Chapter 12 Glossary

Artificial Intelligence: the theory and development of computer systems able to perform tasks that normally require human intelligence

Bodily Indifference: the claim that physical structure of a computational system has little bearing on its cognitive processes, therefore cognitive processes can in principle be carried out by any appropriately programmed physical system, regardless of shape or materials it is made of

Centrifugal (Watt) Governor: a mechanism for automatically maintaining a specified rate of rotation of a shaft on a regulated object (such as an engine or turbine) by means of a sensor in the form of rotating weights; the centrifugal force on the weights is used to move an element that regulates the object

Cognitive Dissonance: psychological conflict resulting from incongruous beliefs and attitudes held simultaneously

Cognitive Neuroscience: the branch of neuroscience that studies the biological foundations of mental phenomena

Computationalism: the claim of Simon's symbol hypothesis that cognition consists in the digital manipulation of representations by formal logical rules

Computer simulation: the technique of representing the real world by a computer program; a simulation should imitate the internal processes and not merely the results of the thing being simulated

Connectionism: a school of cognitive science that holds that human mental processes (as learning) can be explained by the computational modeling of neural nets which are thought to simulate the actions of interconnected neurons in the brain

Embodied Cognition: a research program in cognitive science that emphasizes the formative role the environment plays in the development of cognitive processes

Feedback: the return of a portion of the output of a process or system to the input, especially when used to maintain performance or to control a system or process

Formalism: the practice or the doctrine of strict adherence to prescribed or external forms

Frame Problem: the challenge of representing the effects of action in logic without having to represent explicitly a large number of intuitively obvious non-effects

Functionalism: a late 19th century to early 20th century American School of Psychology concerned especially with how the mind functions to adapt the individual to the environment

Intentional Stance: a term coined by philosopher Daniel Dennett for the level of abstraction in which we view the behavior of a thing in terms of mental properties

Multiple Drafts Model of Consciousness: theory of consciousness based on the idea of the mind as a hybrid of serial and parallel processing

Neurocentrism: the claim that cognitive processes are located only in the brain

Parallel processing: the performance of two or more simultaneous operations

Peripheralism: emphasis on sensory motor processes rather than cognitive or other central processes as determinants of behavior

Phlogiston: a substance supposed by 18th-century chemists to exist in all combustible bodies, and to be released in combustion

Physicalism: the claim that the only forces acting in the universe were physical cause-precede-effect ones

Purposive behaviour: behaviour caused by a goal not yet present to an organism

Reductio Ad Absurdum: a method of proving the falsity of a premise by showing that its logical consequence is absurd or contradictory

Separability Thesis: the claim that mental processes are separable from the body or whatever device that executes them

Sequential/serial processing: running a single task to completion on a single processor

Structuralism: an interdisciplinary approach to the social sciences, including psychology

Turing Machine: a mathematical model of a hypothetical computing machine that can use a predefined set of rules to determine a result from a set of input variables

Turing Test: a test of a machine's ability to exhibit intelligent behavior equivalent to or indistinguishable from that of an actual human