

introduction to the ideas (as opposed to the methods) of quantum mechanics. The general introduction to quantum mechanical ideas is often *ad hoc* and might be incomprehensible to the student without understanding of the historical background which led to wave mechanics.

In short, this book is an excellent reference for those interested in atomic physics but requires a good deal of supplementary material if used in an introductory course in quantum mechanics.

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**Six Days or Forever? Tennessee vs. John Thomas Scopes.** Ray Ginger. Beacon Press, Boston, 1958. 258 pp. \$3.95.

This book is a complete historical account of the notorious "monkey trial" in Dayton, Tennessee, in 1925; it includes, also, a biographical sketch of each of the principal actors—the judge, the author of the antievolution law, Scopes, Bryan, Darrow, and many other public figures involved in one way or another; still further, there is a thoughtful analysis of the influence of world events on public thinking and of the factors motivating the various personalities. The major immediate facts and events were brought to everyone at the time by public press and radio; the sequence and background have never before been portrayed in full.

After a third of a century, dispassionate judgment brings the sober conviction that everyone behaved very badly; after all, it was an event without precedent in the experience of anyone in public life at the time. And one must now realize that the trial was but a symbol of something not immediately apparent then—something that was neither secular, regional, nor political, an eruption of an element ever-present in any population, but, fortunately, suppressed most of the time. Recent world events had upset the balances that usually temper violent fanaticism. Efforts at restrictive legislation appeared, north, south, east, and west—sometimes succeeding, sometimes failing, taking varied forms, but almost invariably compounded of the same basic ingredients: prohibition, antievolution, antitobacco, antifeminism, antisuffrage, antivaccination, antitransfusion, antihairbob, anti-Teutonism.

Several states still retain restrictive laws of one kind or another enacted during the period between World War I and the onset of the depression. The spirit was rampant, and the fact that repeals have not been more general suggests that the present dormancy could evaporate quickly. One ardent zealot in

New York was busily inveighing against medicine while another in Illinois wanted the earth made flat by legislative fiat. In Indiana, a little earlier, the legislature decreed that the value of pi should be fixed at 4! Another reason for the quiescent phase of antievolution is that canny politicians, always sensitive to ridicule, sidestep the issue by way of textbook commissions, whose members are always political appointees and have absolute authority to reject textbooks not meeting the requirements adopted by the commissions themselves and seldom subject to review by any authoritative agency.

Representative John W. Butler introduced the bill in Tennessee which was enacted into law when political expediency smothered opposition. Bryan suggested, just as a psychological compromise, that no penalty clause be attached to the measure. Some legislators voted for passage because they thought (as claimed later) that Governor Peay would veto the bill as a matter of course. He, however, said the bill was absurd and that the legislature had no right to pass on to him the onus of decision. Political demands prompted him to rationalize. He was reelected. Law-enforcement agencies generally ignored the Butler act until the American Civil Liberties Union took note and decided on a test case (but failed at first to find anyone willing to file a complaint). Genuine religious zeal, civic promotion, and political opportunism combined to initiate the next step, when a New York born mining engineer operating in Dayton persuaded John T. Scopes, a naive young high-school science teacher, to be a test subject. He acknowledged guilt and was bound over to the grand jury. Ironically, he admitted later that on the specific day named in the indictment he was absent from school and did not actually teach anything about evolution at all.

As legal formality, the trial was a farce. Bryan volunteered his services as counsel for the prosecution, although he had not tried a case in 30 years. There was considerable local resentment at this unnecessary intrusion into a case which was an open-and-shut minor legal episode. The law was clear, and Scopes's guilt was admitted. Such a case would not, ordinarily, call for a jury trial; nor would a defendant ordinarily need to import counsel. The Civil Liberties Union persuaded Clarence Darrow to lend his services, along with other distinguished legal lights. His dominant personality more or less overshadowed the others. He was inexcusably insulting at times, and just as dogmatically fanatical as Bryan. He did, despite that, conduct a brilliant defense, the highlight of which came when he forced Bryan onto the witness stand, where, for the first time in

his life, Bryan was obliged to answer questions. Bryan's whole thesis collapsed, and he left the stand an object of pity to his more staunch supporters, of contempt to those who had expected him to demolish the atheist lawyer from Chicago. The constitutionality of the law was not affected by the trial.

Bryan had been an antievolutionist for many years but, shrewd politician that he was, he did not openly declare himself until he was sure that the fundamentalist crusade was strong enough to furnish a "cause" for a public figure badly in need of one. He seldom endorsed any move until he was sure it had gathered enough momentum to carry him along on the crest of the wave.

As a biologist engaged in teaching during those years, I recall vividly the ingenious methods adopted by many teachers for saying "evolution" without letting red-hot zealots know that was what they were saying. Today, those of more recent vintage may regard those situations with amusement, but the sobering realization is ever present in the minds of those who shivered through class sessions with glowering critics listening in for something that might stamp the lecturer as an evolutionist that such a wave of fanaticism could yet sweep up a holocaust of disastrous proportions. Only three years ago, two students in one of our largest medical schools announced to one of their professors that they were antievolutionists and members of a large and powerful group which could, and would, be very influential if it decided to become vociferous.

Every scientist inclined to smugness needs to read this book in a serious mood and then pledge himself to avoid the error of his predecessors in allowing the antievolution movement to creep up because they were overconfident of their own positions in society and never troubled to translate their convictions into terms that the public could comprehend. Many potential scientists were deterred from risking careers in science by this trial and other related events of the period.

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**The Motility of Muscle and Cells.** Hans H. Weber. Harvard University Press, Cambridge, 1958. 69 pp. \$3.50.

This attractive little booklet contains the three Dunham lectures delivered at Harvard University in March 1957. The first of the three chapters, containing the first lecture, deals with the chemical factors producing contraction and relaxation in the muscle fiber. The factors considered in detail are the relaxing factor