

Mankind's strange love of superweapons

Doomsday Men: The Real Dr Strangelove and the Dream of the Superweapon

by P. D. Smith

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Gregg Herken

"There is nothing in Man's industrial machinery but greed and sloth: his heart is in his weapons," said the Devil in George Bernard Shaw's *Man and Superman*. Shaw's adage could almost be the *leitmotiv* of P. D. Smith's well-researched and altogether depressing account of humankind's long hunt for the ultimate superweapon: a doomsday device that, by its very terribleness, would make war forevermore unwinnable, and hence unthinkable. Although we all know how this tale turns out, it is a journey well worth taking. Along the way, Smith includes some fascinating asides about the men — and it was, almost exclusively, a fraternity — who, in seeking to make war obsolete, have only made it more deadly.

Typical of the breed was German chemist Fritz Haber, who invented and personally promoted the use of poison gas on First World War battlefields. As with his contemporaries in the other belligerents, Haber started out as an idealist who, once hostilities began, quickly harnessed his science in the service of the state. His motto, "*Im Frieden der Menschheit, im Kriege dem Vaterland*" (In peace, for mankind; in war, for the fatherland), sets a pattern followed with distressing regularity by other idealistic scientists in subsequent conflicts.

The real focus of Smith's book is Leo Szilard, a Hungarian-born American physicist who fled Nazi Germany and eventually wound up in the United States. Szilard was arguably the first to envisage how a nuclear weapon might be made. "You know what fission means," he confided to fellow physicist Edward Teller in early 1939, "it means bombs."

Ironically, it was a seemingly off-hand remark made by Szilard in a nationwide radio broadcast in February 1950 — shortly after the Truman administration announced plans to proceed to the next level of destructiveness, the hydrogen bomb — that revived interest in a true 'doomsday' weapon. Szilard envisaged building a battery of very powerful hydrogen bombs jacketed with cobalt-60, an element with a radioactive half-life of 5.7 years. In a later iteration, the bombs would be hooked up to a computer, which, on receiving a certain signal — say, a single nuclear weapon exploding on friendly territory, or the crossing of a border by enemy troops — would detonate them. Theoretically, such a device, if set off, would enshroud Earth with lingering, lethal levels of radioactivity, snuffing out all human life.

In the end, the cobalt bomb was never very



Leo Szilard was among the first to conceive of a nuclear weapon.

attractive to even the most bloody-minded of strategists because it would not have been destructive enough: the longer the half-life, the less intense the radiation. That did not stop a generation of novelists and film-makers from enlisting the cobalt bomb in their doomsday scenarios: among them, novelist Nevil Shute in *On the Beach* and director Stanley Kubrick in *Dr. Strangelove*. Nor did it prevent P. D. Smith from making the cobalt bomb the

centrepiece of his book.

Doomsday Men is prodigiously researched, the author seeming to have read everything on nuclear strategy, both fiction and non-fiction (admittedly, the two are sometimes difficult to tell apart). However, there are some nagging deficiencies. Editing is one. We are told twice within a few pages that Leo Szilard was considered "the greatest scientist never to have won a Nobel Prize." Focus is another. The book is as much a history of modern science as of modern weaponry, so dominant has been the latter in the evolution of the former. But it is not clear, for example, what connection the discovery of X-rays has with the advent of doomsday weapons.

One can only sympathize with the author's observation that, since the end of the Cold War, global warming and Islamist terrorism have distracted our attention from the weapons that

remain in the arsenals of nations, numerous, primed and waiting. Although not as deadly as Smith's fictive doomsday bomb, they are cause for us to be more fearful, for they are real. ■

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Linnaeus lives on

Order out of Chaos: Linnaean Plant Names and their Types

by C. Jarvis

The Linnean Society of London: 2007.

1,016 pp. £80

Pamela S. Soltis

The relevance of taxonomy in our genomic era is greater than ever. Correct naming is crucial for developing new foods and medicines, and for understanding our changing environment. Amazingly, we do not even know how many species of flowering plant currently exist. Estimates range from about 250,000 to more than 400,000, and every day species are lost to human activities. Conservation, in natural habitats or botanical gardens, relies on scientific names, as does the rest of science.

Before Carl Linnaeus, species names ranged from cumbersome to unwieldy. For exam-



ple, *Arbutus caule erecto, foliis glabris serratis, baccis polyspermis* was as good as it got for 'Arbutus with upright stems, hairless, saw-toothed leaves, and many-seeded berries'. Linnaeus's binomial

system of nomenclature changed all that. Species could now have a genus name plus a specific epithet. "The father of taxonomy" applied his revolutionary system to plants in *Species Plantarum*, published in 1753, and to animals in the tenth edition of *Systema Naturae* in 1758. More than 250 years later, the name of a species remains the key that unlocks all that is known about it.

In honour of Linnaeus's 300th birthday, Charlie Jarvis's handsome new book, *Order out of Chaos*, gives us a glimpse into pre-linnaean botany, Linnaeus's life and work,