

## Mindware An Introduction To The Philosophy Of Cognitive Science

A fascinating exploration of the theories and arguments surrounding the notions of thought and representation. Now in its 2nd edition, Cranes's classic text has introduced thousands to some of the most important ideas in philosophy of mind.

Andy Clark is a leading philosopher of cognitive science, whose work has had an extraordinary impact throughout philosophy, psychology, neuroscience, and robotics. His monographs have led the way for new research programs in the philosophy of mind and cognition: *Microcognition* (1989) and *Associative Engines* (1993) introduced the philosophical community to connectionist research and the novel issues it raised; *Being There* (1997) showed the relevance of embodiment, dynamical systems theory, and minimal computation frameworks for the study of the mind; *Natural Born Cyborgs* (OUP 2003) presented an accessible development of embodied and embedded approaches to understanding human nature and cognition; *Supersizing the Mind* (OUP 2008) developed this yet further along with the famous "Extended Mind" hypothesis; and *Surfing Uncertainty* (OUP 2017) presents a framework for uniting perception, action, and the embodied mind. In *Andy Clark and His Critics*, a range of high-profile researchers in philosophy of mind, philosophy of cognitive science, and empirical cognitive science, critically engage with Clark's work across the themes of: *Extended, Embodied, Embedded, Enactive, and Affective Minds*; *Natural Born Cyborgs*; and *Perception, Action, and Prediction*. Daniel Dennett provides a foreword on the significance of Clark's work, and Clark replies to each section of the book, thus advancing current literature with original contributions that will form the basis for new discussions, debates and directions in the discipline.

Embodied cognition often challenges standard cognitive science. In this outstanding introduction, Lawrence Shapiro sets out the central themes and debates surrounding embodied cognition, explaining and assessing the work of many of the key figures in the field, including George Lakoff, Alva Noë, Andy Clark, and Arthur Glenberg. Beginning with an outline of the theoretical and methodological commitments of standard cognitive science, Shapiro then examines philosophical and empirical arguments surrounding the traditional perspective. He introduces topics such as dynamic systems theory, ecological psychology, robotics, and connectionism, before addressing core issues in philosophy of mind such as mental representation and extended cognition. Including helpful chapter summaries and annotated further reading at the end of each chapter, *Embodied Cognition* is essential reading for all students of philosophy of mind, psychology, and cognitive science.

Ranging across both standard philosophical territory and the landscape of cutting-edge cognitive science, *Mindware: An Introduction to the Philosophy of Cognitive Science, Second Edition*, is a vivid and engaging introduction to key issues, research, and opportunities in the field.

A revolutionary approach to the human mind imagines a future when humans have fully incorporated their tools and technologies into the biological reality of being human. (Science & Mathematics)

Provides experiments associated with a bag of potato chips: bags, chips, lids, spuds, and tubes.

This book is an attempt to establish in the readers the importance of creating interoperable data stores and writing rules for handling this data. It also covers extracts from a few project dissertations and a research funded project that the author had supervised.

- Describes the power of ontologies for better data management
- Provides an overview of knowledge engineering including ontology engineering, tools and techniques
- Provides sample development procedures for creating two domain ontologies.
- Depicts the utility of ontological representation in situation awareness
- Demonstrates recommendation engine for unconventional emergencies using a hybrid reasoning approach.
- The text explains how to make better utilization of resources when emergency strikes

Graduates and undergraduates doing courses in artificial intelligence, semantic web and knowledge engineering will find this book beneficial.

This book predicts the decline of today's professions and describes the people and systems that will replace them. In an Internet society, according to Richard Susskind and Daniel Susskind, we will neither need nor want doctors, teachers, accountants, architects, the clergy, consultants, lawyers, and many others, to work as they did in the 20th century. The Future of the Professions explains how 'increasingly capable systems' - from telepresence to artificial intelligence - will bring fundamental change in the way that the 'practical expertise' of specialists is made available in society. The authors challenge the 'grand bargain' - the arrangement that grants various monopolies to today's professionals. They argue that our current professions are antiquated, opaque and no longer affordable, and that the expertise of the best is enjoyed only by a few. In their place, they propose six new models for producing and distributing expertise in society. The book raises important practical and moral questions. In an era when machines can out-perform human beings at most tasks, what are the prospects for employment, who should own and control online expertise, and what tasks should be reserved exclusively for people? Based on the authors' in-depth research of more than ten professions, and illustrated by numerous examples from each, this is the first book to assess and question the relevance of the professions in the 21st century.

This book provides a vital guide for students to key study skills that are instrumental in success at university, covering time management, academic reading and note-taking, academic integrity, preparation of written assignments, teamwork and presentations. With each chapter consisting of sub-sections that are titled with a single piece of fundamental advice, this is the perfect 'hit the ground running' resource for students embarking on their undergraduate studies. The book uses evidence from psychology to account for the basic errors that students make when studying, illuminating how they can be addressed simply and effectively. Creating an 'insider's guide' to the core requisite skills of studying at degree level, and using a combination of research and practical examples, the author conveys where students often go fundamentally wrong in their studying practices and provides clear and concise advice on how they can improve. Written in a humorous and irreverent tone, and including illustrations and examples from popular culture, this is the ideal alternative and accessible study skills resource for students at undergraduate level, as well as any reader interested in

how to learn more effectively.

Leading scholars respond to the famous proposition by Andy Clark and David Chalmers that cognition and mind are not located exclusively in the head.

When Richard Nisbett showed an animated underwater scene to his American students, they zeroed in on a big fish swimming among smaller fish. Japanese subjects, on the other hand, made observations about the background environment...and the different "seeings" are a clue to profound underlying cognitive differences between Westerners and East Asians. As Professor Nisbett shows in *The Geography of Thought* people actually think - and even see - the world differently, because of differing ecologies, social structures, philosophies, and educational systems that date back to ancient Greece and China, and that have survived into the modern world. As a result, East Asian thought is "holistic" - drawn to the perceptual field as a whole, and to relations among objects and events within that field. By comparison to Western modes of reasoning, East Asian thought relies far less on categories, or on formal logic; it is fundamentally dialectic, seeking a "middle way" between opposing thoughts. By contrast, Westerners focus on salient objects or people, use attributes to assign them to categories, and apply rules of formal logic to understand their behaviour.

An authoritative, up-to-date survey of the state of the art in cognitive science, written for non-specialists.

This work offers a selection of seminal papers on the foundations of cognitive science, from leading figures in artificial intelligence, linguistics, philosophy and cognitive psychology. Each category includes papers that show the conception in question, illustrate, interpret or criticise it.

*Thinking: A Memoir* is both a personal history and an intellectual autobiography describing how people reason and make inferences about the world, why errors in reasoning occur and how much you can improve reasoning.

*Mindware: An Introduction to the Philosophy of Cognitive Science* invites readers to join in up-to-the-minute conceptual discussions of the fundamental issues, problems, and opportunities in cognitive science. Written by one of the most renowned scholars in the field, this vivid and engaging introductory text relates the story of the search for a cognitive scientific understanding of mind. This search is presented as a no-holds-barred journey from early work in artificial intelligence, through connectionist (artificial neural network) counter-visions, and on to neuroscience, artificial life, dynamics, and robotics. The journey ends with some wide-ranging and provocative speculation about the complex coadaptive dance between mind, culture, and technology. Each chapter opens with a brief sketch of a major research tradition or perspective, followed by short yet substantial critical discussions dealing with key topics and problems.

Ranging across both standard philosophical territory and the landscape of cutting-edge cognitive science, Clark highlights challenging issues in an effort to engage readers in active debate. Topics covered include mental causation;

machine intelligence; the nature and status of folk psychology; the hardware/software distinction; emergence; relations between life and mind; the nature of perception, cognition, and action; and the continuity (or otherwise) of high-level human intelligence with other forms of adaptive response. Numerous illustrations, text boxes, and extensive suggestions for further reading enhance the text's utility. Helpful appendices provide background information on dualism, behaviorism, identity theory, consciousness, and more. An exceptional text for introductory and more advanced courses in cognitive science and the philosophy of mind, Mindware is also essential reading for anyone interested in these fascinating and ever-changing fields.

This three volume book contains the Proceedings of 5th International Conference on Advanced Computing, Networking and Informatics (ICACNI 2017). The book focuses on the recent advancement of the broad areas of advanced computing, networking and informatics. It also includes novel approaches devised by researchers from across the globe. This book brings together academic scientists, professors, research scholars and students to share and disseminate information on knowledge and scientific research works related to computing, networking, and informatics to discuss the practical challenges encountered and the solutions adopted. The book also promotes translation of basic research into applied investigation and convert applied investigation into practice.

Brain, body, and world are united in a complex dance of circular causation and extended computational activity. In *Being There*, Andy Clark weaves these several threads into a pleasing whole and goes on to address foundational questions concerning the new tools and techniques needed to make sense of the emerging sciences of the embodied mind. Clark brings together ideas and techniques from robotics, neuroscience, infant psychology, and artificial intelligence. He addresses a broad range of adaptive behaviors, from cockroach locomotion to the role of linguistic artifacts in higher-level thought.

*Intelligence Science: Leading the Age of Intelligence* covers the emerging scientific research on the theory and technology of intelligence, bringing together disciplines such as neuroscience, cognitive science, and artificial intelligence to study the nature of intelligence, the functional simulation of intelligent behavior, and the development of new intelligent technologies. The book presents this complex, interdisciplinary area of study in an accessible volume, introducing foundational concepts and methods, and presenting the latest trends and developments. Chapters cover the Foundations of neurophysiology, Neural computing, Mind models, Perceptual intelligence, Language cognition, Learning, Memory, Thought, Intellectual development and cognitive structure, Emotion and affect, and more. This volume synthesizes a very rich and complex area of research, with an aim of stimulating new lines of enquiry. Presents a complex, interdisciplinary area in an accessible way, including the latest trends and developments Brings together disciplines such as neuroscience, cognitive science and artificial intelligence Gives the latest methods and theories in the development of new intelligent technologies Reflects upon the most important achievements in the study of natural and artificial intelligence Contextualizes intelligence research within the history and progress of twenty-first century science

When historian Charles Weiner found pages of Nobel Prize-winning physicist Richard Feynman's notes, he saw it as a "record" of Feynman's

work. Feynman himself, however, insisted that the notes were not a record but the work itself. In *Supersizing the Mind*, Andy Clark argues that our thinking doesn't happen only in our heads but that "certain forms of human cognizing include inextricable tangles of feedback, feed-forward and feed-around loops: loops that promiscuously criss-cross the boundaries of brain, body and world." The pen and paper of Feynman's thought are just such feedback loops, physical machinery that shape the flow of thought and enlarge the boundaries of mind. Drawing upon recent work in psychology, linguistics, neuroscience, artificial intelligence, robotics, human-computer systems, and beyond, *Supersizing the Mind* offers both a tour of the emerging cognitive landscape and a sustained argument in favor of a conception of mind that is extended rather than "brain-bound." The importance of this new perspective is profound. If our minds themselves can include aspects of our social and physical environments, then the kinds of social and physical environments we create can reconfigure our minds and our capacity for thought and reason.

Mindful thinking is the new competitive edge Science confirms the distinction between the biological brain and the conscious mind. Each day, a game of mind versus matter plays out on a field defined by the problems we must solve. Most are routine, and don't demand a more mindful approach. It's when we're faced with more difficult challenges that our thinking becomes vulnerable to brain patterns that can lead us astray. We leap to solutions that simply don't work. We fixate on old mindsets that keep us stuck in neutral. We overthink problems and make them worse. We kill the ideas of others, as well as our own. Worse, we keep doing these things, over and over again, naturally and instinctively. But it doesn't have to be that way. In *Winning the Brain Game*, author and creative strategist Matthew E. May explains these and other "fatal flaws" of thinking, catalogued over the course of ten years and hundreds of interactive creative sessions in which he gave more than 100,000 professionals a thought challenge based on a real case far less complex than their everyday problems. Not only did less than 5% arrive at the best and most elegant solution, but the solutions given were remarkably similar, revealing seven observable problem-solving patterns that can block our best thinking. Calling on modern neuroscience and psychology to help explain the seven fatal flaws, May draws insights from some of the world's most innovative thinkers. He then blends in a super-curated, field-tested set of "fixes" proven through hundreds of creative sessions to raise our thinking game to a more mindful level. Regardless of playing field, mindful thinking is the new competitive advantage, and the seven fixes are a magic set of tools for achieving it. *Winning the Brain Game* will lead you to better decision-making, higher levels of creativity, clearer strategies, and overall success in business, work and life. Matthew E. May is a five-time author and recognized thought leader on strategy and innovation. A popular speaker, facilitator, and seminar leader, he confidentially coaches executives, artists, and athletes, and conducts custom thinking sessions for leading organizations all over the world.

This book presents innovative and interdisciplinary applications of advanced technologies. It includes the scientific outcomes of the 9th DAYS OF BHAAAS (Bosnian-Herzegovinian American Academy of Arts and Sciences) held in Banja Vru?ica, Tesli?, Bosnia and Herzegovina on May 25–28, 2017. This unique book offers a comprehensive, multidisciplinary and interdisciplinary overview of the latest developments in a broad section of technologies and methodologies, viewed through the prism of applications in computing, networking, information technology, robotics, complex systems, communications, energy, mechanical engineering, economics and medicine, to name just a few.

Most people are baffled by how computers work and assume that they will never understand them. What they don't realize -- and what Daniel Hillis's short book brilliantly demonstrates -- is that computers' seemingly complex operations can be broken down into a few simple parts that perform the same simple procedures over and over again. Computer wizard Hillis offers an easy-to-follow explanation of how data is processed that makes the operations of a computer seem as straightforward as those of a bicycle. Avoiding technobabble or discussions of

advanced hardware, the lucid explanations and colorful anecdotes in *The Pattern on the Stone* go straight to the heart of what computers really do. Hillis proceeds from an outline of basic logic to clear descriptions of programming languages, algorithms, and memory. He then takes readers in simple steps up to the most exciting developments in computing today -- quantum computing, parallel computing, neural networks, and self-organizing systems. Written clearly and succinctly by one of the world's leading computer scientists, *The Pattern on the Stone* is an indispensable guide to understanding the workings of that most ubiquitous and important of machines: the computer.

"This book offers a high interdisciplinary exchange of ideas pertaining to the philosophy of computer science, from philosophical and mathematical logic to epistemology, engineering, ethics or neuroscience experts and outlines new problems that arise with new tools"--Provided by publisher.

Cognitive science approaches the study of mind and intelligence from an interdisciplinary perspective, working at the intersection of philosophy, psychology, artificial intelligence, neuroscience, linguistics, and anthropology. With *Mind*, Paul Thagard offers an introduction to this interdisciplinary field for readers who come to the subject with very different backgrounds. It is suitable for classroom use by students with interests ranging from computer science and engineering to psychology and philosophy. Thagard's systematic descriptions and evaluations of the main theories of mental representation advanced by cognitive scientists allow students to see that there are many complementary approaches to the investigation of mind. The fundamental theoretical perspectives he describes include logic, rules, concepts, analogies, images, and connections (artificial neural networks). The discussion of these theories provides an integrated view of the different achievements of the various fields of cognitive science. This second edition includes substantial revision and new material. Part I, which presents the different theoretical approaches, has been updated in light of recent work the field. Part II, which treats extensions to cognitive science, has been thoroughly revised, with new chapters added on brains, emotions, and consciousness. Other additions include a list of relevant Web sites at the end of each chapter and a glossary at the end of the book. As in the first edition, each chapter concludes with a summary and suggestions for further reading.

The philosophy professor behind *Breaking the Spell* and *Consciousness Explained* offers exercises and tools to stretch the mind, offering new ways to consider, discuss and argue positions on dangerous subject matter including evolution, the meaning of life and free will.

The essays in this anthology deal with the growing interconnections between moral philosophy and research that draws upon neuroscience, developmental psychology, and evolutionary biology. The essays in this anthology deal with the growing interconnections between moral philosophy and research that draws upon neuroscience, developmental psychology, and evolutionary biology. This cross-disciplinary interchange coincides, not accidentally, with the renewed interest in ethical naturalism. In order to understand the nature and limits of moral reasoning, many new ethical naturalists look to cognitive science for an account of how people actually reason. At the same time, many cognitive scientists have become increasingly interested in moral reasoning as a complex form of human cognition that challenges their theoretical models. The result of this collaborative, and often critical, interchange is an exciting intellectual ferment at the frontiers of research into human mentality. Sections and Contributors Ethics Naturalized, Owen Flanagan, Mark L.

Johnson, Virginia Held - Moral Judgments, Representations, and Prototypes, Paul M. Churchland, Andy Clark, Peggy DesAutels, Ruth Garrett Millikan - Moral Emotions, Robert M. Gordon, Alvin I. Goldman, John Deigh, Naomi Scheman - Agency and Responsibility James P. Sterba, Susan Khin-Zaw, Helen E. Longino, Michael E. Bratman A Bradford Book Life, Death, and Meaning is designed to introduce students to the key existential questions of philosophy.

The area of psychological research reviewed in this book is one that is not only increasing in popularity in college curricula, but is also making an ever larger impact on the world outside the classroom. Drawing upon research originally cited in Ken Manktelow's highly successful publication Reasoning and Thinking, this completely rewritten textbook reflects on the revolutionary changes that have occurred in the field in recent years, stemming from the huge expansion in research output, as well as new methods and explanations, and the appearance of numerous books on the subject aimed at the popular market. The main areas covered are probability judgment, deductive and inductive reasoning, decision making, hypothetical thinking and rationality. In each case, the material is almost entirely new, with topics such as the new paradigm in reasoning research, causal reasoning and counterfactual thinking appearing for the first time. The book also presents an extended treatment of decision making research, and contains a chapter on individual and cultural influences on thinking. Thinking and Reasoning provides a detailed, integrated and approachable treatment of this area of cognitive psychology, and is ideal reading for intermediate and advanced undergraduate students; indeed, for anyone interested in how we draw conclusions and make choices.

Cognitive Science combines the interdisciplinary streams of cognitive science into a unified narrative in an all-encompassing introduction to the field. This text presents cognitive science as a discipline in its own right, and teaches students to apply the techniques and theories of the cognitive scientist's 'toolkit' - the vast range of methods and tools that cognitive scientists use to study the mind. Thematically organized, rather than by separate disciplines, Cognitive Science underscores the problems and solutions of cognitive science, rather than those of the subjects that contribute to it - psychology, neuroscience, linguistics, etc. The generous use of examples, illustrations, and applications demonstrates how theory is applied to unlock the mysteries of the human mind. Drawing upon cutting-edge research, the text has been updated and enhanced to incorporate new studies and key experiments since the first edition. A new chapter on consciousness has also been added.

Is there a theory that explains the essence of consciousness? Or is consciousness itself just an illusion? The 'last great mystery of science', consciousness is a topic that was banned from serious research for most of the last century, but is now an area of increasing popular interest, as well as a rapidly expanding area of study for students of psychology, philosophy and neuroscience. This ground-breaking textbook by best-selling author Susan Blackmore was the first of its

kind to bring together all the major theories of consciousness studies, from those based on neuroscience to those based on quantum theory or Eastern philosophy. The book examines topics such as how subjective experiences arise from objective brain processes, the basic neuroscience of consciousness, altered states of consciousness, out of body and near death experiences and the effects of drugs, dreams and meditation. It also explores the nature of self, the possibility of artificial consciousness in robots, and the question of whether animals are conscious. The new edition has been fully revised to include the latest developments in neuroscience, brain scanning techniques, and artificial consciousness and robotics. The new website includes self-assessment exercises, advanced further reading, flashcards and MCQs. For all those intrigued by what it means to be, to exist, this book could radically transform your understanding of your own consciousness.

This title brings together work on embodiment, action, and the predictive mind. At the core is the vision of human minds as prediction machines - devices that constantly try to stay one step ahead of the breaking waves of sensory stimulation, by actively predicting the incoming flow. In every situation we encounter, that complex prediction machinery is already buzzing, proactively trying to anticipate the sensory barrage. The book shows in detail how this strange but potent strategy of self-anticipation ushers perception, understanding, and imagination simultaneously onto the cognitive stage. In Cognitive Science 3e Friedenberg and Silverman provide a solid understanding of the major theoretical and empirical contributions of cognitive science. Their text, thoroughly updated for this new third edition, describes the major theories of mind as well as the major experimental results that have emerged within each cognitive science discipline. Throughout history, different fields of inquiry have attempted to understand the great mystery of mind and answer questions like: What is the mind? How do we see, think, and remember? Can we create machines that are conscious and capable of self-awareness? This books examines these questions and many more. Focusing on the approach of a particular cognitive science field in each chapter, the authors describe its methodology, theoretical perspective, and findings and then offer a critical evaluation of the field. Features: Offers a wide-ranging, comprehensive, and multidisciplinary introduction to the field of cognitive science and issues of mind. Interdisciplinary Crossroads” sections at the end of each chapter focus on research topics that have been investigated from multiple perspectives, helping students to understand the link between varying disciplines and cognitive science. End-of-chapter “Summing Up” sections provide a concise summary of the major points addressed in each chapter to facilitate student comprehension and exam preparation “Explore More” sections link students to the Student Study Site where the authors have provided activities to help students more quickly master course content and prepare for examinations Supplements: A password-protected Instructor’s Resource contains PowerPoint lectures, a test bank and other pedagogical material. The book’s Study Site



features Web links, E-flash cards, and interactive quizzes.

"The most influential thinker, in my life, has been the psychologist Richard Nisbett. He basically gave me my view of the world." -Malcolm Gladwell, New York Times Book Review Scientific and philosophical concepts can change the way we solve problems by helping us to think more effectively about our behavior and our world. Surprisingly, despite their utility, many of these tools remain unknown to most of us. In *Mindware*, the world-renowned psychologist Richard E. Nisbett presents these ideas in clear and accessible detail. Nisbett has made a distinguished career of studying and teaching such powerful problem-solving concepts as the law of large numbers, statistical regression, cost-benefit analysis, sunk costs and opportunity costs, and causation and correlation, probing the best methods for teaching others how to use them effectively in their daily lives. In this groundbreaking book, Nisbett shows us how to frame common problems in such a way that these scientific and statistical principles can be applied to them. The result is an enlightening and practical guide to the most essential tools of reasoning ever developed-tools that can easily be used to make better professional, business, and personal decisions.

"The philosophy of mind is unique among contemporary philosophical subjects," writes John Searle, "in that all of the most famous and influential theories are false." One of the world's most eminent thinkers, Searle dismantles these theories as he presents a vividly written, comprehensive introduction to the mind. He begins with a look at the twelve problems of philosophy of mind--which he calls "Descartes and Other Disasters"--problems which he returns to throughout the volume, as he illuminates such topics as materialism, consciousness, the mind-body problem, intentionality, mental causation, free will, and the self. The book offers a refreshingly direct and engaging introduction to one of the most intriguing areas of philosophy.

In recent decades cognitive science has revolutionised our understanding of the workings of the human mind. Philosophy has made a major contribution to cognitive science and has itself been hugely influenced by its development. This dynamic book explores the philosophical significance of cognitive science and examines the central debates that have enlivened its history. In a wide-ranging and comprehensive account of the topic, philosopher M.J. Cain discusses the historical origins of cognitive science and its philosophical underpinnings; the nature and role of representations in cognition; the architecture of the mind and the modularity thesis; the nature of concepts; knowledge of language and its acquisition; perception; and the relationship between the brain and cognition. Cain draws upon an extensive knowledge of empirical developments and their philosophical interpretation. He argues that although the field has generated some challenging new views in recent years, many of the core ideas that initiated its birth are still to be taken seriously. Clearly written and incisively argued, *The Philosophy of Cognitive Science* will appeal to any student or researcher interested in the workings of the mind.

Demonstrates programming fundamentals within the Microsoft.NET framework, discussing COM+ core services, advanced computing, and interoperations.

*Mindware* is an introductory text with a difference. In eight short chapters it tells a story and invites the reader to join in some up-to-the-minute conceptual discussion of the key issues, problems, and opportunities in cognitive science. The story is about the

search for a cognitive scientific understanding of mind. It is presented as a no-holds-barred journey from early work in Artificial Intelligence, through connectionist (artificial neural network) counter-visions, and onto neuroscience artificial life, dynamics and robotics. The journey ends with some wide-ranging and provocative speculation about the role of technology and the changing nature of the human mind itself. Each chapter is organized as an initial sketch of a research program or theme, followed by a substantial discussion section in which specific problems and issues (both familiar and cutting-edge) are raised and pursued. Discussion topics include mental causation, the hardware/software distinction, the relations between life and mind, the nature of perception, cognition and action, and the continuity (or otherwise) of high-level human intelligence with other forms of adaptive response. Classic topics are treated alongside the newer ones in an integrated treatment of the various discussions. The sketches and discussions are accompanied by numerous figures and boxed sections, and followed by suggestions for further reading.

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