

Cambridge Elements

Elements in the Philosophy of Science

edited by

Robert Northcott

Birkbeck, University of London

Jacob Stegenga

University of Cambridge

UNITY OF SCIENCE

Tuomas E. Tahko

University of Bristol



CAMBRIDGE
UNIVERSITY PRESS

Cambridge University Press
978-1-108-71338-2 — Unity of Science
Tuomas E. Tahko
Frontmatter
[More Information](#)

CAMBRIDGE
UNIVERSITY PRESS

University Printing House, Cambridge CB2 8BS, United Kingdom
One Liberty Plaza, 20th Floor, New York, NY 10006, USA
477 Williamstown Road, Port Melbourne, VIC 3207, Australia
314–321, 3rd Floor, Plot 3, Splendor Forum, Jasola District Centre,
New Delhi – 110025, India
79 Anson Road, #06–04/06, Singapore 079906

Cambridge University Press is part of the University of Cambridge.

It furthers the University's mission by disseminating knowledge in the pursuit of education, learning, and research at the highest international levels of excellence.

www.cambridge.org
Information on this title: www.cambridge.org/9781108713382
DOI: 10.1017/9781108581417

© Tuomas E. Tahko 2021

This work is in copyright. It is subject to statutory exceptions and to the provisions of relevant licensing agreements; with the exception of the Creative Commons version the link for which is provided below, no reproduction of any part of this work may take place without the written permission of Cambridge University Press.

An online version of this work is published at <http://dx.doi.org/10.1017/9781108581417> under a Creative Commons Open Access license CC-BY-NC-ND 4.0 which permits re-use, distribution and reproduction in any medium for non-commercial purposes providing appropriate credit to the original work is given. You may not distribute derivative works without permission. To view a copy of this license, visit <https://creativecommons.org/licenses/by-nc-nd/4.0>

All versions of this work may contain content reproduced under license from third parties. Permission to reproduce this third-party content must be obtained from these third parties directly.

When citing this work, please include a reference to the DOI 10.1017/9781108581417

First published 2021

A catalogue record for this publication is available from the British Library.

ISBN 978-1-108-71338-2 Paperback
ISSN 2517-7273 (online)
ISSN 2517-7265 (print)

Cambridge University Press has no responsibility for the persistence or accuracy of URLs for external or third-party internet websites referred to in this publication and does not guarantee that any content on such websites is, or will remain, accurate or appropriate.

Unity of Science

Elements in the Philosophy of Science

DOI: 10.1017/9781108581417
First published online: January 2021

Tuomas E. Tahko
University of Bristol

Author for correspondence: Tuomas E. Tahko, tuomas.tahko@bristol.ac.uk

Abstract: Unity of science was once a very popular idea among both philosophers and scientists. But it has fallen out of fashion, largely because of its association with reductionism and the challenge posed by multiple realisation. Pluralism and the disunity of science are the new norm, and higher-level natural kinds and special science laws are considered to have an important role in scientific practice. What kind of reductionism does multiple realisability challenge? What does it take to reduce one phenomenon to another? How do we determine which kinds are natural? What is the ontological basis of unity? In this Element, Tuomas Tahko examines these questions from a contemporary perspective, after a historical overview. The upshot is that there is still value in the idea of a unity of science. We can combine a modest sense of unity with pluralism and give an ontological analysis of unity in terms of natural kind monism.

This title is also available as Open Access on Cambridge Core at <http://dx.doi.org/10.1017/9781108581417>

Keywords: philosophy of science, metaphysics of science, reduction, realisation, natural kinds

© Tuomas E. Tahko 2021

ISBNs: 9781108713382 (PB), 9781108581417 (OC)
ISSNs: 2517-7273 (online), 2517-7265 (print)

Contents

1 Introduction	1
2 A Historical Overview of Unity	2
3 Combining Unity and Pluralism	21
4 Unity of Science and Natural Kinds	40
References	65