

“Sculpting miniature figures is not something that can be taught, it has to be learnt through practice.”

Sculpting isn't easy in any size, and particularly not miniatures that may be no more than a few cm tall. What's more a set of instructions can't teach you how to sculpt, there's only ever been one way of learning how to sculpt that actually works and that's sculpting. You just have to make a start, make mistakes, produce lots of rubbish and keep practising. You can't allow yourself to become disheartened. Just keep asking yourself why doesn't my work look right? When you've identified a serious problem or error you try and correct it. The more time you spend correcting problems the more intuitive your sculpting becomes, and the more you understand your subject the less likely you are to make these major mistakes again. It's only then you start noticing more subtle problems and mistakes which need correcting. Take heart from the fact there isn't a good sculptor alive today that's ever totally happy with any of their work. The truly great sculptors are the ones who can always find more problems and mistakes to correct and so they are the ones that keep improving. In truth that is the art to being a good sculptor. For although manual dexterity and the precise manipulation of tiny quantities of material can be a challenge when first sculpting miniature figures, it's really all about observation and understanding of the human form.



Of course the term miniature figure covers a wide range of subjects. Perhaps the most common being the small figures used by table top war games enthusiasts, whether they be historical figures or fantasy creations. However there is a much wider interest in miniature figure sculpting. Many military modellers like to produce larger more detailed character sculpts as historic records of famous officers or merely records of period uniforms. Many architectural modellers have a need for civilian figures to add life to dioramas, whilst many more aviation, maritime and railway modellers need a few figures to populate their models. In larger sizes dolls house enthusiasts sculpt miniature figures and dolls, and there has long been an interest in sculpting portraits of all manner of people, from famous individuals of past and present, to pieces representing friends or relatives. Though whatever the chosen scales and subject, the basics of sculpting remain the same.

Though I have acquired a fairly extensive selection of sculpting tools, I still use only two dental picks for almost all my sculpting. (both good quality examples with a long straight shaft with a small hook at the end) In addition I also use cocktail sticks, a pot of water and what used to be a good quality size 'O' sable brush. A scalpel and a needle file or two are also useful for tidying things up or carving details. So this is not an expensive tool kit. Of course most miniaturists will have tool boxes full of bits and pieces that occasionally prove useful on odd occasions. Perhaps most useful of these would be some form of wire cutters and pliers for making armatures, but you don't need a lot of expensive tools to get started.



All my sculpting is done with two part epoxy putty over a soft copper wire armature. This wire initially being salvaged from a skip, though its still dirt cheap if you have to buy a coil of it. The putty is used in such small quantities, that there can't be more than a few pence worth used in a typical miniature figure. There are many different brands of epoxy putty suitable for sculpting, and many more people use oven cured polymer clay, each marketed by different companies. It is worth trying as many types as you can find, as they each have slightly different working properties making them ideal for sculpting different parts or sizes of figure. As you play with each type you'll get a feel for those that suit you and the way you want to work. Materials I've seen used successfully by others for sculpting are Magic sculpt, A & B putty, Super Sculpy and Fimo. It is also occasionally useful to have scraps of plastic, wood, bits of waste brass and wire (in other words left-overs from the model makers bits box) for making details like weapons, tools, luggage or other accessories you may want your figure to be holding.

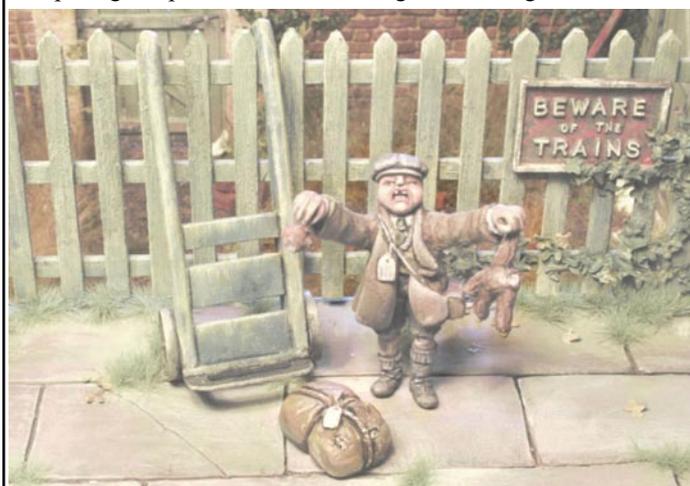
My personal preference for sculpting is an American blue/yellow epoxy putty called Kneadatite, but it's sold here in England under several other names, and is generally just known as "the green stuff". This two part material mixes to become a hard green rubbery putty, akin to sculpting with thick toffee. Which, unlike most epoxy putty, does not cure to become a rigid solid, but retains a degree of flexibility when fully cured. The other two part epoxy putty I use is a British product called Milliput (the superfine white variety). This is a very soft and similar in consistency to a cream cheese. If kept reasonably dry it can be sculpted into the larger more bulky parts of a figure and used to

build up the basic shape over the armature. When wet it spreads very thinly and blends well onto existing work to give a smooth flowing surfaces soft enough to shape with a wet paintbrush. This putty sets rock hard in a few hours and can then be carved or further shaped with needle files but it is somewhat brittle when used for small or thin parts. When working epoxy putty it is necessary to keep your tools wet to prevent the putty sticking to them rather than the partly finished figure.

I once had an art tutor who said ‘Any fool can use a brush to put paint onto paper. An artist is someone who has learnt how to look at a subject and can see where on the paper they need to put it.’ Much the same is true of sculpting. Pushing little bits of putty into round blobs or squashing them into flat bits isn’t difficult. Knowing how big a bit of putty to use in relation to the last bit, and where it ought to be put is more difficult than most people imagine.

I dabbled in most areas of model making as a child, and if truth be told, I still do as a professional. Though I’d been painting white metal military and war-gaming miniatures since the age of eleven, I only started to try sculpting my own figures when I was in my mid twenties, taking about four or five years to get to grips with the basics. However, a background in drawing and sketching figures and portraits did also prove really useful as with a fair understanding of facial proportions and anatomy it was primarily only the easy bit of learning to manipulate new materials that I had to learn. Like many things to do with art and model making, I would suggest it does not require a great deal of free time to learn the basics, although like all things worth doing, it may take a lifetime to master.

Most people’s problems with sculpting stem from the fact we all think we know what a human-being looks like. After all, we see them on a daily basis, many of us even claim to be one (?@*#!*~#*?!). Consequently when we come to sculpt figures we do far too much from memory and rarely look at the real thing. Learning to draw, paint, sculpt or make models is much less about learning how to manipulate materials and far more about learning how to observe. Looking at the spatial relationships between objects and the gaps between them, constantly comparing shapes, distances or lengths, looking at colour and

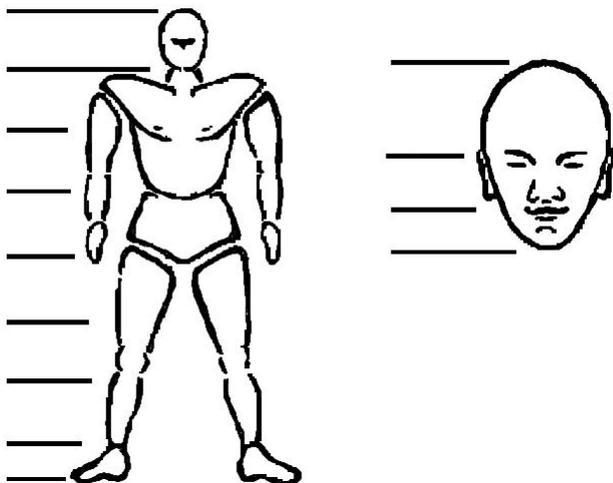


texture. In short, training your conscious mind to acknowledge all those mundane, ordinary and often seemingly irrelevant things that would normally only register in the sub-conscious. Having acknowledged all this you must then make a decision on how you are to interpret this, as a good sculpt is not necessarily a wholly accurate one. Caricatures and comic subjects often rely on deliberately manipulating or deforming proportions and features. You must however form a clear idea in your mind of exactly what it is you want your hands to do. It is for this reason that although the manipulation of putty and wire can be taught, the creative part of sculpting, namely observation and artistic judgement, is not really a thing that can easily be put into words, it just comes through practice.



Everybody has seen model figures that somehow don’t look quite right, I’ve produced a fair few myself. When sculpting there is a tendency for the intricate parts to end up oversized as you squeeze in the detail. Look at the size of a model figure’s head or hands, many of them are too big. Legs are something few people study, consequently in model form they just sort of fill the gap between the waist and the feet. The legs often end up too short and fat, rarely do they give an indication of how the weight of a body is supported on one leg in preference to another. Soldiers on a parade ground are about the only people who regularly stand with both knees locked straight and their feet together. Arms frequently look too bendy as if they have no internal skeleton. Also consider what your figure looks like from the sides and back as many miniatures seem to be almost flat and two dimensional. The problem we all face is that it’s very rare for us to be consciously aware of exactly what constitutes the right posture or proportions, yet we are all subconsciously aware when a figure is wrong.

These diagrams show the height and rough proportions of the human body in relation to the head. (roughly seven and a half times as tall as the head) You should note just how small the human head actually is and that the waist is more than half way up the body making the legs easily the largest feature of a figure, even if they are potentially the least interesting feature. The face occupies only the lower half of the head, and most of the features of interest lie within the third quarter. Coincidentally, the hands should also be roughly the same size as the face (but not the whole head). Little wooden artists mannequins seem to have become increasingly popular as decorative nick-nacks, and may be a real help if you are unsure of basic human proportions or want help modelling a particular stance or action.



I'd also like to mention the choice of pose. Action poses are difficult to sculpt because you have to convincingly show the movement of both the figure and their clothes. Casual relaxed poses are better but here you have to convey the fit and hang of the clothes, which has a lot to do with fashion. Done well though, fashion and uniforms can be great way of setting the period of a model. So what do many figures end up as? What could politely be described as overly stiff and formal, where it looks as if the clothes are so restrictive and heavily starched they are standing up regardless of the person inside them. Satisfactory perhaps if you are modelling Victorians in evening wear but most clothes are looser fitting, and it is the fit and hang of the clothes that give the figure most of it's character. In the small scales we are work-

ing in clothes have to be done subtly and the faint suggestion of just one or two of the larger creases or folds is all that is needed. These do, however, need to be in the right place and running in the right direction, not the place or direction you happen to think is right. So please keep looking back to your reference photographs, fashion books, magazines, the person stood next to you or even your own clothes.

The last thing, perhaps, to mention when talking about proportions, posture and costume is the fact that when dealing with small models much of the information we use to determine personality or character can be lost due to it's tiny size. This is why, as mentioned earlier, a good sculpt is not necessarily a wholly accurate one. It is therefore a common practice to subtly tweak proportions, pose and costume detail to reinforce and enhance the personality of your model figure, particularly when dealing with fantasy subjects. However, you do need a good understanding of anatomy and a clear idea of what you are tweaking and why, for the model still to look believable and characterful, rather than be merely grossly disfigured. What's more whilst a truly accurate figure should always look correct to everyone, even if a little skinny and bland, everybody has different opinions as to what works with respect to tweaking and exaggerating features, and what you might consider to be a super piece of work might appear awful to others. The three figures below are all notionally of the same subject to the same scale (28mm French Napoleonic war games figures) but show increasing levels of exaggeration in style of both sculpting and painting ranging from a dimensionally accurate scale model, to a full comic caricature.

Before commencing your first figure I recommend spending a little time familiarising yourself with the materials and tools you intend using. This after all is the easy bit. Mix a sample of the putty or clay you intend using, try rolling it into little balls, stretching it or rolling it flat. Add water or other solvents to soften it, try mixing it and leaving it to partially cure before working it further. Try heating or chilling it to alter it's working properties. Try blending fresh material onto the surface of a lump of fully or partially cured material. Can you mix one sort of putty or clay with another to create a an entirely new medium. Can you carve or file the cured material to shape? Do all you can to learn about and vary the working properties of the putty or clay you are to begin sculpting with.



Try pressing indentations into the fresh putty or clay with your dental picks or wax carvers, try dragging, spreading or smoothing it with them. Most of all try to get used to working small amounts of material with your tools and not your fingers. You will rarely need to work a piece larger than a pea, and much of my detailing work is now done by adding pieces of putty smaller than a grain of sand (At these extremes the granular nature or texture of some materials can become a problem) Put simply your fingers are too large to achieve anything useful in the small scales we work in so you have to get used to working with precision tools. The two dental picks I use both have a tip bent at right angles to the main body of the tool. One with a very small and sharp point, the other the same shape but larger, rounder and blunter. I almost always use the side of the point and not its tip for smoothing or shaping putty. Furthermore these are constantly dipped into water to lubricate them and help achieve smoother surfaces, preventing the putty sticking to them.



It might be that your first attempt is just a small modification to a commercially available miniature, or could be sculpting a whole new figure. Either way don't be disheartened if your first attempt isn't as good as you'd hoped for. My first attempt was rather poor, largely because I hadn't taken into account all I've subsequently learned about relative proportion and pose. I did, however, help myself by starting with a figure wearing bulky clothes standing in a fairly inanimate pose, both of which help hide much of the natural body shape. Don't worry about detailing your figures at this stage; the most important part to concentrate upon is

basic proportions and pose. Besides many fine details are better painted on than sculpted where they end up oversized. Concentrate on getting the relative proportions correct by continually looking back to your reference material, be that photos, drawings, other miniature figures or just looking in the mirror. The kind of errors in proportion seen in some model figures are the equivalent of accidentally ending up with heads the size of a beach ball and legs like beer barrels.

The approach I use for sculpting depends to some extent on the use of the final figure; Much of my work is by necessity somewhat "cheap and cheerful" produced quickly for pocket money prices, in order to satisfy the need for large numbers of incidental background accessories for use in larger dioramas. Whilst other pieces are produced as detailed miniatures which have to be much more refined and stand alone as models in their own right. At the end of the day the quality of any goods or services will always be dictated by the budget a customer is willing to spend upon them, but if making for your own personal use there need be no such financial restraints. The major difference in approach between the two extremes is largely down to the amount of sepa-

rate stages you break the project into and the time you dedicate to refining each step before progressing to the next. The following, however, is offered as a simple introduction based upon quick methods of producing basic figures. Something which should help get you started and from which can develop more elaborate, complicated and refined systems of your own.

When sculpting a figure never try to sculpt it all in one go; Sculpt a little bit and let the putty cure before starting the next bit, you'll only end up squashing supposedly finished parts of the figure if you keep handling it before it's cured. I invariably spread the sculpting of my figures over five or more days, spending probably no more than twenty minutes or half an hour at a time on any one given figure. Either working on large numbers of figures at one time, or occasionally just odd projects to fill in time whilst waiting for the glue to set, or paint to dry on some other more major model making project.

For a basic figure I start with a simple twisted copper wire armature which may or may not include arms depending upon the desired pose. Onto this I add simple blobs of Milliput for a body; The two legs are added on separate occasions, sculpting in creases to represent trouser detail. The legs need to be blended into the body whilst trying to give a faint suggestion of a waist a little above half way up. Don't be afraid to use a needle file or scalpel when the putty is cured to further shape this initial stage of the figure. Instinctively you feel this bit should be the easy bit and the fine detail on the face is what you should spend your time on. However getting the legs the right shape with a comfortable stance is the most important part simply because this seems to be the bit most people get wrong. It's worth re-doing or reshaping this as many times as it takes before you progress further. Once you've got the legs and torso right you can then add the head.

This I do with Kneadatite. Sculpting a head and face can be very time consuming if you let it become so, and may benefit from being done in several stages, adding tiny amounts of material at a time if aiming for the highest levels of detail or producing portrait work. I've found myself scraping the tiny bits of putty out of the grooves of my fingerprints to use for adding on eyebrows which really isn't necessary in anything other than the largest of scales. In the end they just don't show! If the ears are visible underneath the hair keep these small and place them below the level of the eye brows. Ears are much further round the side of the head and lower down than seems right at first, so check where you put them.



Regardless of the above, sculpting a simple face doesn't have to be difficult or time consuming. If you get the head the correct shape, the face can be kept as simple as you like. Add two round depressions for the eye sockets, pinch out a little protrusion for the nose and score a little depression to suggest where the mouth is. If you're not confident about sculpting a face, then don't. Honestly, if the head is the right shape and size it will be believable. When you look at a figure from a distance all you really see of the face is the shadows of the eye sockets and the faintest suggestion of a mouth, both of which can be painted on. With practice and experience you'll start to refine the way you work on faces and break them down into more and more complex stages.

The next job is to cut the surplus armature from the bottom of the figure and add shoes or feet. Measure the height of your figure and think about where you point the feet, something as seemingly trivial as this can make a huge difference to the character and stance of the whole figure. Next use more putty to add the figures collar, jackets and hats or any other costume details you want. I generally leave the arms till last as these often cross over or in front of other detail. Think carefully about how you pose the arms. Naturally they hang from the shoulders, which should look an integral part of the torso not stuck on separately to the side. If a person is in a relaxed pose then rarely is daylight visible between the arms and the torso. Don't make the arms too fat and keep the hands tiny. Trying to sculpt in the separate fingers will just produce fat hands unless you really have got the patience to work with some tiny bits of putty. Most of all look at your own hands for guidance and keep comparing the relative proportions to other parts of the figure you have sculpted.



So if there's one bit of advice I'd offer? Well I hope it's already apparent but I can't stress it enough. "Don't worry about fine detail, concentrate on the relative proportions of your figure." You have a large margin of error with overall dimensions because human beings are all different sizes, but they are all built to roughly similar proportions. If you can get the basic proportions correct then most fine details can be simulated just with paint. However, no amount of skilful painting can disguise a badly proportioned figure. The picture above shows a group of 40mm tall Trompe l'oeil figures. All of these are identical and are totally featureless, sculpted without detail to show just what can be achieved with paint applied over a basic blank body shape.

Irrespective of the scale you work in, relative proportions and posture don't change, all that varies is the amount of detail needed. In some respects you can help yourself by starting with smaller figures where the lack of fine detail is less of a problem. However, much as I enjoy the masochistic challenges of micro-modelling on a pin head I'd recommend starting at a comfortable size at which the manipulation of materials is not going to present you with additional problems.

1/800th scale



So there you have it, your first figure. It might not be great, I still produce a few that get put straight into the rubbish bin. Frustratingly other people are always best at spotting your errors, so it's often worth asking for another opinion of your work once you have a basic shape. This not only avoids wasting time detailing poor figures but speeds up the learning process. In fact, I would recommend starting by just sculpting a few basic body shapes in different poses. Keep asking friends who will offer honest criticism how you can improve the proportions or stance. The time and money spent in sculpting these is trivial, so don't worry about starting again if you don't like what you've done, after all experience is the best teacher and in this case is easily gained. Once you've tried a few basics of sculpting you'll soon be producing all manner of original little figures, animals and other accessories and cursing yourself for not having had the courage to try sculpting earlier. Just remember though it takes practice to become good at anything, and study of the human form is something few people ever completely master, even given a lifetime of practice. So be patient and don't expect too much of yourself.

