in profile, the appearance of

the curve of the instep is formed by an angle more or less abrupt in proportion to the strength or muscularity of the figure. In females and children, this angle is obscured; but in drawing it should never be forgotten, as it materially influences the character of the curve, the prominence of the curve being upon the angle. The heel is triangular, slightly rounded at the lower outer angle. The hollow of the instep is greatest close to the heel. The great toe occupies one-third of the length of the foot, and bears considerable affinity in shape to the paw of a quadruped. The ball of the foot corresponds with the heel of the quadruped; the form of the bone may be traced in the middle part of the toe, and the end is varied from the claw by having a broad flat nail spread over half the upper part; while the lower line turns up with a broken curve to meet it. The weight is borne upon the thickest part of this portion of the toe, which is near the joint, and called the ball of the great toe. The joints of the other toes are slightly an-

gular, and the nails much smaller in proportion. The second toe sometimes extends beyond the great toe, and is always seen under the point of the latter. (Plate O. Figs. 1, 2, 3.)

On the outside of the foot, the four outer toes are seen each in advance of the other, flat or horizontal in the upper portion, inclined in the middle, and slightly turned up at the extremities, so as to follow a serpentine line, while the peculiar form of the great toe rises above them, and gives the general flatness over the toes previously described. (Figs. 4, 5, and 6.)

Looking upon the top of the foot, or at the sole, it is discovered to increase gradually in width on the outer side from the heel to the little toe, which is about two-thirds the length of the foot. From the little toe to the second toe it decreases in width; and the second toe and the great toe may be considered equal in length, and to occupy the remaining space, which is the width of the heel. The inside of the foot is a very slight

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deviation from a straight line. The heel is distinct, of triangular form. The instep is straight, the ball of the foot slightly projects, as also the ball of the great toe, which is of oval form, tapering towards the point. The three middle toes increase in width at those parts which touch the ground, the second particularly so. In the ball of the foot, the joints of the several toes are distinguished. The instep follows the line of the toes diagonally from the middle of the outside of the foot, towards the great toe ; and from the instep the sinews which raise the toes are prominent in proportion to the muscularity of the figure. In women and children, they are distinguishəd by a depression like a dimple, the hollows on each side having been filled up with fat and cellular substance. (Figs. 7, 8, 9, 10, 11 and 12.)

Section IV.

The Head.

The Head, the most important and most difficult part of the human figure, has been reserved for the last; in the supposition and the hope that, after passing through the previous course, the student will be better prepared to appreciate the more complicated and delicate forms of which it is composed.

In profile, the general form of the head has been likened to the form of the letter D. From the facial line, the nose projects at a slight angle, and is rather more than one-fourth of the head in length, which may thus be determined. The eye is situated half way from the top of the head to the chin: allowing the depth of the eye for the height of the eyebrow above it, the length of the nose will be such as equally to divide

the space from the eyebrow to the chin The forehead should be equal in height to the length of the nose. The mouth will be situated at one-third of the depth below the nose. The ear, of oval form, will be the same length as the nose, and on the same level. The eye and eyebrow will occupy a triangle; and the cheek presents an oval form, occupying the whole space between the ear, eye, nose, and mouth. (Plate A. Fig. 1.)

These general proportions being observed, attention should be directed to the following detail in the outline of the profile, taking care, as cautioned in the former section, not to allow these minutiæ to disturb the general form. In the example, they are marked very strongly, to make the explanation as clear as possible.

The upper part of the forehead is slightly convex. The outline then is intersected by a flat angular projection, occasioned by what are called the *frontal sinuses*, and the muscles which contract or raise the brows: below

this there is a small vertical descent, before the bridge of the nose projects, which it does in an inclined direction, after having advanced angularly about the thickness of a line; the bone extends rather more than half the length of the nose, to which the cartilaginous and muscular part is added, making a *square* form at the end: with this the lower part of the cartilage between the nostrils forms a slight angle, and another at the junction with the upper lip. A very slight convexity is observable between this last angle and the lower part of the lip, which presents another square form, including the outline of the red portion of it. The red portion of the under lip is a distinctly flattened curve, which inclines almost to turn back at the lowest part. The lip is connected with the chin by a straight diagonal line, and the chin itself is a flat angular projection, corresponding in size and character with the projection of the brows.

The lower part of the chin recedes in a

slightly convex curve, rather less than the length of the nose, and by a short angle is joined to the convexity of the front of the throat, which is intersected by the straight line of the great muscle on the side of the neck, which turns the head. This is seen descending from behind the ear to the collar-bone. (Fig. 1.)

These forms will be traced, however softened, in the most delicately beautiful face. The principal variations, unaffected by expression, will be found in the degrees of the several projections of the brows, nose, lips, and chin,—in the angle of the inclination of the forehead, of the bridge of the nose, and of the chin; and in the angle, if any, at the junction of the bridge and the cartilaginous part of the nose. By the latter, in combination with the inclination of the bridge of the nose, are given all the varieties of straight, aquiline, or turned-up noses. The nostrils appear as slits more or less open, following the direction of the lower line of the nose. (Fig. 2.)

In the profile of the infant, the upper and central portion of the forehead becomes so prominent as almost to swallow up the projection of the brows. The features are generally small, compared with the size of the face and head. The cheek becomes nearly circular; the cartilaginous portion of the nose has a tendency slightly to turn up, and the lips to project as if pouting. (Fig. 3.)

The top of the head is a curve flattened. The part of the head called the crown is always flat, and inclined at such an angle that a diagonal line drawn from the chin upwards, equally dividing the head, will intersect the crown at a right angle. The lower part of the back of the head is also varied from the D form, by being reduced so that the junction with the neck is on a level with the end of the nose. (Fig. 1.)

The front of the head is of oval form. The forehead is seen to descend to a point between the brows, which extend on each side the length of the nose. The temples are flat, behind which the head swells out to its

greatest width over the ears. The parts of the nose described in the profile, are also very distinctly marked when viewed in front. The interval between the eyebrows and the bridge of the nose, is narrow, and flat on each side; the bridge of the nose increases slightly in width by a short angle, and then descends in parallel vertical lines to the cartilage, where it again diminishes by a slight angle on each side. The cartilaginous and muscular portion is wider than the bridge of the nose, and flat on each side to near the tip, where, by two angles, it diminishes to the portion of cartilage between the nostrils, which is flat at the bottom. The wings of the nose spread on each side of the nostrils, till they are the width of an eye. The sides of the nose from the bridge, increasing in width, blend into the cheeks. The eyes have the width of an eye between them, and are so placed as to be included within right-angled triangles, of which lines drawn from the outer extremities of the eyebrows to the point of the nose, are the bases. The cur-

vature of the upper eyelid is greatest near the nose; the outer end having a tendency to make a serpentine line. The under eyelid is more nearly straight, but has also a tendency to a serpentine line, which droops on the outside, and rises as it approaches the nose, and then droops again to the corner. That the eyeball is globular is perceived most at the two sides and the upper part; distinct hollows being found on each side of the eye immediately under the eyebrow in the inside, and under the ridge of the bone, forming the orbit of the eye on the outside. This bone will be traced between the upper part of the eyelid and eyebrow, of an arched form, within which the fold of the eyelid forms a line nearly parallel with the edge to which the eyelashes are attached. The eyelashes are longest on the upper eyelid, and are slightly curved outwards. The pupil occupies the centre of the iris, or coloured portion of the eye; but it must not be forgotten that the pupil is in reality a hole situated *within* the iris, the curved surface

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of which will distinctly be seen to project before the pupil, as the view of the eye approaches the profile.

The mouth is formed by two serpentine curves, meeting so as to make a drooping point in the middle of the upper lip, the red portion of which contains a corresponding angle in the upper outline, from whence it diminishes on each side, till it vanishes before it reaches the corners. The under lip is of more simple form, being bounded by a flattened curve extending on each side, slightly beyond the red portion of the upper. The width of the mouth may be fixed by two lines drawn from the extremities of the eyebrows to a point in the middle of the lowest part of the chin: the chin should be nearly square. (Plate P. Figs. 1, 2 and 3.)

Such being the general proportions and forms of the human head, any variation becomes the character of an individual. These variations will be mainly confined to the fleshy or moveable parts. The proportionate

length and width may vary, which will affect the bones, but not so as to disturb the characteristic forms above described. With regard to the other portions, the variations will be chiefly in the eyes and eyebrows, the end of the nose, the cheeks, and the mouth.

The eyes will principally vary in relative size and degree of opening, which will affect the size of the visible portion of the upper eyelid. If the eye be open, the eyelid will appear small; if closing or heavy, the eyelid will appear large. (Plate Q. Figs. 1 and 2.)

The eyebrows vary in shape and in position. They are full and bushy, or thin and smooth, and in some instances, almost devoid of hair. They are straight, curved or arched, and angular; each of which may be placed in three different positions: horizontally; inclined so as to rise at the nose, which gives a mournful expression; or inclined, so as to fall at the nose, which gives an animated look. The angle may break

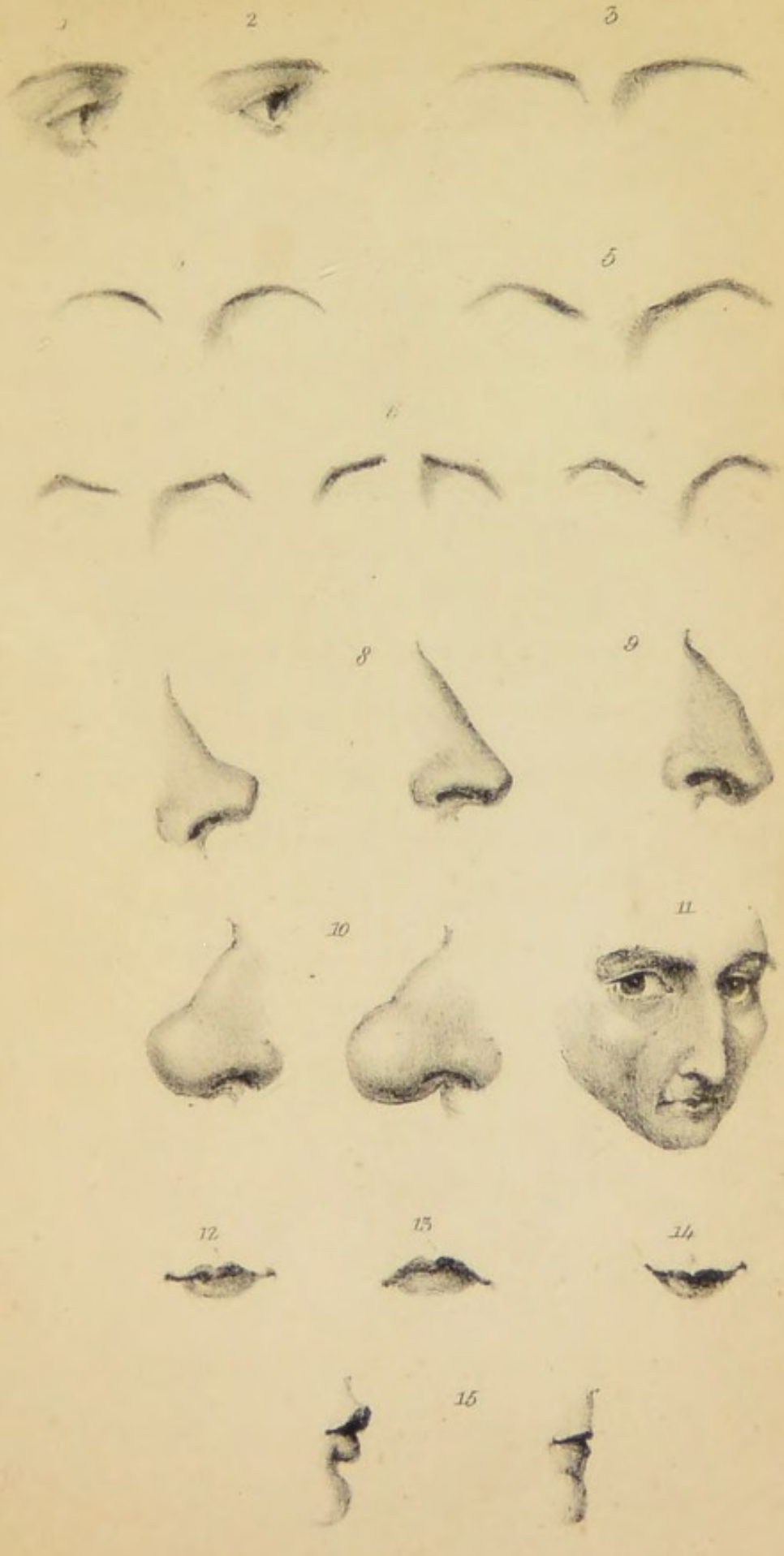
the eyebrow into equal parts, but is most commonly situated nearest the outer extremity. (Figs. 3, 4, and 5.)

The end of the nose may be so placed with relation to the bridge, that it will convey the impression of a turned-up nose, a straight, or an aquiline nose. The cartilage between the nostrils will droop more or less; and the nostrils become more or less open. Disease, or intemperance, may increase the size of this part of the nose, so as apparently to destroy all the characteristic squareness; but, in representation, it should never be lost sight of, or *disgusting vulgarity* will supersede *character*. (Figs. 6, 7, 8 and 9.)

The cheeks may vary in size, and may become hollow under the cheek-bone from thinness, in which case a diagonal line, more or less strong, will be traced from the inner corner of the eye to the middle of the cheek, and sometimes down to the jaw. (Fig. 10.)

The mouth has three different characters, which are mainly resulting from different

position. It may be generally straight; it may incline upwards at the corners; and it may incline downwards at the corners, from the central point of the upper lip. The relative proportions of the lips vary in size and in protrusion; and, in some instances, the red portion of the lips is scarcely perceptible, and the mouth is reduced to a mere slit. (Figs. 11, 12 and 13).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CONCLUSION.

The student has now had placed before him the Characteristic forms of Trees, Quadrupeds, Birds, and Human Beings. He has had those points distinguished in which he is to look for variation; and he has only to take care that the variations are never so great as altogether to destroy the characteristic forms described—never to lose in the *character* of the individual, the *characteristic* of its class. He has had all the materials afforded for the production of the beauty of *proportion;* the beauty of *form* will insensibly be added by practice, and the endeavour to add detail without disturbing the general character. It may now be mentioned, that most, if not all of those lines which have been described as *curves* in the forms of animals, are flattened so as to present two curves, one of which is always larger than the other. Of those lines which are called

straight, many will be found to contain slight variations; but these are better omitted, than allowed to disturb the straight character of the line. It may be added, that it is stated by those who are competent to judge, that, in the human form, there are no *concave* lines; that the appearance of concavity is produced by a succession of angles, more or less minute, between lines which are *straight* or *convex*. But these are details necessary only to those who aim at the highest attainments of drawing. For the general purposes of the amateur, all that is requisite will be found in the foregoing pages, which contain nothing to be unlearned, if the fascination of the art should tempt further endeavours. This foundation once laid, the superstructure will be found comparatively easy, and every day will unfold new beauties.

THE

END OF PART

III

LIST OF PLATES.

C. WHITTINGHAM, TOOKS COURT, CHANCERY LANE.