



Legal-Scientific Social Responsibility

RECENTLY WE ENJOYED the pleasure of seeing a very effective presentation of the court martial scene from "The Caine Mutiny." Not least impressive was the verbal combat between two psychiatrists, as expert witnesses, and a very astute prosecutor. The attorney was victorious, leaving the two experts a pair of ridiculous second bests. The victory hinged not so much upon the inadequacy of scientific facts as upon (1) the psychiatrists' inability to express themselves basically and exactly in language which could not be broken down in court to their disadvantage and (2) the lawyer's admitted purpose was not to bring out the full and accurate implications of the psychiatrists' findings, but to win the case.

The Caine Mutiny court martial was not an actual record of a trial but a convincingly presented fictional synthesis of something which might plausibly have happened. It was so convincing, we thought, as to serve as a hypothetical illustration of a very serious problem facing us today. The interrelationships of science and law are becoming more and more important to our social progress. Is more and more thought being given to the philosophy involved?

Recently, Edwin H. Armstrong, professor of electrical engineering at Columbia University, made a grant of \$50,000 to Columbia University to be used in studying the success of the nation's courts in deciding complex scientific questions. He said that he made this grant because he had observed that public bodies often were required to ascertain facts that were "beyond the comprehension of laymen." He said that: "The techniques involved in the ascertainment of such facts have not been adequately developed, with the result that important decisions sometimes have been made and important actions taken, upon erroneous findings of fact in technical and scientific fields."

As feature articles in this issue, we have presented the points of view of a scientist who has had close contact with the workings of our legal system with respect to scientific matters, and a lawyer who has worked extensively with legal matters involving science. This is done with the intention of shedding some light and, even more, in the hope of stimulating creative thought and action.

Both scientists and lawyers are professional men. To us this implies a strong sense of responsibility to society. Such a sense surely calls for willingness to put forth an effort to improve a situation which may not be yielding optimum results in the public interest.

The scientist deals with the laws of nature. Presumably they are absolute. The problem is to gain the knowledge which will lead us to the truth which exists beyond the influence of man. A basic assumption is that, if the experiments are carried out perfectly, the same conclusions will be reached completely independently by any worker anywhere. This degree of refinement has been reached, within small limits of error, in some scientific studies. The mechanics involved are the application of logic to known facts in the interpretation of observations.

The lawyer deals with man-made laws. They are based upon the philosophy and culture of the society within

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which they operate. Those philosophies vary from one part of the world to another. Certainly no lawyer would contend that the laws of one country could be applied equitably and soundly in all other countries as they exist today. The laws constantly are being modified and changed by men in accordance with the predominating opinions and philosophies of those who are able to influence the actions of a government.

The differences in dealing with the laws of nature and the laws of man do not necessarily make one more important than another with respect to social progress, but they do call for a difference in approach and interpretation. The scientist spends his life in developing his ability to interpret knowledge which reveals the laws of nature. The lawyer directs his efforts toward interpreting laws made by man and through that interpretation improving the application of those laws for the betterment of our society. The two philosophies clash because of their differences in technique when dealing with the application of the laws of nature in such a way as to affect our society.

It is not unreasonable, then, that the scientist might be at as great a disadvantage in presenting satisfactorily before a court of law an interpretation of the laws of nature as would be a lawyer in presenting in legal terms his interpretation of human behavior before a board of research scientists. It is not unreasonable to declare that we have an area of philosophies which is being neglected.

Is it reasonable, then, to expect that under such circumstances the questioning of a scientist by a lawyer in a court of law can be expected to lead to the best expression of truth? This is no reflection on either scientist or lawyer but merely an unfortunate condition. Already it is being recommended by a committee from the National Research Council that questions of safety of new materials to be used in foods be settled scientifically rather than by a quasi-court procedure. The result should be that the scientific aspects of the situation would be considered in a scientific atmosphere which is probably the best approach that we might hope for in our humanly imperfect society. Those findings then can be used as the basis for a formal regulation to be fitted properly into our system of statutes. The application of those regulations in the workings of our society then more properly could be interpreted by the legal profession.

Certainly there is no simple or near perfect solution in sight, but there is a heavy responsibility on both professions to give more attention to the interrelationships of science and law. The study which will be started at Columbia University is a worthy beginning but a great deal more will be needed. Cooperation in consideration and study of this matter at a government-industry level seems most likely to encourage enlightening progress. It is a matter of urgent need.