

Relation to Other "Existential Risks" and Human Connection to Nature

Chapter 5.1. Werbos: Existential Risks Beyond Climate

One of the users of this book will be the Millennium Project, a futurist network www.millennium.org, which is working with the UN to propose an office of "existential threats," threats to the very survival of the human species. . (See <https://youtu.be/TT5n10Co8hM>.) Climate risks are entangled with three other equally serious risks, beyond the scope of this book, calling for entire new books.

Here I can only mention them and point to a few sources:

5.1.a. Nuclear threats. Nuclear technology has made great, complex and diverse progress since the Cold War ended. Possibilities for human extinction have also grown, by pathways which I learned about when I ran the interagency ARI program for three years <https://www.nsf.gov/pubs/2013/nsf13554/nsf13554.htm>. It would not be constructive to elaborate on the worst, most serious possibilities, but a filtered version of a few of them were approved for discussion at a NATO workshop: <https://www.nsf.gov/pubs/2013/nsf13554/nsf13554.htm>.

Perhaps the safest nuclear source of electricity for use on earth would be electricity beamed down from a D-D pellet fusion system in space, which we previously discussed with NASA and DOE Livermore.

5.1.b. An emerging complex of threats from certain uses of Artificial General Intelligence (AGI) and Internet of Things.

These include both fatal risks and essential new technology opportunities to stop the fatal risks already coming on faster than anyone knows who is not at the utmost frontier of new activities. A crude summary, already out of date, is at:

http://www.werbos.com/How_to%20Build_Past_Emerging_Internet_Chaos.htm summary, Chapter 2.D.1 offers a pathway to Quantum Artificial General Intelligence (QAGI) for optimization, to increase the capabilities of RLADP, a core technology for all of Part 2. Looking to the future, beyond the scope of this book (but perhaps suitable for a sequel), QAGI will vastly expand the opportunities and risks, and open the door to even more advanced sequels.

5.1.c. Risks (and opportunities) associated with biotech and agriculture. Originally, we intended to include an entire section in agriculture and related technology in this book. But there are many very serious conflicts, and gaps in communication between important communities, which made it impossible to live up to high IEEE standards here at present. Still, we should point to some of the positive opportunities and needs.

Though agriculture and similar activities only account for about a fifth of US net GHG, they are larger in the rest of the world, and have real potential to move from being a source of net emission to a very important net sink. Lovelock has even written that ONE of the historic indigenous renewable agriculture technologies (terra preta) could be upgraded, and integrated with modern market design and technology to solve GHG problems all by itself! Unfortunately, there is no "IEEE of renewable agriculture" yet, to nail down exactly what the best real opportunities are; therefore, we can just flag it for the future. Steenbock of Brazil has worked with networks of business and indigenous peoples, and developed the kind of quantitative approaches that could be useful in global policy analysis, but more integration is needed with approaches all over the world.

Chapter 5.2. Arnaldo De Hoyos (lead), Werbos (coauthor) Deep Human Connection to Nature

Many people believe that our success in preventing climate extinction depends very deeply on upgrading our human networks of communication, connecting humans with each other and with nature in general, all

across our solar system. This may be especially important to our ability to cooperate through the massive new changes in the internet, which call for deep research into human communication and synchronization, especially via the internet, linked to the development of new platforms for markets and other organizations, more responsive to humans and ennobling for human potential.

This is important not only to climate but to the other existential risks, and to the greatest positive hopes for human potential and humanity. IEEE cannot take a position on the details of how to do this, but De Hoyos and Verbos will pay attention to and cite a wide range of humanistic cultures, from indigenous cultures to views of the noosphere and of the cosmos to the works of Freud and Jung, all of which they have studied deeply, and which agree with putting a primary focus on the human mind and soul in an open, positive, cooperative spirit.