not find a more elegant derivation. It usually took him less than half an hour to produce it. The affectionate regard that we as schoolboys had for him was reflected in his nickname, "Daddy Lodge".

E. A. G.

Jan. 28.

A New Monochromator

IN a letter published in NATURE of January 22, I described a monochromator based on the principle of interference of polarized light in a number of quartz plates, and some experiments carried out

with such an instrument. From a private communication received from Dr. B. Lyot on January 29, I have learned that much the same principle for the construction of a monochromator was outlined by him in the *Comptes rendus* of the Paris Academy of Sciences in December 1933. Dr. Lyot did not plan to use Polaroid film in his construction, and has not yet completed an instrument according to his design. I regret the omission of reference to his work, with which I was unfortunately completely unaware when I wrote my letter.

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Jan. 29.

Points from Foregoing Letters

A METHOD whereby ultracentrifugal sedimentation diagrams, giving the shape of the curve relating concentration gradient to distance from the axis, may be obtained by direct photography, is described by J. St. L. Philpot. The *Schlieren* principle is used together with a diagonal edge and cylindrical lens.

Prof. Z. Bay states that the sensitivity of the electron-multiplier tube with caesium electrodes, when used as an electron-counting device, is greatly improved by cooling in liquid air, so that no spurious electrons shall be liberated by thermal agitation. Another disturbing factor, the leakage current, can be eliminated by suitable spacing of the lead-in wires and by insulation in dry nitrogen. The improved apparatus can be used for counting low-speed electrons generated in a vacuum, by vacuum processes only.

The effects of injection of the cancer-producing substance methylcholanthrene upon the body weight and metabolism of rats have been investigated by Dr. L. Havas and E. Gal. They find that this substance brings about fat deposition on various organs of the abdominal cavity. This effect can be counteracted to some extent by simultaneous injections of lettuce or mistletoe extract. Methylcholanthrene also brings about an increase in the rate of cell division and renders certain cells more sensitive to the action of colchicine.

A spontaneous discharge of impulses has been recorded by A. Sand from an isolated preparation of ampullæ of Lorenzini over a period of 24 hours. This furnishes complete evidence that these organs possess an autonomous rhythm of activity.

In support of his view that the hormones pitocin and pitressin (found in the pars nervosa of the pituitary) are secreted by special cells, pituicytes, M. Griffiths points out that the hormones are present in all classes of vertebrates where pituicytes are found. Since pitocin was found by Geiling and Lewis in tissue cultures of pars nervosa which were free from nerve fibre terminals, the latter cannot be responsible for the secretion of the hormones.

Referring to Dr. R. Deanesly's recent account of adrenal cortex differences in male and female mice, Dr. W. Cramer states that the adrenals of mice of inbred strains may show abnormalities, and should, therefore, not be used for the interpretation of histological changes in the adrenal of normal mice.

Dr. Deanesly considers that, although the X-zone in the female may vary in different mice, its presence is independent of inbreeding or pathological conditions.

R. Maxwell Savage and W. P. Chambers show that the size of blood-clots formed by thrombin-impregnated cotton is at a maximum not at body temperature but below it. They attribute this to differences in the temperature coefficients of clotting and inactivation, and suggest that it is one of the adaptive mechanisms by which intravascular clotting is avoided, since normally clotting is required in shed blood at about the optima found.

Dr. B. Mendel, F. Strelitz and D. Mundell report that, unlike the racemic *dl*-glyceric aldehyde, the dextro-rotatory form, *d*-glyceric aldehyde, does not inhibit the transformation of glycogen to lactic acid by tumour cells. This confirms results of unpublished experiments carried out several years ago by the authors with *d*-glyceric aldehyde obtained by the action of bacteria upon the racemic form. The inhibition of glycolysis is apparently to be ascribed to the *lævo* form, the activity of which may be several times as high as that of the *dl*-form.

Replying to a letter from R. F. Williams on the time drift of net assimilation rate in plants, O. V. S. Heath points out that a re-examination of the published data of Williams and of Ballard and Petrie indicates that their contention of a fall in net assimilation rate before flowering does not apply to the first six weeks (flower differentiation) in the case of temperate cereals. This is precisely what Gregory found for barley, while Heath himself found no fall in cotton before first flowering.

Referring to his recent note on the blindness of freshwater fishes caused by the trematode *Diplostomum volvens*, Dr. W. Rushton quotes further references indicating that the parasite does not possess a direct life-cycle from bird to fish, but passes as an intermediate stage through a mollusc, where it produces the asexual cycle generation of sporocysts.

A. G. Lowndes describes a simple indirect method for determining the specific gravity of aquatic organisms. It employs the usual specific gravity bottle and determines the volume displaced by the organism by chemically titrating some constituent present or added to the water, for example, chlorine in sea water or glucose added to fresh water.