a pot in the glasshouse had produced an apothecium which agreed with the description by Neill and Hyde of the apothecia similarly produced in New Zealand. On July 23, another seed in the same pot produced two apothecia similarly agreeing and exactly like those illustrated by Muskett and Calvert.

The above facts, together with those given by Muskett and Calvert, show that the blind seed disease is present in Northern Ireland and in England and both the conidial and apothecial stages have been produced. They also confirm the observations of Neill and Hyde, who found the disease in rye-grass seeds grown in England and Ireland.

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¹ Muskett, A. E., and Calvert, E. L., *NATURE*, **146**, 200 (1940).

² Neill, J. C., and Hyde, E. O. C., *New Zealand J. Sci. Tech.*, **20**, 281A (1939).

Production of Randomness as a Suggested Measure of Intelligence

It is well known¹ that attempts to guess numbers at random are usually highly unsuccessful, a fact which suggests the possibility of measuring intelligence by the degree of randomness produced. If asked to produce random numbers from say 0 to 9 inclusive, an intelligent person will at once recognize, and therefore tend to avoid, 'runs' of the type 4567, 9862, etc., and it may be supposed that the failure to recognize a relationship between a number now being spoken and one given a second or so previously will be negatively correlated with intelligence.

That this is indeed the case was strongly suggested by trial, agreement between expectation and subjective estimates of intelligence being often observed. In addition, Dr. G. van Praag of Christ's Hospital, Horsham, has kindly provided eighteen such sets of one hundred numbers each, produced by nine boys specially selected on account of marked contrasts in intelligence, physique and character, together with the 'mental ratios' of the boys concerned. The numbers were examined by the method of 'runs',² the average lengths, L_1 , L_2 , of the 'runs' being worked out for the first and second hundred numbers respectively for each boy. Using the rank order method, the coefficient of correlation between mental ratio and L_1 was +0.77 and for L_2 +0.40. The correlation between L_1 and L_2 was +0.63.

While it is not claimed that these figures necessarily prove a correlation of the type suggested, the method is apparently worth investigating, especially as, if successful, it should be easy to construct a mechanical device by which the average lengths of 'runs' would be automatically recorded, thus greatly facilitating the measurement of intelligence. In view of lack of opportunity, I have no wish to reserve this field of research.

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¹ Tyrrell, *Proc. Soc. Psy. Res.*, **44**, 99 (1936).

² Kermack and McKendrick, *Proc. Roy. Soc. Edin.*, **57**, 228 (1937).

First Use of Current-Bedding to Determine Orientation of Strata

IN a recent communication¹, A. Lamont has directed attention to the application of current-bedding to the determination of the orientation of strata made by John Kelly in 1864. This does not mean, however, that John Kelly was the first geologist to realize the importance of current-bedding, its mode of formation and its relation to the strata. The first, rather crude representation of current-bedding, which I was able to find, was published by MacCulloch in 1819² (vol. 3, pl. 18, Fig. 2). This figure refers to the well-known Scalpa Sandstone of Strathaird in Skye, but MacCulloch's description and explanation of this occurrence (vol. 1, p. 348) are rather inadequate. The first correct interpretation of current-bedding was given by Lyell, who in company with L. A. Necker in 1829 had examined a section at the confluence of Rhone and Arve^{3,4}. Lyell has also described many examples of current-bedding found in strata of different ages, including the Pre-Cambrian⁵. He was perfectly aware that the truncated parts of the laminae indicate the upper part of the strata.

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¹ *NATURE*, **145**, 1016 (1940).

² MacCulloch, J., "A Description of the Western Islands of Scotland, etc.", London (1819).

³ Lyell, Ch., "Principles of Geology, etc.", London, vol. 1, p. 254, Fig. 6 (1830).

⁴ *Ibid.*, vol. 1, p. 378, Fig. 13 (1837).

⁵ *Ibid.*, vol. 4, pp. 78-81, 361-363 (1837).

Visible Sound Waves

I WITNESSED recently from a hill part of the air fighting which took place in a midday air-raid.

I was facing north, in which direction the fighting lay, the sun at its zenith being behind me. In front of me and at an elevation of about 70-80° and at a great height were a number of the exhaust trails from some of the British fighters, which stood out white against a blue sky. I suddenly noticed a number of dark bars equidistantly spaced running along the trails from a north-westerly direction, from which the sound of various explosions could be heard. As the battle moved north and then eastward, so the direction from which the ripples appeared to come altered, and different trains of waves appeared to have somewhat different wave-lengths.

It seems clear that these were the shadows of sound waves shown on the white background of the exhaust trails and caused by the sunlight being differently refracted through the condensations and rarefactions of the waves. The phenomenon was, in fact, analogous to what may be seen when looking through shallow sunlit water on to a sandy beach, where the shadow of the ripples is seen on the sand.

It is probable that many other people favourably placed may have witnessed this very large-scale demonstration of making sound waves visible, but may not have recorded it.

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