be transferred to a site where its sphere of activity can be extended.

The volume[1] before us contains, therefore, some of the results of observations which can be carried out under such restricted conditions. Of these may be mentioned an excellent series of observations of the culmination of the moon and the crater Mösting A. The determination of the latitude of the observatory was also undertaken. The result obtained, namely, 50° 5′ 16″.02, was in complete agreement with the value obtained by Prof. E. von Oppolzer from observations made in the period 1889 to 1899. Other work here described refers to the observations of Jupiter's satellites, Nova Persei, shooting stars, &c.

The appendix contains, further, a series of useful papers by Prof. Weinek. These, for the most part, deal with some graphical explanations of the theory of the sextant, precession, planet-transits across the sun's disc, cometary orbit determinations, &c.

October 24, 1901, being the 300th anniversary of the death of Tycho Brahe, some very interesting historical notes are given relating to his two years' activity (1599–1601) in Prague. The reader may be reminded that this celebrated Danish astronomer died in Prague, and in the Teynkirche there a handsome gravestone marks his resting-place.

During his lifetime Tycho Brahe had five different observatories, and these were situated (*a*) on the island of Hveen (Uranienberg), (*b*) in Wandsbeck, (*c*) in Benatek, (*d*) in Prague (Ferdinandeum), and (*e*) in Prague (Curtius's House). These are shown in the accompanying illustration, which is taken from one of several of the fine reproductions inserted in this volume.

Others to which reference may be made are a fine coloured reproduction, in colours, of Tycho Brahe from an oil painting in the Prague Observatory; the Belvedere of Ferdinand I. (Ferdinandeum), where he observed; the Teynkirche, where he was buried; his two sextants, and other interesting reproductions of the Prague of to-day.

The volume concludes with a useful summary of the chief lunar maps and photographic moon atlases, commencing with Lohrmann (1824) and finishing with W. Pickering's atlas which was published in 1903.

THE DISCOVERY OF STONE IMPLEMENTS OF PALÆOLITHIC TYPE IN VEDDAH CAVES.

DRS. F. AND P. SARASIN recently made an expedition to Ceylon for the express purpose of investigating the caves now and in past times inhabited by the Veddahs, to see whether any stone implements could be discovered. Their earlier researches proved the Veddahs to belong to a lower and older type than the other inhabitants of Ceylon, and it is conceded that they must represent the few remnants of the aborigines who were met with by the Sinhalese on their first arrival, and by whom they were called Yakas, according to the tradition preserved in the Mahawansa. Presumably, these autochthones were at that time living in their Stone age; but no record of Veddah stone implements occurs in anthropological literature. From an article in the *Ceylon Observer* of April 22, written by these indefatigable travellers, we find that on this, their fourth, expedition into the Veddah country they were lucky enough to find a cave near the village of Nilgala, which until very recently was inhabited by Veddahs, the soil of which contained in great abundance stone implements of a very rough kind. Further investigations of some other caves, one near Kattragam, the other near Kalodai, led to an identical result. They also succeeded in discovering upon the hilltops of the country of Upper Uva the same rough stone implements in great quantities and still well preserved. Not only the autochthony of the Veddahs can be regarded as a proved fact, but also their former distribution over probably the whole island, including the low country as well as the mountainous districts.

The shape of the chips, knives, lance points, scrapers, and fragments of bone awls enables this stone-industry to be described as analogous to that of the Madelaine period of the Palæolithic age. "Yet," as the cousins Sarasin remark, "this industry is to be denoted as a special *Facies Veddaica,* inasmuch as white quartz (mainly of an ice-like transparency) furnished the principal part of the material." Besides this, they also found a red, yellow, and black variety of quartz (jasper) employed in great profusion, which contrasted strangely with the monotonous grey gneiss of the caves themselves. On the whole, these implements are of small size, suited to small hands, and therefore employed by a small race of men. The stone hammers which were used to strike chips off the cores are of a remarkably small size. The Sarasins conclude their article with these words:—"We, furthermore, may already venture to say that the second main-period of the Stone age, the Neolithic one—viz. that characterised by the polished stone axe—is entirely wanting in the island of Ceylon, the Veddahs having made the step directly from the Older Stone Age into the Modern Age of Iron, which was brought them by the Sinhalese, or perhaps by another people of the Indian continent."

It is believed by some in Ceylon that there are only some hundred Veddahs existing, and Dr. Sarasin informed a *Ceylon Observer* representative that there are but a small number of Veddahs of pure blood to be found, perhaps only about fifty or sixty. These chiefly occur in Nilgala, Bibile, and the Putipola hill in Moligala, where there are only three small communities of the purest blood. Most of them build small, primitive huts, while some live in the open, sometimes in caves, but not always; those who have families build huts. Their own language is lost; being a small tribe surrounded by thousands of Sinhalese they have learnt a simple dialect of Sinhalese. They have no knowledge of their history. There is no chief, but the oldest man is called the speaker; he has, however, no privileges, and is not empowered to issue orders. They no longer know how to make stone implements, and now buy iron from the Sinhalese. Dried flesh and forest fruit are eaten. They have no religious ceremonies, but some believe in ghosts, whom they call *yakas,* though others disbelieve in their existence. Idolatry is not practised, nor do they worship stones or trees, or pray to them; indeed, the majority deny that they know anything about them. The Veddahs are strictly moral, there are no thieves among them, they never take alcohol, and they never tell lies.

A. C. H.

AN ITALIAN MONUMENT TO LINNÆUS AT THE END OF THE EIGHTEENTH CENTURY.

IN these days, when all the world of science unites in celebrating the memory and glory of the great Swedish naturalist, it is interesting to recall from the utter oblivion in which it has remained until now the monument and inscription dedicated to Linné in Naples at the end of the eighteenth century, presumably in 1778, the year of Linné's death.

The monument, which probably consisted only of the marble inscription, was not a public monument,

[1] "Astronomische Beobachtungen an der k.k. Sternwarte zu Prag, in den Jahren 1900–1904." Auf öffentliche Kosten herausgegeben von Prof. Dr. L. Weinek. (Prag: K.U.K. Hofbuchdruckerei A. Haase, 1907.)

but was raised by the fervour and admiration of Domenico Cirillo, the Neapolitan friend and correspondent of Linné, to whom the latter had dedicated the heathers of the genus Cyrilla, now included in the family of the Cyrillæ.

The Cirillo had been for long a family of doctors, naturalists, and artists. It is said that Domenico Cirillo, who was born in 1739, and graduated in 1759, was the twentieth doctor of medicine belonging to the Cirillo family. At the beginning of the eighteenth century, Nicola Cirillo, who in 1718 became a Fellow of the Royal Society of London, formed in his own private grounds in Naples a botanical garden which continued to be the scientific centre of Neapolitan naturalists until its destruction and the dispersion of the collections and herbarium in the fatal year 1799. In the sack of Cirillo's house were lost the letters written by Isaac Newton to Nicola Cirillo, and the famous herbarium of Ferrante Imperato, preserved since the sixteenth century, before which Martyn Vahl, Linné's friend and disciple, had knelt in admiration when he visited Naples in 1783.

The garden of Cirillo was the rallying point for the flower of Neapolitan thought and science, soon to be decimated and dispersed by royalist persecution during the storms of the Revolution of 1799. Many of the most distinguished men of Naples must have stood round Cirillo when the following inscription was raised in honour of Linnæus :—

CAROLI LINNAEI
Animam sapientissimam
Terris divinitus impertitam
ut
Naturae universae arcana
Declararet patefaceret
Illustraret
Postea
per dephlogisticatam
Aetheream regionem
Obvolitantem
Ne quid respub. Botanicorum
Detrimenti capiat
Vos
Fragrantissimae, soporiferae
Tetrae, spirantes
Ambrosiacae, Aphrodisiacae
Perennis voluptatis ministrae,
Herbae, Arbores, Plantae
Odoribus, Effluviis, aromate
Sistite, involvite, detinete.

The mob destroyed this inscription, together with Cirillo's house and collections, and Cirillo, with many of the noblest thinkers and benefactors of his country, was hanged in the market-place of Naples on October 29, 1799.

The inscription by Domenico Cirillo is one of the first memorials erected in a botanical garden to the memory of Carl Linné. Perhaps it may be raised again in Naples, a memorial not only of Linné's glory and of Cirillo's devotion, but also of that brotherhood of science to which Linné and the societies that bear his name have so much contributed.

ITALO GIGLIOLI.

DR. ALEXANDER BUCHAN, F.R.S.

WITH the death of Dr. Alexander Buchan on Monday, May 13, after a brief illness, a long industrious life and a distinguished scientific career were brought to a close; a genial and striking personality has become a memory.

Born at Kinnesswood, Kinross-shire, in 1829, educated at the Free Church Normal School and the University of Edinburgh, he became a schoolmaster at Banchory, Blackford, and subsequently at Dunkeld. He had, at the same time, an independent taste for field botany and meteorology.

An affection of the throat proved to be an embarrassment in his scholastic work, and in 1860 he was called to Edinburgh to be secretary of the Scottish Meteorological Society. It was a time of remarkable activity; indeed, it was a notable period in the development of the modern science of meteorology. In Paris, Leverrier had traced the progress across Europe of the celebrated Crimean storm. In London, FitzRoy was busy with the daily comparison of reports by electric telegraph from a number of stations in the British Isles. The British Association was maintaining a physical observatory at Kew, in the superintendence of which Balfour Stewart had just succeeded Welsh, a pioneer in meteorological ballooning. In this enterprise Welsh was soon followed by the intrepid Glaisher, under the auspices of a British Association Committee, with the active support of Lord Wrottesley. The Master of Trinity included the design of an anemograph among his achievements. In Scotland, Thomas Stevenson, Milne Home, and Sir Arthur Mitchell, with the support of the great Scottish physicists, formed the nucleus of the energetic society which, under Buchan's management, became one of the most important centres of meteorological investigation, the focus for the collection of observations from all parts of Scotland, and the controlling body for a network of volunteer stations. The work of examination and tabulation, conducted almost wholly by Buchan and his niece, Miss Jessie Hill Buchan, received official recognition as supplying many of the summaries of observations at stations of the second order in Scotland required by the Meteorological Office in London for international purposes, and as preparing the meteorological reports for the Registrar-General for Scotland on lines somewhat similar to, but not identical with, those prepared for the Registrar-General for England and Wales by James Glaisher, first as a member of the staff of the Royal Observatory, and subsequently on his own account.

A few words as to Buchan's scientific work must suffice. With Baxendell, of Manchester, he was largely instrumental in securing the general acceptance of Buys Ballot's principle of the relation of wind to air pressure. He had the faculty of statistical insight, and realised that by the appropriate combination of many observations it was possible to trace the interdependence of phenomena which might be affected separately by a number of independent causes. This insight is illustrated in a remarkable way by his papers with Sir Arthur Mitchell upon the relations of climate and health in London. Such a method of investigation does not always commend itself to the student of physics, who, fortunate in having the conditions under his own control, is accustomed to trace the direct connection between cause and effect in each separate experiment. But the remarkable results of Buchan's work, which still remain to be followed up, enable one to understand the enthusiasm for collecting observations, and more observations, that seem purposeless to some of those who look on.

His "Handy Book of Meteorology," published in 1867, followed by a second edition in 1868, and now long since out of print, though a new edition has always been looked for, and his "Introductory Textbook of Meteorology" (1871) are ample evidence of his general grasp of meteorological work, but his favourite method of meteorological investigation was the map. Beginning from the time when the reduction of the barometer to sea-level for synchronous