

David Ashworth, Oxford Ancestors

A company by popular demand?

"Tick the box which applies to you," David Ashworth quotes from many business forms and questionnaires. "They love boxes. And every single time, I'm ticking 'Other'. Are you in agriculture? No. Are you in Biotechnology? Are you in Research? Are you in Education? No! We're in 'Other'".

And what exactly is Oxford Ancestor's 'Other'?

"We do genetic analysis for ancient ancestry research and genealogy," he explains. "And if the questioner is still puzzled, it's because we are it! Well, we were the first. Other companies may have jumped on the bandwagon, but that's fine. Because we have a share of the market, and as the balloon grows bigger, our share will grow bigger. The more people that know about this, the better."

Oxford Ancestors has another very distinctive feature: it was a company set up in response to popular demand. Professor Bryan Sykes was working at the Weatherall Institute of Molecular Medicine through the 1990s, on brittle bone disease and other related problems that involved him studying mitochondrial DNA – the unique DNA which is only passed on through the egg and thus only from our mothers. It traces a direct line to our most distant maternal ancestors.

"And then it got him onto evolution." David Ashworth says. "He was consulted in a number of high-profile cases, like the Romanovs, and when they found Oetzi, the Ice Man, in the Alps – they wanted to prove he was an ancient European. The press got hold of certain bits of information, like the fact that Marie, who was one of Sykes's staff, genetically matched the Ice Man! And suddenly the Ice Man had a descendant in England! Not quite correct, of course, but they certainly had a common maternal ancestor. Professor Sykes noticed, as the press rang and the publicity went on, that Marie felt close to Oetzi, and he became more to her than merely a desiccated corpse. She felt connected. That was when he had his first glimmerings. And then members of the public began ringing up and saying. 'I want to know where I fit in. Where am I, in the great family tree of humanity?'"

Soon Sykes had far more requests than he could deal with in his research laboratory, which was anyway inappropriate for commercial application. A spin-out company to deal with the growing number of requests seemed to be the answer.

But its genesis was not easy. Potential investors found the idea of a company set up to sell an esoteric piece of genetic information implausible. Professor Sykes persisted. He and Oxford University both invested small sums, and Isis gave seed corn funding of £25,000. Plans for a larger company, with £5 million start-up funds, came to nothing but accrued considerable legal debts.

By the time Bryan Sykes and David Ashworth first met, late in 2000, Sykes knew that it was urgent to set a starting date for the company. "His book, *The Seven Daughters of Eve*, would be published in the UK about April or May, 2001. And he knew that after people read the book he would be inundated with requests for DNA analysis. So he needed a company to exist!"

So what happened, Ashworth says, was that Bryan Sykes said to him: 'I need the company: it's got to be here! Do you want to do it?'

"I said, okay, let's do it. The deal was, I'd start working for the company from March 2001, and if it was a success by September, I'd relocate my family from Scotland to Oxford and we'd go forward on that basis. Sure enough, come the publication of the book, we were up to our eyeballs in sampling kits, samples, requests.....we've never looked back."

David Ashworth has been the Chief Executive of Oxford Ancestors ever since, while Bryan Sykes remains Chairman of the Board, Chief Scientific Adviser, and majority shareholder. He owns about two thirds of the company, and the university the other third.

Ashworth has always been in genetics, and before 2001 had most recently been working with a company called Rosgen, a spin-out company at the Roslin Institute in Edinburgh. So the fledgling Oxford Ancestors initially continued to use laboratory facilities there at the Roslin Institute, while setting up its administrative office for the first year in Littlemore, and then, as the company grew, moving to its present Kidlington base, just north of Oxford. 'Wet work' is subcontracted to a laboratory in Sunderland, and website design and management, publicity and marketing, and printing and publishing are all contracted out. There are four part-time employees, and Ashworth is the only full time one, doing everything, he says, including making the tea on Thursdays. "And I love it. I haven't had as much fun for decades."

Genetic retail.

He describes the company as a genetic retailer, and their first product was the MatriLine. This arose from the discovery, made famous in Professor Sykes's original book, that it is possible to identify and analyse any individual's mitochondrial DNA, and trace it back to the remote female ancestor who bequeathed it. Everyone on earth is descended from one of around 36 'clan mothers', and in fact about 95% of Europeans, which includes people from the middle east, and from the many countries where Europeans have settled, are descended from only seven women whose lines of descent have survived unbroken. It was Sykes's leap of the imagination in giving these women – his Daughters of Eve – personal names, which at a stroke brought this otherwise arcane piece of information to life for the general public. From being laboratory constructs identified by a string of letters, they became knowable ancestors.

(Ashworth himself is descended from Helena – the most successful Eurasian clan-mother of all, the ancestress of over 40% of Europeans. She lived about 20,000 years ago, on the border area between France and Spain.)

"Genealogy is very big." Ashworth says. "People love it. Twenty thousand years ago, you and I had a common maternal ancestor! The UK had an ice sheet half a mile thick on it; there was nobody here. About 12,000 years ago, they started to come back – who knows the exact migration patterns? But all over the world, we're all from the same stock. Genetically, there are no races of men." Indeed, all the 36 clan mothers trace back to a single woman, 'Mitochondrial Eve,' who lived in Africa between 150,000 and 200,000 years ago. "There are no Neanderthals plodding around," Ashworth adds. "Everyone on the planet is human! Every person on the planet fits somewhere on the map."

Oxford Ancestors has carried out well over 10,000 analyses, and provided customers – who send a sample swab from the inner cheek, on a brush received when they buy the 'package' – with certificates stating from which clan mother they are descended, and where their clan fits into the world picture of mitochondrial DNA distribution. More recently, Y-chromosome testing has become available, providing men with similar certificates tracing their descent from an ancestral father through the male-specific Y-chromosome. In addition to the genetic profiles, the company sells its 'Tribes of Britain' data, detailing the clustering of such broadly definable groups as 'Vikings', or 'Celts' (and it can place Y-chromosome-tested men in such a group) together with maps, and Bryan Sykes's books and audio tapes. "We have to update our retail products all the time. We've had two new versions of the certificate, and we're now working on the latest, with the latest scientific information on it."

'Doing well, but not cutting loose'

"And we've been successful every single year," says Ashworth. 'We've been in profit every year, and we've now paid off all the debts accrued in setting up the company initially, and even paid a shareholder dividend. The share capital in the company was small when we started. The seed corn fund had arrived, and been spent, and that was it. All the other money we've made has been ploughed back into the company And we've never had to go to venture capitalists. Having money would have made things a lot easier, we'd have developed a lot faster. But the trade-off is, we've had no-one else on the board – just four of us: Bryan Sykes, me, Dr William James from the William Dunn School of Pathology (who represents Oxford University) and an independent external member called Dr Sue Foden, who used to be Chief Executive with Cancer Research. So there is no one on that board who is making strategic decisions with the sole aim of making money and then

bailing out. We can do fun things, like a Genghis Khan evening at a shish-kebab restaurant – Genghis Khan has more descendants than any other known person in history – and it pushed up all our sales because of the publicity.

We could do interviews even with a paper like News of the World, and it generates interest! So there are things that have been easier, because the board wants to move the company forward at a sustainable rate – never just cut loose, and let's make as much money as fast as we can."

The company has several valuable patents, dealt with by Isis. "Everything to do with the 'seven daughters of Eve' and the names of the daughters, and these kinds of certificates, are all the copyright of Bryan or Oxford Ancestors, or Bryan for the exclusive use of Oxford Ancestors. Anyone with a sequencer can do mitochondrial DNA analysis, but only we can tell you about Helena, or Velda, or all Bryan's stories about their lives.

Ancestors in the future

"The money we generate we're using in research and development of new products, but not in scientific research in laboratories. Really, there are enough people doing enough work around the world, and to be honest, the map is drawn. There would be little else to learn from genotyping the whole of Europe, for example, because we know that 95% of Europeans are in one of seven groups. That's not going to change. What could change would be the African, or the Far Eastern – but all that is being done by researchers now, and it doesn't change the basic structure of the map."

And what about expanding the company?

"We trade everywhere on the planet, and we get samples from all over the globe. We're the spider at the centre of a web. So now, we could either just run PR and marketing campaigns in America and New Zealand, say, or form strategic alliances with companies in those countries that also do genetic analysis, or put our own offices out there.

Certainly we could generate more interest in America, for instance, if we had a foothold there. But then you've got the associated costs of replicating what we have here – doubling our operating costs. So we have to think about that.'

'DNA for fun'

"We have a very eminent Professor of Human Genetics, which is one of the keystones to the company's success. It's Bryan and his publishing which gives us gravitas and credibility that other companies don't have.

But there's a lot of hard work involved, and what people don't grasp is the customer relations part. We get easily a hundred letters, e-mails, and phone calls a week, from potential and existing customers, asking questions. We have a free phone number for them to ring, and that doesn't generate money - it takes it off you! - but we have to keep customers happy, because a lot of our work comes by word of mouth."

And yet both Sykes and Ashworth have referred to their work, memorably, as 'DNA for fun'.

'It is. It's because, before us, the only thing DNA was associated with was bad news – GM foods, Dolly the sheep's ailments, guilt in rape or murder cases, pre-disposition to cancer – always negative. And for this? There's no bad news associated with knowing your ancient ancestral roots. It's only good. We are all from the same stock, and racial and ethnic discrimination between peoples means nothing.

Genetics can be very good news."

Christine Holmes, October, 2004.