

CENTENARIES

Cockburn, William (1669–1739)

WILLIAM COCKBURN, a British physician, was born in 1669. After taking his M.A. at Edinburgh, he proceeded to the University of Leyden of which he became an M.D. In 1694 he was appointed naval physician and he seems to have retained this position till 1731, when he joined the staff of the Greenwich Hospital. Cockburn was physician to Jonathan Swift.

REMEDY FOR DYSENTERY

Cockburn had a secret remedy for dysentery. In July 1696, when he was dining on board one of the ships, Lord Berkeley remarked that "there was nothing farther wanting but a better method of curing fluxes". Cockburn announced his secret remedy which when tried next day upon seventy sailors proved a brilliant success. The result was reported to the Admiralty Board and the remedy immediately came into official use and remained so for forty years, not only in the navy, but also in the army. This was looked upon as a benefit of national importance and William III personally conveyed the nation's thanks to him, although he was bitterly opposed as a quack by academical physicians. Nothing is now known of that wonderful remedy.

HIS WRITINGS

Cockburn was a writer of some importance. His only contribution to the *Philosophical transactions* of the Royal Society was on "The operation of a blister". Its object was "To give a reasonable conjecture how a blistering plaister, the chief ingredient of which is cantherides, may cure a fever, and its most terrible symptom, a delirium, and that in a few hours".

HIS WRITINGS

His first book was on the *Nature and cure of distempers of seafaring people with observations on the diet of seamen's in H.M.'s navy* (1696). In those days there was no notion of the importance of succulent vegetables in this matter; hence Cockburn's sarcastic remark that people "at the name of scurvy, fly to scurvy-grass, water-cresses and horse-radishes". His other books were on the *Lues venerea* and on the *Symptoms, nature and cure of gonorrhœa*. The latter went through four editions and was translated into other languages.

Cockburn died at London November 1739.

Hewson, William (1739–1774)

WILLIAM HEWSON, a British anatomist, was born at Hexham, Northumberland, November 14, 1739. Having been apprenticed to his father who was a surgeon, he studied at St. Thomas's and Guy's hospitals and attended the anatomical lectures of William Hunter. Later he became a partner of Hunter in his anatomical school. But the partnership broke and in September 1772 Hewson began to

lecture independently at a theatre which he built near his house. His reputation was so high that he had no difficulty in attracting a large class.

HIS RESEARCHES

Hewson's researches on the blood were of great importance as establishing the essential character of the process of coagulation and the forms of red corpuscles in different animals. He also made valuable contributions to the study of the lymphatic system in fishes.

HIS PUBLICATIONS

Hewson's first book came out in 1771 under the title *An experimental enquiry into the properties of the blood*. He wrote two more books, one on the lymphatic system and the other on the red corpuscles. Besides these he wrote about ten papers, most of which were published in the *Philosophical transactions* of the Royal Society. His *Opera omnia* was published in Leyden in 1795, while an English edition of his *Collected works* was brought out by the Sydenham Society in 1846.

HIS END

Hewson wounded himself while making a dissection and serious symptoms followed. He died after a few days' illness May 1, 1774.

Murdock, William (1754–1839)

WILLIAM MURDOCK, a British engineer, was born at Bellow Mill, Ayrshire, August 21, 1754. Brought up as a gunner—his father and grandfather were so—he entered the service of Boulton and Watt at Soho in 1777. Murdock's unambitious career was entirely devoted to the interests of his employers. He had no leisure to devote to any sort of recreation. The rising sun often found him after a night passed in incessant labour still at the anvil or turning lathe, for with his own hands he would make those articles he would not trust to unskilful ones.

THE FIRST LOCOMOTIVE

His fame had been somewhat overshadowed by the great name of Watt. But the first locomotive was made by Murdock. It was constructed entirely by his own hands. One night, after returning from his duties, he wished to put to the test the power of his engine, and as rail roads were then unknown, he started the locomotive in a dark night on a narrow path in the church compound, himself in full chase after it. Shortly after, he heard a distant despair-like shouting; he soon found that the cries for assistance proceeded from the pastor of the church who, going into the town on business, was met in this lonely road by the fiery monster, whom he subsequently declared he took to be the Evil one in *propria persona*.

THE FIRST COAL GAS LIGHT

Murdock is still better known to the public and most deservedly so, by his invention of

applying the gas from coal to economic purposes. Although the gas had been discovered and obtained both naturally and artificially more than half century before, nobody had thought of this application. He perfected the mechanism for such a gas light and described it in the *Philosophical transactions* of the Royal Society in 1808. This earned him the Rumford gold medal of the Society.

PNEUMATIC INVENTIONS

Murdock had made many mechanical improvements in the equipment of the Soho Foundry. Prominent among them is the construction of the first pneumatic lift for the purpose of raising and lowering the castings from the boring mill to the level of the foundry.

He was also the first to make use of compressed air to ring the bell in his house and in the office. He was the inventor of Cast-Iron Cement which is now so much used in the construction of engines and machinery. He invented a crown-screw by which marble and stone could be bored for use as water pipes.

HIS END

Murdock was also the first to invent central heating. While engaged on the erection of this apparatus at Leamington, he met with a severe accident by the fall of a ponderous cast-iron plate upon his leg above his ankle. He never recovered completely from the effects of this injury.

Murdock died November 15, 1839.

ASTRONOMICAL NOTES

Planets during December 1939.—Venus continues to be an evening star and will be visible low down in the western sky for about an hour and a half after sunset; Mercury will be at its greatest elongation from the Sun ($21^{\circ} 25'W.$) on December 17 and can be seen for a short while before sunrise. Mars is rapidly moving eastwards in the constellation Aquarius and although decreasing in brightness, will still be a conspicuous object in the western sky in the early part of the night.

Jupiter will be on the meridian at about sunset and continues to be well placed for observation. Saturn moves slowly in a retrograde direction near the western border of Aries and becomes stationary on December 29. The rings can be seen fairly widened, the angular dimensions of the major and minor axes being $43''$ and $10''$ respectively about the middle of the month. Not far eastwards of this interesting

planet, will be Uranus which can be easily located about 2° south of the star δ Arietis (magnitude 4.5). Neptune is in quadrature with the Sun on December 18, and is stationary on December 29. It is situated about a degree to the north of β Virginis and can be observed with some optical aid. A lunar occultation of some interest that will be visible in India is that of β Capricorni (magnitude 3.2) on the evening of December 14.

Jupiter X.—Two extremely faint satellites (X and XI) of Jupiter were discovered last year by Dr. Nicholson at the Mt. Wilson Observatory. From the revised orbit of J. X published by R. H. Wilson (*P.A.S.P.*, August 1939), it is found that the mean distance is .077 astronomical units and the period 252.8 days. The orbit of this satellite appears to be very close to those of J. VI and J. VII. T. P. B.

MAGNETIC NOTES FOR OCTOBER 1939

MAGNETIC ACTIVITY.—The terrestrial magnetic activity during October 1939 was larger than that in the previous month. There were 6 days of moderate disturbance, and 16 of slight disturbance. The number of days of great disturbance was only one while 8 quiet days occurred during the month.

It is interesting to note that the most disturbed day in the month that of 13th October occurred immediately after the 12th October which is the quietest day during the month. The distribution of the magnetic characters* of individual days is shown in the table below.

Magnetic Storms.—A storm of great intensity with "sudden commencements" in H, D and Z, was recorded on the 13th and 3 moderate storms each with a gradual beginning occurred on 2nd, 9th and 14th respectively. The number of dis-

Dates of the month	Quiet days	Disturbed days		
		Slight	Moderate	Great
1939 Oct.	8, 12, 20, 24, 25, 27, 29 and 31	1, 2, 5 to 7, 10, 11, 16 to 19, 21, 22, 26, 28 and 30	3, 4, 9, 14, 15 and 23	13

turbances during October 1938 were three (one great on 7th, and 2 moderate on 23rd and 25th).

Monthly Characters.—The mean character figure for October 1939 is 0.97 as against 0.94 for the corresponding month of 1938.

M. R. RANGASWAMI,

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* For method of characterisation please see "Magnetic Notes for July, 1939," in *Curr. Sci.*, 1939, 8, No. 9, 434.