

Letters

After Scopes

I am concerned about the impression many readers of *Science* may get from the remarks on the Scopes trial made in a letter by Thomas H. Jukes (24 Sept., p. 1444). It is true that these lighthearted references were only incidental to Jukes's agreement with certain attacks on the theories of Lysenko. In referring to what he was pleased to regard as our peccadilloes in the matter of state regulation of biological theories, he called the Scopes trial "an amusing sideshow comparable to the flagpole-sitting and related antics of the 1920's in the U.S.A." He recalled that the defendant had been fined \$100 and that the Supreme Court of Tennessee had reversed the conviction. The intimation is that that was the end of the affair. The Supreme Court of Tennessee did reverse the conviction (1, p. 363), but only because the fine had been levied by the judge and not by the jury, and the Court suggested that the attorney general enter a *nolle prosequi* in the case since the defendant had given up his job as a teacher and left the state. But the constitutionality of the statute was definitely sustained, and in point of fact it is still the law of the State of Tennessee.

The anti-evolution statute provides:

It shall be unlawful for any teacher in any of the universities, teachers' colleges, normal schools or other public schools of the state which are supported, in whole or in part, by the public school funds of the state, to teach any theory that denies the story of the divine creation of man as taught in the Bible, and to teach instead that man descended from a lower order of animals. Any teacher violating this section shall be guilty of a misdemeanor and fined not less than one hundred dollars (\$100) nor more than five hundred dollars (\$500) for each offense (2).

No cases under it have arisen since the Scopes trial. But it is still the law, and anyone who believes that this is merely amusing should ponder these words of

Judge Winfield B. Hale, of the Court of Appeals of Tennessee, as reported in the 1962 issue of the *Tennessee Law Review* (3):

[*State v. Scopes*] involved a statute which prohibited the teaching of the theory of evolution in state universities and schools. The pseudo intelligentsia found in this case an opportunity to level shafts at their pet hate, the South, which was then and still is their favorite whipping boy.

Clarence Darrow and other great lawyers entered the list for John T. Scopes, a school teacher, who dared to entertain and teach the Darwinian theory. The main defender of the Act in question was William Jennings Bryan, a great orator, who gave literal interpretation to every word in the Holy Writ.

Scopes was convicted. The judge imposed a fine of \$100 which, incidentally, had not been fixed by the trial jury. The case reached the Supreme Court where it was ably argued pro and con. Judge Green sustained the constitutionality of the Act but held the judgment must be reversed because the trial judge had erred in imposing a fine of \$100, not fixed by the jury as required by our constitution. Then the opinion concludes:

"We see nothing to be gained by prolonging the life of this bizarre case. On the contrary we think the peace and dignity of the State, which all criminal prosecutions are brought to redress, will be better conserved by the entry of a *nolle prosequi* herein."

This was done. The Act was sustained and still remains on the books. But so far as we know it has never been invoked in any other case.

Countless Americans are still being taught that Darwinian evolution is contrary to the word of God—and the law on state statute books supports that teaching under threat of fine and imprisonment. Apparently no one else in the State of Tennessee has cared since the trial to challenge the constitutionality of the act, and law-abiding and God-fearing school teachers make out as best they can, if indeed many of them do not subscribe to the statute's sentiments. For others, besides subterfuge or violation of the law, there is a third alternative, as the Supreme Court of Tennessee pointed out:

Those in charge of the educational affairs of the state are men and women of discernment and culture. If they believe that the teaching of the science of biology has been so hampered by chapter 27 of the Acts of 1925 as to render such an effort no longer desirable, this course of study may be entirely omitted from the curriculum of our schools (1, p. 367).

The major issue in the Scopes trial was not biology but academic freedom. And certainly it cannot be said that the Scopes case was anything but a tragedy from that point of view. Now that the exigencies of Soviet politics have disposed of Lysenkoism, perhaps biologists will have some time to spare for our own gross shortcomings in the sphere of academic freedom in the teaching of the life sciences.

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References

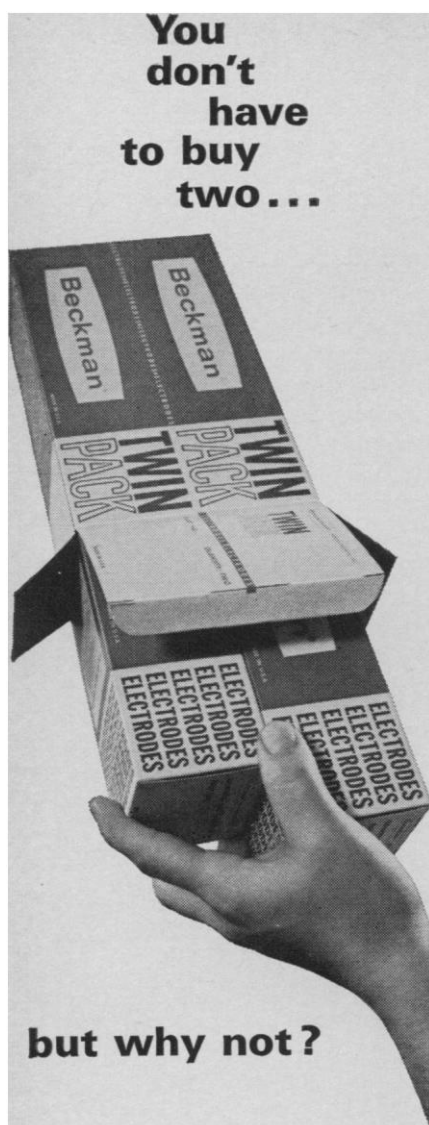
1. *Scopes v. State*, 289 *Southwestern Repr.* (1927).
2. 9 *Tenn. Code Annotated*, sect. 49-1922 (1955).
3. 29 *Tenn. Law Rev.* 491-2 (1962).

Where Does the Metric System Prevail?

Since scientists endeavor to be guided by demonstrable facts, a statement in the resolution of the American Institute of Nutrition regarding metric conversion (Letters, 25 June, p. 1670) should not go unchallenged, despite the general favorable feeling among scientists toward the metric system and the announcement that Britain (apparently without benefit of her Commonwealth partners) "plans" to go metric in the next 10 years. The preamble of the resolution states that "more than 90% of the world's population now operates under the metric system." Similar statements have appeared elsewhere. The actual situation, however, is as follows (1):

In 27 countries with a total population (in 1962) of 665 million, the metric system is mandatory by law. France, Germany, and the U.S.S.R. make up more than half this population. In nearly all the countries in this group English and other measures are also used somewhat.

In 50 countries with a total population of 590 million, the English system is in predominant use. Of these, the U.S., the United Kingdom, Canada, and Nigeria make up about half the population. In 11 English countries



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metric units are permitted by law but are little used.

In 45 countries, total population 1775 million, neither system predominates. China and India make up almost two-thirds of this population. In all these countries, indigenous systems are in wide use; English units are also used to a considerable extent; the metric system has been introduced but has made little headway.

Thus out of a population of 3030 million (97 percent of the world's population in 1962), the metric system is used predominantly by 22 percent; the English system by 19 percent; indigenous systems or a mixture of systems by 59 percent. The main conclusion to be drawn from these figures is that unless the metric system is made mandatory (not just permissible) by law, it makes little headway. In short, for the most part metric conversion means compulsion. . . .

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Reference

1. Based upon *World Weights and Measures* (United Nations Statistical Office, New York, 1955), pp. 23-147. Countries with less than 100,000 population are omitted. The population figures are for midyear 1962 and are taken from *Demographic Yearbook 1963* (United Nations, New York, 1964), pp. 148-161.

Parapsychology and Spontaneous Cases

J. B. Rhine and Charles G. Morris wrote independent letters ("Parapsychology not guilty," 27 Aug., p. 910) in response to my letter entitled "A pseudo experience in parapsychology" (18 June, p. 1541). Morris apparently endorsed my conclusions in his first paragraph, but then, like Rhine, chided me for taking a typical story from the "popular parapsychological literature" rather than from the "more serious parapsychological literature." He concluded that the latter "would be the more appropriate and worthwhile for the inquiring scientist." (In the following quotations, all emphasis has been added by me.)

Rhine concluded his letter with the following two sentences: "*In my 40 years of work in parapsychology I have not come upon any attempt to base a serious conclusion upon spontaneous case material even when such material does belong to the parapsychological category, as that cited by Alvarez does not.* [Rhine apparently missed the point

of my example, which was that *no one* could believe that it had parapsychological content.] If Alvarez or anyone else wishes to become acquainted with the parapsychological literature to which he refers, a request for a reference list will be promptly filled."

Naturally, I consider myself to be an inquiring scientist, and I do not wish to be unfair to Rhine. So I visited our Psychology Library and took down the latest bound volume of the *International Journal of Parapsychology*. Its table of contents listed a paper entitled "Approaches to the study of spontaneous cases." I confirmed the fact that spontaneous cases are those of the type I used as my model; they are sent to parapsychology laboratories by people who have had unusual experiences of the kind I tried to show might well be explained as coincidental. One of the references cited in this paper was an article by Louisa E. Rhine, of the Duke University Parapsychology Laboratory, entitled "Conviction and associated conditions in spontaneous cases" [*J. Parapsychol.* 15, 164 (1951)]. This volume was on the shelf directly below the volume I had just been examining, so it took me only 5 minutes after entering the library to locate Louisa E. Rhine's article.

L. E. Rhine's article is based on a study of 1600 spontaneous cases on file at Duke. She abstracts 19 of the cases in sufficient detail that one can be convinced she is dealing with examples of the type I referred to in the first paragraph of my note. Her concern is with the degree of conviction felt by the subject that his revelation was authentic and not merely coincidental. The last page of her "Discussion" starts with this paragraph:

This case study has shown first that conviction occurs with considerable frequency in spontaneous psi experiences. It is reported from widely different sources and, although in varying proportions, in all types of cases. It is therefore a natural phenomenon to be studied by appropriate research methods and should no longer be overlooked by parapsychological experimenters.

The fact that I was able to discover, in 5 minutes, an example of an "*attempt to base a serious conclusion upon spontaneous case material,*" whereas J. B. Rhine was unsuccessful in 40 years of similar search, may of course be attributable to "luck" on my part.

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