

NEW DE GREY BOOK

Ending Aging by Aubrey de Grey with Michael Rae, St. Martin's Press 2007.
Review by Robert Ettinger.

The primary author and his co-author have some interesting things to say, even though little in the book will be new to those who follow anti-senescence research, even at the lay level.

Let's get the mild negatives out of the way first:



Photo: Kevin Perrott

1. The primary message of the book is send-me-money. (Support my research efforts and those of others.) That's all right, and I hope the appeal is successful.
2. In support of the appeal for help is the guesstimate that, with an effort somewhat better than the current one, there is a fifty-fifty chance of a large improvement in longevity within 30 years. As far as I can see, there is no actual calculation to support this guess.
3. The primary author seems to take credit for originality in ignorance of earlier writers. Glaringly, he seems to claim to have (recently) discovered the cross-linked-molecules hypothesis as a major cause of senescence. In fact this was proposed, and given some research support, more than sixty years ago by Johan Bjorksten, as reported e.g. in my book *Man into Superman*, available on the CI web site, www.cryonics.org.

In further detail, Bjorksten suggested that there might be enzymes, produced by bacteria in the ground, that would dissolve these cross links, the reasoning being that, in the absence of such enzymes, human and animal remains (soft tissue) would not disappear over time. De Grey reports his own very similar idea, explored by taking earth samples from mass graves.

4. De Grey takes credit for the insight (a "Eureka" moment in the year 2000) that senescence could be slowed/stopped/reversed without understanding its causes. In fact, many others, including myself, made the same observation long ago. (In order to repair a

mechanism, it is only necessary to know its details when functional, not how it came to be damaged.)

5. There is no mention of cryonics, although we have reason to believe that de Grey subscribes to it. Doubtless he chose not to burden his appeal with another, even more off-putting notion. Can't really fault him for that, as many others have made similar choices.

Psychology of deathism:

The early portions of the book attempt to analyze the psychology of rejection of anti-senescence research. In a nutshell, the basic cause is the same one I have identified with respect to cryonics, namely, cultural inertia, although he doesn't use that precise term. It is simply more comfortable, for most people up to and including the present time, to resign oneself to the apparent inevitability of death and follow the herd.

His strategy to overcome this inertia, as far as this book is concerned, is mainly to make a convincing case that there is a substantial chance of success within the natural lifetimes of many, perhaps even most, people now living. Our main strategy in cryonics is almost the same, with two differences. Our task is easier in the sense that our time frame is much longer, and we have a chance to save people now near death. Our task is harder in that selling "resurrection" or "revival" is harder than selling "slow-down-the-clock" or even "rejuvenation."

Lack of current interventions:

Readers here will probably be disappointed that de Grey offers little or no support for senescence interventions so far tried. He says that CR (Calorie Restriction) has shown some success in animal models and probably offers some help for humans, but not much. His guess is that this demanding regimen only offers something like a three year gain in life expectancy for humans.

There is relatively little mention of other aids currently being marketed, in particular the anti-oxidant supplements that have become popular. As I read him, he thinks antioxidants show no convincing evidence of help and possible evidence of harm in some cases, with a theoretical case to be made that harm is likely. Regarding the supplement industry generally, unless I missed something, he only said there is a lot of "variability," which would seem to imply that perhaps some of the touted supplements may have a degree of merit.

SENS & Methuselah Foundation

SENS stands for Strategies for Engineered Negligible Senescence. There is an associated journal, *Rejuvenation Research*. The Methuselah Foundation is a nonprofit fund-raising organization. Its web site appears to show total donations and “commitments” of around \$4.6 million.

“Science Court”

From time to time over the years I have suggested that one or more of the cryonics organizations might offer a “science court”—a public debate on the merits of cryonics and the ethics of the blackball-cryonics stance of the Society for Cryobiology. We would pay expenses and a stipend of a few thousand dollars to each invited participant of the anti-cryonics team, who would have to qualify as recognized cryobiological researchers and members of the Society for Cryobiology. Reading the de Grey book, it appears he has succeeded in doing something along these lines.

Specifically, the MIT’s *Technology Review* agreed to judge submissions intended to show that SENS was not worthy of pursuit. The judgment was favorable to SENS. *Technology Review* and the Methuselah Foundation had each put up \$10,000 as a prize. There were three entries trying to show that SENS is not worth trying—two individuals and a group of nine. My suggestion for the Science Court did not include any provision for picking a winner. The idea was simply to make the detractors put up or be shown up as lacking the courage of their convictions. The press and the public would render their own decisions. Maybe it’s time to look at this again.