



palgrave▶pivot

The Representational Fallacy in Neuroscience and Psychology

A Critical Analysis

Maxwell R Bennett
Peter M S Hacker

palgrave
macmillan

The Representational Fallacy in Neuroscience and Psychology

Maxwell R Bennett • Peter M S Hacker

The Representational Fallacy in Neuroscience and Psychology

A Critical Analysis

palgrave
macmillan

Maxwell R Bennett
University of Sydney
Sydney, NSW, Australia

Peter M S Hacker
St John's College, Oxford
Oxford, UK

ISBN 978-3-031-57558-7 ISBN 978-3-031-57559-4 (eBook)
<https://doi.org/10.1007/978-3-031-57559-4>

© The Editor(s) (if applicable) and The Author(s), under exclusive license to Springer Nature Switzerland AG 2024

This work is subject to copyright. All rights are solely and exclusively licensed by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publisher, the authors and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, expressed or implied, with respect to the material contained herein or for any errors or omissions that may have been made. The publisher remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

This Palgrave Macmillan imprint is published by the registered company Springer Nature Switzerland AG. The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

If disposing of this product, please recycle the paper.

Contents

1	The Variety of Conceptions of Representation	1
1.1	Of Representations in General	2
1.2	Artefactual Representations (see Table 1.1)	11
1.3	The Internalization of Representations	17
1.4	Conclusion	34
	References	35
2	The Early History of Representations in Experimental Psychology	37
2.1	Historical Background	38
2.2	Memory and Representation	42
2.3	Thinking and Representation	46
2.4	Perception and Representation	48
2.5	Conclusion	50
	References	51

3	The Early History of Neural Representations	53
3.1	Increasing Use of the Concept of Representation	55
3.2	Neural Representations in Sensory Cortex: Vision	56
3.3	Neural Representations in Motor Cortex	68
3.4	Neural Representation in Association Cortex	70
3.5	Conclusion	73
	References	74
	References	77
	Author Index	81
	Subject Index	83

List of Figures

- Fig. 1.1 A diagrammatic representation of Avicenna's theory of the processing of sense-perception of particulars into genuine knowledge of universals by the intellect 19
- Fig. 1.2 Three intellectual sources of the contemporary internalization of representations 23

List of Tables

Table 1.1	Varieties of conceptions of representations	3
Table 1.2	The false roots of the inner/outer conception of experience	27



1

The Variety of Conceptions of Representation

Abstract The origins of the word *representation* are traced from antiquity to modern times when *representation* is used in discussion of art objects, reports, maps and in a variety of other contexts. The idea of *representing* something is most at home in the domain of artefactual *representations*. These have the following feature, namely that the medium (viz. oil, pencil, marble etc) is clearly distinct from the message that is depicted or portrayed (and that does not have to exist). But what are taken as ‘mental *representations*’ (ideas, perceptions, images, etc) are all message and no medium. What justifies the extension of *representation* involving an artefactual medium, to that of mental images (the message) to a medium-less mental medium? The principal motivation for the internalization of *representations* were: (i) Galileo’s distinction between primary and secondary qualities; (ii) the inner/outer conception of the mind; (iii) the cognitive assumption (how does one know one perceives?). We show all of these are confused and so is the idea of the internalization of *representations*.

Keywords Bennett • Hacker • Body • Brain • Concepts • Family resemblances • Forms of representation • Frith • James • Leibniz • Locke • Maps • Medium/message • Mental representation • Neural