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Robotics based Mind Recognition System

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Abstract:

Minds are constituted by conscious experience and intelligent thought. Common attributes of mind include perception, reason, imagination, memory, emotion, attention, free-will and a capacity for communication. Some psychologists argue that only the "higher" intellectual functions constitute mind, particularly reason and memory. In this view the emotions—love, hate, fear, joy—are more *primitive* or subjective in nature and should be seen as different from the mind as such. In popular usage *mind* is frequently synonymous with *thought*: the private conversation with ourselves that we carry on "inside our heads." Thus we "make up our minds," "change our minds" or are "of two minds" about something. One of the key attributes of the mind in this sense is that it is a private sphere to which no one but the owner has access. No one else can "know our mind." They can only interpret what we consciously or unconsciously communicate.

Keywords: Intelligence, Memory, Cognitive Neuro Science, Brain, Mind, Psychology.

Etymology:

The generalization of *mind* include all mental faculties, thought, volition, feeling and memory.

Mental faculties:

Mental faculties are the various functions of the mind, or things the mind can "do". Thought is a mental activity which allows human beings to make sense of things in the world, and to represent and interpret them in ways that are significant, or which accord with their needs, attachments, goals, commitments, plans, ends, desires, etc. Thinking involves the symbolic or semantic mediation of ideas or data, as when we form concepts, engage in problem solving, reasoning and making decisions. Words that refer to similar concepts and processes include deliberation, cognition, ideation, discourse and imagination. Thinking is sometimes described as a "higher" cognitive function and the analysis of thinking processes is a part of cognitive psychology. It is also deeply connected with our capacity to make and use tools; to understand cause and effect; to recognize patterns of significance; to comprehend and disclose unique contexts of experience or activity; and to respond to the world in a meaningful way. Memory is the ability to preserve, retain, and subsequently recall, knowledge, information or experience.Although memory has traditionally been a persistent theme in philosophy. In recent decades, it has become one of the pillars of a new branch of science called cognitive neuroscience, a marriage between cognitive psychology and neuroscience.Imagination is the activity of generating or evoking novel situations, images, ideas or other qualia in the mind. It is a characteristically subjective *activity*, rather than a direct or passive experience. The term is technically used in psychology for the process of reviving in the mind percepts of objects formerly given in sense perception.Things that are imagined are said to be seen in the "mind's eye". Among

the many practical functions of imagination are the ability to project possible futures (or histories), to "see" things from another's perspective, and to change the way something is perceived, including to make decisions to respond to, or enact, what is imagined.Consciousness in mammals (this includes humans) is an aspect of the mind generally thought to comprise qualities such as subjectivity, sentience, and the ability to perceive the relationship between oneself and one's environment. It is a subject of much research in philosophy of mind, psychology, neuro science, and cognitive science. Some philosophers divide consciousness into phenomenal consciousness, which is subjective experience itself, and access consciousness, which refers to the global availability of information to processing systems in the brain.[2] Phenomenal consciousness has many different experienced qualities, often referred to as qualia. Phenomenal consciousness is usually consciousness *of* something or *about* something, a property known as intentionality in philosophy of mind.

Mental content:

Mental contents are those items which are thought of as being "in" the mind, and capable of being formed and manipulated by mental processes and faculties. Examples include thoughts, concepts, memories, emotions, percepts and intentions. Philosophical theories of mental content include internalism, externalism, representationalism and intentionality.

Brain and mind:

In animals, the brain, or *encephalon* is the control center of the central nervous system, responsible for thought. In most animals, the brain is located in the head, protected by the skull and close to the primary sensory apparatus of vision, hearing, equilibrioception, taste and olfaction. While all vertebrates have a brain, most invertebrates have either a centralized brain or collections of individual ganglia. Primitive animals such as sponges do not have a brain at all. Brains can be extremely complex. For example, the human brain contains more than 100 billion neurons.Understanding the relationship between the brain and the mind — mind-body problem is one of the central issues in the history of philosophy — is a challenging problem both philosophically and scientifically.[3] There are three major philosophical schools of thought concerning the answer: dualism, materialism, and idealism. Dualism holds that the mind exists independently of the brain;[4] materialism holds that mental phenomena are identical to neuronal phenomena;[5] and idealism holds that only mental phenomena exist.[5]

The most straightforward scientific evidence that there is a strong relationship between the physical brain matter and the mind is the impact physical alterations to the brain have on the mind, such as with traumatic brain injury and psychoactive drug use.[6]The relationship between mind and brain involves a number of scientific questions, including understanding the relationship between mental activity and brain activity, the exact mechanisms by which drugs influence cognition, and the neural correlates of consciousness.Through most of history many philosophers found it inconceivable that cognition could be implemented by a physical substance such as brain tissue (that is neurons and synapses).[7] Philosophers posit that the drug-mind interaction is indicative of an intimate connection between the brain and the mind, not that the two are the same entity.[8] Descartes, who thought extensively about mind-brain relationships, found it possible to explain reflexes and other simple behaviors in mechanistic terms, although he did not believe that complex thought, and language

Philosophy of mind:

Philosophy of mind is the branch of philosophy that studies the nature of the mind, mental events, mental functions, mental properties, consciousness and their relationship to the physical body. The *mind-body problem*, i.e. the relationship of the mind to the body, is commonly seen as the central issue in philosophy of mind, although there are other issues concerning the nature of the mind that do not involve its relation to the physical body.[10]*Dualism* and *monism* are the two major schools of thought that attempt to resolve the mind-body problem. Dualism is the position that mind and body are in some way separate from each other. *Substance dualists* argue that the mind is an independently existing substance, whereas *Property dualists* maintain that the mind is a group of independent properties that emerge from and cannot be reduced to the brain, but that it is not a distinct substance.[17]The 20th century philosopher Martin Heidegger suggested that subjective experience and activity (i.e. the "mind") cannot be made sense of in terms of Cartesian "substances" bear "properties" at all .This is because the nature of subjective, *qualitative* experience is incoherent in terms of – or semantically incommensurable with the concept of – substances that bear properties. This is a fundamentally ontological argument

Mind/body perspectives:

Monism is the position that mind and body are not physiologically and ontologically distinct kinds of entities.*Physicalists* argue that only the entities postulated by physical theory exist, and that the mind will eventually be explained in terms of these entities as physical theory continues to evolve.*Idealists* maintain that the mind is all that exists and that the external world is either mental itself, or an illusion created by the mind.

Neutral monists adhere to the position that perceived things in the world can be regarded as either physical or mental depending on whether one is interested in their relationship to other things in the world or their relationship to the perceiver. For example, a red spot on a wall is physical in its dependence on the wall and the pigment of which it is made, but it is mental in so far as its perceived redness depends on the workings of the visual system. Unlike dual-aspect theory, neutral monism does not posit a more fundamental substance of which mind and body are aspects.These positions include behaviorism, the type identity theory, anomalous monism and functionalism.[20]Many modern philosophers of mind adopt either a *reductive* or *non-reductive physicalist* position, maintaining in their different ways that the mind is not something separate from the body.[20] These approaches have been particularly influential in the sciences, e.g. in the fields of sociobiology, computer science, evolutionary psychology and the various neurosciences. Other philosophers, however, adopt a non-physicalist position which challenges the notion that the mind is a purely physical construct.*Reductive physicalists* assert that all mental states and properties will eventually be explained by scientific accounts of physiological processes and states.[25][26][27]*Non-reductive physicalists* argue that although the brain is all there *is* to the mind, the predicates and vocabulary used in mental descriptions and explanations are indispensable, and cannot be reduced to the language and lower-level explanations of physical science.Continued neuroscientific progress has helped to clarify some of these issues. However, they are far from having been resolved, and modern philosophers of mind continue to ask how (if at all) the subjective qualities and the intentionality (aboutness) of mental states and properties can be explained in naturalistic terms

Science of mind:

Psychology is the scientific study of human behaviour, mental functioning, and experience; noology, the study of thought. As both an academic and applied discipline, Psychology involves the scientific study of mental processes such as perception, cognition, emotion, personality, as well as environmental influences, such as social and cultural influences, and interpersonal relationships, in order to devise theories of human behaviour. Psychology also refers to the application of such knowledge to various spheres of human activity, including problems of individuals' daily lives and the treatment of mental health problems.Psychology differs from the other social sciences (e.g., anthropology, economics, political science, and sociology) due to its focus on experimentation at the scale of the individual, or individuals in small groups as opposed to large groups, institutions or societies. Historically, psychology differed from biology and neuroscience in that it was primarily concerned with mind rather than brain. Modern psychological science incorporates physiological and neurological processes into its conceptions of perception, cognition, behaviour, and mental disorders.

Evolutionary psychology

Evolutionary psychology (EP) is an approach within psychology that examines psychological traits — such as memory, perception, or language — from a Darwinian evolutionary perspective. It seeks to explain how many human psychological traits are evolved adaptations, that is, the functional products of natural selection or sexual selection. Adaptationist thinking about physiological mechanisms, such as the heart, lungs, and immune system, is common in evolutionary biology. Evolutionary psychology applies the same thinking to psychology.Evolutionary psychologists argue that much of human behavior originates as psychological adaptations that evolved to solve recurrent problems in human ancestral environments.

Evolutionary history of the human mind

The evolution of human intelligence refers to a set of theories that attempt to explain how human intelligence has evolved. The question is closely tied to the evolution of the human brain, and to the emergence of human language.The timeline of human evolution spans some 7 million years, from the separation of the *Pan* genus until the emergence of behavioral modernity by 50,000 years ago. Of this timeline, the first 3 million years concern Sahelanthropus, the following 2 million concern Australopithecus, while the final 2 million span the history of actual human species (the Paleolithic).Many traits of human intelligence, such as empathy, theory of mind, mourning, ritual, and the use of symbols and tools, are already apparent in great apes although in lesser sophistication than in humans.

Mental health:

By analogy with the health of the body, one can speak metaphorically of a state of health of the mind, or mental health. Merriam-Webster defines mental health as "A state of emotional and psychological well-being in which an individual is able to use his or her cognitive and emotional capabilities, function in society, and meet the ordinary demands of everyday life." According to the World Health Organization (WHO), there is no one "official" definition of mental health. Cultural differences, subjective assessments, and competing professional theories all affect how "mental health" is defined. In general, most experts agree that "mental health" and "mental illness" are not opposites. In other words, the absence of a recognized mental disorder is not necessarily an indicator of mental health.One way to think about mental health is by looking at how effectively and successfully a person functions. Feeling capable and competent; being able to handle normal levels of stress, maintaining satisfying relationships, and leading an

independent life; and being able to "bounce back," or recover from difficult situations, are all signs of mental health.Psychotherapy is an interpersonal, relational intervention used by trained psychotherapists to aid clients in problems of living. This usually includes increasing individual sense of well-being and reducing subjective discomforting experience. Psychotherapists employ a range of techniques based on experiential relationship building, dialogue, communication and behavior change and that are designed to improve the mental health of a client or patient, or to improve group relationships (such as in a family). Most forms of psychotherapy use only spoken conversation, though some also use various other forms of communication such as the written word, art, drama, narrative story, or therapeutic touch. Psychotherapy occurs within a structured encounter between a trained therapist and client(s). Purposeful, theoretically based psychotherapy began in the 19th century with psychoanalysis; since then, scores of other approaches have been developed and continue to be created

Conclusion

In 1950 Alan M. Turing published "Computing machinery and intelligence" in *Mind*, in which he proposed that machines could be tested for intelligence using questions and answers. This process is now named the Turing Test. The term Artificial Intelligence (AI) was first used by John McCarthy who considers it to mean "the science and engineering of making intelligent machines".[38] It can also refer to intelligence as exhibited by an artificial entity. AI is studied in overlapping fields of computer science, psychology, neuroscience and engineering, dealing with intelligent behavior, learning and adaptation and usually developed using customized machines or computers.Research in AI is concerned with producing machines to automate tasks requiring intelligent behavior. Examples include control, planning and scheduling, the ability to answer diagnostic and consumer questions, handwriting, natural language, speech and facial recognition. As such, the study of AI has also become an engineering discipline, focused on providing solutions to real life problems.

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References:

1. Dana C. Angluin. Learning with queries. In.Baum,editor,*ComputationalLearning and Cognition* ,pages 1–28, Philadelphia, PA, 1993. SIAM.
2. Jared Bernstein, Kelsey Taussig, and Jack Godfrey.Macrophone: An American English telephone speech corpus for the Polyphone project. In *Proceedings of the International Conference on Automatic Speech and Signal Processing (ICASSP94)*, volume I, pages81–84, Adelaide, Austrailia, 1994.
3. Mindy Bokser, 1999. Personal communication (Caere Corporation).
4. Eugene Charniak. *Statistical Language Learning*.MIT Press, Cambridge, MA, 1993.
5. Walter Daelemans, Antal van den Bosch, Jakub Zavrel,Jorn Veenstra, Sabine Buchholz, and Bertjan Busser. Rapid development of NLP modules with memory-based learning. In Roberto Basili and Maria Theresa Pazienza, editors, *ECML98 TANLPS Workshop Notes*, pages 1–17, Technische Universit¨at Chemnitz, 1998.
6. Richard O. Duda, Peter E. Hart, and David G. Stork.*Pattern Classification*. Wiley, New York, NY, secondedition, 2000

7. Tin Kam Ho and Henry S. Baird. Large-scale simulation studies in pattern recognition. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, PAMI-19(10):1067 1079, 1997
8. Jerry R. Hobbs, Douglas,Appelt, John Bear, and David Israel. FASTUS: A system for extracting information from text. In *Proceedings of the ARPA Human Language Technology Workshop '93*, pages 133–137, Princeton, NJ, 1994. Distributed as *Human LanguageTechnology* by San Mateo, CA: Morgan Kaufmann Publishers.
9. Frederick Jelinek. *Statistical Methods for Speech Recognition*. MIT Press, Cambridge, MA, 1998.
10. David G. Stork, 1999. Further information is available from www.Open Mind.org.
11. David G. Stork. Document and character research in the Open Mind Initiative. In *Proceedings of the International Conference on Document Analysis and Recognition (ICDAR99)*, Bangalore, India, 1999.
12. http://en.wikipedia.org/wiki/Mind