

and surely Rupert Sheldrake has earned a mention. To compensate there are two appendices, one of which reveals that the Curse of King Tutankhamun's Tomb can take the form only of increasing the longevity of trespassers, the other enumerating the dates predicted over the centuries for the End of the World. (The next one comes up this year and another in 1999). Randi stops just short of including religions generally and their versions of the deity among his hoaxes and delusions, although their paraphernalia — saints and miracles, angels, devils and suchlike — abound. I suspect he would (as do I) concur with Lord Eldon, the Lord Chancellor who, having ploughed through *Paradise Lost*, gave his opinion of Satan thus: "Damn fine fellow, and I hope he wins". □

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Techniques of extraction

Robert W. Cahn

Stalin's Captive: Nikolaus Riehl and the Soviet Race for the Bomb. By Nikolaus Riehl and Frederick Seitz. *American Chemical Society: 1995. Pp. 218. \$34.95.*

NIKOLAUS Riehl was a German radiochemist, born in St Petersburg in 1901, who in 1927 obtained his doctorate in Otto Hahn's laboratory under Lise Meitner's supervision. He then joined the Auer Company (founded by Auer von Welsbach, the originator of the eponymous gas mantle) became its research director and before the Second World War had invented the fluorescent electric lamp. The Auer Company worked with uranium ores, from which it extracted radium and rare-earth oxides, so Riehl had the chemical expertise needed to purify metallic uranium when the war came. He became fascinated by the idea of a chain reaction, putting his services at the disposal of the German 'Uranium Club' (or nuclear project). At the end of the war, the Russians (specifically Beria's secret police) captured Riehl and his family and took them to Russia so he could teach engineers there how to purify uranium. He was forced to remain in the country until 1955, when he returned with his

THE migrant hawk dragonfly *Aeshna mixta* is common throughout most of south and central Europe, and is also found in North Africa, the Caucasus and east to China and Japan. Britain and Ireland support about a third of the European dragonfly fauna. The status of all their resident and more frequent immigrant species over the past 25 years is now surveyed in *Atlas of the Dragonflies of Britain and Ireland* by R. Merritt, N. W. Moore and B. C. Eversham. The atlas provides detailed information about distribution, descriptions to aid identification and summaries of dragonfly behaviour, habitat and conservation. HMSO, £15.95 (pbk).



family to West Germany. Soon after, he wrote an account (in German) of his experiences, *Ten Years in a Golden Cage*, which was published in 1988 but made no impact at all. He died in 1990.

The book came to the attention of Frederick Seitz, an influential US physicist (it would be no exaggeration to consider him the father of solid-state physics). Having belonged to the pre-war generation of physics students who, as he points out, were required to learn German to a good standard of competence, Seitz was able to translate the book himself and he persuaded the American Chemical Society to publish it as an historical treatise. The translated memoirs are preceded by an extraordinarily wide-ranging 66-page preamble written by Seitz, which places Riehl in perspective in relation to the early work on fission, the Uranium Club and several other eminent scientists such as the physical chemist Max Volmer (of 'nucleation' fame) and Gustav Hertz, both of whom were also taken to Russia and whose lives crossed with Riehl's. Several pages of the preamble deal with the much debated issues of Heisenberg's role in the German nuclear effort and the Farm Hall transcripts, the surreptitiously recorded conversations of the ten German physicists detained in England from May to December 1945. This preamble is so full of fascinating nuggets of information, scientific and political, that it would be well worth buying the book just for that.

Riehl was fluent in German and Russian (his mother was Russian) and therefore understood much about his Soviet experience that would have escaped a monoglot. His memoirs paint a

remarkable human picture, both of ordinary people (and guards) in his immediate environment and of the officials, engineers and managers with whom he had to interact professionally. For instance, there is an intriguing passage in which a senior engineer pushes, with unaccountable resolve, a novel chemical purification technique of which Riehl had never heard, and from the engineer's use of words he divines that he is receiving the clandestine results of Soviet espionage in the United States. Indeed, there is much about Russian vocabulary, including the systematic use of foul language to achieve political ends. He is also most illuminating on the pointless extremes to which the Soviet authorities pushed their obsession with secrecy: it is a tribute to Riehl's subtle understanding of Russian psychology that he could finally persuade them to let him go (perhaps the fact that his expertise was trumped by stolen American know-how also accelerated his liberation). We also receive vivid pen portraits of the different surroundings of his varied abodes, from near Moscow to the Crimean coast.

Stalin's Captive can be comfortably read in an afternoon, and its intrinsic digestibility is further enhanced by the many portrait photographs of a range of eminent scientists (Seitz is a past master at locating these). The book is recommended to all sorts and conditions of readers; no-one could find it boring. □

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