

The concept of a chemical element is foundational within the field of chemistry, but there is wide disagreement over its definition. Even the International Union for Pure and Applied Chemistry (IUPAC) claims two distinct definitions: a species of atoms versus one that identifies chemical elements with the simple substances bearing their names. The double definition of elements proposed by the International Union for Pure and Applied Chemistry contrasts an abstract meaning and an operational one. Nevertheless, the philosophical aspects of this notion are not fully captured by the IUPAC definitions, despite the fact that they were crucial for the construction of the periodic table. Although rich scientific literature on the element and the periodic table exists as well as a recent growth in the philosophy of chemistry, scholars are still searching for a definitive answer to this important question: What is an element?

Eric Scerri and Elena Ghibaudi have teamed up to assemble a group of scholars to provide readers an overview of the current state of the debate on chemical elements from epistemological, historical, and educational perspectives. *What Is A Chemical Element?* fills a gap for the benefit of the whole chemistry community-experimental researchers, philosophers, chemistry educators, and anyone looking to learn more about the elements of the periodic Table.

Eric Scerri is a leading philosopher of science specializing in the history and philosophy of chemistry and especially the periodic table. He is also the founder and editor-in-chief of the international journal *Foundations of Chemistry* and has been a full-time lecturer at UCLA for the past twenty years where he regularly teaches classes of 350 chemistry students as well as classes in history and the philosophy of science. Altogether, Scerri has authored or edited a total of eleven books and more than 150 journal articles.

Elena Ghibaudi is a bioinorganic chemist with interest in the philosophy of chemistry and chemical education. She is Assistant Professor within the Department of Chemistry at the University of Torino in Italy, and she teaches classes in general and bioinorganic chemistry, as well as in chemical education. Ghibaudi is the author of several articles in the field of chemical education and the philosophy of chemistry including an influential article on the notion of chemical element. She is a member of the International Society for the Philosophy of Chemistry.

OXFORD
UNIVERSITY PRESS

www.oup.com

Cover design: Elisa Seidner

ISBN 978-0-19-093378-4



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