The human figure

A visual overview intended for students of figurative sculpture
About the document

The information presented in this document is an overview of 15 topics related to the study of the human form through the process of figurative art. This document contains 17 pages, contents are listed below.

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Invented in 5th century Greece, Contrapposto is an Italian term that means "counterpoise".

Contrapposto is used in the visual arts to describe the human body standing with most of its weight on one leg resulting in the upper part of the body twisting and tilting off-axis from the lower part of the body. Looking to the images on the right you will see many great examples throughout history.

**Fun fact:** Bronze Greek statues are very rare. Most of the Roman marbles are copies of the Greeks originals.

https://smarthistory.org/contrapposto/
It is fascinating that Contrapposto has been employed by artists throughout multiple art periods. The images to the right are works of figurative sculpture employing the understanding of Contrapposto over the centuries.

**Major Masses**

- Skull
- Ribcage
- Pelvis

Image courtesy of [https://www.youtube.com/c/DrawingArtAcademy/videos]
Modeling from life

It's what we do!

Modeling from life is an activity that has been a part of figurative art study for a long time. The Greeks, who had the naked body constantly before them in the exercises of the gymnasium, had far less need of professional models than the moderns; but it is unlikely that they could have attained the high level reached by their works without constant study from nature. It was probably in Ancient Greece that models were first used. Paragraph courtesy of [https://en.wikipedia.org/wiki/Model_(art)#History](https://en.wikipedia.org/wiki/Model_(art)#History)

The current template for working with the model at Dogtown is that the models take pose for 9 weeks at a time. Each week is a 3 hour session broken into segments of 20 minutes where the model will be posing and 5 minutes where the model takes a break. There is also a 10-15 minute break in the middle of the session referred to as long break.
When modeling a figure sculpture from life we use clay as our medium.

Clay is used to create temporary works. When completed these works can either be fired or mold and cast depending on the type of clay. If water-based clay the work would be fired. If oil-based clay the work would be mold and cast.

There are a variety of clays on the market today. General advice is to explore the variety and find out what works best for you. The images to the right are a handful of examples currently favored by the group at Dogtown.
Armatures

The supporting structure that holds the clay in place is known as the armature.

Armatures rest underneath the clay and are positioned in the center of the form. Inevitably, the armature will show itself on the surface at which point you should use a notched chisel and hammer to position the armature back in to the correct location.

An armature is usually made of aluminum wire varying in diameter depending on the scale of the work. Smaller diameter wire is used for smaller works, the reverse is true for larger works.

Armatures can be purchased pre-made from resources like Sculpture House or made from scratch with materials and a canon of proportions such as the Richer Canon. This canon will be reviewed in the following page overviewing proportions.
As an artist working in the medium of clay, we need a way to continue refining forms once our fingers are no longer the best option. The implementation of tools will serve us well as our sculpture progresses.

There is a large variety of clay modeling tools to choose from. There are tools for measuring, tools for adding clay, tools for removing clay, and everything in-between. Clay can be sliced into, pushed around, or subtly refined into the most subtle of forms. It is the most versatile medium.

Some artists prefer slowly building up each volume using very careful observational and adding pellets and/or coils of clay. Other artists prefer the use of quick glancing observations allowing for the clay to be rapidly applied. As the process progresses, very careful observation is implemented along with the use of the rake tool to refine surface forms.

General advice is to explore the variety of techniques and find what works best for you.
There are 3 widely used techniques of observation when creating a figure from life.

**Direct Measurement:** Taking dimensions directly from the model using a measurement device called calipers. Measurements can be written down for easy access.

**Comparative Measurement:** Using sight as your measurement tool, you visually compare the height, width, and angle of one part to another. While observing the model it is helpful to have an internal dialogue in which you ask yourself a series questions that will inform you how to proceed with your work. These questions can be about proportions. Using the richer canon, compare different parts of the body using 1 head as the unit of comparison. Additionally, these questions can be about the curvature of the form. Meaning how concave or convex something is. These questions can also be about rhythms. It is generally advised to observe large proportional / spatial relationships when initially constructing a figure.

**Sight Size:** Using sight as your measurement tool, you visually compare the model to your work at a distance. The model and your work are positioned beside one another. The general process is to begin by standing at your viewing position, observe the model and compare it to your work, decide on what to edit, then step forward to make the change. Step back to the viewing position to complete the cycle. Repeat this until work is completed.

General advice when observing the model is to employ the concept of general - specific. Being able to observe the largest most important information first and dissect it down into its most basic form. This should happen before moving onto the observation and modeling of smaller forms. Check the “read” from across the room, especially in the beginning stages, this will make your proportions more accurate to the model. When observing, allow yourself to pivot your view slightly a couple of degree to the right, left, up, and down. This will help you in observing the full volume of the form.
The technique of triangulation is a method within all observational techniques. When triangulating, we observe a series of points covering the whole landscape of the body. These points all have a spatial relationship to one another.

The majority of these points will be where the skeleton reveals itself on the surface of the body. These “points” are also referred to as landmarks. The blue dots on the images to the right represent the landmarks of the human figure.

To breakdown triangulation we must first choose a datum or starting point from which to triangulate. Once the origin has been chosen we must then choose two additional points for observation. This will give you a triangular area to work within. Within that triangle you can judge volumes, proportions, and surface contours.

- **Datum:** Origin of measurements
- **Landmarks:** Bony
- **Spatial Relationships:** Distances between landmarks
As mentioned when reviewing triangulation there are a series of points throughout the human form called landmarks. The landmarks observed on this page are bony, meaning they show themselves on the surface of the skin. Accurately recording the spatial relationships between landmarks will aid achieving the correct proportions of the model.

Looking to the images on the right you will see yellow dots. These are visual representations of the landmarks being discussed. The landmarks are listed below.

Keep in mind that all parts must relate to one another. Front to back and side to side.

### Landmarks:

#### Front View
- 1. Mastoid Process
- 2. Acromion Process
- 3. Sternal Notch
- 4. Ribs 7-9
- 5. Anterior Superior Iliac Spine (ASIS)
- 6. Pubic Symphysis
- 7. Great Trochanter
- 8. Femur - Lateral Face
- 9. Femur - Medial Face
- 10. Patella
- 11. Tibia - Lateral face
- 12. Tibia - Medial Face
- 13. Head of Fibula
- 14. Body of Tibia
- 15. Lateral Malleolus
- 16. Medial Malleolus
- 17. Metatarsal
- 18. Medial Epicondyle of the Humerus
- 19. Styloid Process of the Ulna

#### Back View
- 1. Mastoid Process
- 2. 7th Cervical Vertebræ (C7)
- 3. Acromion Process
- 4. Inferior angle of the Scapula
- 5. Posterior Superior Iliac Spine (PSIS)
- 6. Coccyx
- 7. Great Trochanter
- 8. Femur - Lateral Face
- 9. Femur - Medial Face
- 10. Tibia - Lateral Face
- 11. Head of Fibula
- 12. Tibia - Medial Face
- 13. Lateral Malleolus
- 14. Medial Malleolus
- 15. Metatarsal
- 16. Medial Epicondyle of the Humerus
- 17. Styloid Process of the Ulna

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Image courtesy of [Edouard Lanteri - Modelling and sculpting the human figure] 1902
When studying the proportions of the human form it is helpful to use a canon or unit of measurement. Looking at the images to the right you will see that the human head is the unit of measure being illustrated. This is a formula that was developed by anatomist Paul Richer and proves to be quite useful when constructing armatures from scratch.

Memorizing the parts of the body in relation to a certain number of head heights will assist you when using the observational technique of comparative measurement.

Keep in mind that every model taking pose has individual characteristics based on their natural form. Be careful not to fall into the habit of less observation because you have memorized a canon of measurement. Always observe from the model taking pose on the stand.

The Richer canon states that the average human is 7.5 head units tall. This means we can breakdown the canon into a mathematical formula dividing the overall height of the desired scale by 7.5.

**Canon formula:** Overall height divided by 7.5 = 1 head unit

*Example A:* \(18" / 7.5 = 2.4"\)
*Example B:* \(24" / 7.5 = 3.2"\)
*Example C:* \(36" / 7.5 = 4.8"\)
3D Form

3-dimensional form can quickly be understood when we think of primitive geometry, such as a sphere, cube, and cone.

When observing the model, practice conceptualizing primitive forms that lie within the different parts of the human figure. For example, cylinders within the arms and legs, the cube within the head, a flattened rectangle resting within the pelvis, etc. The human figure also has 2 volumes whose basic form is an egg. They are the head and ribcage. The ribcage is positioned as an upside-down egg.

The anatomy of form breaks down into two elements, light and shadow. When conceptualizing 3D form it is a good idea to purchase cheap primitive shapes from a hobby store and observe them in a variety of lighting situations. This will help you to visualize the “turning” of the form, or the point of transition from light into shadow.
Skeletal Anatomy

Understanding anatomy is very beneficial when studying the subject of the human form.

Looking to the images on the right you will see three views of the human skeleton. There are labels noting the names of the different parts that make up the whole.

The human skeleton can be compared to the foundation of a house. When building a house, you need to lay the foundation and secure the structural elements first, otherwise you would have nothing to build on top of. Our skeleton is no different, it is the foundation for the muscular system to be built on top of.
Muscle Anatomy

When studying anatomy, the musculature of the human form has vastly more information compared to that of the skeleton. Breaking down muscular anatomy into smaller chunks is generally advised to avoid being overwhelmed. Smaller chunks could be grouping muscles, observing memory shapes within each muscle group, etc. Remember, repetition is key.

All muscles within the human figure have an origin and insertion. In an effort to condense the vast amount of information this page does not cover origins and insertions.

1 - Flexor Group
2 - Brachioradialis
3 - Biceps Brachii
4 - Pectoralis Major
5 - Deltoïd
6 - Trapezius
7 - Sternocleidomastoïd
8 - Sternum Notch
9 - Serratus Antérieur
10 - Rectus Abdominis
11 - External Oblique
12 - Linea Alba
13 - Psoas Major
14 - Pectineus
15 - Adductor Longus
16 - Gracilis
17 - Illiotibial Band
18 - Vastus Mediaîls
19 - Tibia
20 - Peroneus Longus
21 - Soleus
22 - Medial Malleolus
23 - Lateral Malleolus
24 - Soleus
25 - Tibialis Anterior
26 - Extensor Digiîorum Longus
27 - Gastrocnemius
28 - Patella
29A - Quadriceps Tendon
29B - Patellar Ligament
30 - Vastus Lateralis
31 - Richer's Band
32 - Rectus Femoris
33 - Sartorius
34 - Tensor Fasciae Latae
35 - Great Trochanteîr
36 - Gluteus Medius
37 - Triceps Brachii (Lateral Head)
38 - Triceps Brachii (Long Head)
39 - Triceps Brachii (Medial Head)
40 - Extensor Carpi Radialis Longus
41 - Flexor Carpi Ulnaris
42 - Extensor Digiîorum
43 - Extensor Carpi Ulnaris
44 - Adducteur Magnus
45 - Gracilis
46 - Semimembranous
47 - Achilles Tendon
48 - Peronous Brevîs
49 - Flexor Hallucis Longus
50 - Peroneus Longus
51 - Plantaris
52 - Biceps Femoris
53 - Semitendinosus
54 - Gluteus Maximus
55 - Coccyx
56 - Posterior Superior Iliac Spine (PSIS)
57 - Latsîsimus Dorsi
58 - Teres Major
59 - Teres Minor
60 - Infraspinatus
61 - Seventh Cervical Vertebra (C7)
62 - Mastoid Process
63 - Anterior Superior Iliac Spine (ASIS)
Generally speaking the male and female figures vary in how they distribute weight. Looking at the images to the right, you will see that the fat pads on an average male figure are less prominent when compared to the fat pads of the female figure. Keep in mind that every individual will hold their weight differently depending on their natural body type.
A large portion of this document was created using information from the books shown to the right. There is an infinite amount of reference material when undertaking the study of the human form. Images to the right are only scratching the surface. General advice is to go out and explore additional reference materials on your own.