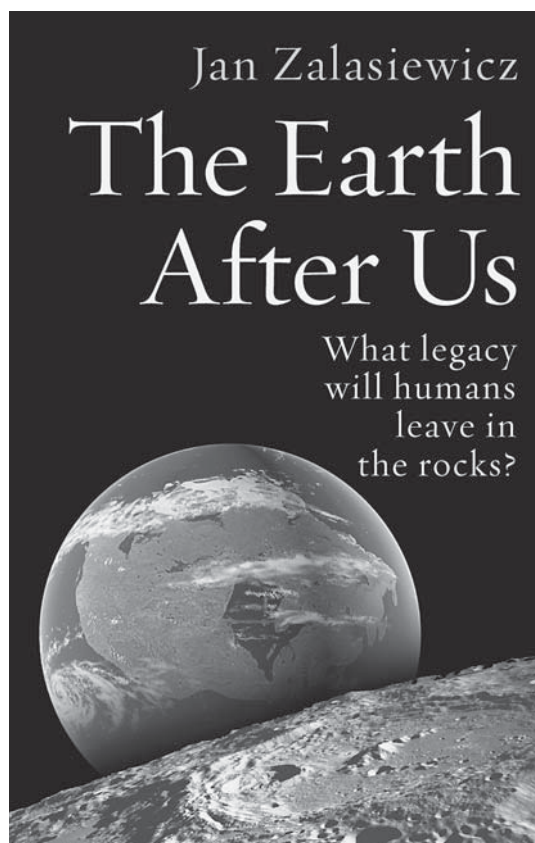


The Earth after us – what legacy will humans leave in the rocks?, by Jan Zalasiewicz, 2008. Oxford University Press. Hardback, 272 pages. Price GBP 14.99. ISBN 978-0-19-921497-6.



This is an unusual book. The author describes the geological records of modern society as they may be found in the future over 100 million years. He is well entitled to follow this novel approach thanks to his extensive knowledge of geology, which encompasses the contemporary methods of research and interpretation. In the book, our perception of the complex geological processes which we have obtained by lithological analyses and studies of rock structures is transferred to the remote future, and it is then applied by hypothetical extraterrestrials. As a brief paragraph in the book puts it: "We will posit, as the forensic researchers into our legacy, extraterrestrial visitors from the galactic empire, finally arrived to this obscure outpost of the Milky Way. They will be given attributes of intelligence and inquisitiveness, which is a reasonable assumption. On Earth today, such qualities are possessed to a perceptible degree by crows, cats, and octopus-

es as well as humans." This quotation is illustrative of both the contents and the linguistic form of the book. On the one hand, the author bases the future geology that he describes on recent achievements of the study of the Earth, which are truly outstanding, especially over the last decades; on the other hand, he offers a somehow simplified idea of the cognitive and interpretative potential of his posited extraterrestrials, who apparently surpass us in terms of both their technology and their intellect.

Taking into account the palaeontological evidence of the succession of faunas in the history of our planet, the author predicts the end of our human species, which currently is in the golden age of our power, our dominance. It seems trite to emphasize that modern civilization leaves its records principally on land, most prominently on the morphological surface, but in the subsoil as well. Accordingly, future geological evidence of our existence will be better legible than the abundant palaeontological, stratigraphic, palaeoenvironmental and palaeoecological data. The extent of the impact of our species on the environment and the records thereof dramatically exceed the magnitude of the activity of fossil beings, the traces of which now constitute the foundation of our knowledge of the geological history of the planet. The past of the Earth is accessible to us at two levels: (1) ancient time-spans, when apparently there was much time and few events, and (2) fairly recent episodes, the characteristic of which is the shortness of the time from which very many events may be inferred. The so-called Anthropogenic will probably leave enormous and highly complex geological evidence, legible even after the 100 million years mentioned throughout the book. The extensive results of the present and future urbanization, industrialization and development of the infrastructure for transport activities will obviously produce indelible traces during the coming tectonic and sedimentary transformations of the planet.

The book is a scientific essay, and in certain passages its language is downright poetic. It often brings up highly specialist geological knowledge, as the author is a researcher with an enormous experience of both field and laboratory work in many branches of geology, as well as an excellent lecturer, with an outspoken capability to clarify relationships between the many seemingly unrelated facts from various disciplines. This explains the numerous references to diverse aspects of geology, palaeoclimatology and palaeohydrology, as well as cosmology, philosophy, and even history and art in a broad sense. Furthermore, the author has decided not to provide references to detailed studies into specific topics dealt with in his book, but rather a bibliography that actually is a list of handbooks for readers who wish to acquaint themselves better with this subject, and who wish to learn basic facts in order to gain a synthetic insight. In my opinion, the bibliography has been properly selected, although it dearly misses one book (*The Deep Hot Biosphere*, by Thomas Gold). Jan Zalasiewicz should have taken the arguments put forward in this book into consideration in his multifaceted study.

Zalasiewicz's book is a very comprehensive work, stylistically beautiful and with an original composition. Apart from the introduction, a bibliography and an index, it comprises ten coherent chapters, some of which are further

divided into sections. The successive chapters are: (1) Perspective; (2) 100 million years A.D.; (3) The strata machine; (4) Tectonic escalator; (5) High water, low water; (6) Dynasties; (7) Echoes; (8) Traces; (9) Body of evidence; and (10) Meeting the people. The text abounds in surprising references to various realms of knowledge. The profusion of opinions and associations, often controversial and contestable, make it an interesting and highly recommendable work. I consider reading the book an intellectual adventure, which made me rethink and review my understanding of geology, in the light of not only the traditional palaeoanalytical approach based on the principle of actualism, but also considering a predictive strategy enrooted in an interpretation of the present and of the well documented past of the Earth.

Reference

Gold, Th., 1999. *The deep hot biosphere – the myth of fossil fuels*. Springer-Verlag, New York, 243 pp.

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