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### **Scientific Unit Conversion: A Practical Guide to Metrication**

François Cardarelli

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This English translation of a French text by Dr Cardarelli of the Université Paul-Sabatier in Toulouse is a conversion tabulation very much out of the ordinary. Most scientists are familiar with one or other of the slim listings of SI units (i.e., *Système International d'Unités*) and their conversion factors to other units, outdated but still familiar to the older among us. Such listings often include values of a few basic fundamental units, such as the charge on the electron. The book under review goes very much further: it is not only bang up to date, but some of its contents would provoke a start of recognition in medieval scholars and even in archivists who kept tallies in ancient Hebrew, Latin, Greek or Chinese.

Cardarelli starts by explaining the emergence of the SI system of units and its supplementary and derived units, and some of the non-SI units which are used alongside the legally correct ones. He then explains SI's precursors such as MTS, cgs, esu and emu, and specialized concepts like atomic units, before moving on to British and American units (the dreaded gallons, miles, acres, etc, so unpopular in Brussels), finishing with some delightful 'obsolete units' for alcoholic drinks, hay, straw and wool. All this is only a softening-up for an astonishing series of tables of systems from antiquity, from China, India, Egypt, Assyria, Palestine, Greece, Rome and Arabia, moving on to ancient measuring systems in various European countries – all of these separated into units of length, weight, area and capacity, and each system provided at this stage with a basic set of conversion factors. The names of many of the ancient units must be a godsend to the compilers of virtually insoluble crossword-puzzles; I suggest that the publishers publicize the book among these, as well as among ancient historians, including historians of agriculture.

With this out of the way, the book goes on to 260 pages of alphabetically arranged conversion factors for all the units, modern and ancient, current and obsolete, into the appropriate SI units, followed by another 68 pages classified into mass, length, area, volume, density, temperature (both SI and 'practical'), energy, electrical and magnetic quantities, etc. A mere 6 pages list the latest values for a wide range of fundamental physical constants.

In the final section, routine matters such as rules for setting out large numbers, time of day