

ATTACHMENT E.5. VERY LONG-RANGE PLANNING, POLICY AND ACTION

This Attachment will address the suggestion that households, countries and the human community as a whole will need to learn how to think, plan and act with some degree of confidence over time horizons of 100-200 years ahead. The notes shown here are a quick scan of experiences and initiatives that might be considered germane to the inquiry, some more than others. A fuller review and discussion is to be part of the final working paper.

1. The existence of institutions that have functioned successfully for very long periods demonstrates that very long-range viability is possible:

- * The cities of **Damascus, Syria** and **Jericho, Palestine**, have been continuously inhabited for ~ 11,000 years.
- * The Roman Catholic **papacy** has functioned for ~ 2000 years.
- * **Oxford University** has functioned for over 900 years.

It's not clear, however, if these can be taken as examples of long-range *planning for outcomes*. They might better be thought of as examples of institutions that simultaneously met immediate needs and were inspired by a timeless mission.

2. Two examples of long range visions that involved some degree of specific planning might be:

* **The Carolingian Renaissance:** The Emperor Charlemagne was well aware that the material and social conditions of his newly-established 8th century Holy Roman Empire were a dismal, backward mess compared with both the neighboring contemporary Islamic Caliphate and Byzantine Empire, and with his predecessor Roman Empire as well. He estimated that it would take perhaps 300 years to rebuild. He began with a series of very basic measures, e.g., promoting the development of a simplified calligraphy (*Carolingian miniscule*) and written language, together with measures to promote literacy among the clergy throughout the Empire, along with promulgation of standard laws regulating trade, landholding, etc. By 1100 the Holy Roman Empire had rebuilt enough to begin the Crusades.

* **The People's Republic of China.** In ~ 1990 the PRC Communist Party under Deng Xiao-Ping embarked on an ambitious plan to become a major industrial power, and perhaps the world's predominant power, within two generations, or ~ 60 years, i.e., by 2049, the centennial of the 1949 victory of the Chinese Communist Party. This vision has been held to for 30 years and is well on track towards realization. Nothing of this scope and scale has happened before in human history. It might not be quite an example of what we're looking for, as individual Chinese, for all their sacrifices, still realized substantial tangible benefits in the course of China's rise.

3. Are there examples of long-range planning in which all or most benefits are several generations in the future? One might be **Cathedral Building**. Many of the great Cathedrals of Europe took 100-200 years to build. Construction of York Minster began in 1220 and was finished in 1470; Millan Cathedral began in 1386 and wasn't completely finished until 1965. Notre Dame began in 1165 and was completed in 1345. The prelates, princes, architects, masons and laborers who began these cathedrals knew they would not live to see their completion. Still, portions of these cathedrals were put into use well before final completion.

4. There are many examples of visionaries who committed their lives to outcomes they knew they'd never live to see realized. Rocket engineers **Robert Goddard** (1882-1945) and **Werner von Braun** (1912-1977) were both motivated as young men by visions of human travel to Mars, which neither expected to ever see happen. Still, they could find fulfillment in intermediate accomplishments that were important in themselves. Goddard built the first liquid-fuel rocket in 1926 and von Braun developed the Saturn V that took astronauts to the moon in 1969.

5. An example of an initiative intended to be of benefit several to many generations hence is the oft-told (and semi-apocryphal) **story of the Oxford Oaks**. Supposedly, the foresters at Oxford University of 500 years ago planted a grove of oaks that they knew would be needed to replace certain oaken beams in large University halls that after 500 years could be expected to go soft and become invested with beetles. For 20 generations after the grove was planted, successive Oxford foresters passed on the instructions not to cut from that particular grove because the mature trees would be needed in the early 2000s.

6. A more significant example of planning and sacrifice by an earlier generation so that benefits they will never see could be realized by later generations is the **United Nations Paris Treaty on Climate Change**. It calls on the present generation to make significant sacrifices in consumption so that our descendants in 2100 and beyond will be able to live in a more ecologically untroubled environment than they would be likely to otherwise, and have a greater chance as well of avoiding truly catastrophic damage (even though truly catastrophic damage is an unlikely threat to begin with). Of course, it's not clear at this writing if the present generation will in fact agree to such sacrifices.

7. There are many smaller, discrete initiatives that involve multi-generational planning horizons. [*The Clock of the Long Now*](#), currently under construction, is a 200-foot long mechanical clock-like structure intended to keep time for the next 10,000 years. A "decade" hand will click every decade and a "century" hand every century. A cuckoo will pop out every 1000 years. The Clock will be buried in a limestone cavern under a mountain in Texas owned by Jeff Bezos of Amazon. It will be accessible to the public but will intentionally require a 1-hour hike over rugged terrain. The Clock was conceived by Danny Hillis, an associate of those who pioneered the "Whole Earth" mindset in the late 1960s. In truth, the clock itself doesn't provide future generations with much direct utility, nor does it call on current generations to sacrifice much (donations from rich people and the public are paying for it). Rather it's intended to help current and succeeding generations *think about* the far future and to take it seriously, and in that way, hopefully, contribute to behaviors that do in fact benefit those far off generations.

8. **The 100-year Star Ship Project (100YSS)** acknowledges that we currently have no idea how humans could possibly ever travel to the stars and reasons that if we are ever to someday do so it will likely involve very, very long periods of research and development. The mission of the 100YSS is to develop a *business plan* that would enable such research to be conducted on a sustainable basis for as long as a century. The 100YSS is headed by former astronaut Mae Jemison and funded by DARPA and NASA.

9. The **Stanford 100-year Study of Artificial Intelligence** is motivated by the similar notion that both the development of AI and assessment of its benefits and risks will be an ongoing concern for at least the coming century, and that we should institutionalize such long-term critique now. At five-year intervals over the coming century the 100-Year Study will prepare and publish a high-level report on the state of AI, with particular attention to risks and policy options. The Study is administered by the office of the President of Stanford University and has been endowed by a grant from Stanford alumnus and AI engineer Eric Horvitz and his wife Mary.

10. Christopher Mason at Weill Cornell Medicine has prepared a **500 year plan** for **colonizing habitable planets with genetically modified humans** that can thrive under a range of conditions. The plan is more a demonstration of hubric fantasy than it is of serious long-range imagination. See Attachment F.5.e. for details.

11. A number of historians argue that historical scholarship has become too focused on the fine-grained study of periods of very short duration and specialized topics, and needs to re-engage the study of long historical periods from cross-disciplinary perspectives. In their 2014 book ***The History Manifesto*** professors Jo Guldi of Brown and David Armitage of Harvard diagnosed a "crisis of short-term thinking," and urged that history be thought of as a future-oriented discipline, with attention paid to long-term trends and theory that can explain these.

12. In 1950 "Old Right" libertarian author Frank Chodorov (1887-1966) wrote the article "**A Fifty-Year Project.**" It described how socialists, beginning in the first decade of the century, had succeeded in winning over the college students who went on to occupy positions of influence in the Roosevelt administration during the Great Depression, and who during and after the war helped construct the "collectivism" that Chodorov believed dominated the mid-century United States government and economy. Chodorov proposed in turn a **fifty-year project** to take back America from the collectivists and have "Individualism" prevail by the coming turn of the century, i.e., ~ 2000. He proposed that the key initial structure be a "lecture bureau" that would recruit a "corps of lecturers" to take the individualist message to "selected campuses." The lectures would be followed by the establishment of a network of "Individualistic Clubs," prizes for essays on individualism and a journal in which these and other articles would appear. Chodorov and William F. Buckley established the Intercollegiate Society of Individualists (ISI) in 1953. It went on (after being renamed the *Intercollege Studies Institute*) to become the major conservative student organization during the 1950s-1970s and to play a central role in the growth of conservatism that led to the election of Ronald Reagan as president in 1980. See Chodorov (1950).