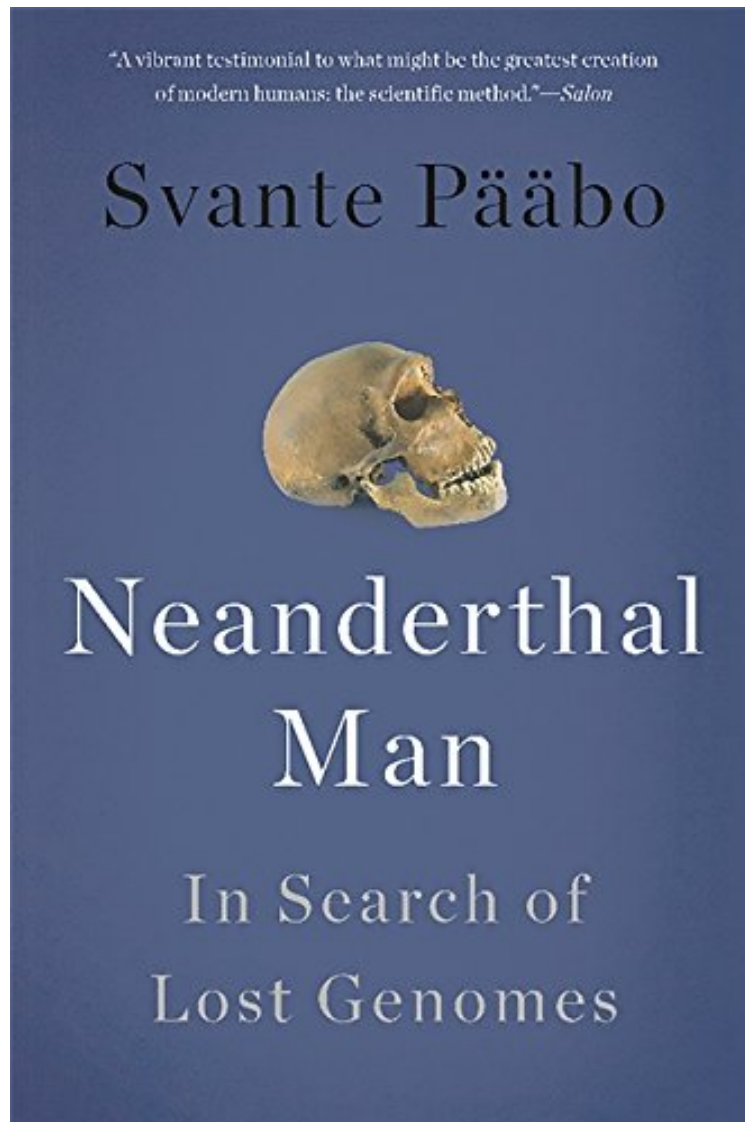


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## Neanderthal Man: In Search of Lost Genomes

*Svante Pbo*

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#62722 in Books Paabo Svante 2015-03-24 2015-03-24Original language:EnglishPDF # 1 8.25 x .75 x 5.50l, .0 #File Name: 0465054951288 pagesNeanderthal Man In Search of Lost Genomes | File size: 28.Mb

**Svante Pbo : Neanderthal Man: In Search of Lost Genomes** before purchasing it in order to gage whether or not it would be worth my time, and all praised Neanderthal Man: In Search of Lost Genomes:

88 of 90 people found the following review helpful. Decoding the genomes of our extinct relatives!By Sam SanthoshWith the completion of the full human genome sequence in 2003 and the rapid fall in DNA sequencing costs over the subsequent 10 years, we have been awaiting major advancements in many fields such as Healthcare, Agriculture, Drug Discovery and so on. However, the progress has been slow and the deluge of genome sequence data

has been a tough problem to handle. But, Svante Paabo in this fascinating book on the 'Neanderthal Man' shows how the new technologies have enabled him to sequence the genomes of our extinct relatives - the Neanderthals and the Denisovans. The data proves how our ancestors moved out of Africa about 50,000 years back and interbred to a small extent (2 to 7% of our genes come from them) with the Neanderthals and Denisovans and maybe drove them to extinction. Many interesting facts come out of these studies such as, (a) that gene flow seems to have been from the Neanderthals to us (and not the other way), (b) the founding population of the Neanderthals also seems to have pretty small like in the case of the humans (c) we split from the Neanderthals about 500,000 years back (d) the Denisovans split about 1 million years back (e) the Denisovans seem to be closer to the Neanderthals than to humans, and much more... The book is not only fun to read, but Paabo's detective mode of story telling will also keep the reader focused. By mixing his personal stories with scientific research, Paabo provides a refreshing frankness to the narrative. We get a direct view of the challenges in scientific research and how the role of institutional support and adequate funding can make research a success. Paabo's journey from Egyptian mummies to Mammoths, to Sloths and finally the Neanderthals and Denisovans is a great inspiration to all students of science. He shows how passion, perseverance, attention to detail, and collaboration can deliver results not only in Science but in all aspects of life. Paabo explains the Science very clearly and the narrative shows us how he has become the world's expert in 'ancient DNA'. But in order to do that he often has to go into intricate details of lab work which some readers might find difficult to follow. Still it will not affect the story and if you are interested to learn how we became what we are, this is a book that you should not miss.

3 of 3 people found the following review helpful. Excellent spotlight on the processes required of scientific endeavor. By Robert Selby "Neanderthal Man" presents a fascinating perspective on how scientists pursue their work and passions. In fact, it is all about the author's life and work, the processes he and colleagues pursue to acquire and interpret Neanderthal DNA. Readers hoping to learn a great deal about Neanderthal culture will likely be disappointed. Perhaps like all top-flight scientists, Paabo's ego is as large as his vision. For some readers, his ego may get in the way of appreciating the mundane, tedious, laborious work involved in original science, but the results make the journey worth while, both for the scientists and for the reader who stays with the endeavor.

39 of 43 people found the following review helpful. Best book on this sort of subject since 'The Double Helix' By Patrick L. Boyle. Some commenters here were disappointed that this book is not about Neanderthals but rather about the process of decoding the Neanderthal genome. Sorry about that - I suggest you read another book. This book has a chapter on dinosaurs too. There are no dinosaurs in that chapter and apparently there are no dinosaurs in amber either. Pbo explains why it's so hard to get nuclear or mitochondrial DNA from fossils 'only' tens of thousands of years old. We won't be making dinosaurs the way they did in Spielberg's movie. All that dinosaur DNA has long since degraded. One of the single deepest insights this book presents is the problem of contamination. You find an ancient fossil that has human DNA in it, and you do a PCR on it, almost all of your results will be non-human. I think he found about 98% of all the DNA in one of his samples was from various forms of contamination. If a human bone is lying on the floor of a cave, every mouse, every centipede, every critter of any kind that crawls over it and every dust particle that falls on it also has DNA. So it's not surprising that laying on a dirty floor for 20,000 years contaminates your specimen. This is really a book about the actual process of science. Pbo is a big success for a variety of reasons. Some intellectual - he's real smart - but also social. He seems to be a good supervisor and a good person. Good people want to work with him or for him. He is very far from being a recluse locked up alone in his lab. He goes to meetings and conferences around the world where he picks up contacts that help him later on. He seems to mix well with people from all walks of life. He is very non-nerdy. At one point he reaches a crisis because he need five million dollars for some machine time on a new sequencer. Pbo writes of his dread of asking for so much money. I thought as I read this - this is real 'Big Science'. But then I thought - five million dollars isn't all that much. Almost any little solo Internet project that I dream up costs that much or more. In private industry I often had projects that size. In government I never had one that small. The point is he only had a few people working with him and he had very little access to serious money yet this is the story of one of the biggest scientific breakthroughs in the last few decades. Science is a cottage enterprise. One wonders what would be possible if we were to 'scale up'. Pbo himself is a little confusing. He goes out of his way to explain that he is a homosexual. But he's not a typical gay man. He has a wife and has had at least one kid. This is not the normal pattern. Pbo seems to be very mentally stable. I'm a little at a loss to understand all this. Pbo names most of the people who have worked for him over the years. This is refreshing. Some academics attribute every discovery made in their lab to themselves personally. Pbo goes out of his way to apportion credit. This book should be required reading for grad students who want to get ahead. It's a primer on proper behavior for a modern scientist.

"[T]his book is a vibrant testimonial to what might be the greatest creation of modern humans: the scientific method." --Salon

Neanderthal Man tells the story of geneticist Svante Pbo's mission to answer this question: what can we learn from the genomes of our closest evolutionary relatives? Beginning with the study of DNA in Egyptian mummies in the early 1980s and culminating in the sequencing of the Neanderthal genome in 2010, Neanderthal Man describes the events, intrigues, failures, and triumphs of these scientifically rich years through the lens of the pioneer and inventor of the field of ancient DNA. We learn that Neanderthal genes offer a unique window into the lives of our

hominid relatives and may hold the key to unlocking the mystery of why humans survived while Neanderthals went extinct. Pbo's findings have not only redrawn our family tree, but recast the fundamentals of human history--the biological beginnings of fully modern Homo sapiens, the direct ancestors of all people alive today.

From BooklistAs Pbo tells it, sequencing the genome of Neanderthal man seems to have been about equally fascinating and frustrating. Fortunately, fascination predominated, and ultimate success was reported in 2010 and closely followed by the sequencing of another progenitor of modern humans. The frustration that dogged the project arose from the difficulty of finding Neanderthal fossils with enough DNA left in them to reconstruct the genome, and the constant need to expel contamination by modern human DNA, which, since it highly resembles Neanderthal DNA, routinely corrupts sequencing the latter. The tale Pbo tells is largely one of technological improvement enabling the elimination of contamination and speeding up the sequencing process. Secondly, its about creating scientific foundations and multinational scientific cooperation to pursue the promises of research into ancient DNA, including that of nonhuman species as well as hominins. Although he never mentions it, Pbo is the acknowledged founder of ancient DNA research. Instead, he sparingly recounts his personal odyssey from homosexuality to marriage and fatherhood, without relating it to his work, which may perplex some readers. --Ray Olson "Pbo provides a riveting, personal account of the development of paleogenetics and the technical revolution that made the field possible."Science"Neanderthal Man is a revealing history of a new scientific field."Carl Zimmer, New York Times Book "If there is one name associated with ancient DNA, it is Svante Pbo.... Neanderthal Man is perfectly timed, beautifully written and required reading."Nature"Pbo has provided us with a fabulous account of three decade of research into ancient DNA, culminating in 2010 with the publication of the Neanderthal genome."New York of Books"Highly recommended." Choice"The world's foremost expert on recovering ancient DNA tells the inside story of what it took to reconstruct the Neanderthal genome."The Christian Century, Essential Books on Evolution and Human Origins"This is a fascinating story of how modern science and especially computer technology is opening vistas onto our prehistoric history." The Explorers Journal"Pbo provides a fascinating look at how his personal life intersected with the founding of a scientific field that has revolutionized evolution." Science News"Pbo paints a picture of how a major scientific advance rose out of a mix of politics, persuasion, careful management, and struggles with technology and technique. For that alone, it's valuable."Ars Technica"Scientific understanding of earlier humans is fast evolving. For the nonce, this is a go-to volume on the subject for serious readers." Library JournalAbout the AuthorSvante Pbo is the founder of the field of ancient DNA. The director of the department of genetics at the Max Planck Institute for Evolutionary Anthropology in Leipzig, Pbo has been featured in the New York Times, Newsweek, National Geographic, and The Economist, as well as on NPR, PBS, and BBC. In 2009 Time named him one of the 100 Most Influential People in the World. Pbo lives in Leipzig, Germany.