

My name is William Smith, known as 'Strata Smith'. I am an English surveyor and civil engineer. In 1798 I made a great discovery when in charge of building a canal near Bath in Somerset.

I noticed that the rock through which we were digging was in layers - which we call strata - and that in each different layer there were particular sorts of fossils.

When travelling around England I noticed the fossils in the strata of many types of rock – and I began to collect them. I worked out which fossils were from older or younger rocks by looking at strata in sequence. I noticed that in the lowest strata in the sequence the fossils were very different to those at the top, the lowest fossils were very primitive compared to creatures of the present age and those near the top of the sequence.

Knowing which fossils were from which strata allowed me to work out which rock was beneath my feet wherever I was in England and Wales, even if it looked similar to a rock somewhere else. I was the first person to be able to do this. As a result by 1815, I was able to draw the first great accurate geological map of England and Wales.

But...although I know the order of the strata, I have no idea how old they are.

My name is Georges Cuvier and I am a French scientist, in fact a natural historian who specializes in biology.

In the early 1800s I collected fossils from the rocks around Paris and, being a biologist, I could compare them to modern day species.

The rocks around Paris are duplicated, appearing on both one side of the city and again on the other, causing great confusion as to the real order of the rocks

I found that many of the fossils in the rocks had no living counterparts – they are extinct. But I could recognise when these fossils became extinct, as they did not appear in the overlying strata. But I could also see they were replaced by newer creatures and this seems to have been a very quick process - almost as though some catastrophe had taken place.

As a result I could establish the order of the rock strata around Paris, with the oldest underlying all those on top. This had not been done before because of the confusion caused by duplication the rocks around city.

By 1811, I could therefore draw a section through the Earth around Paris showing the order and thickness of the rock layers and proving that the strata on one side of the city were the same as those on the other side.

But...although I can give an account of the general order and events in the earth's history, I can only guess how old they are.



**William Smith portrait for mask
Print on card and cut out around the head
and tape onto a lollipop stick**



Georges Cuvier portrait for mask



Charles Lyell portrait for mask

