

1. Record Nr.	UNINA9910460325103321
Autore	Illari Phyllis
Titolo	Causality : philosophical theory meets scientific practice // Phyllis Illari, Federica Russo
Pubbl/distr/stampa	Oxford, [England] : , : Oxford University Press, , 2014 ©2014
ISBN	0-19-163967-2
Descrizione fisica	1 online resource (325 p.)
Disciplina	501
Soggetti	Science - Philosophy Causation Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Cover; Contents; Part I Prelude to Causality; 1 Problems of Causality in the Sciences; 1.1 Why this book on causality?; 1.2 Five scientific problems; 1.3 The contents of this book; 2 A Scientific Toolbox for Philosophy; 2.1 Methods for finding causes; 2.2 Observational methods; 2.3 Experimental methods; 2.4 Between observation and experiment; 2.5 Beyond observation and experiment; 2.6 How to make a study work; 3 A Philosophical Toolbox for Science; 3.1 Arguments; 3.2 Methods; 3.3 Levels of abstraction; Part II Causality: Accounts, Concepts and Methods 4 Necessary and Sufficient Components 4.1 Examples: electrical short-circuit and AIDS; 4.2 Component causes; 4.3 INUS causes and related concepts; 4.4 Rothman"s pie charts; 5 Levels of Causation; 5.1 Examples: personalized medicine and migration behaviours; 5.2 Three parallel literatures; 5.3 Bridging the levels-and the terminology!; 6 Causality and Evidence; 6.1 Examples: effects of radiation and smoking causing heart disease; 6.2 What do we want to know?; 6.3 Evidence for causal relations; 6.4 Evidence-based approaches; 7 Causal Methods: Probing the Data 7.1 Examples: apoptosis and self-rated health 7.2 The need for causal methods; 7.3 The most widespread causal methods; 7.4 Key notions in causal methods; 8 Difference-making: Probabilistic Causality; 8.1

Example: smoking and lung cancer; 8.2 Is causality probability-altering?; 8.3 Beyond probabilistic causes; 9 Difference-making: Counterfactuals; 9.1 Example: mesothelioma and safety at work; 9.2 The unbearable imprecision of counterfactual reasoning; 9.3 Philosophical views of counterfactuals; 9.4 Counterfactuals in other fields; 10 Difference -making: Manipulation and Invariance 10.1 Example: gene knock-out experiments 10.2 The manipulationists: wiggle the cause, and the effect wiggles too; 10.3 What causes can't we wiggle?; 11 Production Accounts: Processes; 11.1 Examples: billiard balls colliding and aeroplanes crossing; 11.2 Tracing processes; 11.3 How widely does the approach apply?; 12 Production Accounts: Mechanisms; 12.1 Example: how can smoking cause heart disease?; 12.2 What is a mechanism? The major mechanists; 12.3 Important features of mechanisms and mechanistic explanation; 12.4 What is not a mechanism?; 13 Production Accounts: Information 13.1 Examples: tracing transmission of waves and of disease 13.2 The path to informational accounts; 13.3 Integrating the informational and mechanistic approaches; 13.4 Future prospects for an informational account of causality; 14 Capacities , Powers, Dispositions; 14.1 Examples: systems in physics and biology; 14.2 The core idea of capacities, powers and dispositions; 14.3 Capacities in science: explanation and evidence; 15 Regularity ; 15.1 Examples: natural and social regularities; 15.2 Causality as regular patterns; 15.3 Updating regularity for current science; 16 Variation 16.1 Example: mother's education and child survival

---

## Sommario/riassunto

Head hits cause brain damage - but not always. Should we ban sport to protect athletes? Exposure to electromagnetic fields is strongly associated with cancer development - does that mean exposure causes cancer? Should we encourage old fashioned communication instead of mobile phones to reduce cancer rates? According to popular wisdom, the Mediterranean diet keeps you healthy. Is this belief scientifically sound? Should public health bodies encourage consumption of fresh fruit and vegetables? Severe financial constraints on research and public policy, media pressure, and public anxiety make such

---