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THE RELATIONSHIP OF EXPERIMENTAL JURISPRUDENCE TO OTHER SCHOOLS OF JURISPRUDENCE AND TO SCIENTIFIC METHOD

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It might be worthwhile to pause for a bit to discuss the relationship of Experimental Jurisprudence to the many other schools of jurisprudence which have existed from time to time. It has also an important relation to the expansion of the scientific method into the literature and practice of social control through law. There is no need here to go into a detailed scholarly discussion of the history of jurisprudential thought. This has been done so superbly by Stone¹ and Pound² that a repetition of the process would be superfluous. However, a general discussion of its methods in relation to other well known types of thought and action in the field of philosophy and practice in government might prove useful to a better understanding of Experimental Jurisprudence.

*The Essence of Experimental Jurisprudence*³

Experimental Jurisprudence is a science of law based on a rigorous application of the scientific method to the study of the phenomena of law-making, the effect of law upon society and the efficiency of laws in accomplishing the purposes for which they came into existence. It is immaterial whether Experimental Jurisprudence is a branch of sociology, or whether or not all of political science, part of each of sociology, economics, philosophy and many of the other social sciences

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1. J. STONE, *THE PROVINCE AND FUNCTION OF THE LAW* (1946).

2. 1-5 R. POUND, *JURISPRUDENCE* (1959).

3. See F. BEUTEL, *SOME POTENTIALITIES OF EXPERIMENTAL JURISPRUDENCE AS A NEW BRANCH OF SOCIAL SCIENCE* (1959) (hereinafter cited as BEUTEL).

included within its ken. The line between the "sciences," like the definition of law, is little more than a quibble which can be left to the pundits, bureaucrats and administrators; to the scientist, the nature of its subject matter, the methods which it uses and the results which it achieves, rather than its definition, are fundamental.

With these preliminary observations in mind, it might be stated that the steps employed in prosecuting a method of Experimental Jurisprudence should be approximately as follows:

1. The nature of the phenomena which law attempts to regulate should be studied. In particular, the social problem to which a specific law is directed should be carefully isolated and examined.

2. The rule of law or other method used to regulate the phenomena or intended to solve the social problem should be accurately stated.

3. The effect on society of adopting the rule should be observed and measured.

4. There should then be constructed a hypothesis that attempts to explain the reasons for this reaction.

5. This description, when broadened to apply to other analogous situations, might be considered a jural law that describes or predicts results which would occur on application of a similar regulatory law to similar problems.

6. If analysis shows that the law is inefficient, there could then be suggested new methods of accomplishing the originally desired result.

7. The proposed new law could be enacted and the process repeated.

8. A series of such adoptions of new laws and the study of their results might throw important light upon the usefulness of the underlying purposes behind the enactment, thus effecting a possible alteration in or abandonment of this objective, or in the long run, even induce a revision of our present scale of social and political ethics.

Each of the steps in this process may require the skillful use of complicated machinery and techniques of observation. Some are now in existence, others will have to be developed. The important thing is that scientific jurisprudence is essentially a problem-solving device.

A brief discussion of its relation to the other schools of jurisprudence and to experimental scientific methods will aid in placing Experimental Jurisprudence in its modern philosophical context.

The Natural Law

The Natural Law school is the oldest and perhaps the most persistent of all the schools. It is frankly dedicated to the task of determining the

perfect rule of law for all situations, and purports to offer a universal test for all rules of law. This is to be achieved by comparing the rule in question to the natural law which covers the individual situations.

Due to the influence of this school in the field of social or juridical science we are only just now emerging from the era of dogmatic truth. In the past there has been a great reliance on absolutes. The talk about fundamental values, social ends, moral concepts, basic theories of human relations which can be solved only by return to the true church, the family, the marriage concept, by development of democracy, the rule of the proletariat or government by law and not of men, has dominated our social sciences and our juridical thinking.

In the social field Natural Law has long been willing to provide absolute answers. As is well known, the natural law theorists for centuries have claimed that there exists in the nature of things a perfect rule of law for each given situation which can be written into man made government law. One may not only be willing, but anxious to go along with this natural law philosophy. There may be absolutes; there is comfort in believing that there are. Life would be much more simple if there were. It is easy to grant that the universe is so constituted that there is, in the relations of man to man, among all the possible rules of law which might be applied, one which is best fitted for governing each relationship. The only question is how can it be found?

The natural law theories of the past and present seem to offer two ways of discovering this higher or perfect law. One is reason, the other divine guidance or revelation. Both of these tests are offered *ex cathedra*, accompanied by a great show of rationalization, but with no necessity of previous study of social conditions and with no following empirical inquiry into the social effect of the legal rules thus propounded. Pure reason or revelation or both seem to be the measure of perfection.

Taking the theory of divine guidance first, if there is a Diety who propounds such rules, and one may be perfectly willing and happy to admit that there is, to whom does He reveal His messages? Granting that He by hypothesis has a perfect sending set, there seems to be a slight difficulty with the human receiving apparatus. Among those who purport to have been in contact with the Source of all wisdom, as for example, Moses, Christ, Buddha, Mohammed, Confucius, to name only a few, each claims to have the true doctrine; yet different results seem to have been reached for the perfect rule governing almost every problem that comes under the ken of law. For example, the conflict on the legality of plural marriages under the various systems is well known.

In a primitive society having only one basic religion, laws grounded on its revealed precepts might work fairly successfully to keep the peace; but in a polyglot world such as the one in which we live, whether it be the United States or the world at large, these absolutes come into basic conflict. Even in one country there are the Protestants, Catholics, Christian Scientists and Mormons, to name only a few, who would reach conflicting decisions on the absolute truth behind the law of plural marriage and its corollary, legal divorce. If each is to follow his own conscience and, according to classical natural law theory, obey only the law which corresponds to his revealed absolutes, anarchy is assured. One of the chief causes of the current disruption of legal administration is the Natural Law philosophy placing one's personal beliefs above the law.

Now turning to reason as a source of the absolutes. Natural Law in the United States alone has been used to justify revolution,⁴ confiscation of property,⁵ maintenance of the status quo,⁶ the sanctity of property rights over human rights⁷ and vice-versa.⁸ Logic, rhetoric, disputation and word mongering on both sides seem equally potent.

In the broader fields of governmental structure and international relationships, reason can be, and has been brought to bear to support democracy, dictatorship, altruism and might makes right. Our current international impasse is based on natural law approaches grounded on reason on both sides. The communists and the free world equally appeal to reason. Both systems from the point of view of logic, rhetoric, appeals to history and just common sense are equally attractive to large bodies of converts. On appeal to reason alone, Karl Marx seems to be able to convince as many people as the capitalistic democrats. The result, of course, is war and international chaos. In the past many religious wars and revolutions were fought in which each side was positive of the truth of its absolutes. Now there is talk in terms of similar wars based upon ideological absolutes of politics and economics. This has been the result of two thousand years of natural law thinking on both sides, and nothing new seems to be involved in the present cry to return to natural law or something like it.⁹

4. THE DECLARATION OF INDEPENDENCE (1776).

5. Royce, *The Squatter Riot of 1850 in Sacramento* in J. HALL, READINGS IN JURISPRUDENCE 314 (1938).

6. J. HALL, READINGS IN JURISPRUDENCE 68 (1938) (quoting Rutherford in the footnotes).

7. *Ives v. South Buffalo Ry. Co.*, 201 N.Y. 271, 94 N.E. 431 (1911).

8. See notes 5 and 6 *supra*, and collection of material in J. HALL, note 6 *supra* ch. 8.

9. See, e.g., L. FULLER, THE LAW IN QUEST OF ITSELF (1940); L. FULLER, THE MORALITY OF LAW (1964).

Of course, this is all old stuff in the field of philosophy and one should apologize for offering it again here, if it were not for the fact that there are among us, lawyers, jurists, and a substantial group of people who, in despair of obtaining any results from shallow realism, are returning to the simple faith of Aquinas and Aristotle. Like others before them, they seem to believe that a statement can be made true simply by repeating it and building up a structure of reasoning about it. It is submitted that it is time to move on to other procedures for testing the validity of legal concepts and the usefulness of particular rules of law.

The only aid the Natural Law school can offer to Experimental Jurisprudence is perhaps in step 6, suggesting new laws. It should be noted here that in experimental method such suggestions are based upon research into existing sound facts. Natural Law has no such technique; so as the experimental research proceeds and facts about the social application of law and jural laws¹⁰ accumulate, there will be less and less need for the type of imagination involved in the Natural Law system.

The Philosophical Idealists

Very closely related to Natural Law are the various schools, that for want of a better word may be classified as philosophical idealists. This group, as did Kant, seems to base the concept of justice on pure reason. They reach for magic words and basic principles to test the validity of laws and legal systems. There is here no reference to the actual empirical conditions under which laws are enforced; they deal only in abstract tests of what law ought to be or do. Here one finds such formulas as Kant's free will, Hegel's idea of liberty, Stamler's idea of the law, Duguit's social solidarity, even Bentham's greatest good for the greatest number, and Marx's dictatorship of the Proletariat. The Historical school also partakes of this philosophical unreality. Savigny's customary rights, and folk-soul are based on philosophical constructs rather than any factual investigation of the actual condition of man as he is touched and affected by laws.

It is this method of thinking which has supplied the world with a philosophical basis for clashing ideologies which are now threatening to destroy mankind. Kant and Hagel have given us the ideology of freedom which is the philosophical basis of the drive in the "free world", and Marx, of course is the source of the ideology of the communist dictatorship. Now it is not clear that the ideologies are the sole cause of

10. See BEUTEL at 15.

the clash between the two worlds; but they certainly helped create the emotional and intellectual backing which, with no support in empirical facts, rationalized the two sides of one of the most deadly, dangerous clashes in history.

In like fashion, this ideology of freedom and sovereignty has led to the independence of many states in Africa and the Middle East which were not ready for self-government. As a result of this implementation of ideology, they seem to be slowly slipping back into savage anarchy.

This reliance upon idealism, like the use of religion to support crusades and deadly wars, is one of the scourges of mankind. Idealistic philosophy, like religion, has been set upon a pedestal and surrounded by an aura of goodness, inspiration and truth which is without any scientific support in experimental fact. Although it is not without its practical gains, the steadily accumulating debits in the loss column indicate that this type of thinking needs reexamination.

Experimental Jurisprudence will have none of this technique. If it has any use at all it may be in working out hypotheses as to step 4 in explaining reactions to the law or perhaps in formulating new laws in the sixth step. But here again no such hypotheses can be a statement of an absolute, but only a tentative proposition to be tested by further experiment.

Utilitarianism

The position of Bentham or Jhering and their followers that law is a means to an end, in other words that it is an instrumentality for achieving concrete socially just results, is a proposition which finds an important place in Experimental Jurisprudence. The utilitarian formula for stating or measuring that result, the greatest good for the greatest number, is too simple and vague to offer a real scientific basis for experimentation; but the study of actual needs and demands as a means of reaching a just law is an extension of this philosophical principle to the operation of real social engineering. It should be noted also that the classical utilitarians offered only a theory of interests. To be sure, there is in their writing a listing of interests. See, for example, Pound's classification of interests, where he talks about real human claims and demands, but the interests he lists are generalizations of legal rules,¹¹ not an empirical examination of the actual needs and demands of people in modern society.

11. 3 R. POUND, JURISPRUDENCE 30, § 83 (1959).

Analytical Jurisprudence and Positivism

When one comes to the Analytical Jurisprudence of Austin and Kelsen one encounters an attempt to unify and define the nature of law itself. Neither the Analytical Jurists nor the Positivists who follow them are interested in determining the justice or "goodness" of rules of law; they simply ask the question what *is* the rule of law, and how can it best be described. Kelsen, for example, takes the position in his *Pure Theory of the Law* and *What is Justice* that justice is a synonym for "legal" and that the "science" of law has no part in determining what is the social effect of rules of law.

Others of the Analytical school like Hohfeld are chiefly interested in creating an accurate vocabulary for describing the phenomena of rules of law. Unfortunately, they failed in this effort because they tried to give old and well worn but highly intensional words new meanings in terms of other intensional words.¹² It is too bad that Hohfeld did not have the help of modern semantics to aid him in a very important effort. An accurate vocabulary will be an inevitable result of the application of Experimental Jurisprudence.

Other and more modern positivists following Llewellyn are attempting to describe law in terms of the behavior of officials. This concept of Positivism will be discussed below under the treatment of Realism. In its present state it suffers badly from the lack of accurate terminology.

It seems that Analytical Jurisprudence and Positivism, insofar as they attempt accurately to state the rules of law, are a very useful ally of Experimental Jurisprudence. The whole of this aspect of Analytical Jurisprudence is embodied in step 2, "the rule of law . . . should be accurately stated." On the other hand, the insistence that the science of law has nothing to do with what law ought to be, denies the whole hypothesis that rules of law can be created by experiment which will better serve the needs of society. As such, this part of Analytical Jurisprudence is already both rejected and refuted by the achievements of Experimental Jurisprudence.¹³ The latter is the science and art of law reform and the Scienstate, discussed elsewhere,¹⁴ in one apparatus for accomplishing change to improve the legal system. However, the basis of

12. For this classification see S. HAYAKAWA, LANGUAGE IN THOUGHT AND ACTION 58 (1949).

13. See BEUTEL, ch. IX.

14. F. BEUTEL, DEMOCRACY OR THE SCIENTIFIC METHOD IN LAW AND POLICY MAKING 144 (1965).

evaluating a law is not morals, religion or "values," to which Kelsen properly objected; but is an operational one wherein the usefulness of a law is measured by the empirically determined test of its efficiency in supplying the needs and demands of the people governed.¹⁵

Pragmatism

One of the modern branches of philosophy which has influenced many of the recent schools of jurisprudence is Pragmatism. This is in a sense the philosophical counterpart of the theory of evolution, the idea that there are not in the world of philosophy any fixed standards of good and evil, right or wrong, just or unjust. The test of the validity of any idea, system of law or method of living is to be found, not in any fixed categories or basic principles, but in the extent to which it is instrumentally viable. An idea becomes true as it is able to survive in the events of life.¹⁶ Thus the validity of a rule of law is determined by the extent to which it works in society.

The truth grows and changes as it is tested by survival. What is true in one environment is not true in another. "Truth happens to an idea. It becomes true, is made true by events."¹⁷

This philosophy has had a great impact on the jurisprudence of Holmes¹⁸ and his followers. It also is reflected in the philosophy of science, in Sociological Jurisprudence and Realism. It can be said that it is inherent in Experimental Jurisprudence, but where Pragmatism seems to rely on unguided survival to prove tentative truth, Experimental Jurisprudence applies the scientific method to develop the truth and usefulness of legal propositions and devices.¹⁹

Realism

Realism is partly a branch of Positivism in that it attempts to describe law in terms of the action officials. It is also an off-shoot of Pragmatism in that it reverts to social facts. Unlike Pragmatism which says the facts determine the usefulness of law, Realism takes the position that the facts of enforcement are the law itself. Llewellyn in his *Bramble Bush* states that Law is what the officials do about disputes.²⁰ This is, of course, a

15. *Id.* at 95.

16. W. JAMES, PRAGMATISM 201 (1925).

17. Harper, *The Implications of Juristic Pragmatism*, 39 J. OF ETHICS 267 (1929).

18. "Truth is the majority vote of that nation that could lick all others." O. HOLMES, COLLECTED PAPERS 310 (1921).

19. BEUTEL, Part II.

20. C. LLEWELLYN, BRAMBLE BUSH 8 (ed. 1950).

very narrow view of the nature of law and wholly overlooks that great body of written regulations commonly called law. It also fails to distinguish between law in books and law in action. However it renders a great service in that it insists upon finding out what is actually going on in the social application of the law, and rejects all rationalization about it. This insistence upon observation of what is actually going on in society is the essence of step 3 of Experimental Jurisprudence. It is not clear what the Realists intend to do with their observed information once they get it. Their process seems to do little more than observe, perhaps criticize, even reform;²¹ but they offer no mechanism for social or legal reform. Experimental Jurisprudence runs the whole gamut of experimental method as applied to legal phenomena.,

It is interesting to note in this respect that Llewellyn who insisted that the Law was what the officials actually do, himself did little empirical research. *The Cheyenne Way* which comes closest to this kind of work was really a sort of anthropological study. When he drafted the Uniform Commercial Code he accepted the procedures of the Restatement which had their origin in the methods of the codification of Justinian. The only reference to scientifically collected empirical social data other than decided cases were those offered in a few hearings²² which were conducted about in accordance with currently accepted legislative standards. There was reliance almost entirely on court decisions and there was no attempt to study the social conditions to which the Code was to apply. No Experimental Jurist would adopt such a technique.

It can be said that Realism so far as it insists upon getting the facts about the operation of law enforcement, clearly has a part in the method of Experimental Jurisprudence; but insofar as it relies upon behaviorism alone to understand the law it falls far short of being a complete science of law.

Sociological Jurisprudence

Sociological Jurisprudence as it has developed in Europe and America is set out by Pound as consisting of eight steps.²³ These may be set out and compared with Experimental Jurisprudence about as follows.

The first step is (1) "Study of the actual social effects of legal

21. C. LLEWELLYN, *Conditions for and the Aims and Methods of Legal Research*, in HANDBOOK OF A.A.L.S. 35, 42 (1929).

22. See, e.g., *Report of the Law Revision Commission*, HEARINGS ON THE UNIFORM COMMERCIAL CODE (1954).

23. I R. POUND, JURISPRUDENCE 350 (1959).

institutions, of legal precepts and legal doctrines." This is the same as step 3 of Experimental Jurisprudence, except possibly the latter is devoted more to specific laws and governmental policy in administering them.

The second is "Sociological study in preparation for law making." This is, of course, part of Experimental Jurisprudence but it is not a separate process but is built into a continuous method of law making and enforcement.²⁴

The third, a "study of the means of making legal precepts more effective in action." Experimental Jurisprudence offers a system for accomplishing this rather than an abstract statement.

The fourth, "Study juridical method: psychological study of the judicial, administrative, legislative and juristic processes as well as philosophical study of the ideals." The juridical and philosophical study of ideals has little place in Experimental Jurisprudence. The actual workings of the processes here set out and the reasons for their behavior is the focus of the experimental method. Psychology is only one of the disciplines which may be involved. The ideals are of little importance except insofar as they may create demands upon the legal order.

The fifth, a sociological legal history, is perhaps a part of the steps 4 and 5 in Experimental Jurisprudence, the creation of hypothesis and jural laws. This goes much further than the sociological study which might be purely descriptive rather than an important tool for future law making.

The sixth step in the program, the individualization of the application of the law through a study of the judicial and administrative process, might be only one of many studies undertaken by an Experimental Jurist. Individualization may or may not be an end to be sought.

The seventh, the creation of a ministry of justice, again may or may not be advisable. Experimental Jurisprudence has no such fixed ends. Properly developed it would undoubtedly result in continual reorganization of the whole government not merely the creation of one department.²⁵

Eighth, the foregoing points are merely part of the Sociological Jurists attempt to make "more effective the purposes of the legal orders." This assumes a purpose which Pound states is effective social engineering to better balance interests in society, or promoting civilization;²⁶ whatever that is. Here Sociological Jurisprudence will probably have to rely on

24. See F. BEUTEL, *supra* note 14, at 135, figure C.

25. BEUTEL, Part II.

26. See R. POUND, *supra* note 23, at 547.

Sociology to state its ends. Experimental Jurisprudence is a system of social engineering which will examine the working of any system of law or some or all of its rules. It is an on-going perpetual experimental science which will study not only the law but also the purposes behind it. Sociological Jurisprudence is primarily a scholarly activity while Experimental Jurisprudence is its further development into a dynamic experimental science of human relations.

Experimental Jurisprudence unlike all the others insists that society is a laboratory for the study of the science of law. In this respect it requires that law be used as one of the controls in developing and testing the effectiveness of legal norms and other devices for social control of the phenomena surrounding them. Also differing from all the other schools it insists that jural laws can be developed which describe and predict men's reaction to legal controls, and that these jural laws can be used as an engineering device to impose social control. Thus, Experimental Jurisprudence, like Sociological Jurisprudence, has an important impact in improving man's social relations with his fellow man, and the means by which he supplies his wants. It will, therefore, have an important effect upon the theories and practices of government.

"Word Mongering" vs. Empirical Fact Finding

It is characteristic of all the schools of Jurisprudence down to the middle of the 20th century that one could become a great authority, and a leader of his particular "school" without ever leaving the library. His chief occupation as such was "word mongering," the manipulation of texts and the comparison of reports of cases. Only the latter even indirectly touched on the real world of people and their interests. The jurists thus viewed life dimly through the glass of the judicially distilled facts, or if they were civilians, through ancient texts. The real thrust of their writing went to philosophy, precepts, concepts and the like; words and more words, little else. Real scientific empirical research was slow to develop.

Pound's article *Law in Books and Law in Action*,²⁷ published in 1910 first called attention to the spread between theory and practice; but it was ten years later, in the Cleveland Survey, before he did anything about it.²⁸ Then, after a few facts were uncovered, it was left to the politicians with no further guidance to make the necessary changes in the law.

27. Pound, *Law in Books and Law in Action*, 44 AM. L. REV. 12 (1910).

28. See R. POUND & F. FRANKFURTER, *CRIMINAL JUSTICE IN CLEVELAND* (1922).

Other early attempts by Pound at Harvard, to organize empirical studies of the social operation of law were mostly blocked by the depression and were not revived. Thereafter, although he continued to mention social engineering, he issued numerous publications including a five-volume treatise on Jurisprudence in the accepted style with little reference to empirical data.

While the empirical research at Harvard lasted it was the inspiration for the publication of many books in the field,²⁹ the majority of which were more descriptive than experimental. The most important results of this attempt were the work of Sheldon and Elenor Glueck³⁰ which covered a period of over forty years. It includes steps 1, 3, 4 and 5 of Experimental Jurisprudence and eventually developed a statistical base for reorganization of the criminal law,³¹ steps 6 to 8 of Experimental Jurisprudence, which still remain to be completed.

The Transition from Classical Jurisprudence to Experimental Social Engineering

The first attempt to apply the methods of experimental science to the study and reorganization of the law was the work of Walter Wheeler Cook and his colleagues at Johns Hopkins Institute of Law. This effort, contemporary with the Harvard Crime Survey, was established in June of 1928 and lasted only four years. It also was killed by the depression and lack of interest in the legal profession and among contemporary jurists.

This history, the details of the program and the true experimental nature of the concept are set out in full elsewhere³² and need not be repeated here. It is sufficient to say that Walter Wheeler Cook, himself a physicist, was the first to envision the application of the experimental scientific method to the operation of the legal system. It is unfortunate

29. Chief among these was the Harvard Crime Survey, see F. FRANKFURTER, INTRODUCTION TO THE HARVARD CRIME SURVEY (1926); S. GLUECK, ONE THOUSAND JUVENILE DELINQUENTS vii (1934) and material there cited. See also THE ILLINOIS CRIME SURVEY (1929); S. WARNER, CRIME AND CRIMINAL STATISTICS IN BOSTON (1934).

30. Their principal early books of facts are: S.S. GLUECK & E.T. GLUECK, 500 CRIMINAL CAREERS (1930); ONE THOUSAND JUVENILE DELINQUENTS (1934); FIVE HUNDRED DELINQUENT WOMEN (1934); CRIME AND JUSTICE (1936); LATER CRIMINAL CAREERS (1937); EDITOR, PREVENTING CRIME (1936); JUVENILE DELINQUENTS GROWN (1940); CRIMINAL CAREERS IN RETROSPECT (1943); AFTER-CONDUCT OF DISCHARGED OFFENDERS (1945); UNRAVELING JUVENILE DELINQUENCY (1950); DELINQUENTS IN THE MAKING (1952); CRIME AND CORRECTION (1952); PHYSIQUE AND DELINQUENCY (1956); THE PROBLEM OF DELINQUENCY (1959).

31. E.g., S. GLUECK, PREDICTING DELINQUENCY AND CRIME (1959); Craig & Glick, *Ten Years Experience with the Glueck Social Prediction Table*, 9 CRIME AND DELINQUENCY 249 (1963).

32. See BEUTEL at 105.

that his attempt to put his theories into action came at a time when the great depression and later World War II brought almost all such work to a halt.

Underhill Moore as a contemporary of Pound and Cook was one of the first to try a detailed experimental study of the effect of law on human actions. His philosophy and methods can be definitely classified as experimental, and he was chiefly interested in developing jural laws pertaining to the reaction of individuals to legal rules.³³

His first efforts at empirical studies began in 1928 with studies of the behavior of bankers in the collection and handling of checks.³⁴ He later developed an hypothesis that conflicting decisions in separate jurisdictions could be explained by different methods of handling checks.³⁵ With the help of the Yale Institute of Human Relations, he set out to test this theory against business practices. While these detailed studies of bankers' habits in different states failed to substantiate the theory, the findings definitely showed that the decisions involved were aberrant, that is, appellate cases involving banks are an inaccurate reflection of the procedures in the banks. The cases themselves involve unusual situations where the ordinary rules or practices of the banks had broken down. Their results therefore are not a proper or scientific base upon which to construct rules of law which would properly reflect or regulate usual banking operations. This was a great step forward. Although Moore did not seem to recognize it, here was an empirical showing that there was doubt as to the scientific soundness of the common law method of creating rules of law from decided cases. Moore's other research was directed toward the effect of traffic regulations upon the habits of motorists in New Haven.³⁶ Here Moore and his associates studied the detailed reactions to traffic regulations of hundreds of individual motorists. In cooperation with the police by experimentally changing the regulations, he was able statistically to develop a lot of jural laws (which he called "Learning Theory") showing the reaction of the public to traffic control.

33. In fact he so classified it himself. See *My Philosophy of Law*, Article by Underhill Moore, 203, 223 (1941).

34. Moore and Hope, *An Institutional Approach to the Law of Commercial Banking*, 38 YALE L.J. 703 (1929); Moore and Sussman, *Legal and Institutional Methods Applied to the Debiting of Direct Discounts—I. Legal Method: Banker's Set-off*, 40 YALE L.J. 381, 555, 752, 928, 1055, 1219 (1931); Moore, Sussman and Brand, *Legal and Institutional Methods Applied to Orders To Stop Payment of Checks*, 42 YALE L.J. 817, 1198 (1933).

35. Moore, Sussman, & Croctvelt, *Drawing Against Uncollected Checks II*, 45 YALE L.J. 260 (1935).

36. Moore & Callahan, *Law and Learning Theory: A Study in Legal Control*, 53 YALE L.J. 1 (1943), later published as a separate book.

These studies burst rather harshly into the consciousness of conservative jurists who still took a quasi-religious attitude toward law. Although they were well received by other branches of behavioral science,³⁷ they fell flat so far as the great majority of lawyers and legal educators were concerned. This is the greater pity because, as shown elsewhere,³⁸ Moore's technique was of the type being followed in other studies which eventually developed into Traffic Engineering. So the Engineering Colleges and not the Law Schools became the custodians of this type of law-making, and legal science.

By the middle of the century under the inspiration of Sociological Jurisprudence and Realism there slowly began a number of studies of the impact of various laws upon society. As the movement gained momentum there appeared all sorts of factual studies of the operation of various parts of the legal system. Most of these efforts represent roughly steps 1 to 3 of Experimental Jurisprudence and cover all aspects of both good and bad sociological research. It is impossible here to list or discuss all of them; but some of the better known studies by individuals are listed in the margin.³⁹ Although these studies do not follow the whole of the experimental technique, they do expose facts that will force changes in the legal process. Whether or not these changes are based on sound science they will eventually lead to further experimentation.

Truly Experimental Individual Studies

It is possible to make experimental studies of the application of law to society either with or without the help of government. If governmental agencies are willing to cooperate the law may be changed experimentally to test hypotheses and jural laws. If such official help is not forthcoming at steps 7 and 8 in Experimental Jurisprudence it may be possible by the use of comparative law to find the type of law recommended in step 6 in some other jurisdiction and to study its application there. An illustration of both these types of study follows.

The bad-check studies made by the author and his assistants is an

37. Cf. Yntema, "Law and Learning Theory" Through the Looking Glass of Legal Theory, 53 YALE L.J. 338 (1944); Hull, Moore & Callahan, "Law and Learning Theory" a Psychologist's Impressions, 53 YALE L.J. 330 (1944).

38. See BEUTEL, chapter VI and 31 NEB. L. REV. 349 (1952).

39. See notes 50, 53, 55, *infra*. Some of the better known of these early efforts are: R. CALDWELL, RED HANNAH (1947); J. HALL, THEFT LAW AND SOCIETY (1935) (2d ed. 1952); F. INBAU, LIE DETECTION AND CRIMINAL INVESTIGATION (1942) (2d ed. 1948); K. LLEWELLYN & E. HOEBEL, THE CHEYENNE WAY (1941); L. OHLIN, SELECTION FOR PAROLE (1951); P. TAPPAN, DELINQUENT GIRLS IN COURT (1947).

illustration of this second technique. That study was made in 1953 and 1954 of the enforcement of the criminal bad-check laws dealing with forgery, no-fund and insufficient fund checks in the state of Nebraska and, for comparison and measuring purposes, in Colorado, Vermont and New Hampshire.⁴⁰ Following the first six steps of Experimental Jurisprudence it was determined that the felony penalties in the law served no useful purpose. It was then recommended to the legislature that it adopt a model bad-check statute which repealed the felony penalties and legalized collection of the check by public officials.⁴¹

When the legislature refused initially to adopt the act it appeared that the experiment might be ended, but it was soon discovered that Puerto Rico had a set of laws on bad checks which closely paralleled those recommended for Nebraska. A similar study was then made in Puerto Rico in 1963 and 1964, under the auspices of the Social Science Research Center of the University of Puerto Rico. In spite of many variations in social conditions this study seems to indicate that most of the discoveries and recommendations of the previous Nebraska study are valid.⁴²

Partly as a result of these studies the legislature of Nebraska has recently adopted a statute and resolution⁴³ embodying many of the suggestions in the original bad check study.⁴⁴ As recommended there it has greatly reduced the impact of the felony provisions of the original law by increasing the minimum felony requirement for no-account and insufficient fund checks from thirty-five to seventy-five dollars.⁴⁵ It also, as recommended by the study, has implemented a collection process by law enforcement officials⁴⁶ and has moved to reduce the felony population of the Penal and Correctional Complex by making the more lenient felony provision retroactive.⁴⁷

This illustrates the scientific drawback in the type of study where the

40. See BEUTEL, Part II.

41. *Id.* at 419 (where a draft statute is set out).

42. For a complete detailed account, see F. BEUTEL & A. NEGRON, *THE OPERATION OF THE BAD-CHECK STATUTES OF PUERTO RICO* (1967). The method of these studies has also taken root in Japan, see Oikawa, *On Criticism of Beutel's Experimental Jurisprudence*, 3 KWANSEI GAKUM L. REV. (1964) (English translation) and authorities there cited in nn 23, 24.

43. NEBRASKA, LEGISLATIVE BILL 427 (1971); and NEBRASKA, LEGISLATIVE RESOLUTION 53 (1971).

44. See BEUTEL 410; *cf.* BEUTEL 419.

45. *Cf.* LEGISLATIVE BILL 427, *supra*, note 43, §§ 28-1212, 28-1213, NEB. REV. STAT. §§ 28-1212, 28-1213, (Supp. 1969).

46. *Id.*, § 28-1214.

47. LEG. RESOLUTION 53, *supra* note 43.

law-making body does not fully cooperate. Although it is not possible here to completely carry out the experimental project as planned; nevertheless, now that the law has been changed it will be possible to attempt a variation of step 8 of Experimental Jurisprudence by an empirical study of the effects of the new law on bad checks; so this study now may be made partially to represent both types mentioned above.

Rosenberg's study, on pretrial and effective justice in New Jersey is an example of the application of the first of the experimental methods mentioned above to juridical studies. With the cooperation of the Supreme Court of New Jersey and with the help of the Columbia Project for Effective Justice there was created a controlled experiment in the effectiveness of the pretrial procedures in tort cases. The court at the suggestion of the director of the study set up three categories of rules governing pretrial conferences in the lower courts. They were made mandatory in some places, optional in others, and prohibited in a third class.⁴⁸ These classes of rules were then applied to a proper statistical sampling of the courts, and trials conducted under the three procedures were carefully observed. The results showed that most of the claims made for the effectiveness of the pretrial procedures were unfounded.

At the end of the research New Jersey changed its mandatory rule and made pretrial discretionary in automobile cases. Here is a good example of the changing of rules of law due to experimental studies, steps 7 and 8 of Experimental Jurisprudence.

Other private studies in cooperation with governmental agencies are numerous. These studies fall into three classes: (1) the experimental study where the rules of law are changed to facilitate the work as was the case in the Rosenberg research just mentioned; (2) where the research involves the active cooperation of governmental agencies and the use of their facilities, for further experimental purposes; (3) where the governmental agencies cooperate by allowing the investigators to use their facilities for the purpose of observation only. Any of the three types of studies may lay the foundation for a change in the policy or operation of the agency or law under examination. If this occurs it is possible to repeat the study in the manner of Systems Engineering, and the whole operation becomes truly experimental. Studies in this class are now becoming too numerous to mention in detail so a few examples will suffice.

In addition to the Rosenberg pretrial study mentioned above the

48. ROSENBERG, THE PRETRIAL CONFERENCE AND EFFECTIVE JUSTICE, Ch. II (1964).

Manhattan Bail Project initiated by the New York University School of Law and the Institute of Judicial Administration in 1961 was another study where rules of procedure were varied to study the effectiveness of the bail procedure in certain courts in the City of New York.⁴⁹ Here by varying the requirements of bail and notification of trial in some cases and comparing them with other control cases where the usual procedures were followed, the study was able to recommend substantial changes in the parole practices of the courts.⁵⁰

In the second class, where the authorities furnish the facilities for the study, was part of the Chicago Jury Study examining the defense of insanity. Here the courts furnished records of two types of cases involving the insanity of the defendants. By taping the testimony and using actual persons from the jury rolls, the experimentors were able to create gaming techniques whereby the records were played back to jurors chosen to try the cases under instructions embodying two different rules of law, the *M'Naghten* rule which requires the defendant to lack the knowledge of right and wrong, and the *Durham* rule which requires the defendant to be under the influence of an irresistible impulse before legal insanity is established. By giving the instructions to a large list of separate jurors trying the taped cases under one rule and under the other, it was possible to come to important conclusions as to the effectiveness of the two rules.⁵¹

In the third class where the investigator simply used the facilities of the agency under observation are three important studies. The first is an examination of the Antidiscrimination Laws of New Jersey where the investigators studied the records of the state agency and then interviewed negroes who were supposed to be helped by the law and the agency administering it.⁵² In this manner they were able to make constructive recommendations for improvement in the law and its administration. Another is a study by the staff of the Yale Law Journal of the operation of the police department in New Haven to see what if any effect United States Supreme Court decisions in the field of civil rights had on police practice.⁵³

49. See Ares, Rankin and Sturz, *The Manhattan Bail Project*, 38 N.Y.U. L. REV. 67 (1963) and authorities there cited.

50. See Foote, *Comment on the New York Bail Study*, 106 U. PA. L. REV. 685 (1958); Foote, *Introduction: The Comparative Study of Conditional Release*, 108 U. PA. L. REV. 290 (1960).

51. The experiment is set out in detail in, SIMON, *THE JURY AND THE DEFENSE OF INSANITY* (1967).

52. L. BLUMROSEN, *ANTIDISCRIMINATION LAWS IN ACTION*; and A. ZEITZ, *SURVEY OF NEGRO ATTITUDE TOWARD LAW* (1965). Reprinted from 19 RUTGERS L. REV. 288 (1965).

53. See Wald, *Interrogations in New Haven: The Impact of Miranda*, 76 YALE L.J. 1519 (1967).

The third study of this type is an exhaustive decription of police practice in dealing with arresting criminals by Professor LaFave who actually rode the police cars and observed practices and procedures.⁵⁴ This particular study is largely descriptive, but contains many valuable insights into law enforcement practice.

Institutions for Empirical Research

In examining some of these individual studies it immediately becomes apparent that a factual investigation of the effect of the simplest rule of law or legal institution involves the use of many techniques of physical and social science. The researcher soon finds himself surrounded by and cooperating with teams of other scientists. The need immediately arises for organizations and heavy financing. There are now appearing in connection with the growing number of empirical research projects many such orgainzations. The developments in this area since World War II, therefore, are advancing on all fronts at once.

Financing institutions are appearing on all sides.

The Walter E. Meyer Research Institute located in New York City is a funded foundation principally interested in financing studies into the manner in which law affects people in the area of "Justice in the Big City" and "Law and the Common Man." Stating this policy in 1958, the foundation set out to encourage empirical research in these fields especially by legally trained personnel. Although the applications for grants have not been as numerous as the directors would like, the Institute has financed many studies both by individuals and organizations. A selected list of publications as a result of these studies during the bi-annum 1964 to 1966 is set out in the margin.⁵⁵

54. W. LAFAVE, ARREST (1965).

55. See WALTER E. MEYER RESEARCH INSTITUTION OF LAW, REP. (1964-1966). A. CONRAD, AUTOMOBILE ACCIDENT COSTS AND PAYMENTS: STUDIES IN THE ECONOMICS OF INJURY REPARATION (1964); THE COURTS, THE PUBLIC AND THE LAW EXPLOSION (H.W. Jones, ed. 1965); H. FREEMAN, COUNSELING IN THE UNITED STATES (1967); R. GOLDFARB, RANSOM: A CRITIQUE OF THE AMERICAN BAIL SYSTEM (1965); J. KAPLAN & J. WALTZ, THE JACK RUBY TRIAL (1965); R. KEETON & J. O'CONNELL, BASIC PROTECTION FOR THE TRAFFIC VICTIM: A BLUEPRINT FOR REFORMING AUTOMOBILE INSURANCE (1965); W. LAFAVE, ARREST (1965); M. ROSENBERG, THE PRETRIAL CONFERENCE AND EFFECTIVE JUSTICE: A CONTROLLED TEST IN PERSONAL INJURY LITIGATION (1964); J. SKOLNICK, JUSTICE WITHOUT TRIAL: LAW ENFORCEMENT IN DEMOCRATIC SOCIETY (1966); M. Rosenberg, A Survey of Pretrial Discovery in the Federal Courts (mimeographed 1965). See also the following law review articles and notes: Conard, *Economic Treatment of Automobile Injuries*, 63 MICH. L. REV. 279 (1966); Conard and Jacobs, *New Hope for a Consensus*, 52 A.B.A.J. 533 (1966); Keeton and O'Connell, *A Basic Protection Insurance Act for Claims of Traffic Victims*, 2 HARV. J. LEGIS. 41 (1965); Keeton and O'Connell, *Basic Protection, A Proposal for Improving Automobile Claims Systems*, 78 HARV. L. REV. 329 (1964);

During the two year period between June, 1964 to 1966, the foundation disbursed over two million dollars for this purpose.⁵⁶ Much of this money came from its own funds but it also accepted grants from other foundations which it passed on to its clients.

The Ford, the Rockefeller, the Russell Sage Foundations and the Social Science Research Council (Committee on Governmental and Legal Processes) are among the most prominent which are making grants in this field, but there are also numerous other foundations which are willing to lend aid to empirical research into the effects of law on society either directly or through other organizations. In fact there seems to be so much money available that there is a shortage of legally trained scholars who know how or desire to use it.⁵⁷

Research Organizations. As a result of the renewed interest in the field during the last fifteen years, many organizations have appeared which are willing to spend their own money and that of the foundations in all sorts of empirical research touching the legal system. Since research of this type requires cooperation of many individuals, these efforts take all sorts of forms, loosely knit groups of individuals, faculty committees and institutes of various sorts connected with educational institutions or acting independently. It is impossible without heavily financed research to list all of these activities but some of the most prominent and their impact upon Experimental Jurisprudence should be noted.

Educationally Connected Research

The Columbia Project for Effective Justice was one of the early post World War II pioneers and one of the most effective in the field of Experimental Jurisprudence. It was created in 1956 at Columbia University to conduct systematic studies using social science as well as

Macaulay, *Changing a Continuing Relationship Between a Large Corporation and Those Who Deal With It: Automobile Manufacturers, Their Dealers, and the Legal System*, 1965 WIS. L. REV. 483, Part II, *Id.* at 740; Pollitt, *Legal Problems in Southern Desegregation: The Chapel Hill Story*, 43 N.C. L. REV. 689 (1965); Zeitz, *Survey of Negro Attitudes Toward the Law*, 19 RUTGERS L. REV. 228 (1965); Note, *Citizen Participation in Urban Renewal*, 66 COLUM. L. REV. 485 (1966); Note, *Juvenile Delinquents: The Police, State Courts and Individualized Justice*, 79 HARV. L. REV. 775 (1966); Note, *Enforcement of Municipal Housing Codes*, 78 HARV. L. REV. 801 (1965); Note, *Federal Aid for Enforcement of Housing Codes*, 40 N.Y.U. L. REV. 948 (1965); Note, *Participation of the Poor: Section 202 (a)(3) Organizations Under the Economic Opportunity Act of 1964*, 75 YALE L.J. 599 (1966). See also WALTER E. MEYER RESEARCH INSTITUTE OF LAW, DOLLARS DELAY AND THE AUTOMOBILE VICTIM (1968).

56. WALTER E. MEYER, *supra*, note 50.

57. *Id.*, 7, 14. For a summary of the work of Russell Sage see Rose, *Programs of Law and Social Science*, 2 LAW AND SOCIETY 509 (1968).

legal skills to study the operations of justice as applied in society. Interested in the efficiency of legal devices to accomplish their purposes, it made many studies, the results of which were both descriptive and experimental.⁵⁸ One of the most important of these studies from the experimental point of view was *The Pretrial Conference and Effective Justice* which was discussed in the above. Although the University carries the expense of the core organization, it accepts special foundation support for its various individual projects. It is making a substantial contribution both to the collection of empirical data about the legal order and experiments in developing law reform.

The Center for the Study of Law and Society of the University of California is another university connected establishment for the empirical investigation of the workings of the legal order. Established in 1961 with the help of a grant from the Russell Sage Foundation, it conducts studies over a broad field including the legal process in administrative settings, the administration of civil and criminal justice, the workings of juvenile laws, cooperative international studies, the legal profession and legal theory. With a current budget of over a quarter of a million dollars, it has a permanent staff and associates of ten members of the Berkeley faculty drawn from the fields of law, social welfare, sociology and anthropology. There are also some thirteen professional researchers, three associates from other faculties, and approximately twenty students who are candidates for advanced degrees.⁵⁹ The center has aided research in the social effects of law by grants and support of research in many fields to over forty scholars both from on and off the campus, which have already resulted in the publication of fourteen books,⁶⁰ and many monographs, articles and graduate theses too numerous to mention here. Similar research is being encouraged by the

58. See, e.g., Franklin, Chanin, & Mark, *Accidents, Money, and the Law: A Study of the Economics of Personal Injury Litigation*, 61 COLUM. L. REV. 1 (1961); Rosenberg, *Comparative Negligence in Arkansas: A "Before and After" Survey*, 13 ARK. L. REV. 89 (1959); Rosenberg & Chanin, *Auditors in Massachusetts As Antidotes for Delayed Civil Courts*, 110 U. PA. L. REV. 27 (1961); Rosenberg & Schubert, *Trial by Lawyer: Compulsory Arbitration of Small Claims in Pennsylvania*, 74 HARV. L. REV. 448 (1961); Rosenberg & Sovern, *Delay and the Dynamics of Personal Injury Litigation*, 59 COLUM. L. REV. 1115 (1959); M. ROSENBERG, *THE PRETRIAL CONFERENCE AND EFFECTIVE JUSTICE* (1964).

59. There were eight advanced degrees granted from 1964 to 1966, three doctor's degrees and five masters.

60. J. CARLIN, *LAWYERS' ETHICS: A SURVEY OF THE NEW YORK CITY BAR*, (1966); A. CICOUREL, *THE SOCIAL ORGANIZATION OF JUVENILE JUSTICE* (1967); C. GILB, *HIDDEN HIERARCHIES: THE PROFESSIONS AND GOVERNMENT* (1966); M. GOLDING, *PHILOSOPHY OF LAW* (1967); P. JACOBS AND S. LANDAU, *THE NEW RADICALS* (1966); D. MATZA, *DELINQUENCY AND*

School of Criminology, and the Law School has recently opened the Earl Warren Legal Center which may absorb much of the research into law in action.

The Social Science Research Center of the University of Puerto Rico is one of the oldest of the research centers in this country devoting attention to empirical studies of law in action. It was created in 1945, early in the administration of Operation Bootstrap, (discussed below) which is an example of the application of Scienstate methods to the rehabilitation of a whole Commonwealth. With governmental interest focused on planning and law in action, it was only natural that the University should turn its attention to the empirical effects of the law in the Commonwealth.

With an annual budget of approximately two hundred thousand dollars, the center employs a staff of twenty-two persons of professional rank, twelve investigators all for either full or part time and a secretarial staff of eight. The professionals came from almost all branches of social science.⁶¹ While the emphasis in the studies is sociological, the center has encouraged research in the operation of law which has culminated in the publication of at least five⁶² out of thirty-four books, which have to do with the social effect of laws. They also encourage research which has resulted in many shorter monographs and articles on legal phenomena.⁶³

The Center also conducts a Program in Criminology which is now instituting wide research into the operation of the criminal laws of the Island.

DRIFT (1964); D. MATZA, *DEVIANT PHENOMENA* (1967); "THE ETHNOGRAPHY OF LAW" (L. Nader ed. 1965); 108 P. NONET, *ADMINISTRATIVE JUSTICE: A SOCIOLOGICAL STUDY OF THE CALIFORNIA INDUSTRIAL ACCIDENT COMMISSION* (1966); T. SCHEFF, *BEING MENTALLY ILL: A SOCIOLOGICAL THEORY* (1966); E. SCHUR, *CRIMES WITHOUT VICTIMS: DEVIANT BEHAVIOR AND PUBLIC POLICY-ABORTION, HOMOSEXUALITY, DRUG ADDICTION* (1965); P. SELZNICK, *LAW, SOCIETY AND INDUSTRIAL JUSTICE* (1967); J. SKOLNICK, *JUSTICE WITHOUT TRIAL: LAW ENFORCEMENT IN A DEMOCRATIC SOCIETY* (1966); J. SKOLNICK & R. SCHWARTZ, *SOCIETY AND THE LEGAL ORDER: A READER IN SOCIOLOGY OF LAW* (1967); E. STUETZ, S. MESSINGER AND T. WILSON, *THE STORY OF C-UNIT: ORGANIZING FOR THE RESOCIALIZATION OF OFFENDERS* (1967); SYMPOSIUM: *LAW OF THE POOR* (J. TENBROEK ed., 1966).

61. See INFORME ANNUAL DEL CENTRO DE INVESTIGACIONES SOCIALES (1964-1965), Univ. of Puerto Rico.

62. R. HILL, MAYONE & BACK, *THE FAMILY AND POPULATION CONTROL: A PUERTO RICAN EXPERIMENT IN SOCIAL CHANGE* (1959); LARTRA, *THE IMPACT OF MINIMUM WAGES ON LABOR-ORIENTED INDUSTRY* (1964); NORTHWESTERN UNIVERSITY STUDIES IN GEOGRAPHY No. 1, *THE LAND CLASSIFICATION PROGRAM OF PUERTO RICO* (1952); SEDA-BONILLA, *LOS DERECHOS CIVILES EN LA CULTURA PUERTORRIQUENA* (1963); F. BEUTEL & A. NEGRON, *THE OPERATION OF THE BAD CHECK LAWS OF PUERTO RICO* (1967).

63. For a list see note 62, supra.

The Chicago Jury Project is another of the earlier recent organized efforts by universities in this field. The Ford Foundation in 1953 and years following appropriated over a million dollars to the University of Chicago to be spent by the university over a four-year period as studies in three fields: public attitudes toward federal taxation, commercial arbitration and the functioning of the jury system.⁶⁴ The work which has been going on for seventeen years is still in progress, having exhausted the original grant, and spent much more. No permanent institute or research organization has developed, but the research under the direction of Professors Kalven in Law and Zeisel in Sociology has employed or financed the research of at least nine scholars and numerous investigations. It is still too early to evaluate the work or to predict that it will become a permanent branch of the Law School or the University. So far it has resulted in the publication of three major books⁶⁵ and over sixty articles devoted largely to the operation of courts and especially to the jury as an institution. The material so far is chiefly descriptive representing mostly step 3 in Experimental Jurisprudence; whether the mass of data still to appear is more speculative or experimental remains to be seen.⁶⁶

Other University Connected Projects devoted to empirical study of law may be found scattered throughout the country. Among these in addition to those already mentioned are a group of scholars at the University of Wisconsin Law School,⁶⁷ which has recently been formalized in the Center for Law and Behavioral Science. There is also important activity at the Michigan Law School,⁶⁸ the University of Illinois,⁶⁹ Rutgers,⁷⁰ Harvard Law School,⁷¹ and many others.⁷²

64. See Kalvin, *How Jurors Think*, U. OF CHI. MAGAZINE 5 (Mar. 1956).

65. H. ZEISEL, H. KALVEN & BUCHOBZ, *DELAY IN THE COURT* (1959); H. KALVEN & H. ZEISEL, *THE AMERICAN JURY* (1966); JAMES, *THE DEFENSE OF INSANITY* (1967).

66. The chief legislation which has come out of the study seems to be a federal statute making it a felony to eavesdrop on a jury, a silly act, 18 U.S.C.A. 1508 (1956), which was the result of some Federal Courts giving permission to "bug" jury deliberations as part of the scientific study. There were also over thirty state statutes to the same effect. See H. KALVEN & H. ZEISEL, *THE AMERICAN JURY* vii. (1966).

67. See W. HURST, *LAW AND ECONOMIC GROWTH IN WISCONSIN* (1964); Carmichael, *Forty Years of Water Pollution Control in Wisconsin*, 1967 WIS. L. REV. 350; Mersin, *Computers, Law and Justice*, 1967 WIS. L. REV. 43; and see the Law and Society section of the Wisconsin Law Review.

68. Conrad, *Automobile Accident Costs*, 63 MICH. L. REV. 279 (1964); Conrad, *The Quantitative Analysis of Justice*, 20 J. LEGAL ED. 1 (1967); White, *Women in the Law*, 65 MICH. L. REV. 1051 (1967).

69. W. LAFAVE, *ARREST* (1963); J. O'CONNELL, *SAFETY LAST* (1966); J. O'CONNELL AND R. KEETON, *BASIC PROTECTION FOR THE TRAFFIC VICTIM* (1965); Nagel, *Predicting Court Cases*

The University Centers for the Empirical Study of Law are growing so rapidly that currently there are well over a million dollars a year being spent for this purpose. It is by far the greatest sum expended for research in the law; but the foundations are still complaining that they do not have enough projects to use their funds.⁷³ The growth of experimental research in law is so rapid that it can confidently be predicted that in the near future no first class law school can be without such a center. It will bear the same relationship to the law school that the hospital does to the medical school.

In addition to the law connected research institutes, a number of universities here and abroad are beginning to institute graduate studies for policy-making based on the scientific approach.⁷⁴

Research by Professional Organizations

A number of professional associations connected with legal administration have started a program of empirical study of the operation of various parts of the legal system.

The American Bar Foundation which had its beginning in the middle fifties, over a decade and a half ago, has set aside a million dollar endowment to study the operation of the legal system. The income from these funds is appropriated to support the American Bar Center located adjacent to the University of Chicago Law School. The Association also has a current income of a half million dollars annually to support

Quantitatively, 63 MICH. L. REV. 1411 (1965); Nagel, *Testing the Effects of Excluding Illegally Seized Evidence*, 1965 WIS. L. REV. 283.

70. COHEN, ROBSON AND BATES, PARENTAL AUTHORITY, (1958); Cowan, *Experimental Jurisprudence*, 46 ARCHIV FOR RIGHTS-UNSOCIALPHILOSOPHIC 57 (Supp. 1960); Blumrosen & Zeitz, *Antidiscrimination Laws in Action in New Jersey*, 19 RUTGERS L. REV. 191-316 (1965).

71. R. KEETON AND J. O'CONNELL, BASIC PROTECTION FOR THE TRAFFIC VICTIM: A BLUEPRINT FOR REFORMING AUTOMOBILE INSURANCE (1965); *See also The Center for Advancement of Criminal Justice*, 48 HARVARD LAW RECORD 2 (1969).

72. In addition there will be found activities in criminal law and psychiatry at New York University and Michigan, in computers at Pittsburgh and in contracts at Florida. There is also the Joint Center for Urban Studies of the Massachusetts Institute of Technology; and Harvard University which is conducting much empirical study and planning in the areas of city development. *See L. MAYHEW, LAW AND EQUAL OPPORTUNITY* (1968); *see also THE FIRST FIVE YEARS* (1964) and numerous studies cited therein. The University of Virginia Law School has recently established a Center for the Study of Science, Technology and Public Policy. There is also the Council on Law Related Studies in Cambridge, Mass. *See their Press Release, May 25, 1970.*

73. *See Report*, Walter E. Meyer Research Inst. of Law 7, 15 (1964-1966).

74. For a list of these institutions *see DROR, TEACHING OF POLICY SCIENCE: DESIGN FOR A POST GRADUATE UNIVERSITY PROGRAM* 4 (1969); and for a general discussion of public policy-making *see DROR, PUBLIC POLICY-MAKING REEXAMINED* (1968).

research and grants. Housed in a palatial building, the Center employs about fifteen lawyers, two social psychologists, a statistician and two sociologists to help direct research and planning. It designs studies of branches of the legal system, especially criminal law, grants research funds to scholars in the field and accepts grants from foundations which it spends or redistributes. It has already aided in the publication of a number of books and articles too numerous to mention.⁷⁵

There is currently a project being designed in which the Association of American Law Schools will cooperate with the Bar Association and the Foundation to study the functionings of the bar and of legal education. The whole will probably cover a period of years and its findings may result in some changes both in the teaching and practice of law.

Like much of the research already mentioned, the work of the Foundation is largely the development of Sociological Jurisprudence and therefore mostly descriptive in nature. Ideas for reform are left to the action of the American Bar Association which, owing to its domination by conservatives, is not likely to come up with any radical changes.

The American Arbitration Association also conducts considerable research into the effectiveness of its arbitration procedures, and their costs. It also is working on civil rights and anti-poverty studies to aid federal, state and city governments more effectively to control the landlord tenant relations in slum areas. This work is experimental in nature, directed toward improving the legal procedures involved.⁷⁶

Other research by associations may be found in many places. Much of this is used for lobbying purposes, some for improving procedures favorable to labor, business associations, farmers' organizations and the like. Little of it is really scientific or experimental.

Independent or Commercial Research Organizations

In addition to the research oriented toward legal education and directly connected with the practice or administration of the law, there is widespread activity in empirical or policy research by organizations with no direct legal, governmental, or educational connections.

The Rand Corporation is one such organization. Starting originally as a research branch of the Air Force during World War II it has evolved through a subsidiary of an airplane manufacturing company into a separate and independent non-profit corporation which studies

75. See, e.g., AM. BAR FOUNDATION ANNUAL REPORT (1965-1966, 1969-1970) and material therein cited; see also Research Contribution of The American Bar Foundation, a series of pamphlets.

76. For a summary of this work see AM. ARB. ASSN. ARBITRATION NEWS No. 7 (1967).

various scientific policy problems on a contract basis for both governmental and private bodies.⁷⁷ Like many other centers of this type,⁷⁸ it carries on separate research in exact and social scientific fields, operational research, systems engineering and policy science. With a current yearly operating budget of over twenty million dollars,⁷⁹ it has become a leader in the field of developing a scientific policy-forming science.

There are numerous research institutes and private consultant groups, in addition to non-profit organizations like Rand, which operate for a fee to attempt all sorts of empirical, social and exact scientific research in aid of business and government. It would take monumental research far beyond the scope of this article to separate the organizations dealing primarily with medical, physical or engineering science from the ones oriented principally toward social and legal science; but a glance at the directories which give only a partial list of those now operating in the field,⁸⁰ will show that their number runs into the thousands. One authority has estimated the expenditure for research and development in the United States in 1964 was well over twenty billion dollars, with about half that amount being additionally spent in Europe.⁸¹ When one subtracts from the American total the thirteen billion dollars budgeted by the Federal government,⁸² there remains around seven billion dollars spent in the private sector. Although a lion's share of this total went to physical science and engineering, there is no doubt that the amount expended on the social and legal side probably exceeded a billion dollars.

Experimental Jurisprudence and Social Engineering in Government

Since steps 7 and 8 of Experimental Jurisprudence require enacting laws, studying their impact on society and then repeating the cycle of Experimental Jurisprudence, it is to be expected that this discipline will not be a fully developed science unless the government itself takes a hand in the process of social engineering thus envisioned. These expectations are now in the process of being realized.

As indicated above, government agencies are not only cooperating in

77. B. SMITH, *THE RAND CORPORATION* Ch. II (1966).

78. *Id.* at 268 for a list of similar organizations.

79. *See* RESEARCH CENTERS DIRECTORY 675 (3d ed. 1968).

80. *Id.* *See also* INDUSTRIAL RESEARCH LABORATORIES OF THE UNITED STATES (12 ed. 1965).

81. Gueron, *The Lack of Scientific Planning in Europe*, XXV BULL. ATOM. SCI. 10, 13 (Oct. 1969).

82. STATISTICAL ABSTRACT OF UNITED STATES 1969, at 524; *see also* Reagan, *\$17 Billion in Search of Policy*, BUL. ATOM. SCI., April 1968, at 33.

the empirical research involved, they are actually engaging in the entire process of social engineering. A few examples will suffice. They will be found most in areas where the conventional law-making power has been delegated to administrative agencies.

Traffic Engineering is one of these areas which has become a complete system of law-making based, not on popular will, but in experimental factual research into the needs of industry and the driving public. This system is now in effect in over half of the local and national governmental agencies controlling vehicular traffic. Its law-making processes have been described in detail elsewhere and need not be repeated here.⁸³

The reorganization of the Federal control over aviation and the drafting of the law creating the Federal Aviation Agency is another example of the use of Experimental Jurisprudence and Systems Engineering to reorganize a branch of the national government and to create laws by scientific methods. The manner in which Edward P. Curtis at the direction of President Eisenhower in less than three years used extensive scientific research to create the new agency with scientific law-making powers of its own is fully described elsewhere.⁸⁴ It is sufficient here to say that it is one of the great examples of social engineering based on sound experimental jural methods.

In like manner the Philadelphia Urban Redevelopment Plan, the Puerto Rican Operation Bootstrap in which Rexford Tugwell and Munos Marine collaborated to change the life of an island which had been described as the slum of the Caribbean into a thriving industrial and resort center, and the California Water Plan, all are examples of scientific social engineering on the state level.⁸⁵ Although many of the leaders of these projects were not trained in law or philosophy, all deserve the title of Experimental Jurist or Social Engineer.

The Relationship of Social Engineering to Experimental Jurisprudence

Lest one jump to the conclusion that Experimental Jurisprudence, Social Engineering and Systems Engineering are different names for the same discipline, it should be pointed out that though their methods are similar and their operations often overlap, they are separate branches of social science which attempt to achieve different results. Experimental Jurisprudence is primarily directed toward the understanding of the legal

83. See BEUTEL, *supra* note 3, at Ch. VI, *see also* 31 NEB. L. REV. 349 (1952).

84. See BEUTEL, *supra* note 14, at 209 ff.

85. *Id.* at 166 ff.

system. Step 5, the creation of jural laws, causes it to stand more in its contact with the other two in a position like pure science in its relation to engineering.

Social Engineering as it is practiced today is directed primarily toward the creation of more efficient laws and social structures. It is confined only to social phenomena. Systems Engineering, however, may be used in both mechanical and social organizations. It is also primarily an efficiency-creating discipline. The discovery of basic scientific laws, though it may be a by-product of these two disciplines, is more likely to fall into the ken of Experimental Jurisprudence or some other pure science.

The important thing to note at this point is that these disciplines are all finding increasing use in both the educational and political world. It is only a question of time until their progress develops into a Scienstate which will eventually displace our present democratic law-making devices.⁸⁶

86. This is discussed at length in F. BEUTEL, *DEMOCRACY OR THE SCIENTIFIC METHOD IN LAW AND POLICY MAKING* (1965).

