

An abstract landscape painting. The top half of the image is a vibrant, textured red, suggesting a sky at sunset or sunrise. Below this is a dark, horizontal band of black and dark green, representing distant hills or a forest. The bottom half of the image is a textured yellow and gold, representing a field or a body of water. The overall style is expressive, with visible brushstrokes and a rich, saturated color palette.

Jan Zalasiewicz

ROCKS

A Very Short Introduction

OXFORD

Rocks: A Very Short Introduction

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Jan Zalasiewicz

ROCKS

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Great Clarendon Street, Oxford, OX2 6DP,
United Kingdom

Oxford University Press is a department of the University of Oxford.
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and education by publishing worldwide. Oxford is a registered trade mark of
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First edition published in 2016

Impression: 1

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Published in the United States of America by Oxford University Press
198 Madison Avenue, New York, NY 10016, United States of America

British Library Cataloguing in Publication Data

Data available

Library of Congress Control Number: 2016951327

ISBN 978-0-19-872519-0

Printed in Great Britain by
Ashford Colour Press Ltd, Gosport, Hampshire

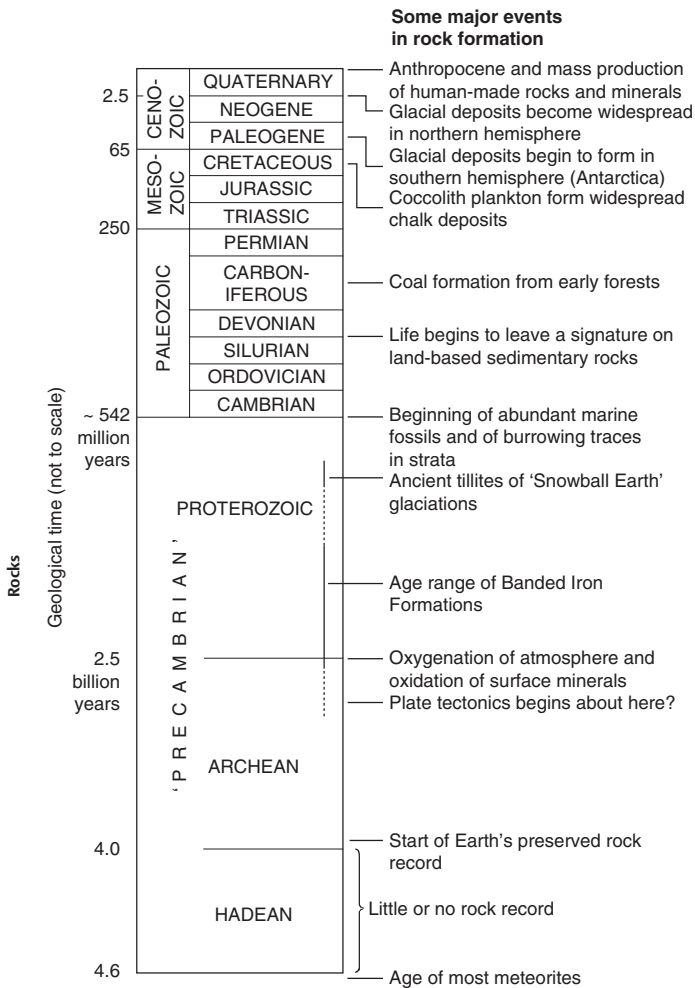
*Dedicated to the memory of Ryszard Kryza of the
University of Wrocław, Poland*

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1. GEOLOGICAL TIME SCALE.

Prologue

Rocks, more than anything else, underpin our lives. They make up the solid structure of the Earth and of other rocky planets, and are present at the cores of gas giant planets. We live on the rocky surface of the planet, grow our food on weathered debris derived from rocks, and from rocks we obtain nearly all of the raw materials with which we build our civilization. Increasingly, we are making rocks on a planetary scale, in the form of gigantic amounts of concrete, brick, and ceramic. More widely, rocks contain our sense of planetary history: indeed, in a very literal sense they *are* the evidence from which Earth history, as encapsulated in the GEOLOGICAL TIME SCALE (Figure 1), is constructed. And, in their guise as petrified history, rocks are a guide to our future, too.

This VSI will give some flavour of the scale, structure, and diversity of rocks on Earth as well as in outer space and on other planets. It will consider how rocks act as planetary foundations—even planetary regulators. It will consider how rocks are formed, how they evolve within enormous cycles of transformation, and how we examine them and glean histories from them. There is almost an infinite variety of rocks and, properly interrogated, they can tell an almost infinite number of stories. These pages, hopefully, will represent some sort of starting point.

My grateful thanks to: Latha Menon and the team at Oxford University Press, including the referees of this book, for their help in shaping this story; to Tiffany Barry for valuable comments on both words and pictures; and to Andrzej Muszynski, Ian Fairchild, Tiffany Barry, Vicky Ward, Marc Reichow, Yesenia Thibault-Picazo, Grażyna Kryza, and Mike Howe and the British Geological Survey for provision of some of the images used.