problems." Fact? Well, maybe. An assertion like that makes me immediately wonder whether there is no bio-cultural mismatch and whether we might not be well aware of our environmental problems. Ehrlich can also sound casual and high-handed about political change; democracy does not get a look in. On one page, we learn that population growth is to be reversed, that consumption is to be reduced, and that our sociopolitical system "must undergo dramatic revision." He laments that various international bureaucracies "still have not gained significant regulatory control over the way human beings treat one another." I'd like to have heard more (indeed, anything) about the votes of ordinary citizens.

But I do not wish to end on a negative note. Human evolution is the greatest story in history, and it is the topic of fast-accumulating evidence and a head-spinning scope of thought. We need new, sensible introductory syntheses every two or three years. For reasons implicit in the length of Ehrlich's reference list, we do not get them that often. Ehrlich's approach in *Human Natures* was not inspired by how to win friends and influence people—evolutionary psychologists will (with good reason, I fear) dislike it. But I doubt whether anyone will write as good a book of this sort on this topic for another two or three decades.

References

1. R. G. Klein, *The Human Career: Human Biological and Cultural Origins* (Univ. of Chicago Press, Chicago, ed. 2, 1999); *Evol. Anthropol.* **9**, 17 (2000).

NOTA BENE: FILMS

Seven Scientists Up Close

Me & Isaac Newton
Michael Apted, Director
First Look Pictures, Los Angeles, 2000. See: http://www.clearblueskyfilms.com/documentaries/main/

Over a good dinner or a drink, scientists can often be coaxed into summoning up memories of what inspired them to choose a life of research. The more articulate of the species will also enlighten us on what it means to be a scientist and do science. Such reflections form the core of Michael Apted's new documentary film *Me & Isaac Newton*, which profiles seven researchers who are also superb communicators.

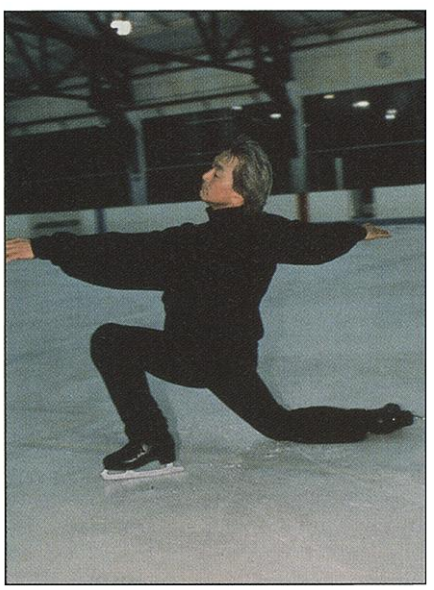
The seven come from a wide spectrum of fields and career points; they range from Maja Mataric, a young robotics researcher at the University of Southern California, to the late Nobel laureate Gertrude Elion, who never finished her Ph.D. but spent many decades searching for new cancer drugs with great success. With *Newton*, Apted is following the map of his earlier film *Inspirations*, in which he profiled seven artists, probing their work and their motivations. The new film also recalls Apted's most famous documentary work, the series of *Seven Up* and its sequels, which recorded the lives of a handful of British schoolchildren at seven-year intervals up into adulthood. Success with this technique absolutely demands the choice of charismatic, articulate people and Apted has been savvy in his selections.

He lets his subjects talk at length about their early influences and fields of research. Individual styles and motivations are diverse. Ashok Gadgil, an Indian physicist who works on developing cheap water purification systems, wouldn't dream of doing science unrelated to social good. Michio Kaku, a theoretical physicist at the City University of New York, wants to "read the mind of God." Cognitive scientist Steven Pinker relates that he grew up in a Jewish community in Montreal that was verbal and argumentative. From his childhood he developed a love of reasoning through debate and, perhaps not surprisingly, chose to study the human mind through human language.

The story of MacArthur Fellow Patricia Wright is remarkable. As a housewife in Brooklyn in the 1960s, she became interested in the antics of her pet owl monkey. From there, she got funding to answer her questions and won a position at a university (in that order), and then went on to study endangered lemurs in Madagascar. The interviews with Gertrude Elion are a particular treasure. She died a few months after filming, but we see her both feisty and generous with high school kids who are thinking about a life in science. We are also granted entry into the very personal feelings of Karol Sikora, a World Health Organization cancer researcher interested in gene therapy, who grapples with religion and medical ethics while agonizing over the problem of delivering health care to the developing world.

We also see these scientists wrestling with what makes science different from other human activity. All agree that it means a willingness to be grandly wrong—"sticking your neck out," as Pinker puts it—which is not often a comfortable place to be. And we see that these seven scientists, all exceptionally successful in their fields, have other thoughts and concerns. In fact, the film's title comes from a remark by Michio Kaku that while relaxing on the ice-skating rink, he can empty his mind. "There is nothing except me and Isaac Newton" controlling the glide and spin of his figures on the ice.

Other filmmakers have passed through some of this territory before, notably Errol Morris who explored themes of creativity with *A Brief History of Time* (about Stephen Hawking) and *Fast, Cheap, and Out of Control* (about four unusual individuals with widely diverse interests). But Morris sometimes strives to be entertaining by using his subjects almost as comic props in a big joke, complete with hyperclose closeups, funny music, and clever editing. It's good, effective stuff, but at the cost of really finding out what makes these people tick.



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Apted, instead, opts for a quieter style, which might be surprising given his forays into mainstream feature filmmaking such as the recent James Bond movie *The World Is Not Enough*. This less flashy approach forces him into a much tighter corner. Thoughtful talk is intercut with scenes of labwork and exotic locales, but the price Apted pays is that his subjects come off seeming a bit too self-serious. What's missing in some cases is more evidence of the mental playfulness required of a creative researcher, something that came through strongly in his *Inspirations*. Some of this is unavoidable, as Apted himself has acknowledged. Making lab procedures and theoretical ideas visually compelling is tough under any circumstances. Nonetheless, with this film Apted has created an engaging field report on why scientists do what they do.

—DAVID VOSS