

by Prof. C. J. Chamberlain; Current bacteriological literature, by Prof. H. H. Waite; Normal and pathological histology, by Dr. R. M. Pearce; Neurological literature, by Edith M. Brace. Among original communications in the same branch of science we may mention an improvement in the technique of making blood-serum culture media, by Ernest C. Levy; and preparing sections of cochlea for microscopical examination, by M. T. Cook and H. H. Zimmermann.

Two new volumes have been added to the series of brochures published by MM. Georges Carré and C. Naud under the general title of "Scientia." The volumes are: "Les actions moléculaires dans l'organisme," by Prof. H. Bordier, and "La coagulation du sang," by Prof. Maurice Arthus. Each book comprises about one hundred pages, and shows the present state of knowledge of the subject dealt with in it.

THE seventh volume of the renowned "System of Medicine," edited by Prof. Clifford Allbutt, F.R.S., has been published by Messrs. Macmillan and Co., Ltd. The volume continues the treatment of the subject of diseases of the nervous system. In the eighth volume, which will conclude the work, this subject will be completed, and the full sections on mental diseases and diseases of the skin will be added. When the final volume has appeared, it will be reviewed with others not yet noticed in these columns.

THE additions to the Zoological Society's Gardens during the past week include a Purple-faced Monkey (*Semnopithecus cephalopterus*, ♂) from Ceylon, presented by Mrs. Osborne; a Common Badger (*Meles taxus*, ♀), British, presented by Mrs. F. Travers; a Zebu (*Bos indicus*, ♂) from India, presented by Mr. Smith Rylands; two Common Squirrels (*Sciurus vulgaris*), European, presented by Miss E. B. Sparrow; a Martinique Gallinule (*Jonornis martinicus*), captured at sea, presented by Mr. H. A. Pare; a Raven (*Corvus corax*), European, presented Mr. P. Stuart; two Tengmalms Owls (*Nyctala tengmalmi*) from Norway, presented by Mr. P. Musters; an Adorned Terrapin (*Chrysemys ornata*) from Central America, presented by Mrs. R. J. Aston; a Common Snake (*Tropidonotus natrix*) from Italy, presented by Mr. T. G. Gunn; a Common Badger (*Meles taxus*) from Siberia, a Common Hamster (*Cricetus frumentarius*), European, a Ring-necked Pheasant (*Phasianus torquatus*) from Mongolia, four Horsfield's Tortoises (*Testudo horsfieldi*) from Central Asia, two Blackish Sternotheres (*Sternotherus nigricans*) from Madagascar, a Japanese Terrapin (*Clemmys japonica*) from Japan, six Land Lizards (*Lacerta agilis*) from Central Europe, six Crested Anolis (*Anolis cristatellus*) from the West Indies, two Long-snouted Snakes (*Dryophis mycterians*) from India, a Common Snake (*Tropidonotus natrix*), two Common Vipers (*Vipera berus*), British, a Glass Snake (*Ophiostauirus apus*) from Southern Europe, deposited; two Common Wolves (*Canis lupus*, ♂ ♀) from Siberia, two Yellow-tufted Honey-eaters (*Ptilotis auricomis*) from New South Wales, two Nonpareils (*Cyanospiza ciris*, ♂ ♀) from North America, purchased.

OUR ASTRONOMICAL COLUMN.

TEMPEL'S COMET 1899 c (1873 II.).—

		Ephemeris for 12h. Paris Mean Time.					
1899.		R.A.		Decl.		Br.	
		h.	m.	s.	°	'	"
Aug.	3	20	56	14.6	...	25	43 7
	4	...	57	26.2	...	26	14 6 ... 3.587
	5	...	58	37.9	...	26	44 34
	6	20	59	49.8	...	27	14 29
	7	21	1	1.9	...	27	43 48
	8	...	2	14.3	...	28	12 29 ... 3.447
	9	...	3	26.9	...	28	40 30
	10	21	4	39.8	...	29	7 48

NO. 1553, VOL. 60]

MARS DURING OPPOSITION 1898-1899.—MM. Flammarion and Antoniadi contribute to *Astr. Nach.* (Bd. 150, No. 3581) the results of their observations of Mars during the last opposition of the planet. The work was done at the Observatory of Juvisy, with an objective by Mailhat of 0.26m. aperture and 3.8m. focal length. The magnifying powers employed were 145, 224, 308, 411, and 607, the best images being obtained with the power of 308. Tables are given showing the progressive diminution in the extent of the polar caps, and of the whitening of the land surface under varying degrees of obliquity of the sun's rays. Two plates accompany the paper, showing the whole of the details observed, and in the description of these several differences are noted in comparison with the data given by Lowell.

As indicating the probable transparency of the Martian atmosphere, mention is made of the visibility of the Mare Tyrrhenum as a black marking quite up to the edge of the disc. The number of canals seen at Juvisy has been thirty-six, the majority of which were large and diffuse. Those easiest seen were Boréosyrtes, Cerberus and Styx. Several observations of gemination were made, which it is thought will throw some light on the cause of the phenomenon.

PHOTOGRAPHY OF NEBULÆ AND STAR CLUSTERS.—At the meeting of May 3 of the Astronomical Society of France, M. L. Rabourdin, in the course of a paper on the history of the subject, showed some remarkably fine photographs of nebulae and star clusters, and he gives a description of them, and of how they were obtained, in the July number of the Society's *Bulletin* (*Bull. Soc. Ast. Fr.*, July, pp. 289-299). The instrument was the large reflector of the observatory at Meudon, which was kindly placed at M. Rabourdin's disposal by M. Janssen. It has an aperture of one metre and a focal length of three metres, and is thus admirably fitted for the photography of faint objects of extended area. In the same number (pp. 299-304), M. Janssen furnishes some remarks on the above paper, entering fully into the question of astronomical photography, in the course of which he suggests obtaining a photometric scale for the measurement of the brightness of nebulae by putting standard stars slightly out of focus, thus obtaining small circular discs on the plate instead of points, and then measuring the opacity of these circles.

EXPERIMENTAL INVESTIGATIONS ON TELEGENY.¹

I. Introductory.

THE belief in telegeny, or what used to be known as the "infection of the germ" or "throwing back" to a previous sire, has long prevailed. It may for all we know be as old as the belief in "mental impressions," which has had its adherents since at least the time of the patriarchs. During the eighteenth century the "infection" doctrine was frequently discussed by physiologists, and since Lord Morton, in 1820, addressed a letter to the Royal Society on the subject, believers in "infection" have been increasing all over the world, with the result that one seldom now hears of breeders or fanciers who are not influenced by the doctrine, while physicians and others interested in the problems of heredity either as a rule take telegeny for granted or see nothing improbable in the "infection" hypothesis.

It must, however, be admitted that, notwithstanding the criticisms of Weismann and others, very different views are entertained by the believers in telegeny, not only as to the cause, but as to the results, of "infection." By some telegeny is confounded with simple reversion or atavism, while the better informed generally assume that "infection" invariably results in the subsequent offspring repeating more or less accurately the characters of the first or of a previous sire. In a breeders' journal of some standing there appeared recently under the heading "Colour of Animals" the following sentence:—"Greys show in breeding a great tenacity of assertion, as they are few in comparison to other colours in the Stud Book, but they reappear and no doubt go back to the Arab, and prove telegeny to be a fact" (*Live Stock Journal*, May 12, 1899, p. 588). This shows simple reversion is sometimes mistaken for telegeny. In support of the view that "infection"

¹ Experimental Contributions to the Theory of Heredity. A. Telegeny." By Prof. J. C. Ewart, F.R.S., University of Edinburgh. (A paper read before the Royal Society, June 1.)