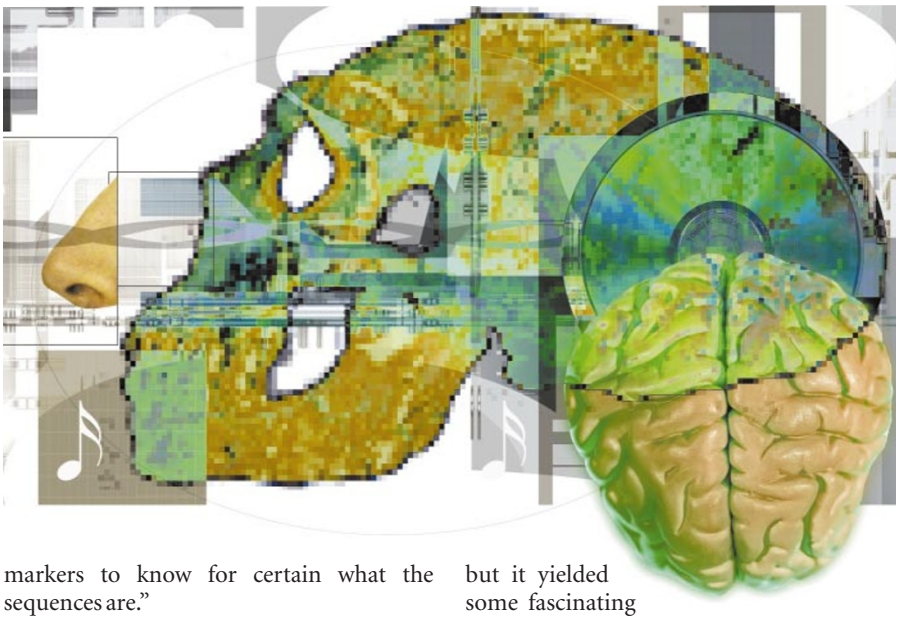
The song of the Neanderthal

From ancient DNA, to an unusual nose, to a sound you can't quite place.

Mark W. Tiedemann



JACEY

André Gilles-Rasson is emblematic of the staff at the PaleoGenome Retrieval Project. Casual, sincere, quietly optimistic, he gives the impression of a personality consultant rather than a researcher on the cutting edge of palaeolithic biomapping.

"I suppose we'll never be rid of that label," he says, smiling ruefully. "My predecessor used it in one interview and we've been stuck with it ever since."

"It's inaccurate?"

"Distracting. You know what our work is here?" He gestures out of the broad window, beyond which a series of bioisolate environmental domes stretches towards the distant Pyrenees.

"Rainforest recovery and preservation."

"Among other things, yes. But we aren't recreating Stone Age hominids."

I hold up the disc that has just been released by the project's Community Interface Office, with its cover depiction of a stylized Neanderthal sporting a startlingly complex nose. He grins and nods.

"You want to know how we recorded Neanderthal music? You are aware that we originally did pure pharmaceutical research here? We still do, but there is so much more now. Many of our products are psychotropics — antidepressants, bipolar remedials, treatments for epilepsy and so forth. Consequently, we developed methods for mapping the brain that gave us accurate, reliable modelling of how the brain is affected by different molecules.

"We joined up early in the century with an offshoot of the Human Genome Project and began working on new systems for projective and holistic modelling. First with humans, then with other things. Take any sample of DNA and use it to model the organism it is programmed to express. The more complete the sample, the better the results, of course, but we have become quite adept at the extrapolative side, filling in the blanks, so to speak.

"About 22 years ago we began working with a team of palaeobiologists on fossil DNA."

"Dinosaurs?"

"Some. We've been able to validate certain theories about them. Most of our successes have been with plants. Time is the factor — the nearer to the present, the more complete the DNA. In some instances we have enough trace remnants of the protein markers to know for certain what the sequences are."

"As with Neanderthals?"

"We were very, very lucky. We've been able to model an entire organism, including — and this was the real stroke of luck — the brain."

"Forgive me, but that nose stands out."

"That was a surprise. But it would still be just a nose — an unusual one — without the synaptic structure of the brain to tell us how the Neanderthals used it."

"The music."

Gilles-Rasson nods, leaning forward. "Soft tissue — muscle, skin, cartilage — does not fossilize well. Even in those rare instances where tissue has survived, we're talking about specimens ten- to twenty-thousand years old. When the gene map produced this structure, we were totally surprised. The trick, then, was to figure out its function."

"According to the liner notes, Jean-René Compierre suggested communications?"

"He suggested music right off. He and Marie Conéal actually built a physical model of the nose to test it. It's amazingly versatile."

"And the music itself?"

He sighs. "Music. A puzzling psychological phenomenon. All the theories added together fail to explain it in Darwinian terms. Infants with no prior experience of it respond, and the response is different from the response to simple communication. There is an emotional reaction at odds with simple informational modes. Once we had the synaptic structure and the instrument, we were able to make maps of the emotional range — anticipate how Neanderthals would react to music.

"Well, anticipate ... frankly, we guessed ... but it yielded some fascinating results. When we understood the patterns our models showed us and matched those to the tonal and textural capacities of that nose, we realized that we might have a basis for deriving compositions."

"It's an amazing recording. I don't know how to classify it."

"It's a kind of whole-tone scale, but the harmonies are based on fourths instead of thirds, so there is an eeriness to it. Not haunting, but familiar. *Presque vu, non?* Like something we should have known, something we might once have heard, had we listened."

"I wonder what Stravinsky would have said to it."

"Perhaps 'But of course!' Or perhaps nothing. We've found that a significant number of people simply do not hear it as music."

"I've noticed that among my own friends and colleagues. They don't dislike it, as they might music not to their taste. They simply don't 'hear' it. Can you explain that?"

He shrugs. "Would we recognize the music of someone from Tau Ceti as music? Different species. The synaptic structure, the way the Neanderthal brain worked — our models show that it was quite different from ours in many respects. They must have possessed a completely different aesthetic."

He smiles slyly. "Of course, we may not really know what the true music of *Homo sapiens* is. That may be our next discovery."

(Interview from *Aurikle News and Review* March 2089, reproduced by permission.) ■

Mark W. Tiedemann's first novel, Mirage, *is a spring release from iBooks. Volume One of his* Secantis Sequence *will be published by MeishaMerlin in the autumn of 2001. He lives in St Louis, Missouri.*