

An Einstein Paradox.

THE letter with the above title in NATURE of June 2, p. 742, contained two oversights which I should like to be allowed to correct.

1. In the second part I inadvertently changed the meaning of x' . Overlooking the fact that x' in the first part meant, by implication, the distance of K_1 from L at the time that the light reached him, I used it in the second part as the distance K_1L at the instant the signal was given. I should have employed a different letter, x_1 ; and then, if required, $x' = c/(c+v)$ of x_1 .

2. A term was omitted from the value of x' , which should have been $(1+v/c)x - vt$.

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June 13.

The Concilium Bibliographicum.

MY attention has been directed to a statement in NATURE of April 28, p. 584, made in connexion with the report of a meeting concerning the "Zoological Record." It is stated that "With the exception of the 'Archiv für Naturgeschichte,' which is about nine years behindhand and consequently of very little use, the 'Zoological Record' is at present the only bibliographic guide to zoological literature being published in the whole world."

Permit me to recall that the Concilium Bibliographicum at Zurich, founded in 1895 by Dr. Herbert Haviland Field and approved by the International Zoological Congress, is still continuing his work. After Dr. Field's death in 1921, the Concilium was placed under the auspices of the Swiss Society of Natural Sciences and the United States National Research Council, and has published since that time volumes 30 and 31 of the "Bibliographia Zoologica," containing an international review of zoological papers. Two other volumes (32 and 33) are already in progress of publication.

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Director of the Concilium
Bibliographicum.

49 Hofstrasse, Zurich,
May 15.

[We have also received a letter from Messrs. Louis B. Prout and George Talbot, of the Hill Museum, Witley. They suggest the issue of cards so that "subscribers would have the current literature available say every month, and no one would be obliged to purchase sections which would not be useful to him." They too direct attention to the reorganisation of the Concilium Bibliographicum and strongly urge co-operation with it.]

Zoologists will be glad to learn that the Concilium Bibliographicum is still in being. There was some excuse for the incorrect statement to which Dr. Strohl objects, for inquiry at the two chief zoological libraries in London has failed to produce a volume of "Bibliographia Zoologica" later than vol. xxx., which, though it purports to deal with the literature down to the end of 1920, is mainly composed of titles from 1915-1917; it also omits Lepidoptera, Hymenoptera, and Vertebrata. But, even were "Bibliographia Zoologica" more up-to-date, more complete, and more accessible, its plan scarcely enables it to compete with the "Zoological Record" for the support of systematists. In the past the peculiar contribution of the Concilium has been the separate cards, but we have not seen any of these for a long time. We hope their issue has not ceased, for it is along those lines that co-operation seems most

promising. If the Concilium could furnish the titles completely and promptly, the Zoological Recorders could work up the analytical index they have been accustomed to provide. We may remind Messrs. Prout and Talbot that the several sections of the "Zoological Record" have been sold separately for the past twenty years.—ED. NATURE.]

Educational Problems of Tropical Agriculture.

IT is exceedingly important at the present moment that the attention of men of science should be directed to some of the needs and problems connected with tropical agricultural education. As many readers of NATURE are aware, a college of tropical agriculture, the only one of its kind with pretensions to University standing within the Empire, was opened last year in Trinidad, and the ultimate success of this institution, both from the point of view of education and research, will, quite irrespective of financial support, depend upon the institution's outlook and policy and, what is equally important, the degree of acceptance which this receives in Great Britain and America.

In England agricultural colleges have not, from an academic point of view, achieved a very high status; nor have they been free from adverse criticism on the part of practical farmers. The policy of the institutions, therefore, has been somewhat unstable, tending to oscillate between the solar force of the universities and the lunar attraction of the practical farmers. This condition has been produced through misunderstandings on the following points: (a) the nature of agriculture; (b) the definition of the word "practical"; and (c) the difference between education and instruction.

Agriculture is to some extent an art and to some extent a profession, but fundamentally and comprehensively it is a business, or, if another term be preferred, it is biological industry. The trouble has been that most students of agriculture have thought of it as a profession, whereas the practical farmers have regarded it as an art. By definition, both are wrong fundamentally. Unenlightened, the students have tended to specialise in applied natural science (often of questionable quality), while the farmers have been the advocates of concentration on the art ("real practical work"). The misunderstanding as to the word "practical" is, therefore, clear. Neither is practical; for agriculture is fundamentally economics, in which faculty practical work can be purely intellectual, for example, accountancy and statistical inquiry. Misconceptions as to the meaning of practical have been responsible for confusion as to the difference between education and instruction. The word instruction should be relegated with patent rights to the Army, Navy, and Police Force. Except as connoting the routine of one person telling or showing something to another, it means nothing and leads to nothing. Education implies understanding and a training of the faculties including the practical instincts. Instruction alone is useful for those who do not want to be, or are incapable of being, educated; but matriculated students, such as one now finds in agricultural colleges, ought to be anxious for, and capable of, some education.

In the tropics, the so-called agricultural education of the past has been little more than instruction. A youth has been instructed how to read a polariscope or do a Babcock test—and becomes a chemist! Another is taught to bud oranges or run a sugar mill, and becomes a planter. This has suited the tropical temperament and climate, and in most cases, it is to be feared, the average type of mentality. But if tropical agriculture is to advance we must aim at,