



HOW TO BUILD A COLOSSUS

*The Colossus of Rhodes, one of the Seven Wonders of the Ancient World, stood for only 54 years before it was destroyed in an earthquake in 226 BC. When an exhibition of objects from ancient Rhodes was put on at the Louvre earlier this year, the Mayor Fotis Hatzidiacos breathed new life into the idea that the Colossus could yet be rebuilt. Here, renowned sculptor **Nikolaos Kotziamanis** explains how he would go about doing just that.*

If the Rhodians decide to go ahead and recreate the Colossus, I am ready to start at once. My proposals for the monument have already been publicised across the world, and several corporations and private donors have shown an interest in providing the necessary funds. But how to go about it?

When I consider making a larger than life-size statue, I tend to refine my ideas over a period of time and through a series of sketches and what are known as maquettes (small preliminary figures). Once satisfied, I produce a life-size maquette from the final design, on which

the scaling-up process can be based.

There was a time when sculptors had to go through a painstaking process in which they would scale up using callipers and/or a pointing machine, which is basically a framework of metal arms that is fitted around a sculpture to measure the relationship between given points on its surface. They would then have to transfer the scaled-up proportions to another material. Fortunately, those days are now over.

Today, there are specialists who use laser technology and computers to scale up. For example, I use Bakers Patterns

in Telford in Shropshire, who do a lot of work, interestingly, for the film industry. The life-size statue is cut up into pieces and each is faithfully enlarged in rigid polyurethane foam, which is a kind of lightweight grainy substance with a rough surface. The pieces are then reassembled at the foundry before the process is begun of turning it into metal, in my case, into bronze by the lost-wax process. This involves pouring the molten metal into a wax mould, then melting the wax away.

As it happens, I created my first life-size statue - of Archbishop Makarios,



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first President of Cyprus - in the 1980s without using a scaling up process. From the final maquette, I first made a head in the appropriate size and had it cast in fibre glass. I then placed it at the top of an 11 metre pole, and built the statue from the ground up in plaster. I had to rope myself to the scaffolding, even in icy weather! The job took three and a half years from commissioning to completion. The finished sculpture now stands at Kykkos Monastery in the Troodos mountains, close to where Makarios is buried. The size of the statue was intended to symbolize the stature of the man. Although he led a small, non-aligned island, he was a world figure.

A huge statue the size of the Colossus would require an armature

of steel inside to support the cladding or skin, meaning the visible exterior of the sculpture. The ancient Colossus, presumably, was made by the lost-wax process. However, there are other methods. For example, the skin of today's Statue of Liberty was achieved by the repoussé method of hammering great sheets of copper into the required shape.

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In the case of my proposed recreation of a Colossus for Rhodes,

very early on, I consulted the engineers at Ove Arup who made a preliminary study of the loading conditions to be withstood by such a statue, both permanent, in its gravity load, but also temporary, imposed by wind, heat and, most essentially in the area of Rhodes, seismic forces. An investigation of the site would have to be conducted in order to ensure that the soils and substrata are capable of carrying such weight, but my rough estimates for a structure of 33 metres tall would be: 17 tonnes for the structural steelwork; 13 tonnes for ancillary steelwork (such as access galleries); 60 tonnes of bronze for the cladding, assuming a uniform thickness of 10 mm. All this would give a total weight of almost 100 tonnes. Colossal indeed.