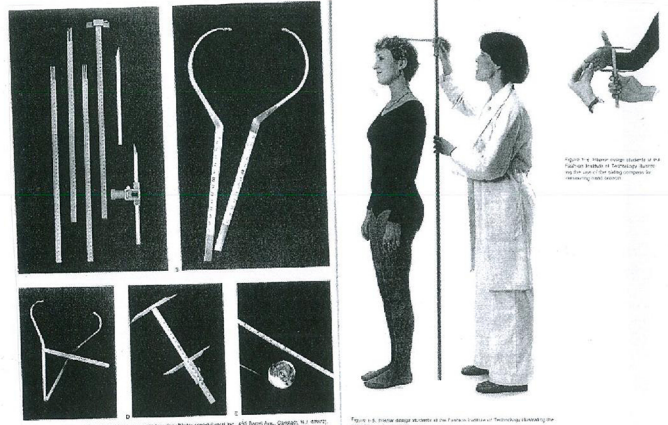


1 Anthropometric is used to collect data by a wide range of surveys. A survey was made of 100000 American troops; this was one of the first studies to include measurements other than height and weight.

The purpose of this study was to be a guide in designing clothes. Now days they do a 3d scan to get the measurements instead of using the old fashioned tools in the picture above.

2 Areas under a normal curve are most people dimensions in a normally distributed group. A small number of measurements appear at either end of the scale. But most are grouped within the middle portion.



1

Figure 1-10: (Holtzman, Engineering Anthropometry Methods, 1975, p. 124)

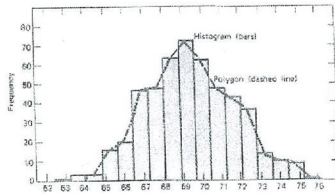


Figure 1-12: Example of a frequency histogram and polygon. From Rosebush, Kromer, Thompson, Engineering Anthropometry Methods, 1975, p. 125.

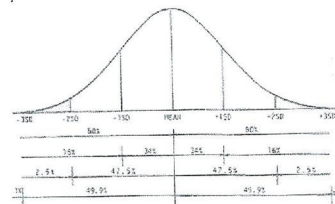
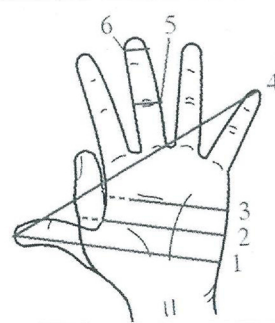


Figure 1-13: Example of areas under a normal curve. Most human dimensions, in a normally distributed group, follow the bell-shaped configuration. A small number of measurements appear at either end of the scale, but most are grouped within the middle portion. Drawing adapted from NASA, Anthropometric Source Book, vol. 1.

3 A wide range of measurements are collected through a big population so that designers are able to find an average when designing something for a specific group of people. It can be the average of a group but also designers can look at the people that are higher or lower up the scale. The information comes from the surveys taken before.



4 This is important as the hand sizes have to fit the smallest hand and the biggest hand it needs to be ideal for everybody. The guiding ratio helps us to find out the measurements of the smallest and biggest size of every part of the body in our case hand size. To see what needs to be accomplished to design a peeler or whisk that will comfortably fit every person.

BEGINNING TO UNDERSTAND HUMAN FACTORS

PART 2: Specific things that need to be considered when designing hand tool /utensils

1. What are the two main types of grip when using hand tools and what is the difference? What grip is required for your kitchen utensil?

There are two main types of grip that you normally use:

A power grip - used to hold a hammer, for example, which uses relatively strong muscles in the forearm. Your whole hand wraps around the handle.

A precision grip (or a pinch grip) - used to hold a nail or a pencil, which uses smaller and weaker finger muscles. The item is held between your thumb and index finger. This grip should not be used for tools or actions that require force.



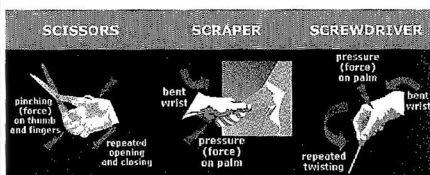
2

The grip I will need for my utensil would be the precision grip as it is suitable for a peeler.



2. What are the 3 main things that cause discomfort when using hand tools? How could this effect the design of your utensil?

The two things that make our hands and wrists uncomfortable are repeated muscle use, which can lead to painful tendons, and excessive bending, which causes discomfort and restricted movement. Bending of the wrist can be backwards (extension), forwards (flexion) or sideways (deviation). The third factor that can cause discomfort and may lead to injury is the amount of effort or force needed to grip a handle or use a tool.



These factors could affect the design of my utensil as it may cause excessive bending to the wrist when peeling hard to peel objects such as chestnuts.

3. What are some important things you will need to consider in the design of your kitchen utensil and how will this affect your particular utensil?

Indentations

Finger ridges or indentations along the handle are not recommended. If you have particularly small or large hands, you may find that the grip is uncomfortable because your fingers are spread too wide to allow a good grip, or the ridges in the handle lie uncomfortably among your fingers. Finger indentations also encourage your hand to stay in one position and this might not be suitable for all tasks.

Material

The material of the handle should be a poor conductor of heat and electricity, and should be non-porous so that it will not soak up and retain oil or other liquids

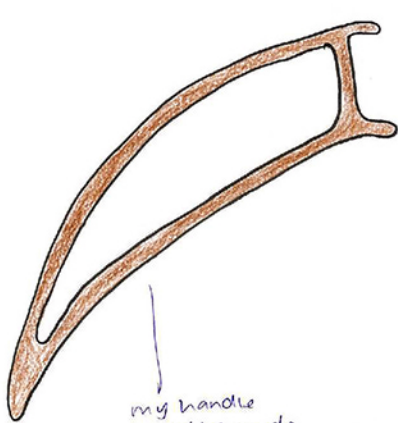
Length

The length of a handle should be at least 100mm, so that the end of the handle does not finish in the palm of your hand. Ideally, the handle should be up to 130mm, so that the palm of even the largest hand is cleared and there is less risk of the handle doing damage by compression of the soft palm tissues.

These things will affect my utensil as I need to make my utensil suitable for left and right handed people this is important when thinking of indentations. I will also need to think about the sizing of peoples hand my utensil needs to suit the biggest hands to the smallest hands this is why length is a factor for my utensil.

I will also need to take into account the surrounding in which my utensil will be in. It will need to be dishwasher safe and be safe around things in a kitchen environment this will be something I will need to think about with the material I will use.

4. Remember, anthropometry is about body measurements, such as body size, shape and strength. What measurements you will need to consider in the design of your kitchen utensil? Include a visual diagram and different percentiles.



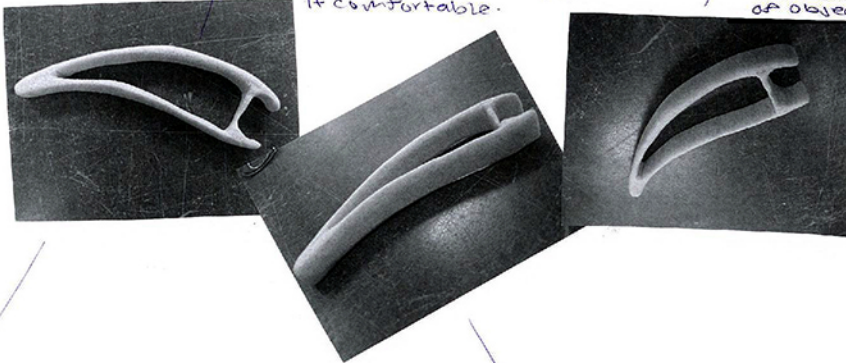
material that has natural grip so there is no need for indentations as they do not suit every hand size.

my handle could be made with wood as it is a safe material in a kitchen environment.

3

indentations to make my peeler subtle for every hand size I need to make the slots thicker as it is to thin and bendy so smaller or bigger may not find it comfortable.

width the width of my peeler must be 5-6 cms to accommodate for peeling a variety of objects.



Material

the material of the handle should be a poor conductor of heat and electricity so it doesn't cause discomfort or harm to the user.

length

the length of my objects should be 173 mm to fit the smallest hand size and to make sure all users can handle the peeler comfortably.

EVALUATION

To create my final utensil I used all steps I had to find the correct hand size so all people could use my utensil, to get this information I used the Anthropometric Data this helped me to find the subtle grip which was precision grip as this was what is best suited for my peeler. By researching Human Factors I found the information needed to perfect my utensil which were indentations, Material and length. these factors all helped me to create my final product. I also had to relate my utensil's design to the Design Movement. Art Nouveau This was difficult for me as it was hard to design my utensil to this movement To relate the utensil with Art Nouveau I used materials such as wood as they are a natural material this relates to Art Nouveau as this is what the Design Movement is about using Natural and earthy patterns, materials and elements. This was also incorporated in my utensil as I used only curved corners and no sharp objects. The look of the utensil is more important to me as it is the main focus of the Design Movement. I could improve my utensil by adding grip which would add comfort to my utensil.

4

