Identity in Physics
Steven French and Décio Krause

Drawing on philosophical accounts of identity and individuality, as well as the histories of both classical and quantum physics, this book explores two alternative metaphysical approaches to quantum particles. It asks if quantum particles can be regarded as individuals, just like books, tables, and people. Taking the first approach, the book argues that if quantum particles are regarded as individuals, then Leibniz’s famous Principle of the Identity of Indiscernibles is in fact violated. Recent discussions of this conclusion are analysed in detail and the costs involved in saving the Principle are carefully considered. For the second approach, the book considers recent work in non-standard logic and set theory to indicate how we can make sense of the idea that objects can be non-individuals. The concluding chapter suggests how these results might then be extended to quantum field theory.

Speaking of Jesus
Leo Treitler

In view of its variability, the written transmission of the early trope tradition has been characterized as ‘local production for local use’. This chapter presents an attempt to interpret differences in a particular case as motivated, intended, reflective of different ideas of the composers or notators about the emphases of the poetic text, and about the exploitation of the expressive and formal resources of the melodic tradition to bring out those ideas. In other words, it attempts to see whether we can identify individuality in medieval song. Such an
interpretation posits musicians who read their poetic texts and took upon themselves the task of manifesting their readings the way they intoned them. This supposition runs counter to the opposite idea that has been abroad in the field of medieval music studies.

The concept of personhood is central to a wide range of contemporary issues, ranging from reproductive rights to the death penalty and euthanasia. We may think that the concept of person is a modern development. In fact, however, this idea does not originate with our discovery of human rights, consciousness, and individuality. This study shows that the fourth-century theologian Gregory of Nyssa developed a very sophisticated concept of the person in the context of his attempts to clarify the paradox of the Trinity—a single God comprising three distinct persons. The book offers the first in-depth analysis of Gregory’s writings about the divine persons. It shows that Gregory understood personhood as characterized by uniqueness, relationality, and freedom. He reasoned that the three persons of the Trinity have distinctive properties that make them individuals, that is, capable of being enumerated and circumscribed. But this idea of individuation, inherited from the neo-Platonists, falls short of expressing a clear notion of personal uniqueness. By itself it would suggest that a person is merely a collection of properties. Gregory’s great contribution was to perceive the importance of relationality to personhood. The three divine persons know and love each other, are in communion with each other, and freely act together in their common will. This understanding adds up to a concept of personal uniqueness much like our modern one. The book not only contributes to our knowledge of the history of Trinitarian theology but can be helpful to theologians who are dealing with issues in contemporary ethics.

The book examines the indispensable role enjoyment plays in a good life. The key to it is the development of a style of life that combines
an attitude and a manner of living and acting that jointly express one's deepest concerns. Since such styles vary with characters and circumstances, understanding them requires attending to the particular and concrete details of individual lives. The first half of the book explains and illustrates these components of enjoyable lives. The second half is a detailed examination of enjoyable lives of integrity, reflectiveness, and self-direction, and miserable lives of morbid romanticism, moralism, and exuberance, and explains why these styles of life are admirable or deplorable. Reflection on works of literature is a better guide to this kind of explanation than the search for general theories and principles that preoccupies much of contemporary deontological, consequentialist, and contractarian moral thought. The argument proceeds by detailed reflection on particular cases, and shows how this kind of reflection can be reasonably conducted and how the quest for universality and impartiality is misguided in this context. Central to the argument is a practical, particular, pluralistic, and yet objective conception of reason that rejects the pervasive contemporary tendency to regard reasons as good only if they are binding on all who aspire to live reasonably and morally. Reasons for living and acting in particular ways are often individually variable and none the worse for that.

Introduction

Steven French and Décio Krause

in Identity in Physics: A Historical, Philosophical, and Formal Analysis

Published in print: 2006 Published Online: September 2006
Item type: chapter

This introductory chapter presents an outline of the metaphysics of identity and individuality, which emphasizes the conceptual distinction between individuality and distinguishability. The Principle of Identity of Indiscernibles effectively reduces the former to the latter, but notions of haecceity, ‘transcendental individuality’, and ‘space-time’ individuality are also presented, with the aim of laying the groundwork for the subsequent considerations of identity and individuality in the quantum context. In particular, as identity in higher-order logic is defined in terms of indistinguishability and ‘countable’ objects which feature in set theory are typically taken to be those which have well-defined identity conditions, this metaphysical framework will underpin the rest of the discussions in this book.
Individuality in Classical Physics
Steven French and Décio Krause

in Identity in Physics: A Historical, Philosophical, and Formal Analysis
Published in print: 2006 Published Online: September 2006
Publisher: Oxford University Press
DOI: 10.1093/0199278245.003.0002
Item type: chapter

This chapter presents a summary of the history of classical statistical mechanics, emphasizing the underlying assumptions regarding particle individuality. It is argued that the relevant sense of individuality is articulated within the theory in two different forms: transcendental individuality and space-time individuality. Huggett’s claim that classical statistics is metaphysically neutral is analyzed with regard to individuality, and it is shown that a form of space-time individuality is presupposed. This is articulated in the context of a ‘field theoretic’ re-writing of the theory free of any underlying presupposition of ‘transcendental individuality’. Hence, classical statistical mechanics supports (at least) two different accounts of particle individuality, and hence we have a weak form of underdetermination of the relevant metaphysics by the physics. Talk of ‘space-time’ individuality leads into a discussion of the individuality and identity of the space-time points themselves, covering the debate between Grünbaum and Stein, and the recent work of Hoefer and others.

Personhood in a Neurobiological Age
Nikolas Rose and Joelle M. Abi-Rached

in Neuro: The New Brain Sciences and the Management of the Mind
Published in print: 2013 Published Online: October 2017
Publisher: Princeton University Press
DOI: 10.23943/princeton/9780691149608.003.0008
Item type: chapter

This chapter explores the neurobiological self. It argues that the emerging neuroscientific understandings of selfhood are unlikely to efface modern human beings' understanding of themselves as persons equipped with a deep interior world of mental states that have a causal relation to their action. Rather, they are likely to add a neurobiological dimension to human beings' self-understanding and their practices of self-management. In this sense, the “somatic individuality” which was once the province of the psy- sciences, is spreading to the neurosciences. Yet psy is not being displaced by neuro: neurobiological conceptions of the self are being construed alongside psychological ones.
This chapter discusses the special, philosophical notion of an experience. It was referred to as involving a form of the following general idea: that a visual experience is ‘inner’ independently of the extent to which it is given meaning by the subject's experience of life. There is truth in this general idea, if only because one's individuality is not a function of experience alone. The relevant philosophical notion, however, is a form of the general idea that the experience had by each of two people would still be ‘inner’; however, many tests or observations, of a kind which might have revealed a difference in the giving of meaning, failed to do so; and not at all because the next test or observation might have revealed such a difference.

The Concept of an Object in Formal Ontology

E. J. Lowe

in The Four-Category Ontology: A Metaphysical Foundation for Natural Science

The formal ontological concept of an object is explicated and contrasted with that of a property. F. P. Ramsey’s objections to this distinction are challenged. The sense in which objects possess an individuality not exhibited by entities of certain other types is discussed. The object/property distinction is distinguished from that between universals and particulars. The ontological status of events and processes, and that of abstract entities such as numbers, are examined. Gottlob Frege’s treatment of number and his object/concept distinction are criticized, and an alternative account of the ontological status of concepts is advanced.
Species Selection, Clade Selection, and Macroevolution
Samir Okasha

This chapter examines selection at the level of species and clades. The history of the species selection debate, including its conceptual link to the idea that species are individuals, is outlined. The issue of how to distinguish ‘real’ species selection from ‘species sorting’ (i.e., differential speciation/extinction that is a side effect of causal processes at other levels) is analyzed. It is argued that clade-level selection is conceptually problematic given that clades, being monophyletic by definition, cannot form parent-offspring lineages.

Levels of Selection and the Major Evolutionary Transitions
Samir Okasha

This chapter looks at the ‘major evolutionary transitions’, in particular the idea that multi-level selection theory is crucial for understanding them. These transitions occur when a number of free-living biological individuals, originally capable of surviving and reproducing alone, become integrated into a co-operative whole. The literature on evolutionary transitions is concerned with the origins of hierarchical organization rather than selection and adaptation at pre-existing hierarchical levels. This calls for a ‘diachronic’ rather than a ‘synchronous’ formulation of the levels of selection question. The implications of this change in perspective are examined. The distinction between MLS1 and MLS2 is examined in relation to the major evolutionary transitions.

Quantum Statistics and Non-Individuality
Steven French and Décio Krause

This chapter examines the application of quantum statistics to the problem of non-individuality in physics. It explores the implications of quantum mechanics for our understanding of the nature of reality and the individuality of physical entities. The authors discuss the role of entanglement and superposition in quantum systems and how these concepts challenge traditional notions of individuality. The chapter concludes with a discussion of the implications of quantum statistics for the foundations of physics and the nature of reality.
This chapter presents the history of quantum statistics, from its beginnings in Planck’s work, through the development of Bose-Einstein and Fermi-Dirac statistics, to the more recent work on forms of parastatistics, focusing on the role played by considerations of particle identity and individuality. The new physics was taken to imply that quantum particles are non-individuals in some sense. This provides the framework for a novel account of Bohr’s view of particle individuality, which further illuminates his complementarity interpretation as well as Born and Schrödinger’s broadly structuralist approaches. Schrödinger’s view that identity does not apply to quantum particles is emphasized, as is Weyl’s incorporation of this view into his treatment of aggregates of particles.

Individuality and Non-Individuality in Quantum Mechanics
Steven French and Décio Krause

in Identity in Physics: A Historical, Philosophical, and Formal Analysis

Published in print: 2006 Published Online: September 2006
Publisher: Oxford University Press DOI: 10.1093/0199278245.003.0004
Item type: chapter

This chapter discusses the concepts of indistinguishability, individuality, and non-individuality in the quantum context. It is argued that the above view of particles as non-individuals is not a necessary consequence of the physics, and that quantum particles can be taken to be individuals, subject to certain constraints. However, the sense of individuality here cannot be understood in terms of the Identity of Indiscernibles, since on a standard interpretation of quantum theory, Leibniz’s Principle is violated by both fermions and bosons. Criticisms of this argument are reviewed, as is Saunders’ recent attempt to defend a Quinean form of the Principle. The consequences of regarding quantum particles as individuals are considered in detail, and Teller’s account of entanglement in terms of non-supervenient relations is developed in this context. The conclusion is reached that quantum physics supports two alternative metaphysical packages of individuality and non-individuality, yielding a stronger form of underdetermination, which can be used to support a form of structuralism.
Alienation and Communism
David Miller

in Market, State, and Community: Theoretical Foundations of Market Socialism
Published in print: 1990 Published Online: November 2003
Publisher: Oxford University Press
DOI: 10.1093/0198278640.003.0009
Item type: chapter

Socialists have attacked market economies on the grounds that they create personal relationships that are alienating rather than communal. Taking Marx's theory of alienation as its main point of reference, the chapter explores various possible sources of alienation, isolating those that are specific to the market. However, Marx also praised capitalism for freeing individuals from the social engulfment they had experienced in pre-capitalist societies. The challenge for those who follow him is to show how individuality can be preserved in a communist society. In market socialism, economic relations can take on a double character—instrumental, competitive, and spontaneous at one level, 'human', cooperative, and planned at the second—and thus overcome alienation.

Socialism, Liberty, and Choice
Michael Freeden

in Ideologies and Political Theory: A Conceptual Approach
Published in print: 1998 Published Online: November 2003
Publisher: Oxford University Press
DOI: 10.1093/019829414X.003.0013
Item type: chapter

The ideas of liberation and emancipation were integral to the Continentalist socialist tradition, while within the British socialist tradition, as well as in non-Marxist Continental socialism, both liberty and individuality were desirable values. The impact of British liberal ideas on socialism was also greatly amplified by J. S. Mill in remarks where he welcomed a cautious move to collective ownership, although he also cast doubt on the compatibility of socialism with the free and spontaneous development of individuals. This chapter looks at socialism in relation to liberty and choice in six sections: (a) The pursuit of liberalism by other means; (b) Equality and liberty: a partnership of equals?; (c) The fundamental nature of revisionism; (d) Continental comparisons; (e) The perimeter problem of market socialism; and (f) A note on other socialisms.
Individual and Community
Jacqueline Mariña

in Transformation of the Self in the thought of Schleiermacher

Published in print: 2008 Published Online: May 2008
Publisher: Oxford University Press
DOI: 10.1093/acprof:oso/9780199206377.003.0007
Item type: chapter

This chapter outlines Schleiermacher's vision of how human nature is to be ensouled through reason. The focus is on Schleiermacher's positive conception and valuation of embodied, finite individuality as the fundamental building block of community. The chapter provides an analysis of Schleiermacher's understanding of embodied individuality, the finite and perspectival character of all human knowledge that issues from such a standpoint, and the character of community, established through dialogue, as that through which finite standpoints can be enlarged to include the perspective of others and of other groups. For Schleiermacher, it is through the establishment of community that human nature is ensouled.

Public Faces, Private Voices
Mattison Mines

Published in print: 1994 Published Online: May 2012
Publisher: University of California Press
DOI: 10.1525/california/9780520084780.001.0001
Item type: book

Individuality is often viewed as an exclusively Western value. In non-Western societies, collective identities seem to eclipse those of individuals. These generalities, however, have overlooked the importance of personal uniqueness, volition, and achievement in these cultures. As an anthropologist in Tamil Nadu, South India, the author of this book found private and public expressions of self in all sectors of society. Based on twenty-five years of field research, the book weaves together personal life stories, historical description, and theoretical analysis to define individuality in South Asia, and to distinguish it from its Western counterpart.

Ontic Structural Realism and the Philosophy of Physics
James Ladyman, Don Ross, David Spurrett, and John Collier

in Every Thing Must Go: Metaphysics Naturalized

Published in print: 2007 Published Online: September 2007
Publisher: Oxford University Press
This chapter examines Ontic Structural Realism (OSR) and its relationship with the philosophy of physics. OSR is the view that the world has an objective modal structure that is ontologically fundamental, in the sense of not supervening on the intrinsic properties of a set of individuals. According to OSR, even the identity and individuality of objects depends on the relational structure of the world. In keeping with the principle of naturalistic closure (PNC), this account must not imply revision of special sciences for the sake of metaphysical comfort. The purpose of this chapter is to motivate OSR from contemporary fundamental physics, as the PNC requires. This chapter argues for a position that consists in the conjunction of eliminativism about self-subsistent individuals, the view that relational structure is ontologically fundamental, and structural realism (interpreted as the claim that science describes the objective modal structure of the world).

**Queer exceptions**

Stephen Greer

Published in print: 2019 Published Online: May 2019


Publisher: Manchester University Press

DOI: 10.7228/manchester/9781526113696.001.0001

This book is a study of solo performance in the UK and western Europe since the turn of millennium that explores the contentious relationship between identity, individuality and the demands of neoliberalism. With case studies drawn from across theatre, cabaret, comedy and live art – and featuring artists, playwrights and performers as varied as La Ribot, David Hoyle, Neil Bartlett, Bridget Christie and Tanja Ostojić – it provides an essential account of the diverse practices which characterize contemporary solo performance, and their significance to contemporary debates concerning subjectivity, equality and social participation. Beginning in a study of the arts festivals which characterize the economies in which solo performance is made, each chapter animates a different cultural trope – including the martyr, the killjoy, the misfit and the stranger – to explore the significance of ‘exceptional’ subjects whose uncertain social status challenges assumed notions of communal sociability. These figures invite us to re-examine theatre’s attachment to singular lives and experiences, as well as the evolving role of autobiographical performance and the explicit body in negotiating the relationship between the personal and the political. Informed by the work of scholars including Sara Ahmed, Zygmunt Bauman and Giorgio Agamben, this interdisciplinary text offers an incisive analysis of the cultural significance of solo performance for students and scholars across...
the fields of theatre and performance studies, sociology, gender studies and political philosophy.

**Luria's Legacy in the 21st Century**

Anne-Lise Christensen

In this context the first chapter concentrates on Luria's theories and his work in science, stressing individuality and variability. In his diagnostic methods two issues are emphasized: (1) the concept of function, considered as complex functional systems, not localized, but distributed as networks across broader areas of the brain, and (2) the right technique for the careful analysis of these networks, since each local lesion of the cortex results in a very specific type of disturbance. It is suggested that the application of these principles to the examination of the brain injured patient will lead not only to a more precise and early diagnosis but at the same time provide the possibility for a careful planning of the most effective treatment procedure and planning of rehabilitation.