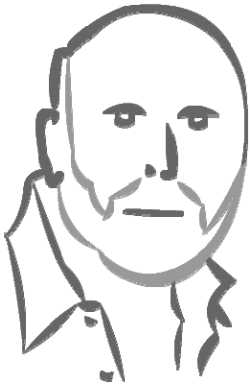
What can we find out from our DNA? The story of Craig Venter

DNA is used by the police to identify people. Scientists can also use it to explain some diseases. In both of these examples, it is useful to compare DNA from many people using records that are kept in a DNA database.

With all of this genetic information available to strangers, there is a concern about what personal information DNA might reveal.



Craig Venter, one of the scientists who first read human DNA, had his own DNA read to find out what it would reveal.

His DNA showed many things, including that he should have wet (and not dry) earwax, and that he is less likely than most people to have antisocial behaviour. It has revealed more serious things too, such as that he is more likely to develop Alzheimers disease and heart problems, and that he is more likely to become an alcoholic.

Since finding out about what genes he has, he has been taking drugs that can prevent heart problems and may reduce the risk of Alzheimers.

If somebody finds out what genes you have, what do you think they could find out about you?

We know that Craig Venter has genes which may make him more likely to become an alcoholic. Does that mean that his boss should use this information when choosing whether or not to employ him?

The picture is not simple. Just because someone has a gene doesn't mean that they will definitely develop a certain appearance or a disease. Most diseases need certain genes and a certain environment; for example, Craig Venter's DNA shows that he is more likely to become an alcoholic, but if he lives in a house where nobody drinks, and he has no friends who drink, then he is unlikely to drink himself. As yet, Craig Venter has not developed any of the diseases mentioned earlier; however he has suffered from skin cancer, yet his genes have shown that he has a normal risk of having this disease.

What can we really find out about someone from reading their genes? The answer is that if someone has a gene for a certain appearance or disease, we can say someone is *likely* to have the appearance or disease, but it is not certain.

Given that personal information is easily available from DNA, who should be able to look at it?

Does it make a difference if we don't understand enough about the information which DNA holds yet?

How has this story changed your opinions on the accessibility of DNA databases?