

Agricultural Field Experiments.

IN the correspondence on this subject in *NATURE* of Nov. 29 last, p. 843, "The Writer of the Article" suggests that depth of sowing in wheat plays an important part in accurate field experiments. Many years' experience on the black cotton soils of Central India and on the alluvium of the Indo-Gangetic plain fully confirms this view. Until quite recently, the practice among the cultivators round Indore was to sow wheat by means of a bamboo tube fixed behind the country plough. The consequence was that many of the seeds germinated but the seedlings never reached the surface. In dry years particularly, when many of the seeds were covered by large clods, a very uneven stand was obtained. Some years ago, a member of the staff of this Institute, Mr. K. R. Joshi, devoted a good deal of time to the study of this question, and found that much better and more even stands of wheat could be obtained by the two-coulter Gujerati drill, which deposits the seed in the moist layer of soil just below the dry surface mulch. The cultivators are now rapidly changing their practice, and the drilling of wheat is now to be seen in many of the villages on the Malwa plateau. I have myself, on the alluvial soils of the plains, often observed the deleterious effect of sowing wheat too far below the surface.

In both plant-breeding work on wheat and in variety trials, too much attention cannot be paid to correct farming procedure. It is obvious in such questions that nothing can be gained by the application of formulæ and figures to the results obtained by poor agriculture.

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Dec. 26.

Wisdom in Words.

THE time may come,

When the Gates cease to ruggle,
When the Danes hald in juggle
And the Brides can write no more,

that Lamarckian moonshine will no longer be adumbrated in terms of Hibernian green and questions as to the meaning of life will be discussed in language that has plain meaning. Awaiting that far-off day, we may ask: "What is the difference between a philosopher and a scientific man—can either, if there be two of them, be 'as such'?" Mr. Bartrum would treat them as beings apart. The one term is Greek, the other Latin of sorts. The one is a man who has and uses knowledge, maybe makes it. The other is a lover of knowledge, of wisdom, but it is impossible to love without having and using and even seeking for an increase in return. Seeing that it is the business of the scientific man to know, truth is his clear concern in his every search. Faraday, *the scientific man* 'par excellence' in history, ever the seeker after truth and wisdom, definitely elected to call himself a *philosopher*; he also sought to use a clear language. Surely, our present need is to get rid of the 'flossofer' *as such*—the mere man of words, who but thinks he knows.

Is there more behind all this pother about evolution and vitalism—not to mention entelechy—than mere word-slinging? Have we not had more than enough of it to satisfy our present state of ignorance of intimate organic structure? That we can see the chromosome is wonder enough. Let us leave it at that, until we can put some real chemistry into its purse; all talk of 'autocatalysis' is just meaningless, pre-
INQUIRER.

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Determination of the Velocities of Projectiles by Light Interception.

THE principle of the method for the determination of the velocity of projectile described by Taylor and Wark in the issue of *NATURE* for Dec. 27, p. 994, has been used previously, notably by Kampé de Fériet, who published a full description, illustrated with some excellent photographs, in 1925 (*Mem. de l'Art. franc.*, vol. 4, p. 289). Using what was essentially a single but comparatively wide band of light, a continuous record was obtained of the flight of the projectile for a distance of 25 metres.

Consideration of the flight of solid projectiles has been helpful to us in our investigation of the solid particles sent out at high speed by coal-mining explosives. For this purpose, using our 'wave-speed camera' (Safety in Mines Research Board, *Paper* No. 29, 1926), we have developed a method of recording photographically the movement of rifle bullets. By this means we have obtained a continuous light interception record similar to those of Kampé de Fériet, but combined with a continuous *Schlieren* record of the atmospheric pressure waves and the powder gases, visible or invisible, sent out from the rifle.

The results have been embodied in a paper which will be published at an early date.

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Safety in Mines Research Board,
Research Station, Harpur Hill,
Buxton, Derbyshire, Jan. 3.

School Natural History Societies.

IT has been brought to the notice of the Corresponding Societies' Committee of the British Association that a number of noteworthy scientific and natural history societies exist in connexion with public schools, of which the Committee would welcome brief particulars of their origin and development, together with an epitome of practical work attempted in their respective districts, especially where the observations have been published.

It would be a valued assistance to my Committee if any readers of *NATURE* could conveniently furnish me with the names of societies of this kind known to them which, in their opinion, might be invited to contribute some particulars as to work accomplished to a report which it is proposed to prepare for the centenary meeting of the Association in September next.

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Jan. 16.

Synthesis of Munjisthin.

A MISTAKE in nomenclature has, through our inadvertence, crept into our communication on the "Synthesis of Munjisthin", published in *NATURE* of Nov. 15, 1930, page 761, which we hasten to rectify.

In line 6, par. 2, instead of "2-chloro-3-methyl-4-methoxy", read "1-chloro-2-methyl-3-methoxy"; and in lines 8-9 of the same par., instead of "2-chloro-3-methyl-4-hydroxy", read "1-chloro-2-methyl-3-oxyl".

The mistake, which we very much regret, is due to our overlooking the fact that the position (2¹) in the formula of benzoyl benzoic acid becomes the position (1) in the formula of the anthraquinone.

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22 Garpar Road, Calcutta, Dec. 8.