M

Machiavellianism *Politics* Pejorative term to describe beliefs or conduct allegedly derived from the views of Italian political theorist Niccolo Machiavelli (1429–1527).

The end justifies the means, and moral considerations should be subordinated to the achievement of material or political goals. Used in this way, the term is a parody of the views actually expressed by Machiavelli.

David Miller, ed., *The Blackwell Encyclopaedia of Political Thought* (Oxford, 1987)

RB

machine intelligence *Psychology* *See* ARTIFICIAL INTELLIGENCE.

machine translation (1950s) *Linguistics* Automatic translation of natural languages, using procedures of computational linguistics. Initially unsuccessful, it is now flourishing with advances in the theory and techniques of natural language processing.

H L Somers and W J Hutchins, *An Introduction to Machine Translation* (London, 1992)

RF

machinery question (1695) *Economics* English merchant and writer John Cary (d.*c.*1720) first dealt with the impact of the introduction of machinery on employment, an issue later examined by classical economists such as the Englishman David Ricardo (1772-1823).

Ricardo saw increased mechanization as reducing the wages fund, although the English philosopher John Stuart Mill (1806-73) argued that any fall in wages would be temporary. The issue is still important in understanding Third World economics. *See* TECHNOLOGICAL GAP THEORY.

J Cary, *A Discourse on Trade* (London, 1695); K Wicksell, *Lectures on Political Economy* (London, 1911)

PH

Mach's principle (1883) *Astronomy/Physics* Named after the Austrian philosopher and physicist Ernst Mach (1838–1916). Mach raised a number of conceptual objections to the laws of motion as laid down by Sir Isaac Newton (1642–1727).

He argued that unless there is a material background against which motion is to be measured, the concepts of rest and motion are meaningless. In general terms the principle means that the local physical laws observed on Earth are influenced by the large-scale distribution of matter in the universe. For example, it follows from this that the magnitude of the inertia of any body is determined by the masses in the universe and by their distribution. The German-born American mathematical physicist Albert Einstein (1879–1955) was greatly influenced by Mach's discussion, and proposed a universe filled with matter providing a background against which a local observer can measure motion and formulate laws of mechanics. *See also* BRANS-DICKE THEORY.

S Mitton, ed., *The Cambridge Encyclopaedia of Astronomy* (London, 1973); J V Narlikar, *Introduction to Cosmology* (Cambridge, 1993)

GD, MS

Maclaurin's theorem (18th century) *Mathematics* Named after Scottish mathematician and physicist Colin Maclaurin