

treatment appreciably lengthens the life of the consumptive. If the use of tuberculin had the very marked results claimed by some of its supporters we should have anticipated more definite evidence of its effect on mortality."

A RECENT memoir by Capt. R. T. Wells on dysentery in Haziribagh Central Jail (Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India, No. 52) contains a number of important data bearing on the question of the relation of amœbæ to the causation of dysentery. From this, as well as from other recent investigations, it is very clear that great care must be taken to distinguish clearly between harmless contamination-amœbæ and the pathogenic amœbæ which are the true cause of the disease. Contamination-amœbæ can be cultivated from fæces, tap-water, and other materials by planting them on Musgrave's medium; their cysts are air-borne, and readily gain access to fæces or specimens of pus, however carefully collected, or to any material planted on Musgrave's medium contained in Petri dishes. The true dysenteric amœbæ differ in their microscopic characters from the contamination-amœbæ, and they do not live more than a few hours after discharge from the body, whether transferred to Musgrave's medium or not. The failure to distinguish between these two types of amœbæ has led in many cases to very erroneous conclusions being drawn.

To *Symons's Meteorological Magazine* for April Mr. R. C. Mossman contributes the second of his interesting papers upon Southern Hemisphere seasonal correlations, showing that in the month of May a pronounced opposition exists between the barometric pressure at Stykkisholm, Iceland, lat. 65° N., and Laurie Island, South Orkneys, lat. 61° S. The corrected mean pressure at these two places for the month in question, for the years 1902-11, was respectively 29.91 and 29.32 in. An examination of the barometric data at other places shows that in South America, south of about lat. 47°, the pressure departures are in harmony with those at South Orkneys and South Georgia; but data from intertropical and other regions, e.g. the Azores, United States, &c., show indefinite results. The author therefrom concludes "that the dominating factor influencing these May pressure variations in the North and South Atlantic is to be found in the polar regions." As to why the striking differences obtain only in the month of May no explanation is offered. Some interesting notes are also made relating to the variations of wind circulation accompanying the differences of pressure in the extreme South and far North Atlantic.

THE February number of *Læss* (*The Forest*) contains articles on the influence of forests on the soil, climate, salubrity, &c., questions already much discussed, and on the modifications caused by man in the distribution of birds. Some birds frequent human habitations to build nests on house roofs, or to obtain food, especially in winter. Wading birds have been driven away by the draining of marshes, and the destruction of woods has deprived certain species of their natural nesting-

places, while the fields and meadows which have taken their place have attracted other species. Instances are given of the effect of these changes in Russia.

DURING the solar eclipse of April 17, 1912, determinations of magnetic declination were made by a number of observers in order to detect any direct action of the eclipse on the magnetic state of the earth. The general verdict was that the effect, if it existed at all, was very small. Dr. S. Kalinowski, of Warsaw, however, directed attention in the October, 1912, number of *Terrestrial Magnetism* to the decided difference in the declination curves obtained by him during the eclipse, and at the same hours on the preceding and following days. The normal increase in the westerly declination was replaced by a small decrease followed by a rather rapid increase. Dr. Kalinowski pointed out that the same effect was exhibited in a less marked degree in the curves obtained at Beuthen, but that the Potsdam curves did not show it. In a letter to the editor of *Terrestrial Magnetism*, published in the March, 1913, number, Dr. S. van Dijk states that the curves obtained during the eclipse at De Bilt, Holland, show an effect of the same character as that found by Dr. Kalinowski.

MESSRS. WILLIAMS AND NORGATE inform us that in the advertisement of some of the volumes in the Home University Library, announced in last week's issue, "An Introduction to Mathematics" was, through an oversight, attributed to the Hon. B. Russell in place of Mr. A. N. Whitehead, F.R.S. The volume is correctly advertised in the present issue.

OUR ASTRONOMICAL COLUMN.

THE SPECTRA OF NOVA GEMINORUM.—In the publications of the Allegheny Observatory of the University of Pittsburg (vol. iii., No. 3) Mr. F. C. Jordan gives a description of eighteen spectrograms of Nova Geminorum (No. 2). The first of the series of photographs was secured on March 16, when the bright lines were strongly developed on the plate, and the absorption lines a little less so, and the last on April 14, when no absorption lines were detected at all. The author gives tables of the wave-lengths determined, and a series of intensity curves. He mentions the curious fact that with regard to the H and K absorption lines the weighted means of the velocities deduced from them yield a curve which follows to some extent the light variations of the nova, the velocities being positive when the star is brighter and negative when it is fainter. Mr. Jordan suggests that it would be very desirable to examine the velocity determinations from plates secured at other observatories, and for this and other points of view he would place all the plates he secured at the disposal of any astronomer or institution that may decide to undertake such a discussion.

Another paper of importance in connection with this nova is that printed in the Monthly Notices of the R.A.S. (vol. lxxiii., No. 5, p. 380). The authors, Prof. H. F. Newall and Mr. F. J. Stratton, describe a detailed study they have made of the spectrum of the nova on March 15, and they come to the conclusion that the absorption lines are for the most part identical with the lines in α Cygni, and to a small percentage in γ Cygni; or, in other words, the nova spectrum of that date was an enhanced-line spectrum. The

authors refer to the previous work of Sir Norman Lockyer at South Kensington, who showed that in the case of Nova Persei its bright-line spectrum was composed for the most part of α Cygni, or enhanced lines. Thus the origins of most of the nova lines at this stage of its history will now be considered as more definitely settled. The paper is accompanied by an excellent plate showing the nova spectrum and comparison spectra.

RADIAL VELOCITIES OF STARS WITH THE PRISMATIC CAMERA.—Some time ago Prof. E. C. Pickering suggested a means of determining the radial velocities of stars from prismatic camera photographs by inserting in the optical train a medium which produced a sharp absorption line in the stellar spectrum. Mr. R. W. Wood found out that the absorption line of neodymiumchloride at $\lambda 4273$ A.U. in a weak solution was of prominent sharpness. Prof. Schwarzschild has now used this filter in connection with an objective prism, the instrument being a Zeiss triplet of 150 mm. aperture and 1494 mm. focal length, and a prism of the same aperture giving a dispersion from H γ to K of 10.3 mm. He placed the cell a few millimetres in front of the photographic plate, the former being about 8 mm. in thickness, and containing a weak solution, the proportion being 1 to 6. In *Astr. Nachr.*, No. 4646, he gives an account of the results he secured, using the star α Coronæ borealis, the spectrum of which is not very favourable for the research, as the lines are hazy, though the orbit is well known. At least four spectra near each other were taken on the plate, and photographs were secured on eighteen evenings. Prof. Schwarzschild describes in detail the methods of measurement and reduction, and states that the probable error of the mean of six spectra in an evening is ± 5.7 km./sec., and the probable error of a single spectrum ± 13 km./sec. He points out that Mr. Jordan, with a photograph taken with a slit spectroscope, obtained probable errors of 4.2 to 5.5 km./sec., according to the kind of plate used, and Mr. Cannon a value amounting to ± 5.4 . The observations corroborate Jordan's period of 17.36 days.

METEORITE FROM KANSAS.—A reprint from the Proceedings of the U.S. National Museum (vol. xlv., p. 325) contains an account of a newly found meteorite from near Cullison, Pratt County, Kansas, by George P. Merrill, head curator of geology of the National Museum. The stone is described as having struck the earth in December, 1902, but it was not found until 1911. Mr. Merrill was thus confronted with the doubt as to whether the stone was the one actually seen to fall, but he found that a thin section indicated the meteoritic nature of the stone at once. Besides showing special interest from the diversity of the chondritic forms which it carried, another feature was a somewhat indistinct wavy banding visible only on a polished surface of a section. The paper, besides giving illustrations of the stone as found and polished surfaces, contains chemical and mechanical analyses of the stone, and the following is the composition of the stone in bulk, omitting percentages of substances less than unity:—

	Per cent.		Per cent.
Silica ...	35.30	Soda ...	1.80
Alumina ...	4.24	Sulphur ...	2.18
Ferrous Iron ...	8.38	Nickel ...	1.80
Magnesia ...	23.63	Iron ...	21.27

ROYAL ASTRONOMICAL SOCIETY OF CANADA.—The January-February number of the Journal of the Royal Astronomical Society of Canada (vol. vii., No. 1) contains much interesting reading, and attention is

directed especially to two communications. The first is the address of the president of the society, Prof. L. B. Stewart, delivered at the annual meeting, and has for its title, "The Structure of the Universe." In this he brings together most of the more important recent researches relating to this subject, including such investigations as deal with star streams, proper motions of separate groups, absorption in space, &c. The second article is a delightful account of Mr. John A. Brashear's visit to the home of Dr. Thomas Dick, the Christian philosopher and astronomer. Mr. Brashear came over in 1911 for the fifth centenary celebration of St. Andrews University, and after listening to the opening addresses, as he says, "I could not resist the temptation to slip away" and make a visit to Broughty Ferry, near Dundee, the home of Dr. Dick. Mr. Brashear is full of enthusiasm of the reception he received at the hands of the present owners, and brings together some very interesting notes relating to episodes in Dr. Dick's career; numerous illustrations accompany his communication.

THE ERUPTION OF THE KATMAI VOLCANO, ALASKA, ON JUNE 6, 1912.

IN *The National Geographic Magazine* for February of the present year there appears a very interesting account of the eruption of Katmai, in Alaska, which commenced on June 6, 1912. The Katmai Volcano (7500 ft.) is one of ten or twelve more or less active volcanoes known to exist in the Alaskan peninsula, though probably a still greater number occur in the adjoining Alaskan islands. The report is furnished by Mr. G. C. Martin, who was dispatched by the National Geographic Society of Washington to collect information as soon as the news of the eruption arrived by telegraph. This report, which is illustrated by a map and numerous photographs, shows that the outburst resembled in all its main features that of Krakatoa in 1883, though, happily, owing to the very sparse population of the district, the damage done was comparatively small, and no human lives were lost. No lava-streams are recorded as having been seen, but the eruption, which included three outbursts of excessive violence within two days, consisted in the discharge, first of pumice, and afterwards of dust of gradually increasing degrees of fineness. In the sea, twenty miles from the volcano, floating pumice was accumulated to such an extent that men could walk upon it. At Kodiak, 100 miles from the volcano, dust fell, causing complete darkness for sixty hours, and accumulated to a general depth of 10 to 12 in. Roofs were broken down by the weight of this dust, and houses wrecked by the avalanches of it which descended from the hills. Dust was recorded as having fallen 900 miles away, and if vessels had been in those seas it would probably have been noticed much farther off. Probably great changes were produced in the volcano itself, for one observer declared that half the mountain was gone.

This report is followed in the same journal by an article from the pen of Dr. C. G. Abbot, the director of the Astrophysical Observatory of the Smithsonian Institution, Washington. From observations made by himself in Algeria, where he happened to be at the time of the Katmai eruption, and from communications he received from Mount Wilson, in California, Mount Weather, in Virginia, and other localities in different parts of the globe, he infers that a similar world-wide diffusion of the fine volcanic dust took place as was observed in the case of the Krakatoa eruption, and he discusses the question, "Do Volcanic Explosions Affect our Climate?"