

Anniversaries of Science

January 26, 1627—Birth of Robert Boyle, "Father of Chemistry."

Methinks the Chymists in their search after truth are not unlike the navigators of Solomon's Tarshish Fleet, who brought home from their long perilous voyages not only gold and silver and ivory but apes and peacocks too; for so the writings of several (I say not all) of your hermetick philosophers present us, together with diverse substantial and noble experiments, theories which, either like peacocks' feathers, make a great show, but are neither solid nor useful, or else like apes, if they have some appearance of being rational, are blemished with some absurdity or other that, when they are attentively considered, makes them appear ridiculous.

—Boyle: *The Sceptical Chymist*.

February 1, 1881—DeLesseps, the builder of the Suez Canal, began the Panama Canal which proved unsuccessful and resulted in the prosecution and punishment of DeLesseps.

It was fortunate for commerce that the chance of nature so nearly cut the earth in two at its middle and that we could finish it with canals. The Suez Canal (opened in 1869) relieved the trade between the West and the East of a long and wearisome journey around Africa or an expensive portage at Suez. Before the canal was opened, thousands of camels transferred burdens between the Mediterranean and Red Sea steamers. The distance and scarcity of coal on the Good Hope Route restricted it at that time almost entirely to sailing vessels. . . . While the American isthmus blocked access to the Pacific, that ocean was in a sense a sort of blind alley as evidenced by the tremendous journey made by vessels that went from London to Yokohama and Puget Sound and then turned to retrace their tracks. Today the short cut home for that vessel is by way of the Panama Canal, thus completing a round-the-world voyage which is to become typical.

—J. Russel Smith: *Commerce and Industry*.

Science News-Letter, January 22, 1927

METEOROLOGY

Homes as Weather Bureaus

Every home should be a weather bureau and the householder can tell what the weather will be in his neighborhood even more accurately than from a weather map, Dr. Alexander McAdie, of Harvard University, told the American Meteorological Society in Philadelphia. Cloud motions are not an accurate guide to coming weather conditions either, he said, but it is advantageous to know what the air streams are doing a few thousand feet overhead. For this purpose he has devised a combination cloud and moisture gauge by which it is possible to tell the approximate height of the clouds, as well as their speed of direction, in a few minutes.

Science News-Letter, January 22, 1927

ANTHROPOLOGY

Teeth Tell Man's History

Out of the mouths of ancient apes, older than the hills of India where their fossilized bones were found, comes new testimony concerning the ancestry of man. Remains of Dryopithecus—the name means simply "tree ape"—from the Siwalik hills at the foot of the Himalayas, are the subject of a report to the American Museum of Natural History, by Dr. William K. Gregory and Dr. Milo Hellman, in which the significance of the formation and shape of the teeth is exhaustively discussed.

According to these investigators the lower molar teeth in this extinct anthropoid exhibit a peculiar arrangement of the points or cusps on the surface of the tooth; three cusps on the outer side, two on the inner side. Between the cusps run an elaborate system of furrows and smaller grooves.

This whole arrangement or pattern is also found in the lower molar teeth of the earliest fossil races of man and in varying degrees even in the more primitive of modern human races. In civilized races this "Dryopithecus pattern" of the molars is usually replaced by a characteristically human or "plus-shaped" pattern.

The main conclusions of the report are as follows:

"To judge from the characters of the dentition the modern anthropoids, taken as a whole, are unquestionably man's nearest relatives among all known mammals; conversely, no other known living or fossil mammals can seriously contest this claim of the anthropoid group.

"We, therefore, prefer to accept this direct evidence and to trace the evolution of the human dentition through that of the primitive anthropoid Dryopithecus back to the primitive tarsoid Parapithecus, rather than to invent entirely hypothetical and unknown stages leading back to unknown stem forms of pre-primates in the Paleocene or Upper Cretaceous.

"Each existing anthropoid has specialized away from the common ancestor in certain respects.

"When all due allowance for these specializations has been made, the chimpanzee is far less specialized away from the common stem form than is man.

"The various extinct anthropoids known as Dryopithecus are decidedly

closer to the common stem form than are any of the modern giant anthropoids.

"From some form of Dryopithecus possibly related to *D. rhenanus* man has inherited his dental formula, the "bicuspid" pattern of the upper and lower premolars, the 'Dryopithecus pattern' of the molars, many details of the incisors and canines and many important characters of the deciduous dentition. It may be noted that this is not a light speculation, but is based on observations of the characters actually inherited in the more primitive human dentitions, apparently from a Dryopithecus-like ancestor."

Science News-Letter, January 22, 1927

HYGIENE

Maternal Irradiation

If a baby develops rickets in spite of receiving his nourishment in the way traditionally supposed to be best for babies, the anxious parent should not immediately put their young hopeful on a bottle. It can quite possibly be cured by having his mother treated with ultra-violet irradiations.

Although the great advantages of mother's milk are not questioned, Dr. Alfred A. Hess of the Columbia University College of Physicians and Surgeons, has reported to the American Medical Association that from one-third to one-half of the breast-fed babies met with in his experience in this climate have rickets. Working in collaboration with Mildred Weinstock and Elizabeth Sherman, Dr. Hess has conducted experiments that show that the antirachitic substances in human milk are greatly increased by irradiation of nursing mothers with ultraviolet rays. Though direct sunlight has been of great benefit in treating rickets, in this connection it has been found not to give as positive results as the quartz mercury vapor lamp, said Dr. Hess.

These experiments, he continued, suggest that irradiation of the mother while she nurses her baby will not only protect the baby from rickets but will help keep up her own nutritional status. This is especially important because the excessive drain on the calcium and phosphorous content of the body often results in serious impairment of the teeth in young mothers. How effective and practical the method will be, must be determined by further clinical experience, Dr. Hess stated.

Science News-Letter, January 22, 1927