

1. Record Nr.	UNINA9910464803703321
Autore	Haikonen Pentti O
Titolo	Consciousness and robot sentience [[electronic resource]] / Pentti O. Haikonen
Pubbl/distr/stampa	Singapore, : World Scientific, 2012
ISBN	1-283-73940-2 981-4407-16-X
Descrizione fisica	1 online resource (255 p.)
Collana	Series on machine consciousness ; ; vol. 2
Disciplina	006.3
Soggetti	Conscious automata Robotics 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 and index.
Nota di contenuto	Preface; Dedication; Contents; Chapter 1; Introduction; 1.1. Towards Conscious Robots; 1.2. The Structure of This Book; Chapter 2; The Problem of Consciousness; 2.1. Mind and Consciousness; 2.2. The Apparent Immateriality of the Mind; 2.3. Cartesian Dualism; 2.4. Property Dualism; 2.5. The Identity Theory; 2.6. The Real Problem of Consciousness; Summary; Chapter 3; Consciousness and Subjective Experience; 3.1. Theories of Consciousness; 3.2. The Subjective Experience; 3.3. The Internal Appearance of Neural Activity; Summary; Chapter 4; Perception and Qualia; 4.1. Perception and Recognition 4.1.1. What is a Percept?4.1.2. Is Perception the Same as Recognition?; 4.2. Qualia; 4.2.1. What Are Qualia?; 4.2.2. The Privacy of Qualia; 4.2.3. No Qualia, No Percepts; 4.2.4. Different Qualities of Qualia; 4.2.5. Amodal Qualia; 4.2.6. Externalization, the Apparent Location of Percepts; Summary; Chapter 5; From Perception to Consciousness; 5.1. No Percepts - No Consciousness; 5.2. Attention and Consciousness; 5.3. The Difference Between Conscious and Non-Conscious Perception; 5.4. Information Integration and Consciousness; 5.5. What is Consciousness?; Summary; Chapter 6 Emotions and Consciousness6.1. Emotions and Feelings; 6.2. The Qualia of Emotions; 6.3. The System Reactions Theory of Emotions (SRTE); 6.4. Emotions and Motivation; 6.5. Free Will; 6.6. Decision

Making; Summary; Chapter 7; Inner Speech and Consciousness; 7.1. Natural Language; 7.2. Consciousness and Inner Speech; 7.3. Conscious Perception of Inner Speech; Summary; Chapter 8; Qualia and Machine Consciousness; 8.1. Human Consciousness vs. Machine Consciousness; 8.2. Preconditions for Machine Qualia; Summary; Chapter 9; Testing Consciousness; 9.1. Requirements for Consciousness Tests  
9.2. Tests for Consciousness  
9.2.1. The Turing Test; 9.2.2. Picture Understanding Test; 9.2.3. The Cross-Examination Test; 9.3. Tests for Self-Consciousness; 9.3.1. Self-Consciousness; 9.3.2. The Mirror Test; 9.3.3. The Name Test; 9.3.4. The Ownership Test; 9.3.5. The Cross-Examination Test; 9.4. Requirements and Tests for Machine Consciousness in Literature; 9.4.1. Aleksander's Axioms; 9.4.2. The ConsScale; Summary; Chapter 10; Artificial Conscious Cognition; 10.1. Which Model for Artificial Cognition?; 10.2. Sub-symbolic vs. Symbolic Information Processing  
10.3. What Is a Cognitive Architecture? Summary; Chapter 11; Associative Information Processing; 11.1. What Is Associative Information Processing?; 11.2. Basic Associative Processes; 11.2.1. Pavlovian Conditioning; 11.2.2. Hebbian Learning; 11.2.3. Autoassociation and Heteroassociation; 11.3. The Representation of Information; 11.4. Distributed Signal Representations; Summary; Chapter 12; Neural Realization of Associative Processing; 12.1. Spiking Neurons or Block Signal Neurons?; 12.2. Associative Neurons and Synapses; 12.3. Correlative Learning  
12.4. The Associative Neuron as a Logic Element

---

## Sommario/riassunto

Robots are becoming more human, but could they also become sentient and have human-like consciousness? What is consciousness, exactly? It is a fact that our thoughts and consciousness are based on the neural activity of the brain. It is also a fact that we do not perceive our brain activity as it really is - patterns of neural firings. Instead, we perceive our sensations and thoughts apparently as they are. What kind of condition would transform the neural activity into this kind of internal appearance? This is the basic problem of consciousness. The author proposes an explanation that also provi

---