How to make a wax model

Eleanor Crook, a sculptor specialising in wax anatomical and surgical models, demonstrates a few of the techniques employed when making a wax model.

EC: My name’s Eleanor Crook, I’m a sculptor and I’ve come to specialise in making waxworks and anatomical models, and surgical models too, and you can see my work round the medical museums in London. They were made primarily as artworks, they’re examples to show in three dimensions things that the public wouldn’t usually be able to see and things that can sort of explain in three dimensions symptoms or surgical procedures that a photograph can’t really show.

I’ve taken quite an interest in the history of anatomical and surgical waxworks. Interestingly I notice that no two anatomical sculptors follow the same procedures: everybody seems to invent their own way of doing it; and although when I look at other people’s work I can work out to a fair degree of certainty how it was done and what materials they were using, there are never any written records and in fact some of them, particularly Joseph Towne who worked at the hospital where I work, at Guy’s Hospital, was very, very secretive and destroyed all his records of how things were done. So I suppose every anatomical waxwork maker has had to reinvent the process and produce something that suits the materials that were available to them in their own period and a style that somehow suited the people that they knew were going to be seeing their work. For example, the European waxes have a kind of classicising elegance and beauty, almost a romanticism to them, which some people find quite disturbing in the context of the insides of bodies. Whereas the British models, particularly Joseph Towne’s, are absolutely brutally honest about ‘this is what anatomical material, this is what a cadaver looks like’, and I’m not sure what my own approach on that continuum has been but I think it has been perhaps been a bit of a melding of the two.

I’ve been asked to make a model for the Gordon Museum showing the symptoms and complications of AIDS. I’m at a very early stage with this model at the moment, I’m using a very soft wax to bulk out what will admittedly be a very thin body. The wax is so soft, it’s rather like an even more stretchy plasticine and you can add it a piece at a time and just slowly increase the size of the body to get the right sort of contour. When I’ve got the basic bulk of the body in place I start thinking about working to a stage where I’ve got at least a skeleton to work from. I’ve been quite influenced by having by having been taught the technique of forensic facial reconstruction, so I tend to think from the bone layer outwards and so I can build these models up anatomically. Also if there’s any kind of dissection involved it’s starting from within, working up towards a surface, so it’s logical.

Our subject’s going to end up extremely thin, he’s at a stage of AIDS known as cachexia where the tissues of the body really start to digest themselves. As a reference for extreme emaciation I’m using this very old photograph from the American Civil War of a prisoner who hadn’t been fed.

I’ll start modelling the ear just at the end here, just where the aperture is and the ear sits out from the head on a little piece of cartilage, so there’s a kind of – if you put your own fingers behind your ears, you can feel a kind of clearance between the skull and the thinner flap of your ear.
It’s quite important when you’re doing this to judge how deep relative to the front and lower points on the orbit you’re going to find the eyeball will lie, and I suppose the best way to work that out is almost to feel it on yourself, check where the bony orbit is and where the front of the cornea of the eye will be relative to that. For this model I’m going to build up this side of the face now and build it to a skin surface. On a normal head that’s padded out with muscle and some fat as well. There’s a stiff structure inside the upper eyelid called the tarsal plate that gives it the sort of crispness you might feel so it’s quite important to get the edges of the eyelids quite crisp and not wavy unless you want the thing to look really dead.

I want to show you some skin texturing. The tools that I use are these little tiny points that have a ball end, and they’re sold actually for people who do scrapbooking. And the trick then is to think about the pores of the skin and just rather painstakingly mark them in with these different-sized ball ends. It’s something that you won’t notice on these models unless you come up to them very close but when you do come up to them very close it just looks like real skin, you can sort of sense that it has pores, you can sense that the light bounces off it in the right way. Something else that’s very useful for making skin texture is another organic surface. For some reason if you use this to print onto the surface of your model, it just changes the reflectivity of the wax enough that the eye accepts it as a skin surface and I suspect that this is a very, very old technique; oranges are good, limes are better.

And for the colour I’ve discovered really that for my own taste less is more, and that it really doesn’t take many touches of colour to start making the thing look quite lifelike.

I think I find the finishing part one of the most interesting, because that’s when you pin down the illusion that it could just about be real. And there is always the moment with them when I’ve been working on them for some time and suddenly you get the feeling ‘ooh this is really like working on somebody’s ear, this really is like working on a jaw’. You suddenly have a sense that it could just about be real and it’s not a spiritual moment, it’s a moment when you’ve got the illusion close enough and it’s suddenly convincing and I find that probably the most rewarding part of the job. So the finishing stages when you’re homing in on that sensation are some of my favourite stages.

At this stage I’ve worked certain areas up to the surface in order to show various techniques; I have other plans for this model in that I expect him to have the upper limb, some hands, I expect him all to be built out to a skin surface. I’m planning to add a dissection into the ribcage to show some lesions in the lungs, I’m planning to show various skin lesions that are associated with this illness, and so to me this is quite an early stage for this model.

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