of the slide were made on india-rubber so that the ratio of the length of the scale on the rule to the length of the scale on the slide might be altered at will, and thus involution and evolution with fractional indices performed. Mr. Blakesley asked how powers less than unity were dealt with. Prof. S. P. Thompson and Mr. Trotter expressed their admiration for the author's method of "stretching" the scale. Mr. Burstall said he had attempted to apply a similar method to the Fuller rule, but did not succeed, since in this scale there was only one scale. He hoped the author's method could be applied in a form such that a greater accuracy than one in 300 could be obtained. Mr. Bourne thought the fact that the point of intersection of two lines inclined at an acute angle had to be read was likely to limit the accuracy. The author having replied, the Society adjourned till November 8.

PARIS.

Academy of Sciences, October 21.—M. Marey in the chair.—The decease of M. Hellriegel (Correspondent of the Rural Economy Section), at Bernburg, Anhalt, on September 24, was announced to the Academy.—A study of graphite extracted from a pegmatite, by M. Henri Moissan. The author concludes, from the impressions of markings on the graphite crystals transferred to surrounding quartz and felspar, that the graphite existed before the pegmatite was formed. This graphite much resembles graphite formed in the electric furnace in fused metals, and may have been formed under somewhat similar conditions.—A study of some varieties of graphite, by M. Henri Moissan. Graphites found in nature may be divided, as recommended by M. Luzzi, into intumescent and non-intumescent graphites. The former appear to have been produced in fused metallic masses, the latter by the action of a raised temperature on any variety of amorphous carbon.—On the Mounier Observatory, by M. Perrotin. Details are given concerning observations on the surface of Venus. The lack of alteration in the characteristics of the part of the surface viewed during a considerable time supports Schiaparelli's contention that the planet can only rotate with great slowness.—M. Mascart presented an "Atlas of the 'isanomals' and secular variations of terrestrial magnetism," by M. Al. de Tillo. The general conclusions able to be drawn from a study of the lines of secular variation are: (1) the changes of the elements so occur that in one hemisphere they are positive, and in the other negative; (2) there is a great similarity between the trace of the isanomals and that of the lines of equal secular variation.—Prof. Norman Lockyer presented some photographs of star spectra taken with an objective and prism made by the Brothers Henry. The lines in the spectrum of Bellatrix correspond to those of helium. The absorption due to the atmospheres of stars showing few lines is due mostly to hydrogen and helium.—The following articles, by M. Cruls, are printed in the Correspondence: (1) Posições geographicas. The geographical positions determined are those of Rodeio, Entre-Rios, Juiz de Fora, Joad Gomes, and Barbacena along the Central Railway. (2) Les éléments climatologiques de Rio. Given by a discussion of data from 1851 to 1890. (3) Éclipses de Soleil et occultations.—On a long period inequality in the longitude of Mars, by M. G. Leveau. An empirical correction proposed by Newcomb to the Le Verrier tables of geocentric longitude, and supposed to be due to a want of sufficient precision in the determination of the theoretical value of a coefficient, is shown by the author's calculations by an independent method not to be required by any error in the tables, as his results agree exactly with Le Verrier's figures.—On the deformation of surfaces, by M. Paul Adam.—A correction to be applied to readings of metastatic thermometers, by M. Scheurer-Kestner. The correction discussed is to be applied to the Walferdin or Beckmann thermometer to allow for the mercury in the upper reservoir, which is for the time being inactive as regards expansion shown on the scale.—Study on the latent heats of vaporisation of fatty ketones, of octane and decane, and of diethyl and dimethyl carbonates, by M. W. Longuinine. With regard to Trouton's formula $\frac{MS}{T}$ = a constant (where M is the molecular weight of the substance, S is its latent heat of vaporisation, and T its absolute boiling point), the results so far obtained warrant the general conclusions: (1) For each of the groups that have been studied $\frac{MS}{T}$ is very nearly constant. (2) It varies notably for different groups of substances. Latent heats may be calculated by the general mean value given to the constant within 15 per cent., and by the value obtained from a determination by means of a substance of the same type within 1·5 per cent.—Peroxidised potassium derivatives of benzoquinone, by M. Ch. Astre. Benzoquinone contains only two atoms of hydrogen in its molecule replacable by a metal. The diketonic nature of benzoquinone is supported by the author's results.—On the composition of rice imported into France, by M. Balland.—On the toxicity of acetylene, by M. N. Gréhant. Acetylene is poisonous when it occurs in air to the extent of 40 to 79 per cent., but is not nearly so injurious as ordinary lighting gas. M. H. Moissan added that pure liquefied acetylene possesses an agreeable ethereal odour, and causes no inconvenience when breathed in small quantity.—Serotherapy in the treatment of cancer, by MM. J. Héricourt and Ch. Richet.—On a new Lamellibranch (*Scioberetia australis*) commensal with an Echinoderm, by M. Félix Bernard.—On the age of the lignite formation of Southern Chili, the Auracaria group, the Chilian equivalent of the Laramie and Chico-Tejon group of North America, by M. A. F. Noguès.—On the daily variations of relative humidity, by M. D. Eginitis.—On new observations in the Padiriac chasm (Lot), by M. E. A. Martel.

BOOKS, PAMPHLETS, and SERIALS RECEIVED.

BOOKS.—Elementary Physics: J. Henderson (Longmans).—The People of the Moon: T. Carter (*Electrician* Company).—An Account of Palmyra and Zenobia: Dr. W. Wright (Nelson).—Rambles in Japan: Dr. H. B. Tristram (R.T.S.).—Technical Educator, Vols. v. and vi. (Cassell).—Birds of Berwickshire: G. Muirhead, Vol. 2 (Edinburgh, Douglas).—Practical Trigonometry: H. Adams (Whittaker).—The Valley of Kashmír: W. R. Lawrence (Froude).—Atlas of the Fertilization and Karyokenesis of the Ovum: Drs. Wilson and Leaming (Macmillan).

PAMPHLETS.—Anleitung zur Molekulargewichtsbestimmung: Dr. G. Fuchs (Leipzig, Engelmann).—Ueber den Zusammenhang Zwischen der Erdmagnetischen Horizontalintensität und der Inclination: Dr. H. Fritsche (St. Petersburg).—Compte Rendu des Travaux de la Société Helvétique des Sciences Naturelles réunie a Schaffhouse, 1894 (Genève).—Congrès de la Science de l'Atmosphère, Anvers, 16-18 Aout 1894, Communications: A. Lancaster (Anvers).

SERIALS.—Tufts College Studies No. 4 (Tufts College, Mass.).—Zeitschrift für Wissenschaftliche Zoologie, lx. Bd. 1 Heft (Leipzig, Engelmann).—Studies in Biology from the Biological Department of the Owens College, Vol. 3 (Manchester, Cornish).—Good Words, November (Isbister).—Sunday Magazine, November (Isbister).—Longman's Magazine, November (Longmans).—Journal of the Royal Microscopical Society, October (Williams).—Mitteilungen der Naturforschenden Gesellschaft in Bern, Nr. 1335-1372 (Bern).—Verhandlungen der Schweizerischen Naturforschenden Gesellschaft, 1893-94 (Schaffhausen).—Scientific Transactions of the Royal Dublin Society, Vol. v. series 2: The Papillary Ridges on the Hands and Feet of Monkeys and Men: D. Hepburn (Williams).—Humanitarian, November (Hutchinson).—Astrophysical Journal, October (Wesley).—Natural Science, November (Rait).

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