



## Q&A Björk

# Digital diva

The Icelandic singer Björk's album *Biophilia*, set for release on 10 October, features songs on DNA, crystals, viruses and electricity — each accompanied by an iPad app that doubles as a music lesson. She explains how her upbringing and environmental activism has inspired her, and how touch-screen technology has changed the way she composes.

### What is the *Biophilia* project?

It's a multimedia exploration of music, nature and technology, which is also educational. Each song has a linked iPad app — with animation, music scores and lyrics — that teaches kids the basics of music, such as rhythms and scales. I felt that the years between five and eight, when a child's brain is soaking up languages and learning to read and write, are the perfect time to absorb musical theory. And now I can become a music teacher. We are planning live shows and workshops for kids at science museums, including ones in San Francisco and Tokyo.

### How did you put the tracks together?

I took algorithms of patterns in nature, put them into an iPad, played with them and then plugged the result into an instrument. The arpeggios on the bassline of one track, 'Thunderbolt', were created from the electrical discharge of a Tesla coil. A choppy, complex piece became 'Crystalline', which is about structure. 'Virus' is a kind of love song, where viruses take over; it is about arrangement. 'Hollow', a song about DNA, is about rhythm; 'Dark Matter' is about musical scales.

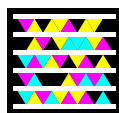
### What inspired you to link nature and music?

I've always written songs while walking — in accompaniment with nature. I'd walk up a hill, and that would be the verse; when I'd reach the top, that would be the chorus. And if it was snowing, or sunny, that would result in very different songs. I would mould the melodies by singing them over and over. Afterwards I'd get the computer out. But touch screens have revolutionized the way I work: now I can write and arrange songs at the same time.

### How else have touch screens influenced you?

I can compose more organically. Electronic music has been criticized for being too cold or grid-like. But with a touch screen the grid becomes like water. In the past I didn't have the right tools: on my album *Homogenic* I took electronic beats and distorted them to be like eruptions or lava — to be Icelandic. By using a touch screen, *Biophilia* has

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taken me to a different place. They are also good for education. The wrong way to be taught is with a book: it should be something you can turn in circles, and play with.

### Is Iceland a big influence?

When I came up with the idea for *Biophilia* I was involved in an environmental battle to stop aluminium smelters from being built in Iceland. Then the bank crash happened and we were wondering how to create jobs. In Iceland — a volcanic place — a lot of people choose science subjects at university, especially geology, biology, physics and mathematics. But now, in a nation of 350,000, there are hundreds of unemployed biotech people. We're in trouble because we're not seeing the obvious. We need to find solutions to problems like pollution and energy that are sustainable, and I want to help.

### Are you interested in science?

I was a maths nerd in school. And I was keen to learn more for this album. I watched a lot of educational DVDs, including ones on string theory. Some scientists are now saying that the Big Bang didn't exist. I think it is refreshing that the twenty-first century already has different 'creation myths' from the twentieth century. One track on *Biophilia*, 'Cosmogony', is about creation myths. The first verse is from Native American culture; the second, Sanskrit scriptures; the third, Australian Aboriginal culture; and the fourth, Big Bang theory. In a way, they are all saying the same thing.

### Did you discuss the project with scientists?

I spoke to Oliver Sacks and read his book *Musophilia*, on music and the brain. It was an inspiration for this project — and its title. As English isn't my mother tongue, I thought biophilia meant 'empathy with nature'. Then somebody told me it means 'love of life', which isn't far off. Sacks's book opens with a man who got hit by lightning and started hearing music in his head. He quit his job, learned the piano and became a composer. My favourite chapter is about the connection between Tourette's syndrome and jazz drumming.

### What links science and music?

String theory is about strings that vibrate, which is essentially music. I've also read about the history of the music of the spheres, from Pythagoras to our time. Every hundred years or so, somebody tries to write the music of the spheres. It's always a different time or country, but it's always the same idea. Pythagoras was tapping into harmonics and how sound works, but that is similar to how atoms and the Solar System work. String theory is trying to unite the Solar System and the atoms. Like sound, you throw something out at the world and it comes back at you. ■

INTERVIEW BY ANDREW MITCHINSON