

and the Polish edition of the "History of the Earth" by M. Neumayr⁶ at 3,000 stones.

What is the source of this discrepancy? The original paper of 1868 contains the figure 100,000; this, however, does not refer to the number of fragments of the shower, but only to the result of chemical analysis, which is as follows:

Silicates soluble in HCl	47·014
Silicates insoluble	52·986
	100·000

Therefore it seems to be probable that this total (100 per cent) was erroneously read by someone as hundred thousand and cited as the number of meteoric fragments.

This explanation would account for the enormous figure quoted for the number of fragments stated to have fallen on January 30, 1868, near Pultusk. As to the real number, I believe that 3,000 stones, as given by Neumayr, may be adopted as the most probable number of fragments.

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¹ "Meteors" (Baltimore, 1925).

² "Kleine Meteoritenkunde" (Berlin, 1934).

³ "Guide to the Collection of Meteorites" (Brit. Mus. (Nat. Hist.), 1926).

⁴ "Notice sur la météorite tombée le 30 Janvier 1868 aux environs de la ville de Pultusk" (Haute École de Varsovie).

⁵ "Kosmografja", 2nd edition, by M. Ernst (Warsaw, 1907).

⁶ "Dzieje Ziemi", vol. 1 (Warsaw, 1912).

Points from Foregoing Letters

FROM measurements of the energy of an electron-positron pair, produced by a beta particle of energy 1·1 MV. in a mixture of nitrogen and mercury dimethyl vapour (5 per cent), Dr. F. C. Champion and A. Barber find that there is approximate agreement with the values obtained by Skobelzyn and Stepanowa when beta particles impinged on lead. It appears that the probability of pair production by beta particles of low energy increases rapidly with the atomic number and is large when the energy of the beta particle is of the order $2mc^2$.

The rate of elimination of 0·5–14 millicuries of radon injected into rats is found by Dr. F. Běhounek and F. V. Novák to be half an hour when glucose solution is used as vehicle, and several hours when tungsten emulsion is used as vehicle.

By plotting the logarithm of the rate of diffusion (through rubber) for various gases, against the inverse absolute temperature, R. M. Barrer finds straight line relations. He also gives a table for the energies of activation, calculated from the linear diffusion curves in the case of vulcanized and para rubber, and concludes that only an explanation involving activated diffusion can account for the diffusion increasing approximately with the temperature.

A method for measuring small amounts of gas liberated during certain chemical reactions, using a modified 'Cartesian diver' technique, is described by Dr. K. Linderstrøm-Lang.

D. A. Wright points out that the resistance-temperature curve obtained by Cosslett for thin films of indium indicates a transition temperature at about 10° C., in agreement with Kramer's formula. Thin films of rubidium and caesium, on the other hand, do not behave in accordance with deductions based on Kramer's theory.

The differential cross-section for transition of a Dirac electron between two states of positive energy in a Coulomb field has been calculated by J. C. Jaeger for lead in the case of an incident electron of total energy $3mc^2$ losing energy equivalent to 1·5 and 1·95 mc^2 . The theoretical values obtained by Jaeger agree fairly well with the theoretical values calculated by means of Born's approximation except near the short wave limit.

Prof. D. M. Bose reports measurements of the absorption spectra of crystals of neodymium chloride ($\text{NdCl}_3 \cdot 6\text{H}_2\text{O}$), which, he considers, illustrate the six

oxygen atoms grouped octahedrally around a (paramagnetic) neodymium ion. Dr. W. G. Penney and G. J. Kynch point out that the agreement claimed by Spedding and others, between the spacings of the low-lying levels of various rare earth ions, as deduced from absorption spectra measurements and from theoretical considerations of the temperature variation of the magnetic susceptibilities, is probably fortuitous. The magnetic data is not sufficiently detailed to permit accurate determinations of the levels.

A spectrum band in the region 3600–3700 Å. observed when running a high-tension arc between chromium electrodes in a flame of hydrogen burning in air, is attributed by A. G. Gaydon and Dr. R. W. B. Pearse to chromium hydride.

From the intensity of the components in the hyperfine structure of the lines 3944, 3961 and 3093 Å. (observed by absorption) and 6696 and 6699 Å. (observed in emission), D. A. Jackson and Dr. H. Kuhn calculate for aluminium a nuclear spin of $9/2$, which does not agree with the previous value of $1/2$, suggested by Ritschl. The magnetic moment, calculated from Goudsmit's formula, is approximately 4 nuclear magnetons.

The results of investigations on the relation between dilution of virus preparations and number of infections caused suggest, according to J. G. Bald and G. E. Briggs, that in the tobacco mosaic group there is an end-to-end aggregation of the virus particles comparable with the 'crystal' structure recently described.

Fruit flies (*Drosophila melanogaster*) treated with fast neutrons from a radium-beryllium source, show, according to Mary Nagai and G. L. Locher, a larger proportion of mutations than untreated flies, as indicated by the sex-linked lethals, which increased $2\frac{1}{2}$ times.

Certain deviations from the ordinary compound interest law of frond increase which have been established for *Lemna minor* grown under constant conditions are described by H. Dickson. These involve a secular variation which takes the form of a wave with a 25–35 day cycle, and superimposed on this a short periodic cycle of 4–6 days. Successive measurements of dry weight also show a secular wave. It is suggested that a social biological effect may be responsible for these growth cycles.