with defective eyes will not thus escape, but remain and breed in the cave, establishing a series of races or species with defective eyes. The tendency of this process will be to favour the escape of those in every generation with normal eyes or with definite though feeble light-sensibility. These will include many born in the cave from parents with partially defective eyes. Thus constantly, year by year, the cave-dwelling blind forms will become purified from admixture with those possessing eyes of even minimal efficiency as organs of vision. The blind races remaining in the cave will develop in some cases organs of touch of special efficiency, and become established as blind cave-dwelling species.

No doubt further details as to the structure and functional qualities of the eyes of cave-dwelling animals are needed for fuller consideration of this matter, as well as an understanding of the malformations and congenital variations of eyes and of the essential optical mechanisms of eyes of all kinds. It seems to be a legitimate hypothesis that the modification of the organs of vision and their accessory parts in deep-sea fishes and deep-sea crustacea is brought about by photo-taxic migration similar to that affecting cave-dwellers, though at present this is merely a suggestion. The very curious modifications of structure in the eye-stalks of several deep-sea decapod crustaceans which have lost the power of vision have been described and figured by G. O. Sars. I have described and figured such modifications in species of the deep-sea crab, Cymonomus, and reproduced for comparison some of the figures given by Sars (see "On the modification of the eye peduncles in crabs of the genus Cymonomus," in *Quart. Journal Microsc. Sci.*, vol. 47, p. 439, and Plates 33 and 34). Histological details in regard to the changed and dwindled organs of sight in deep-sea animals have not yet been ascertained, nor is the process of change and degeneration as yet interpreted in relation to known morphological generalisations.

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Choice of the Striking Point in the Pianoforte.

IN his interesting letter dealing with the above subject in NATURE for October 17, p. 575, Mr. R. N. Ghosh appears to suggest that there is disagreement between S. K. Datta's results and my own. This apparent disagreement is due to a difference in the relative masses of the hammers used. Quantitative experimental results so far published are:

Position of Impact (a/l) giving Maximum Amplitude of Fundamental.	Relative Mass of Hammer (m/M).
1/4	1/2·53
1/5·56	1/1·18
1/6·82	1·0
1/7	1·687 (Datta)
1/28·6	9·625

where a = distance of struck point from nearer bridge, l = length of string, m = "mass" of hammer, and M = mass of string. From this table it is clear that as the relative mass of the hammer increases, the position of the impact giving the greatest maximum amplitude of the fundamental moves nearer to the bridge. There are other maxima and minima which become fewer and less pronounced as the relative mass of the hammer is reduced, until for the mass ratio $m/M = 1/2{\cdot}53$ there is only one minimum and two maxima for the whole length of the string. The maxima are greater and the minima are less the nearer they are to a bridge. Reference is also made to the work of G. H. Berry, but in this case the mass of the hammer is not given.

The statement that the duration of the impact is about *one-half* the fundamental period of the string when the amplitude of the fundamental is a maximum would appear to be true only for some particular mass ratio. S. K. Datta (Ind. Ass. Proc., vol. 8, p. 116, 1923) finds a duration of nearly *three-quarters* the period of the string for a maximum when $m/M = 1{\cdot}687$. The treatment of the problem from the point of view of the duration of the impact presents great difficulties, for on the modern general theories this quantity cannot be derived analytically. Moreover, Prof. Raman has theoretically shown the interesting fact that the duration of the impact grows in a *fluctuating* manner as the position of the impact moves from a bridge to the mid-point of the string. This phenomenon has been verified experimentally by his own work and also incidentally by some of mine, where the conditions and method of measurement were quite different.

Influence of Energy Absorbed.—The problem may be examined from another point of view. In using an instrument like the violin or the organ, energy is almost continuously given to the system so long as sound is needed, but whatever energy is to be given to a note of the piano has to be communicated in, say, 1/50 to 1/5000 sec., depending on the pitch of the note. It therefore seems of interest to examine the influence upon the energy given up to the string by the hammer, of such factors as the position of the impact, the mass and speed of the hammer, the nature of the hammer face, and the stiffness and tension of the string. The experimental work for this investigation is now being carried out at University College, Nottingham, by Mr. H. E. Beckett. We are able by the method in use to make absolute measurements correct to within perhaps 1 per cent. of the energy absorbed, and it is hoped to have the work ready for publication by the end of the year.

There are several misprints in Mr. Ghosh's letter. Dutta should read Datta; 1/91 should read $l/7$ in the first place, and $l/9$ elsewhere where l = length of string. Also 1/71 should read $l/7$.

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The Zeeman Effect on the Helium Bands.

PROF. NICHOLSON has recently (*Phil. Mag.*, vol. 50, p. 650, 1925) pointed out the importance of investigating the effect of a magnetic field on the so-called "doublet bands" of helium. He gives reasons for expecting that these particular bands should be subject to a Zeeman effect of the same general character as in the case of atomic line series. Apart from this, such an investigation would be amply justified by the singularly interesting nature of these bands, both as regards their distribution in the spectrum according to a line-series law and the details of their structure (see Curtis and Long, Roy. Soc. Proc., A, vol. 108, p. 513, 1925). It happens that we had already completed the experimental part of such an investigation when Prof. Nicholson's paper appeared, and as the final results will not be ready for publication for some months, it may be of interest to describe their salient features at once.