

earth, of which line, as given in the best recent authorities, it is a fraction which may be expressed by the decimal five ten-millionths. The square of this decimal gives, so they say, that singular and much disputed measure, the sacred cubit of Moses; or rather, it gives the mean between the two extremes of length thereof, as computed by Sir Isaac Newton. Now, taking this pyramid inch as the scale, it is found that the sum of the two diagonals of the base of the pyramid is 25,868 inches, which happens to be the exact number of solar years in the great astronomical cycle; also that the height of the Pyramid is an even decimal multiple, according to the most recent calculation, of the distance from the earth to the sun.

The Pyramid builder also knew where to find the poles of the earth, which implies a knowledge of its spheroidal shape, or that its equatorial diameter is longer than its polar axis. Modern science ascribes the discovery of the true figure of the earth to Thales, who flourished about 600 B. C.; but the location of the Great Pyramid, where it marks the exact middle parallel of latitude between the equator and the north pole, clearly points out the possession of this knowledge by its builder more than 1500 years before Thales was born. There can be no mistake about this point, for the sides of the square base of the Pyramid record an even fraction of the earth's axis, multiplied by the number of days in the year.

This is enough to be surprising. But there is much more to the same purpose in the works referred to, as for instance, the indications that the pyramid builders had weighed as well as measured the earth; which appears from the fact that the weight of the Pyramid is, as nearly as can be computed, "the even one thousand billionth part of the weight of this whole earth-ball of land and sea."

It is now proposed by professors of pyramidology to adopt its standards of measurement instead of the French *metre* and the English inch, on the ground of its more scientific character—a position which is not very flattering to the vanity of modern science, but which it is impossible to deny. The French *metre* is the ten-millionth fraction of the quadrant of the earth's surface, measured on the meridian of Paris, being the fraction of a curved line (equal to thirty-nine and four tenths British inches of "three barleycorns" each), while the ten-millionth fraction of the straight line of the earth's semi-diameter gives the "pyramid cubit," the square root of which gives the "pyramid inch," both of which measures, as we are told, enter very largely into the chronology and theology taught by the great Pyramid.—(*Pennsylvania School Jour. al.*)

Etymology—Its Uses and Abuses.

A paper read by the Rev. Dr. MORRIS before the College of Preceptors.

Etymology deals with the history of words—the sources from which they are derived—the various changes they have undergone in form and meaning, and their historical relations to cognate terms in kindred tongues. It is the business of the etymologist to discover the original form and meaning of words, by the resolution of compound into their simple elements. In English and in all its Aryan congeners, what appear to be the most simple forms are in reality not so, but on being subjected to a closer examination are found to be derivatives or compounds. Etymology is an analytical science, and is, so to speak, the chemistry of speech. In

the linguistic laboratory compounds are resolved into their elements, whereby the qualitative values of the component parts are exactly ascertained. It is not, perhaps, possible to make the pupils in our schools chemists or philologists; but, by a rational treatment of these and other scientific studies, we may not only use them as a mental training and intellectual discipline, but may also succeed in fostering a decided taste for one or more of them, which shall excite a spirit of inquiry, and lead the student to take up some one subject for special investigation when his school-days are ended, and he is out of the leading-strings of his instructors. We should seek to make the pupil love knowledge for his own sake, for the spirits of research is as valuable to the student as the results which it enables him to produce.

Professor Max Miller has well observed, that "there is in the human mind a craving after Etymology; a wish to find out, by fair means or foul, why such a thing should be called by such a name." In directing the attention of the speaker or reader to the words he uses, we are only satisfying a natural curiosity—and curiosity is the parent of knowledge. We cannot hope in our schools to produce scientific etymologists, that is to say, philologists; but we may, by "word-analysis," enable those we teach to perceive many linguistic processes, and learn much of the first principles of the science of language.

As no instruction can be carried on without the employment of words (or of signs and symbols answering to them), the right understanding and use of them are matters of no slight importance; but the accurate and exact employment of words must in a great measure depend upon the manner in which we have seized their true and real signification; for words without sense are a useless and barren acquisition. The skillful teacher is not likely to overlook this point. In the study of Botany, Geology, &c., there is presented to the learner a scientific terminology which always amounts to a new language, and the memory is often severely taxed in the demands thus made upon it. The teacher usually attempts to lessen the mental strain by the aid of the very principle upon which this retentive faculty depends (the association of ideas). He calls in Etymology as his auxiliary, and associates the new terms with their original meanings, and thus enables the learner not only to have a stronger hold upon the words but a far clearer appreciation in their meaning than he otherwise would have had. Thus Derivation (a branch of Etymology) not only enters into all grammatical teaching, but forms a part of many other and widely different branches of knowledge. But it is the linguistic side of Etymology that is to occupy our attention this evening.

Here, again, its importance, especially as regards our own language, has received general acknowledgment, judging by the number of independent works on Etymology (few, however, of a trustworthy character), and by the copious lists of roots that one finds, not only in English grammars, but even in ordinary school reading books. It has always seemed to me a great waste of labour to load such works with long lists of Anglo-Saxon, Latin, and Greek roots. There is, of course, some reasonable excuse for lists of prefixes and suffixes in a grammar—they render the work more complete, and are valuable for reference; but a long array of Teutonic and classical vocables are not necessary in English grammars and readers. As a rule, such collections are very inaccurate, especially so are the lists of Teutonic roots. An Anglo-Saxon dictionary is often the only guide the compiler seems to have had. He has