

CORRESPONDENCE

Dingle's Question

SIR,—Professor J. Ziman¹ and Mr G. F. R. Ellis² seem not to have read my "question", let alone answered it, though Ziman quotes it correctly. Neither of the events need be at either of the clocks concerned, so the statement, "the fastest working clock between any two events is one that travels between them by free fall", is futile.

Two observers-cum-clocks, A and B, are in uniform rectilinear relative motion. Each receives light from each of the same two events, occurring at any ascertainable positions at any times, and, using the theory, finds the times by his clock at which the events occurred. These times will be separated

by intervals, dt for one clock and dt' for the other, and these intervals, according to the theory, will be related by the Lorentz transformation, and so will be unequal. My question is: how does the theory indicate which clock gives the larger interval? If A has velocity O and B velocity v , the Lorentz transformation makes that clock A; if B has velocity \bar{O} and A velocity v , it makes that clock B. Also, according to the theory, these assignments of velocity are equally valid. Hence, unless my question receives an acceptable answer, the theory requires each clock to give a larger interval between the same events (i.e. to work faster) than the other, which is impossible.

It is not a case of each clock appearing to work the more slowly to an

observer with the other. A and B observe only the events, not each other, and each may be ignorant of the other's existence. They can be brought together later, introduced, and asked to compare notes. What feature of the situation enables us to say, consistently with the theory, which set of clock-readings has yielded the larger interval between the events? Is there no one who will answer that question, or have the courage to admit the obvious fact that no answer is possible and therefore the theory must be false?

Yours faithfully,

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¹ Ziman, J., *Nature*, **241**, 143 (1973).

² Ellis, G. F. R., *Nature*, **242**, 143 (1973).

Obituary

Academician K. I. Skryabin

ACADEMICIAN KONSTANTIN IVANOVICH SKRYABIN, one of the leading Soviet specialists in the medical and veterinary sciences and virtually the founder of helminthological research in the Soviet Union, died on October 17, 1972, at the age of 93.

Skryabin was born on December 7, 1878, in St Petersburg. His father was a railway engineer, and his international family background gave the young Skryabin an unusually wide outlook on life.

After an unsettled early education Skryabin enrolled in the Yur'ev (now Tartu) Veterinary Institute in 1900. Here his work quickly attracted the attention of the Director of the Institute, Professor K. K. Raupakh, who in 1903 took Skryabin as one of a small party of specially privileged students allowed to attend the First All-Russian Veterinary Congress held in St Petersburg.

In 1905 he graduated from the Yur'ev Institute, and began his career as a veterinarian working in Central Asia. In 1912–14 he made a prolonged visit to western Europe, working at Königsberg and Neuchatel Universities and the Alfort Veterinary School.

On his return to Russia he was appointed Head of Department of Veterinary Medicine and Zoohygiene

of the Statbutov Higher Agricultural Courses for Women (the equivalent of university courses for women at that time).

In 1917, he became Professor of Parasitology at the Don Veterinary Institute, in Novocherkassk, and thus was able to begin his intensive work on helminthology, a subject which had first attracted his attention during his time in Central Asia. In 1920 he became Head of the Helminthology Department of the All-Union Institute of Experimental Veterinary Medicine and Head of the Department of Parasitology of the Moscow Veterinary Institute, and from then onward held a number of high academic and teaching posts, culminating in his appointment in 1956 as Vice-President of the All-Union Lenin Academy of Agricultural Sciences, a position which he held until 1971. He became an Academician of the Soviet Academy of Sciences in 1944, and was subsequently elected an honorary member of the Academies of Bulgaria, Hungary, Czechoslovakia, East Germany, Yugoslavia, France, and of Scientific Societies in the USA, Great Britain, Belgium, West Germany and India.

Skryabin published more than 700 papers and monographs on various aspects of helminthology and parasitology including: *K kharakteristike gel'mintofauny domashnikh zhivotnykh Turkestana* (on the characteristics of

the helminthofauna of domestic animals of Turkestan—1916; his doctoral thesis); *Askaridy i ikh znachenie v meditsine i veterinarii* (Ascarides and their significance in medicine and veterinary science—1925); *Trematody zhivotnykh i cheloveka* (Trematodes of animals and man, 20 volumes, 1947–62), *Osnovy nematologii* (Principles of nematology, 10 volumes, 1949–61), and his autobiography *Moya zhizn' v nauke* (My life in science—1969).

Skryabin devoted great efforts to developing the study of helminthology throughout the Soviet Union, founding helminthology departments in scientific institutions and universities in almost every republic of the USSR. In the early 1920s he also founded the three major helminthological bodies in the Soviet Union: the Helminthological Department of the State Institute of Experimental Veterinary Science (later transformed into the All-Union Institute of Helminthology, which bears his name), the Helminthology Department of the Moscow Tropical Institute, and the Helminthology Bureau of Moscow State University, which in 1942 became the Helminthology Laboratory of the Soviet Academy of Sciences, and of which Skryabin remained the head until his death.

He was extremely interested in promoting international cooperation in helminthological research, and it was on his initiative that commissions for