In a stimulating article in Nature of June 29, p. 982, Sir Oliver Lodge makes the following statement: "We know, however, that [germ-plasm] is modifiable by slight changes in environment." Apart from the question whether we can in reality separate germ-plasm from soma, and excluding cases of injury, I suggest that we do not know this. Do we even know for certain that the soma itself can be changed ?

In a few cases it is claimed that changes in soma have been brought about by an alteration in environment, and even that those changes are capable of being transmitted from parent to offspring. Without attempting to touch upon the question of the inheritance of acquired characteristics, I would yet point out that for every single case where environment has been intentionally changed and its effect noted, there are thousands of cases in Nature where change of environment has failed to produce any apparent modifying effect.

Personally, I do not think that there is much difficulty in accounting for the absence of the influence of change in environment, for I believe that any such influence can be selective only. Environment may be all-important as a selective influence, but as such that influence must be definitely restricted. Perhaps this conception may be made clearer by reference to a simple concrete example. Given an ordinary dice, one can turn it up several ways and thus select several numbers, but they can only range from one to six. Given the power of changing the numbers, however, and the range of selection becomes infinite. No one would deny the selective influence of environment, but I believe that its *modifying* influence has yet to be demonstrated.

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Production of High Lo Surdo Fields.

It has already been reported in this journal (Nature, Aug. 25, 1928, p. 277) by one of us, that the field strength in a Lo Surdo tube may be increased considerably by the simple device of using proper periodic impulses as the terminal supply. Since then the experimental arrangement has been improved so that a steady discharge may be maintained in a capillary tube the inner diameter of which is as small as 0·5 mm. for two or three hours. First, the volume of the discharge tube was increased to more than 20 litres; and secondly, only the half wave was used by taking off some of the vanes of the synchronous motor rectifier. Finally, the induction was removed from the secondary circuit. In this way the maximum voltage attained was roughly 1·2 million volts per cm.

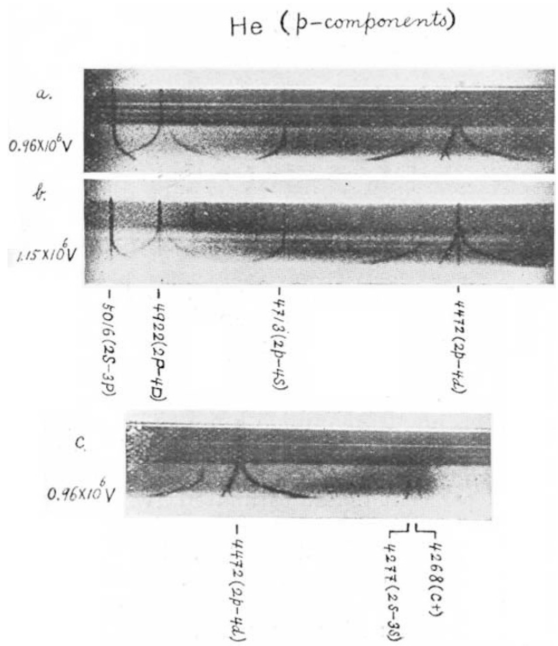

Fig. 1.

The accompanying photographs (cf. Ishida and Kamijima: Sc. Pap. I.P.C.R. **9**, p. 118) were taken by a small Fuess spectrograph. The undeflected lines in photograph *b* are the superposed zero lines. The following points may be noted:

1. The lines λλ5016 and 4922, which barely touch each other at a field of 550 kv., here cross decidedly.
2. The shorter wave component of the line λ4472 turns back to the zero line in photograph *b*, whereas the longer wave component keeps its original direction.
3. The line λ4268 of ionised carbon is deflected to the negative side.

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New Bands in the Spectrum of Oxide of Lanthanum.

A small portion of the spectrum of oxide of lanthanum has been known for some time. The most notable of the old measurements (v. Kayser, "Handbuch der Spektroscopie", Bd. 5, p. 666, Leipzig, 1910) refer to two groups of bands in the violet at λ4418 and λ4372, and to a pair of bands in the green at λ5600 and λ5626.

R. Mecke (*Naturwiss.*, **17**, 86; 1929) identified and measured seven groups of bands recently at λλ4372, 4418, 5600, 7380, 7403, 7877 and 7910, and Auerbach (*Naturwiss.*, **17**, 84; 1929) identified other bands in the spectrum between λ7876 and λ8638.

The spectrum of oxide of lanthanum has usually been obtained by means of the electric arc; Hartley was the only one who used the oxyhydrogen flame. But the spectra so obtained are incomplete because the necessary conditions in order to volatilise perfectly the oxide of lanthanum have never been attained. It either decomposes almost completely into metal and oxygen, or it remains partially as a very fine powder.

By means of a simple arrangement of the oxyhydrogen flame, I have been able to vaporise the oxide completely. The spectrum emitted in this state shows bands only; there are no lines or continuous background.

The spectrum has been photographed with a quartz spectrograph between λ7000 and λ2400, and shows groups of bands at λλ6540, 6154, 5866, 5600, 5380, 5178, (5058), 4582, 4543, 4531, 4418, 4372, 4357, 3708, 3671, 3620, 3612, 3566. The groups between λ6540 and λ5058 are all composed of double-headed bands; the separation of the double heads decreases from group to group as the wave-length decreases.

It is interesting to note that the presence of various bands in the ultra-violet region of the spectrum has now been established; their existence had been predicted by R. Mecke as the result of his investigation of the bands in the green and red.

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