

cessor, and came first to Leipzig in 1811, the very year we are concerned with; so that in that year both men may have held office, and consequently if an author's name had to be supplied Baltzer might easily have made a worse guess.

Both guess-work and circumstantial evidence, however, are quite unnecessary. After these facts were received from Leipzig, the library catalogue of University College, London, was turned up at De Prasse's name. No "Demonstratio," it is true, rewarded the searcher: but as a work with the miscellaneous-looking title, "Commentationes Mathematicæ," 4to, Lips. 1804-12, was found entered, the librarian was communicated with. In a day or two an obliging reply came to hand to the effect that the lair had indeed been found, the 15 quarto pages sought (or, at least, as many as are essential) being pp. 89-102 in the second fasciculus. The full title of the whole work is "Commentationes Mathematicæ, auctore Mauricio de Prasse, Math. prof. ord. in univers. liter. Lipsiensis." The first fasciculus contains 54 pages, and is dated 1804; the second contains 66 pages, viz. pp. 55-120, and is dated 1812. Of the eight separate "Commentationes" the "Demonstratio" is the seventh. Doubtless, copies of this collection of mathematical papers are to be found at several of the libraries above referred to. The work at any rate does not appear to be rare: the writer already possesses a copy, for which he paid the not extravagant sum of 2s. 8d.

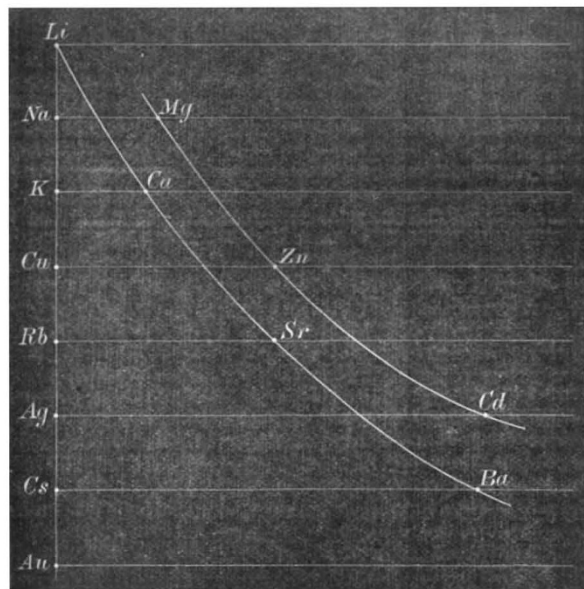
The moral on the surface of this tale may be, "Verify your references"; it is not the only moral, however. Baltzer, in his first preface, felt called upon to direct attention to the many inaccuracies and even errors ("manche ungenauigkeiten und selbst unrichtigkeiten") of Spottiswoode's pioneer treatise; yet if the leaf following the said preface be turned over, a footnote of five lines is found containing five "ungenauigkeiten" (say), one of which—being that referred to in the narrative of the "Demon"—might well be put in a worse category. *Humanum est errare.*

THOMAS MUIR.

Bothwell, Glasgow, December 26, 1887.

The Periodic Law.

IN none of the chemistry books or magazines to which I have access can I find any reference to a curious property of the chemical elements in connection with the Periodic Law. If instead of placing the elements as usual in seven vertical columns we arrange them at distances corresponding to the differences of their atomic weights, it will be found that they are disposed in curious curves. The following diagram will make my meaning



clearer. Arranging the monads in a vertical column, and taking it for a base line, place Ca at a distance from K corresponding to the difference of their atomic weights; also treat Sr and Ba in the same way in relation to Rb and Cs. It will then be found

that they are arranged on a curve terminating in Li, which is known to unite in itself the properties of the metals of the alkalis and those of the alkaline earths. Mg, Zn, and Cd also range themselves on a curve when measured from Na, Cu, and Ag.

Ranging the tetrads vertically, we have O, S, Cr (Se?), and Mo, in almost a straight line, also P, V (As?), Nb and Sb. Many other curious relationships develop themselves if we plot off the elements vertically as well as horizontally. Is there any explanation of these curious curves? or is it simply accident? and if already known where can I find an account of them?

DONALD MURRAY.

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[Would not the position of Be (Beryllium) rather affect the apparent parallelism in these curves?—ED.]

The Leaps of *Lepus*.

WHILE rambling in the winter-time over the snow-covered plains in this region, I have recently interested myself in ascertaining how far, on a level surface, a hare or rabbit may leap at each spring, at a time when either of these animals is put to its best speed. Two species of *Lepus* are quite abundant in this vicinity, viz. the Mexican hare (*L. callotis callotis*), and the sage hare, which is really a medium-sized rabbit (*L. sylvaticus Nuttalli*), while the first-mentioned is a big hare. It is not uncommon to find here, in certain localities, a stretch of perfectly level prairie extending for a distance of 3 or 4 miles, and when this is covered by an even layer of 1 inch or more of snow, it offers an admirable surface on which to take account of the distance which may separate any two tracks of one of these animals, either one made by a hare or one made by one of the rabbits. On such a prairie as I have just referred to, I have on numerous occasions fired at these animals when they have been running, and at the same time beyond the range of my fowling-piece; such a shot almost invariably has the effect of so alarming the game as to make it run at its very best rate of speed, and upon coming up with the tracks they have left on the snow at such times, I have been surprised at the distances they can clear at each individual leap. Under these conditions I once measured the spaces cleared by an old Mexican hare, and found the first two equalled 12 feet apiece, while the third effort was rather more than 13 feet, and I have never known this species to exceed this, although I have tested not a few of them. Of course the rabbit cannot compete with such magnificent gymnastics as this: it will, however, when thus frightened, make leaps of fully 6 feet; and on one occasion I measured one on the dead-level prairie, which was rather more than 7 feet. At their common rate of going, the hare rarely clears more than 4 feet at any single leap, while the rabbit is satisfied with rather more than 2 feet, and, when quietly feeding about the sagebrush, the tracks made by an individual of either species may actually overlap each other.

R. W. SHUFELDT.

Fort Wingate, New Mexico, December 6, 1887.

A NEW MAGNETIC SURVEY OF FRANCE.¹

THE first systematic series of magnetic observations made in France was undertaken by Lamont, who in 1856 and 1857 determined the absolute value of the different elements at forty-four stations. The results are contained in his "Untersuchungen über die Richtung und Stärke der Erdmagnetismus an Verschiedenen Punkten des Südwestlichen Europa," and are reduced to three mean epochs: declination to March 1854; horizontal component to June 1848; and dip to the August of the same year. In 1868 and 1869 the Rev. Father Perry made a second series of observations of the intensity and direction of the earth's magnetic force at thirty-three stations in France (Phil. Trans., vols. clx. and clxii.). Determinations of declination have also been made at about twenty stations by MM. Marié-Davy and Descroix in 1875; and declination, dip, and intensity have been observed by M. de Bernardières at various points along

¹ "Détermination des Éléments Magnétiques en France." Ouvrage accompagné de nouvelles Cartes Magnétiques dressées pour le 1er Janvier, 1885. Par M. Th. Moureaux, Météorologiste-Adjoint au Bureau Central, Chargé du Service Magnétique à l'Observatoire du Parc Saint-Maur. (Paris: Gauthier-Villars, 1886.)