CENTENARIES.

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Boerhaave, Herman (1668-1738)

HERMAN BOERHAAVE, a Dutch physician, scientist and philosopher, was born at Vocrhoat, near Leyden, December 31, 1668. He lost his mother in his fifth year. He was designed by his father for the ministry and hence was made proficient in languages even before he was eleven. But a cancer in his thigh interrupted his studies at this stage for a few years. He then joined the public school at Leyden where he made phenomenal progress, carrying away all the prizes that came his way. When he was about to enter the University, his father died leaving him but slender means to prosecute his studies. But his genius and industry gained scholarships and prizes for him and with their aid he took the degree of Doctor of Philosophy on the basis of a thesis—*On the distinction between the soul and the body* (1689). Then he pursued his scientific studies, mathematics, physics, chemistry, botany and medicine which culminated in another doctorate in 1693 at Herderwick.

After practice in Leyden for a few years, he was elected lecturer of the University of Leyden in 1701. *De usu ratiocinii mechanic in medicina* (1703), *Institutiones medicæ* (1707) and the clear classification, causes, and cure of diseases given in the *Aphorismi de cognoscendis et curendis morlies* (1708) spread his reputation far and wide. His new medical system was widely adopted by his contemporaries.

In 1709, he was elected professor of medicine and botany. In 1710, he brought out his *Index stripuim in horto academico.* In 1718 he occupied also the chair of chemistry and his *Elementa Chemice* was reputed to be the first popular rendering of chemistry in a clear and beautiful style. He published also half a dozen other treatises on subjects like anatomy and materia medica.

When he laid down the office of the Governor of his University in 1715, he made an oration in which he declared in the strongest terms in favour of experimental investigations and rigorous mathematical deductions and showed the futility of purely speculative methods. Some of his contemporaries, steeped in jealousy and envy invoked both by this erudition and by their inability to comprehend his writings, read into this oration an anti-christian attack and made a move to darken his reputation. But the University put down such calumnies with a stern hand and when he was asked what punishment should be meted to his mean adversaries he said, "that he should think himself sufficiently compensated, if his adversary received no further molestation on his account." He used to say of calumny, "They are sparks, which, if you do not blow them, will go out of themselves."

Such interested and judicious attacks on a reputation founded upon solid merit merely helped to enhance it. In 1720 he was elected a member of the Academy of Sciences at Paris. Two years later he was elected a Fellow of the Royal Society of London. His fame extended even to the furthest parts of Asia. It is said that a Chinese Mandarin addressed a letter to him with the superscription "To Boerhaave, Physician in Europe" and that the letter was duly received. When he recovered from a long illness in 1732, the inhabitants of Leyden celebrated the joyful event by a public illumination.

After a long and painful period of illness, Boerhaave died at Leyden, September 23, 1738.

Courtois, Bernard (1777-1838)

BERNARD COURTOIS, the discoverer of iodine, was born in 1777. He employed himself in the manufacture of saltpetre near Paris. In 1811, he discovered iodine accidentally. He reported this discovery to *Annales de Chemie* (1813) in two papers entitled *Decouverte d'une substance nouvelle (iode) dans le vareck* and *Sur un nouvel acide forme aved l'iode.*

In his process for procuring soda from the ashes of seaweeds, he found the metallic vessels much corroded. He traced this effect to a new substance in the bye obtained by extracting the weed with water. He wrote "The mother-liquors of the bye obtained from vareck contain a tolerably large quantity of a singular and curious

substance. It can be easily obtained... The wonderful colour of its vapour suffices to distinguish it from all other substances known upto the present time."

Soon after its discovery, Courtois gave specimens of it to Deormes and Clement for chemical examination. They presented a memoir on it at a meeting of the Imperial Institute of France in November 1813. A few days later, Gay Lussac received a specimen of this substance and after a careful study designated it *iode*. He also prepared and named *hydriodic acid*. Humphrey Davy who was then at Paris received a complementary specimen from Ampere and he confirmed the conclusions of Gay Lussac in a communication sent to the *Philosophical transactions* of the Royal Scciety in 1814–1815. Mellor records that "H. Davy played a not too glorious part" in the affair.

Courtois died September 27, 1838.

ASTRONOMICAL NOTES.

Planets during October 1938.—Venus will continue to be a very bright object in the western sky soon after sunset, and will attain greatest brilliancy on October 16, the corresponding stellar magnitude being —4·3. On October 30, the planet will be at one of the stationary points of its orbit. Mars will be visible as a morning star, rising about two hours before sunrise, but will still not be well placed for observation. The close conjunction of the planet with Neptune on October 12 is worth observing, the angular distance between the two being only five minutes of arc. A small telescope will however be required for observing the phenomenon.

The two major planets Jupiter and Saturn will be conspicuous objects that can be conveniently seen in the early part of the night. The former is nearly stationary among the stars during the month and will be on the meridian at about 8 P.M. Saturn will be rising at about sunset; and on October 8, the planet will be in opposition to the Sun. The major and minor axes of the ring ellipse are 45″ and 7″ respectively. An occultation of Uranus by the moon will take place at about 10 P.M. on October 11, the reappearance being at the dark limb can be observed even with a binocular. Another lunar occultation of interest that can be seen in these latitudes is that of B. Capricorni, a third magnitude star which will occur at about 9 P.M. on October 3.

A General Catalogue of Stars.—The Department of Astrometry, Carnegie Institution of Washington, has recently published in five volumes, an extensive catalogue, providing standard positions and accurate proper motions of a large number of stars well distributed over the whole sky. The catalogue includes all stars brighter than visual magnitude 7·0 and contains, besides, a number of fainter stars with fairly well determined proper motions. An elaborate investigation on the solar motion, the constants of precession and galactic rotation, has been made by R. E. Wilson and H. Raymond (*Astro. Journal*, 1084) based on the large amount of material contained in the New General Catalogue. Their discussion indicates small corrections to Newcomb's tables of precession. Referred to stars brighter than 7·0 magnitude, they find for the position of the apex of solar motion R.A. 270°·4, Declination 33°·2 N. As is well known, there are marked changes in the position of the apex depending on the magnitude and spectral types of stars whose motions are used in the investigation.

T. P. B.

OUR scientific method has been giving us better and better maps of our universe, mapping it from the points of view of physical science, of biological science, later of sociology, and finally of education. From the philosophical point of view we can not be at all certain that we have made any progress toward an understanding of the absolute nature of things, but we have made a practical progress in these useful guides for our race. The mapping that has been done in the first two fields named has been far more complete than in the others, and therefore is subject to much less criticism.

DINSMORE ALTER.