

had been written about an event, we could not pretend to have complete information. No account, detailed as it may be, ever exhausts its subject. . . . In spite of all his efforts, therefore, the historian cannot gain an adequate knowledge of what has been." Two famous French historians have said, "Facts which we do not see, described in language which does not permit us to represent them in our minds with exactness, form the data of history."

The historian's job, we are told, is to study "events not accessible to . . . observation, and to study those events inferentially, arguing to them from something else which is accessible . . . to observation. . . . i.e., the evidence. For he 'is not an eye witness of the facts he desires to know. . . .'" His "only possible knowledge is mediate or inferential or indirect, never empirical." He must endeavor to "re-enact the past in his own mind."¹ In this endeavor, he performs two tasks: (1) He first critically examines the evidence, attempting to determine which (if any) of his witnesses made reliable reports. To discover the real meanings which lie behind a witness' words, the historian must try to identify himself with the witness, to relive the witness' life. The witness' "personality intervenes between" the historian and "the fact."² This task leaves "a very large role to the tact, finesse, and intuition" of the historian, involves an evaluation of credibility which is largely "subjective."³ For the historian does not passively accept testimony but interprets it, and the criterion in his critical interpretation "is the historian himself."⁴ (2) Having evaluated the credibility of the testimony, the historian must construct a narrative of the past event. This narrative "is at once a synthesis and a hypothesis. It is a synthesis inasmuch as it combines the mass of known facts in an account of the whole; it is a hypothesis inasmuch as the relations that it establishes between the facts are neither evidence nor verifiable by themselves. . . . Everything then depends . . . upon the degree of the creative imagination of the historian and upon his general conception of human affairs."⁵ The historian "imagines the past." His picture of the past is a "web of imaginative construction stretched between certain fixed points" provided by his critical judgment of his witnesses' testimony.⁶

¹ Collingwood, *The Idea of History* (1946) 351-53, 382.

² Pirenne, "What are Historians Trying To Do?" in Rice, *Methods in Social Science* (1937), 435, 437-39.

³ *Ibid.*, 439.

⁴ See Collingwood, 138.

⁵ Pirenne, 435, 441.

⁶ Collingwood, 242.

Here, obviously, subjectivity enters. "The human actions which [historians] study cannot appear the same to different historians. It needs only a moment of reflection to understand that two historians using the same material will not treat it in an identical fashion, primarily because the creative imagination which permits them to single the factors of movements out of chaos varies, but also because they do not have the same ideas as to the relative importance of the motives which determine men's conduct. They [diverse historians] will inevitably write accounts which will contrast as do their personalities. . . . Thus, historical syntheses depend to a very large degree not only upon the personality of their authors but upon all the social, religious, or natural environments which surround them. It follows, therefore, that each historian will establish . . . relationships determined by the convictions, the movements, and the prejudices, that have molded his point of view." These elements shape his peculiar "conjectural reconstruction of the past."¹

The franker historians, then, admit that learning the "facts" about the past involves "interpretations" of the available data; that those "interpretations" depend on selection of, and emphasis on, some of the data as "significant"; and that, unavoidably, historians differ in their choice of the "significant," with the result that we have sharply discrepant accounts in diverse history-books concerning, say, Nero, Cromwell, Napoleon, the American Revolution, or our Civil War. Since every history book is a "conjectural reconstruction of the past," Pirenne concludes that, due to the differences among historians, "history is a conjectural science, or in other words, a subjective science." "How," asked the English historian Froude, "can we talk of a science in things long past which come to us only in books?"

Froude's comment suggests that the historian, in one important way, is at a disadvantage as compared with the trial court: Usually, as all or most of the historian's witnesses are dead, he cannot examine and cross-examine them. But he has some marked advantages as compared

¹ Pirenne, 432-34. Collingwood, by ingenious semantics, tries to show that the historian's subjectivity can transmute itself into a kind of objectivity. See Collingwood, 293 et seq. But see the comments of his editor, Knox, in the Preface, *Ibid.*, xiv.

Of course, the historian, like the trial judge, may have before him evidence the authenticity of which is indubitably clear. Thus he may have no possible doubt of the words of a particular treaty or that Lincoln issued his emancipation proclamation on a certain day. But, when it comes to a determination of the causal relations of any such facts to other facts, each historian must often draw on his "constructive imagination." Wherefore historians often disagree about such matters—just as two trial judges often disagree about the facts of a case.

with a court: He can take as much time as he wants to gather his evidence, and to reflect on it, while a trial in court cannot go on endlessly. Moreover, the historian is free to consider any kind of evidence; but, in court, some kinds of evidence, for wise or unsound reasons, are excluded.

If the honest historian confesses to the conjectural and subjective character of his products, surely lawyers should similarly confess the conjectural nature of the products of the judicial process. But the lawyers' resistance to so confessing is astonishingly persistent. There are many possible explanations of that resistance. I shall not here attempt to discuss, or even mention, all of them. But one explanation ought to be obvious: Many men fear the chance of life. The uncertainty of legal rights, due to their dependence on imperfect human fact-finding, therefore provokes terror. In the 16th century, Montaigne advised, "We must shun lawsuits," even at the cost of suffering "very manifest injustice." "No judge has yet, thank God," he exclaimed, "spoken to me as a judge in any cause whatsoever, whether my own or another's, whether criminal or civil. . . . I . . . will never, if I can help it, place myself in the power of a man who can dispose of my head, when my honor and life depend on the skill of a lawyer more than on my innocence. . . . How many innocent people we have known to be punished, I mean without the fault of the judges; and how many there are that we have not known of!"

That fear of litigation was uttered some three centuries ago in France. In this country, in the 20th century, eagerness to escape that terror induces self-deluding denials that the source of that terror exists, to denials that litigation is extraordinarily chancy in its outcome. To be sure, Judge Learned Hand, after much experience as a trial judge, not long ago remarked, "I must say that, as a litigant, I should dread a lawsuit beyond almost anything else short of sickness and of death." But only occasionally does a modern American lawyer forthrightly make such a comment.

3

To support my suggestion that fear accounts for much of the unwillingness of many lawyers today to acknowledge the immense hazards of litigation and the guessiness of legal rights, I shall make an historical detour. I shall go back to the early days of the European legal systems from which our own system derived. In those days, men had recourse to a device designed, they thought, to avoid mistakes or lies in testi-

mony, and to preclude human errors of judgment grounded upon such testimony. I refer to the ordeals. They were methods of fact-finding which have been used, not universally, but in many parts of the globe, in what we moderns are pleased to call "primitive" or "archaic" societies.

The ordeals have taken many forms. There was, for instance, the "trial by battle," a "judicial duel" fought under court supervision. This fight, although socially regulated, was still overt warfare, conducted with physical weapons, between the parties to the dispute or their agents. There was also the ordeal by fire, or hot water, or cold water, or the balanced axe, or the suspended sacred object, or by poison, or the morrel, or the scales. For example, a person accused was required to plunge his hand into boiling water; then the hand was bandaged for three nights; if, when the bandage was removed, the hand was uninjured, he was deemed innocent. In the ordeal of the morrel, the accused was compelled to try to swallow a piece of bread, or cheese, of a prescribed size. If he succeeded without difficulty, he was innocent. If he choked and grew black in the face, he was guilty. In the ordeal of the scales, the accused was weighted in the scales and then removed. The judge then adjured the scales, and the accused was again placed in the balance. If he increased in weight, he was guilty; if his weight was the same or less, his innocence was established. (In passing, recall the modern symbols of justice, the sword and the scales—the fight and the ordeal, shall we say?)

The pertinent rule, the *R*, was announced by the court, in advance of the trial. That pronouncement was not too difficult. The serious difficulty was with the facts, the *F*. The function of the ordeal was to ascertain that *F*. When it was once ascertained, the final decision followed.

Always, you see, in the ordeals, the *F*, and therefore the decision, turned on one or the other party to the dispute passing a perilous test. The court set him a task. If he performed it, he won the judicial fight. If he failed in his performance, he lost. "He whom the blazing fire burns not," runs the ancient Hindu code of Manu (about 300 B.C.), "whom the water forces not to come quickly up, who meets with no speedy misfortune, must be held innocent." The trial, as Radin suggests, was more literally a "trial"—a test—than is a trial as we conduct it.

Here we get a clue to the inner meaning of all ordeals. They were supernatural, apparently non-human, means for determining whether

a man spoke the truth. He was put in peril. If he came through safely, that was a sign that he spoke truly. If he succumbed to the peril, it was a sign that he lied. Whence came this sign? It is usually said that it was deemed to come from heaven—from deity (the Gods or God)—that heaven decided the issue of fact. The ordeal is therefore often called *iudicium dei*, God's decision. But in some "primitive" communities, we find that the appeal was not to heaven but to a power residing in things—in fire, in water, in poison, and so on. Some anthropologists use the word *mana* to describe this latent power. *Mana* is supernatural, impersonal, non-human power.¹⁰ Belief in such a power and in the possibility of its use in human affairs was a belief in magic. The ordeals, then, represent one aspect of a magico-religious attitude.

I want here, for the moment, to stress the more strictly magical aspects of the ordeals. Let us, then, inquire how and why "primitive" or "archaic" societies utilize magic. In this necessarily brief discussion, I shall rely largely on the writings of Malinowski.¹¹ His views need qualifications. For such qualifications, I refer you to Ruth Benedict's brilliant article.¹² I shall say a little something of her views later. But for my immediate purpose, Malinowski's portrayal of magic, slightly modified, will suffice. On that basis, I may summarize as follows:

Primitive man has a considerable amount of correct technical knowledge. He learns a deal, from observation, about his environment and how, by rationally-conceived techniques, to control it. Of the ways of domesticating plants and animals, of agriculture and husbandry, fishing, house-building, boat-making, he knows much. These techniques, for direct control of the environment, based upon observation, we might call "primitive science."

But there are forces at large that the so-called savage cannot thus control, evils that stalk him, perils which strike at his food supply, that capsize his boats, destroy his houses, take his life. There is "magic power" in things. That power, that *mana*, man feels he must learn to control. Not by the ordinary techniques; they fail him. And so, alongside "primitive science," we find the "savage" using magic. Where ignorance is thickest about the ways of things, where dangers

¹⁰ See, e.g., Maquet, *The Threshold of Religion* (1929).

¹¹ See especially, Malinowski, "Magic, Science and Religion," in the volume *Science, Religion and Reality* (Needham ed. 1933) 211; Malinowski, *A Scientific Theory of Culture* (1944). Malinowski revises the theory put forward by Frazer in his *Golden Bough*. Malinowski is somewhat critical of the *mana* theory.

¹² "Magic," in *Encyc. of Soc. Sciences* (1933) 39.

are the greatest, where luck plays the largest part—there magic is employed.

Magic, then, appears to be primitive man's ways of dealing with specific practical problems when he is in peril or in need, and his strong desires are thwarted because his rational techniques, based upon observation, prove ineffective. "We do not," says Malinowski, "find magic wherever the pursuit is certain, reliable and under the control of rational methods and technological processes . . . We do not find it wherever absolute safety eliminates any elements of forboding." So, he continues, "in lagoon fishing, where man can rely completely upon his knowledge and skill, magic does not exist, while in the open-sea fishing, full of danger and uncertainty, there is extensive magical ritual to secure safety and good results."

When "primitive" man loses his way, when he reaches an impasse, when he is terrified by uncertainty, or baffled or trapped, he turns to magic. We can understand his mental and emotional processes if we observe similar conduct in some of those about us in our own society who seek to climb out of oppressing difficulties (such as economic problems, for instance) by the wish-route, or on what James called the faith-ladder, the rungs of which are: What I want *might* conceivably be true. It *may* be true. It *must* be true. It *is* true.

With "primitive" man, the wish-route to desired ends was overt, openly acknowledged, definitely crystallized and routinized. The words and gestures employed to evoke magical power were worked out in conventional patterns, prescribed by tradition. There was a fixation of beliefs in standardized spells, in elaborated rituals. To a considerable degree, magic came to be based on precedents, became a professional task, esoteric and unpracticed by the group at large.

Magic, then, was one of the ways of coping with practical problems. If we designate as "primitive science" the primitive arts of fishing, hunting, agriculture, and the like, so far as they are based on direct observation, then magic might be called "primitive pseudo-science." For magic, like science, is technological in a sense. It is, says Benedict, "essentially mechanistic," involving "a manipulation of the external world by techniques and formulae" that are assumed to "operate automatically." But, in its reliance on wishes, it departs from science. Primitive science, we are advised, "is founded on the conviction that experience, effort and reason are valid; magic on the belief that hope cannot fail, nor desire deceive."

Magic is stereotyped, wishful thinking applied to the overcoming

of obstacles. It is the non-empirical, illusory, way of achieving practical aims. It is born of panic fear, of dread, of the felt need to believe that what is helpful can be and has been discovered, of driving, insistent, longings. "The integral cultural function of magic consists," it has been said, "in the bridging-over of gaps and inadequacies in highly important activities not yet completely mastered by man."

Thence the ordeal. What human contrivances are there, in litigation, for learning the truth about past events? How to ascertain whether men honestly tell what they know? What lie-detectors are available? What man can look into the mind of his neighbor? Lives and possessions, wives and honor, hang on the determination of whether a claimant in the judicial contest and his witnesses are telling the truth. Since a trial's just outcome depends on truth-telling, and since the outcome may deprive a man of his life, or his dearest possessions, successful perjury is as grave a danger as drought, disease, lightning or the fierce claws of wild beast. Leave to the inadequate judgments of mere human judges the testing of the truth-telling of witnesses, when life or property are at stake? By no means. There the human techniques fail. Then call in magic, the mystic power of fire, water, poison, the scales—summon that invisible force, by appropriate spells, to find out the truth mechanically. Magic, and nothing else, is needed in the difficult and dangerous task of discovering the guilty, of getting at the truth.

"Oh Fire," runs the ritual, "thou seest, even as a witness, into each human being's heart. Thou alone knowest that which mortals alone cannot know." This, you observe, is an expression of confidence in a power inherent in the object employed. The supernatural supplies a perfect, infallible, decision. The magical power is charged with revealing the truth. It is clairvoyant, as man is not. It penetrates into the secret places of the heart. What is private and hidden is revealed by the super-natural, the super-human.

Whenever religion absorbs much of "white" or "good" magic, when magic is, so to speak, deified, embodied in the gods or God, then deity takes the place of or supplements magic in the ordeals. The ordeals survive, but now it is largely with divine aid that they function. See the Germanic tribes emerging from quasi-primitive thoughtways under the influence of Christianity. Hear their priest's prayer when the ordeal of the morrel is used: "Holy Father, Omnipotent, eternal God, maker of all things visible and of all things spiritual; who dost look into secret places, and dost know all things; who dost search the hearts of men and dost rule as God, I pray thee: that whoever has committed

or carried out or consented to that theft—that bread and cheese may not be able to pass through his throat."

The oath may be considered a late form of the ordeal. What is an oath? It is an imprecation, a curse. If I curse you, I call down evil upon you. But an oath, used in "primitive" dispute-deciding, is a self-curse, conditionally made. The oath-taker says, in effect, "If I do not tell the truth, may destruction or torments be visited upon me." The oath is an ordeal in words, instead of acts. Supernatural power vouches or refuses to vouch for the oath-taker. If he tells his story and goes unharmed, he has told the truth. If he lies, he will be stricken by the supernatural.

So the early trials by oath of the party, or of the party and his oath-helpers, were not at all the kind of trial conducted today. The oath was *ipso facto* (mechanically) efficacious. No more than in the ordeal by water did the judge weigh the evidence, consider the testimony and determine the credibility of the witnesses. If a party's witnesses swore according to the formula, making no slips of the tongue, that party won. For it was presumed that no man, having taken an oath, would dare swear falsely and thus risk supernatural vengeance. Supernatural power was, in effect, the judge of the facts.

However, skepticism arises. Men begin to doubt the efficacy of the ordeals. It becomes obvious that these performances can be humanly manipulated, that there can be fraud and favoritism involved in their use. There grow up what lawyers call the "rational" mode of trial. The stories told by witnesses are heard by human beings who, on the basis of these stories, are to ascertain the past facts. The acceptance of this method was a gradual process. For a long time the magical and the "rational" modes of trial both continue to be used—the ordeals for those cases where someone is charged with an act committed in a solitary forest, or at night, or in the interior of a house. In such cases, God, the all-seeing, all-knowing, ever-present, is still called to judge the truth.

In England, the jury trial finally put the ordeals to rout. The early days of the English jury are of interest here. It was imported into England by the Norman dukes, and more or less forced by them on the people of England as a desirable method of trial. At first, it was vastly unpopular.¹⁸ Let Maitland tell the story: "Doubtless there was a very strong feeling that to try a man by a jury, when he had not submitted to be so tried, was thoroughly unjust," a feeling that the "mere oaths

¹⁸ See Chapter VIII.

of . . . witnesses are not enough to fix a man with guilt, unless indeed he has voluntarily submitted his fate to this test; he ought to be allowed to demonstrate his innocence by supernatural means, by some such process as the ordeal . . . God may be for him, though his neighbors be against him. . . ."

Putting the matter in our modern terminology, our ancestors were unwilling to rely in all cases on the subjective reactions of any human being, on the unknowable vagaries of the "personal" element in fact-finding. Only with reluctance did they wholly give up their dependence on the supernatural in deciding the *F* in disputes. But in England, as on the Continent, trials before men, who determine the past facts, finally superseded the ordeals. The use of Magic and the appeals to Heaven appear to have been abandoned. They lent themselves to trickery and chicanery. They seem absurd, irrational, to us today.

Let us, however, note one last obvious vestige of these primitive ideas. The witness in court today raises his right hand, or puts his hand on the good book and says, "I swear to tell the truth, the whole truth and nothing but the truth, so help me God." Is that a mere form? Must the witness believe in God? The answer in this country was clear until recently. In the early nineteenth century the courts said that the testimony of a witness could not be received unless he not only took an oath but believed that his oath was a solemn invocation upon him of the vengeance of omniscient deity if he did not tell the truth. Accordingly, atheists were disqualified as witnesses. For, as the courts often said, on the belief in an avenging deity "rests all our institutions and especially the distribution of justice between man and man." But that attitude is virtually obsolete today. Generally, the oath now merely signifies a knowledge of the solemnity of testimony and of the liability to indictment and conviction for perjury if the witness deliberately lies.

It would be pleasant to end here, to say, "We are now thoroughly rational. The sword and the scales do not today signify the substitution of magical settlement of quarrels for private wars. Our attitude towards our legal system is thoroughly non-magical." But I think that would be inaccurate reporting. Current views of the judicial process are, to a considerable extent, expressed in what appear to be highly sophisticated terms. But, as I shall try to show you, those views are still permeated with magic.

If you translate into our current speech-forms the "primitive" attitude operative when men used the ordeals, you will see that what bothered them was the imperfection of the art of psychology. They would not thus have phrased the matter. We have progressed at least this far beyond our early predecessors: We have a label, "psychology," for a mass of difficult problems. But the inadequacy of the art of psychology, with respect to that problem which bothered "primitive" and "archaic" societies, is today almost as great as it was then. We are still usually unable to look into the minds of others, still frequently stumped when it comes to learning whether witnesses are lying or innocently mistaken. The road to the subjective remains obstructed.

Our ancestors faced this problem squarely. They tried to meet it—with magic. Most of us today do not face it squarely. Most of us look at it obliquely, meet it with evasions, and, I think, with a sort of sophisticated verbalized magic—which we refuse to recognize as such. In our modern method of trial, as I told you, there are two factors which make subjectivity unavoidable. The first relates to the witnesses. They do not reproduce mechanically the events which they saw and heard. Their sight and hearing are often faulty, and so are their memories. More than that, they often err in telling their stories in court. So here is one element of subjectivity. There is another, which, as I said, is less frequently recognized and acknowledged: The trial judges or juries are fallible witnesses of the fallible witnesses.

Consider, first, cases in which the second factor is absent: Even in upper courts, where all the testimony is in writing, the ablest judges often differ with one another about the facts of a case. Said Mr. Justice Miller, "In my experience in the conference room of the Supreme Court of the United States, which consists of nine judges, I have been surprised to find how readily those judges came to an agreement upon questions of law, and how often they disagree in regard to questions of fact." That point is neatly illustrated in a case which arose in 1908, *United States v. Shipp*.¹⁴ Johnson, a Negro, was indicted in the Tennessee state court and convicted of rape. The United States Circuit Court denied his petition for habeas corpus. An appeal from this decision was allowed by the United States Supreme Court, which ordered the state sheriff to retain custody of Johnson, until the determination of the appeal. While the prisoner was in the custody of the sheriff, a

¹⁴ 214 U.S. 386.

mob seized the prisoner and lynched him. An original proceeding was begun in the Supreme Court, charging the sheriff with contempt, in that he had aided, abetted and conspired with the mob which lynched the prisoner. The Supreme Court appointed a commissioner merely to take and report the testimony; (i.e., he was directed not to make any findings of fact of his own or to state any legal conclusions). Accordingly, he transmitted to the court a written record of the testimony. Briefs were filed, and the case was argued orally. The court split, five to three. Chief Justice Fuller wrote an opinion, concurred in by four other judges, holding the sheriff liable for contempt. One judge took no part. Mr. Justice Peckham filed a dissenting opinion which was concurred in by two other judges.

There was no disagreement as to any legal question (any *R.*). The court divided solely on a question of fact. The majority opinion devoted seventeen pages to the discussion of the facts; the minority opinion, eight pages. The majority opinion stated: "Only one conclusion can be drawn from these facts, all of which are clearly established by the evidence—Shipp not only made the work of the mob easy, but in effect aided and abetted it." The minority opinion stated: "A careful consideration of the case leaves us with the conviction that there is not one particle of evidence that any conspiracy had ever been entered into or existed on the part of the sheriff, as charged against him."

This case illustrates how difficult it is to criticize a judge's statement of the facts, even when the testimony is entirely in writing. When a trial judge must find the facts from conflicting oral testimony of witnesses he heard, then criticism is far more difficult for anyone who has before him merely a printed or typewritten transcript. How, in such a case, is anyone to say that the trial judge's finding of facts is right or wrong? How can there be any objective means of testing the correctness of that finding? In a suit by Johnson, a switchman, against a railroad, Trial Judge White, after listening to the discrepant stories of witnesses for Johnson and the railroad, believes Johnson's witnesses; he therefore thinks, and finds as a fact, that Johnson lost his leg because the railroad had carelessly failed to repair a defective brake on a freight car. If another trial judge, Judge Black, had heard the same witnesses, he might reasonably have believed the railroad's witnesses; and he would then have thought, and found as a fact, that the railroad had repaired the brake. Certainly no one reading the printed record of the conflicting testimony would be in a position to challenge either judge's finding of facts.

Let us approach the problem from a somewhat different angle. Is there any standard of belief a trial court can employ when trying to determine the facts? We talk of the "weight" of the evidence, of "weighing" evidence, of the "preponderance" of the evidence. But can conflicting evidence be weighed? Is there any accurate device for measuring which witnesses are worthy of belief? The courts and the great masters of evidence have said "No" to all these questions. "The preference for believing particular witnesses or particular testimony in preference to others cannot be defined," said one court. "There is no standard for the sufficiency of evidence to induce belief," declared another court. "The only standard, it has been said, is a 'feeling of probability.' But that feeling is subjective; it varies from man to man."

Wigmore has written a book—now in its third revised edition—on the Principles of Judicial Proof. That book, of over 1,000 pages, demonstrates that there are no principles of that kind, and probably never will be. For Wigmore confesses that the difficulty is that "belief is purely mental" (that is, subjective). Wigmore hoped to find scientific or logical "laws" for determining rationally "the net persuasive effect of a mixed mass of evidence." But, he tells us, there are no such "laws." There is, to use his phraseology, no scientific or logical "method of solving a complex mass of evidence in contentious litigation." He adds that such laws "will perhaps some day be discovered." He is not too sanguine in that hope. For "the data available from judicial annals . . . are almost always defective, in that the objective truth, necessary to test the correctness of any belief, can seldom be indubitably ascertained, as it often can be in the physical sciences. E.g., if we were to study one hundred murder trials, so as to ascertain some law of thought lurking in certain combinations of evidence, the very basis of that study, viz., the actual guilt or innocence of the accused, cannot usually be known to us, and our study is useless without that fact."

No means, then, have as yet been discovered, or are likely to be discovered, for ascertaining whether or to what extent the belief of the trial judge about the facts of a case corresponds to the objective

¹⁵ For centuries on the European continent, and for a period in England, there prevailed a theory of the quantification of evidence, weight, measured in numerical terms, was assigned to the testimony of each type of witness. See Miller, in Engelmunn, *History of Continental Civil Procedure* (1937) 41-49; Wigmore, *Evidence* (1940) VII, 341ff; Frank, *11 Men Were Angels* (1942) 30-31. Kenny, *Criminal Law* (1936) 456, says that at one time, under Canon Law, no Cardinal could be convicted of adultery except on the evidence of seven eye-witnesses. Aquinas, in the *Summa Theologiae*, says: "A bishop shall not be condemned save on the evidence of seventy-two witnesses. . . ."

facts as they actually occurred, when the witnesses disagree, and when some of the oral testimony, taken as true, will support the judge's conclusion. In other words, in such a case there is no objective measure of the accuracy of a judge's finding of the facts. There exists no yardstick for that purpose.

In a "contested" law-suit, therefore, with the witnesses in disagreement, usually no one can adequately criticize the trial judge's fact-finding. If, at the end of the trial, the trial judge says that Jones hit Smith, or that Mrs. Moriarity called Mrs. Flannagan a liar, or that old widow Robinson was insane when she made her will, or that Wriggle used fraud in inducing Simple to sign a contract—the judge's word goes. And the same would be true if, in most of those instances, the trial judge had found exactly the opposite to be the facts.

Do you see where we have arrived? We are at last honestly confronting the problem which drove our ancestors to the ordeals—to magic or to God. The development of our legal system can indeed be described in terms of an increasing tolerance of the human element in judicial dispute-deciding. That human element is unavoidable. It was present but unrecognized even in the ordeals; after all, a human being had to decide whether the perilous test had been successfully passed. It enters more obviously, once the so-called "rational" mode of trial is introduced. For legal rights are then dependent on human guesses about the facts of cases. And usually, in such circumstances, no one can tell what another human being will guess. Primitive man could say that legal rights were on the knees of the gods. We must say that they are on the knees of men—of the trial judges or the juries.

5

Many lawyers, I repeat, are reluctant to admit that state of affairs and its concomitant chanciness. Like "primitive" men, they consider that chanciness terrifying. "Primitive" man, to overcome his terror, used magic, openly and unashamed. Many modern lawyers use magic—without being aware of it. I mean that, in order to avoid facing up to disagreeable situations and difficulties in court-house government, they have contrived a description, and a theory, of its workings which do not jibe with its observable realities.

This modern legal magic will be found in books, written by profound legal thinkers, books sometimes labeled with the high-sounding names "legal philosophy" or "jurisprudence." The legal theory of the

pundits carries over to the less reflective lawyers. They, in turn, invoke that theory when explaining our courts' operations to non-lawyers. So that, if at the core of the pundits' legal theory we find magical notions, those magical notions will be likely to affect public attitudes towards, and beliefs about, our judicial system.

What, then, is the generally accepted legal theory? As I have said, it runs something like this: The basic component of court decisions consists of the legal rules. In so far as those rules are crisp and definite, declares the theory, future court decisions usually are nicely foreseeable. Some few of the rules, the *R*'s, are indefinite, not finally fixed and settled. To that limited extent, prediction of future decisions is difficult. This lack of precision of some few of the *R*'s is, the pundits declare, virtually the only impediment to precise predictions. So that, whatever little uncertainty there may be about how courts will deal with one's legal rights, it is, for the most part, a function of the uncertainty in a relatively few legal rules. So runs the theory.

Here, for instance, is a considered statement by Dickinson, a highly respected legal thinker who has written much concerning the judicial process:¹⁹ "It is submitted," he declares, "that the sound way to anticipate a future decision is to attempt to put oneself in the place of the judge . . . who will actually make the decision." If, so doing, one knows "the rule . . . which exists for a case of the kind in question, . . . a fairly safe prediction may often be hazarded as to the judge's decisional behavior without knowledge at all of the more esoteric factors" such as "the social, economic, political, psychological, physiological and other pressures operating unconsciously" on him.

Dickinson's statement would be correct, on the whole, if the *P* factor could always be taken for granted. Since, however, in many cases the *P* cannot be taken for granted, but is in sharp dispute, Dickinson's thesis is anything but correct. It is hopelessly defective because it erroneously assumes that most decisions derive directly from the *R*'s without the intervening necessity of ascertaining the *P*.

That thesis would be tenable only as a "fiction." That is, it would at most be proper to make use of the experimental device of saying: "Let us, for the time being, talk as if established rules were always the controlling influences affecting trial-court decisions, although we know perfectly well that what we are saying is untrue. For the purpose of bringing out one aspect of the decisional process, we will temporarily exaggerate that aspect. Let's pretend that all other factors are

¹⁹ Dickinson, "Legal Rules," 79 *Un. of Pa. L. Rev.* (1931) 833.

always subordinate and unimportant. But we will never forget that, at best, we are telling a 'convenient lie.'¹⁸ In other words, in thus describing how trial courts decide cases, we would be knowingly falsifying, treating a single factor as if it were the sole factor. But we would do so only in so far and as long as such a conscious fabrication increased our knowledge of or means of improving the decisional process. If and whenever our fiction turned out to be of little use, or harmful, we would abandon it. But Dickinson and those who agree with him have not so stated their thesis.

Nor have they advanced it as an hypothesis, i.e., they have not said: "Perhaps the legal rules are always the dominant influences which induce decisions. Let us test out this hypothesis, by checking it against court-room happenings." They have announced their thesis either as a dogma or as a verified, tested, statement of what does actually happen. One may doubt whether it can legitimately function as a sufficiently useful fiction to warrant its use. As an hypothesis, a dogma, or a piece of verified knowledge, it cannot pass muster. It is, then, a myth—a statement of purported fact contrary to the truth, which deceives the person making the statement, an elaborated bit of self-deception which also deceives others who believe it.¹⁹ In short, it is a magical device.

Again, Dickinson asserts that any precise, legal rule operates "with the deadly inevitability of a guillotine"; that the application of such a rule is "practically automatic"; that, consequently, the outcome of a suit involving such a rule is easily predictable; and that, therefore, the existence of such exact rules "is one of the greatest preventives of litigation." That assertion is unfounded. Nothing could be more precise than the rule which requires driving on the right side of the street. Yet, as anyone who visits our trial courts can see, there is a huge volume of litigation which turns entirely on the question whether that rule (or some similar simple traffic rule) has, in fact, been violated. In such lawsuits, the crucial factor is not the legal rule, but solely the "facts." The definiteness of such R's does not prevent law-suits, nor render easy the prediction of trial-court decisions. Indeed, the very precision of a rule may be a guide for the unscrupulous lawyer: It tells him just how

¹⁸ For more extended discussions of fictions, dogmas and myths, see, e.g., Vallinger, *The Philosophy of 'As If'* (1923); Tournebise, *Philosophy in the Development of Law* (1923) 365f., 644-53; Frank, *Law and the Modern Mind* (1930) 37-40, 167, 258, 312-22, 327; Frank, *Rate and Precedent* (1935) 184-93; Fuller, "Legal Fictions," 25 *Ill. L. Rev.* (1930-1931) 363, 513, 877.

to coach witnesses. It furnishes a perjury chart. It helps to canalize lying testimony. The courts, for that reason, have refused to make a crisp rule as to what does or does not constitute fraud. One court has said that "were courts to cramp themselves by defining [fraud] with a hard-and-fast definition, their jurisdiction would be cunningly circumvented by new schemes beyond the definition. Messieurs, the fraud-doers, would like nothing half so well as for courts to say they would go thus far and no further in its pursuit." In sum, Dickinson's thesis, because of its complete divergence from court-room realities, I call a beautiful specimen of sheer legal magic (or legal rule-magic). Yet it has been unquestioningly accepted by many lawyers, forgetful of the vagaries of trials and trial-court fact-finding.

Roscoe Pound, another highly respected legal thinker, writing of court decisions, states that, from the public judicial records, always "one may find exactly . . . how the questions of fact were determined . . . in the form of special findings of fact" by the jury or trial judge; that always the judge's findings are accompanied by a report published by the judge of the legal rules applied by him; and that, consequently, "the materials for criticism . . . of judicial decisions are always available and readily accessible."²⁰ That statement, widely quoted, is singularly inaccurate. For trial judges often render decisions without reporting their views of the facts or publishing any explanation whatever;²¹ and most decisions in jury cases are similarly unexplained.²² Pound has also written that rigid legal rules "secure us against the well-meant ignorance of the weak judge and are our mainstay against improper motives on the part of those who administer justice."²³ Patently, that statement does not click with observable court-house realities. It would be true if, and only if, there were no *F* in the decisional process. But since there is such an *F*, and that *F* is often a subjective matter, since trial judges often do not report the subjective *F*, and since, when they do, usually one cannot effectively criticize that *F*, it is not at all true, it is pure magic, to say that rigid legal rules can effectively safeguard us against judicial ignorance or weakness or improper judicial motives.

Even more strikingly does legal rule-magic show up when Pound purports to describe how legal rules operate in two different kinds of

¹⁹ "For the Minority Report," see 27 *Amer. Bar Ass'n. J.* (1941) 664.

²⁰ See further, Chapter XII.

²¹ See further, Chapter VIII.

²² "Judges According to Law," 13 *Col. L. Rev.* (1913) 696. To the same effect, see Llewellyn, *The Bramble Bush* (1930) 62.

cases:²² (1) The first kind relates to such matters as fraud, good faith, negligence, and the duties of trustees. There, says Pound, the courts can and should consider the uniqueness of each particular suit; for instance, "no two cases of negligence have been alike or ever will be." (2) But, he says, vastly different are suits dealing with "property" or "commercial transactions." There, according to Pound, the legal rules are, as they must be, precise, "authoritatively prescribed in advance and mechanically applied." The "commercial world" demands such precise rules because "no one . . . engages in complex commercial undertakings trusting to" decisions which may vary according to unique features of particular cases. There "is nothing unique" about promissory notes. "All such cases are alike," Pound asserts; they "admit of no individualization."

That description of the effect of strict rules on decisions in this second kind of case is magical, i.e., wholly at odds with what anyone can see daily in the trial courts. As I put it, when criticizing Pound in 1931:²³ "In cases involving . . . promissory notes . . . it is always possible to introduce some question of fact relating to fraud, negligence, mistake, alteration, or estoppel. In most 'contested' cases, one side or the other usually injects such a question. Suppose such a case is tried before a jury and, on the question of fact, 'goes to the jury.' Is it not absurd to say that the rules will then be mechanically applied? Anyone who has ever watched a jury trial knows that the rules often become a mere subsidiary detail, part of a meaningless but dignified liturgy recited by the judge in the physical presence of the jury and to which the jury pays scant heed.²⁴ To say that fixed rules invariably govern property and commercial cases when the jury sits and decides is to deny the plain truth. The pulchritude of the plaintiff or his religion or his economic status or the manners of the respective attorneys, or the like, may well be the determining factor inducing the decision. And if a judge sits and decides without a jury, and similar questions of fact are raised, will the crystallized unalterable rules, about identical . . . promissory notes, mechanically produce the decision? Surely not. Of course, if the judge writes an opinion, the stereotyped rules will appear in the opinion. But the judge will decide one way or the other on the 'facts,'

²² Pound, *Interpretations of Legal History* (1922) 121ff, 154-155; Pound, *An Introduction to the Philosophy of Law* (1922) 143ff; Pound, "The Theory of Judicial Decision," 36 *Hart. L. Rev.* (1922) at 851ff, 955ff, 957ff.

²³ See Frank, *Law and the Modern Mind* (1930) 208-13, 216; Frank, *If Men Were Angels* (1945) 64-65, 241-245.

²⁴ In Frank, "Are Judges Human," 20 *Un. of Pa. L. Rev.* (1931) at 235-36. See further Chapter VIII.

and those 'facts' vary with the particular case and with the judge's impressions of those 'facts'—although the instrument in suit is a promissory note precisely like every other promissory note. The truth is that the talk about mechanical operation of rules in property, or commercial, or other cases is not at all a description of what really happens in courts in 'contested' cases. It is a dogma based upon inadequate observation. For it fails to take into account the important circumstance that any future law suit about a piece of property or a commercial contract can be 'contested,' and that, if it is contested, questions of fact can be raised involving the introduction of conflicting testimony. . . . The 'facts,' as we have seen, may be crucial when, as is often the case, a question of 'fact' is injected into litigation. . . . And those facts are, *inter alia*, a function of the attention of the judge. Certain kinds of witnesses may arouse his attention more than others. Or may arouse his antipathies or win his sympathy. The 'facts,' it must never be overlooked, are not objective. They are what the judge thinks they are. And what he thinks they are depends on what he hears and sees as the witnesses testify—which may not be, and often is not, what another judge would hear and see. Assume ('fictionally') the most complete rigidity of the rules relating to commercial transactions. . . . Still, since the 'facts' are only what the judge thinks they are, the decision will vary with the judge's apprehension of the facts. The rules, that is, do not produce uniformity of decisions in . . . 'contested' cases, but only in that portion of opinions containing the rules. Judge Alpha may try a 'contested' case relating to a promissory note and decide for the holder. If Judge Beta tried the same case he might decide for the maker. The opinions of Judges Alpha and Beta would contain identical rules. That, and little more, is what truth there is in the dogma about the non-uniqueness of promissory notes in 'contested' cases."

The notion of rules "mechanically applied"—of rules that operate "automatically"—here we hark back to the "mechanical" magic of the oracles. Perhaps with something of the sort in mind, Bentham in 1826 referred to "Decision without Thought, or Mechanical Judicature." In 1871, Jhering ridiculed the conception of a "judging machine" into the front of which a case is inserted and which then ejects a judgment.²⁵

²⁵ See Jhering, *Law As Means to an End* (translated 1924) 295. In a later writing, on *The Heaven of Juristic Concepts*, he delightfully satirized "legal mathematics"; see Seale, 13 *Un. of Chicago L. Rev.* (1945) 70, 89.

As to vestiges in Jhering of the sort of legal thinking he criticized, see Frank, *Law and the Modern Mind* (1930) 218-221; Neubeum, *Fact Research in Law*, 40 *Col. L. Rev.* (1940) 169, 190-191.

In 1906, Kantorowicz derided the idea of a court as a legal slot-machine. In 1908, Pound (citing Kantorowicz) wrote critically of "mechanical jurisprudence." But Pound, for all that, is unwilling wholly to forego the dream of such a magical process.

Cardozo is properly esteemed as one of our most distinguished legal thinkers as well as one of the very ablest of upper-court judges. I can bear witness to the incalculable value of his writings to at least one upper-court judge. Yet he gave much aid and comfort to the devotees of legal magic. In his off-the-bench legal writings, his major interest was in the development of legal rules and doctrines at the hands of judges. Alarmed by the apprehension that his writings would create the impression of an extensive legal uncertainty, he took pains to any that, while there was some difficulty in predicting court decisions, it was restricted largely to what he termed "exceptional" cases, cases in which, because of social change or the emergence of novel problems, the courts altered the legal rules. But the great body of the legal rules, he maintained, "have such an element of certainty that in a vast majority of instances, prediction ceases to be hazardous for the trained and expert judgment."²¹ Which is to say that a competent lawyer can predict the outcome of most lawsuits. Indeed, Cardozo declared: "Nine-tenths, perhaps more, of the cases that come before a court are predetermined—predetermined in the sense that they are predetermined."²²

The key to this surprising conclusion is to be found in another statement Cardozo made: "In countless litigations," he wrote, "the law is so clear that judges have no discretion."²³ To clarify that statement, I must explain what he meant by "discretion": Some legal rules are purposely vague, wide, loose. Illustrative are rules which contain elastic words like "good faith," "fair," "reasonable."²⁴ When a trial judge

²¹ Cardozo, "Jurisprudence," an address delivered in 1922, reprinted in *Selected Writings of Cardozo* (1947) 7, 22. In the sentences from which the quoted statement is taken, Cardozo included rules which involve "discretion." So much the more, then, should he be understood as saying that prediction is easy when a court applies a rule so worded as to exclude "discretion."

²² Cardozo, *The Growth of the Law* (1924) 60.

²³ Cardozo, *The Nature of the Judicial Process* (1921) 160. Pound, for instance, calling them legal "precepts," divides them as follows: (1) "Detailed rules . . . precisely determining what shall take place upon a precisely detailed state of fact." (2) Legal principles, they are "general premises for . . . reasoning. . . made up of to supply new rules, to interpret old ones, to meet new situations, when they use of the scope and application of rules and standards used to reconcile them when conflict or overlap." (3) Legal conceptions which "are more or less exactly defined

applies such a rule, he has considerable choice or leeway to decide one way or another. That leeway is labelled "discretion." If the trial judge does not go beyond the bounds of that leeway, an upper court, on appeal, will not disturb his decision. Most of the legal rules, however, are so precisely worded that apparently the judge has no choice, no "discretion." Such rules tell him that, if the facts are thus-and-so, one and only one decision is open to him. Cardozo had in mind those precise rules when he said that "in countless litigations, the law [the rule] is so clear that the judges have no discretion."

The trouble with that statement is that trial judges have another kind of "discretion" which I have already described but which Cardozo ignored: When the oral testimony is in conflict as to a pivotal fact-issue, the trial judge is at liberty to choose to believe one witness rather than another. In other words, in most cases the trial judges have an amazingly wide "discretion" in finding the facts, a discretion with which upper courts, on appeals, seldom interfere, so that, in most instances, this "fact discretion" is almost boundless. And this is true regardless of the precision of the applicable legal rule (as, for example, the rule about driving on the right side of the road). As one court put it, "the word 'discretion' is properly enough used to express the judicial judgment in discriminating as to weight and cogency between different witnesses . . . which must be exercised in reaching any conclusion of fact from evidence."²⁵

Cardozo was thinking solely of "rule discretion." He overlooked the immense area of "fact discretion." He was, then, exploiting legal magic (rule-magic) when he said that most legal rules "have such an element of certainty" that well trained lawyers can predict most decisions.

Cardozo's leaning to legal rule-magic was due to the fact that, having

types, to which we refer cases or by which we classify them, so that when a state of facts is classified we may attribute thereto the legal consequences attaching to the type."

(4) Legal standards of conduct (such as "due care" or "good faith"). See Pound, *An Introduction to the Philosophy of Law* (1922) 115ff; Pound, "The Administrative Application of Legal Standards," 15 *Amer. Bar Ass'n. Rep.* (1919) 405.

As in this book I am writing non-technically, I shall employ no such subdivisions, but shall generally refer to all the legal generalizations as "legal rules."

²⁵ *Nash v. Fiden*, 129 W. 120, 126 N.W. 210, 211.

In *Weller v. U.S.*, 333 U.S. 664, 683, the Court said: "Triers of fact in our tribunals are, with rare exceptions, free in the exercise of their honest judgment to prefer the testimony of a single witness to that of many." In *Wesley Ho v. U.S.*, 109 F. 288, 800 (Ct. Cl. 1901), the court said: "The question whether a witness is credible must ordinarily be determined by the tribunal before whom the witness appears, and in the decision of which that tribunal must necessarily be vested with a very wide discretion."

See also, Frank, *11 Men Were Angels* (1942) 91-92; Frank, "Words and Music," 47 *Col. L. Rev.* (1947) 1255, 1273-74; Wigmore, *Evidence* (3d ed. 1940) 244-45.

spent most of his professional life, as lawyer and judge, in upper courts, when he spoke of prediction he meant the prediction of upper-court decisions.⁵¹ Indeed, he narrowed the meaning of the phrase "judicial process"—which had theretofore been defined to include "all the steps in a case from its commencement to its conclusion"⁵²—so that it included virtually nothing but what occurs in upper courts. He excluded, as if non-existent, the events occurring in the trial stage of thousands of cases, events which occur in trial courts but never in upper courts: the witnesses testifying, the lawyers examining and cross-examining the witnesses, the jurors listening to the witnesses and to the arguments of the lawyers, the trial judge (when sitting without a jury) passing on the credibility of the witnesses' oral testimony. The omission of all these phenomena—familiar to every trial judge, trial lawyer, and newspaper reporter who "covers the courts"—renders Cardozo's exposition, as a description of how courts work, seriously misleading. Eminently satisfactory as an account of appellate-court ways, it is bizarre as an account of trial-court ways—as bizarre as would be an account of maneuvers at Buckingham Palace if taken as also applicable to rush-hour behavior in the New York subway.⁵³

In 1928, Dean Leon Green, an enemy of legal magic, wrote that "the control of judges is not to be found in rules. . . ." Green was saying, in effect, that the rules are but one component of decisions, and that, in another component—fact-finding—there often inheres an externally uncontrollable factor which involves immense "discretion." In 1931,

⁵¹ In *The Nature of the Judicial Process* (1921) 163, he disclosed how little he was interested in the findings of fact in trial courts: "In what I have said, I have thrown, perhaps too much, into the background and the shadow the cases where the controversy turns not upon the rule of law but upon its application to the facts. Those cases, after all, make up the bulk of the business of the courts. They are important for the litigants concerned in them. They call for intelligence and patience and reasonable discernment on the part of the judges who must decide them. But they leave jurisprudence where it stood before." So he does not further discuss such cases which "make up the bulk of the business of the courts" and are vitally important "for litigants," because he is preoccupied with "jurisprudence." And "jurisprudence," as he realizes it, is confined to the construction and revision of legal rules and principles.

⁵² See *U.S. v. Murphy*, 83 F. 893, 899; *State v. Guilbert*, 96 Ohio St. 575, 47 N.E. 551, 357; *Blair v. Marine Security Bank*, 44 N.D. 12, 176 N.W. 98, 100; cf. *Wayman v. Southard*, 10 Wheat. 1, 27.

⁵³ For more elaborate discussions of Cardozo, see Frank, "Cardozo and The Upper-Court Myth," 13 *Law and Contemporary Problems* (1948) 369; Frank, *11 Men Who Were Angels* (1942) 285-293; Frank, *Law and the Modern Mind* (6th Printing, 1949) Preface, xxiv-xxvi.

⁵⁴ Whenever in this book I cite or quote Green, I am referring to Green, *Judges and Jury* (1939).

Morris Cohen (a brilliant philosopher who has written much on legal topics) severely criticized Green's statement. Cohen asserted, as if that clinched the matter, "Uncontrolled discretion of judges would make modern complex life unbearable."⁵⁵ Isn't that a curious position? Apparently, according to Cohen, the rules always do control judges, since it would be "unbearable" if they didn't. But as, in fact-finding, such discretion is a part of modern life, what shall we do? Shall we say it "would be unbearable" if it existed, and then deny its existence? To do so is to practice magic, to make one's wish the father of one's thought. Apparently Cohen would have it that what one considers desirable, what one thinks ought to be, one must take as true. In other words, "unbearable" actualities must be refused recognition. What Sir Frederick Pollock observed in another context is apposite here: When "a man cries aloud that something is 'unthinkable,' his real meaning is apt to be that he is afraid of it." Cohen's position reminds one of Bernard Shaw's picture of a false ideal as a mask for disguising a terrifying reality, "a fancy picture invented" as a "mask for the reality which in its nakedness is intolerable" to the mask-maker. Shaw differentiates false and true ideals: The first are existing realities with their masks on. The second are "the future possibilities which the masks depict." Those future possibilities, says Shaw, can be realized only "by tearing the mask and the thing masked asunder." Cohen, clinging to the mask, a magical device, grew wrathful at efforts to sever it from the masked reality. His attitude recalls Holmes's comment: "We fear to grant power and are unwilling to recognize it when it exists."⁵⁶

Once, in a brief passage written in 1931,⁵⁷ Cohen did grant that a judge may decide a case erroneously because of his mistaken "subjective impressions" of the facts. But Cohen added that "we can see" when a decision has been influenced by "facts which . . . should not have been decisive." He did not stop to inform us how "we can see" the operation of the hidden "subjective impressions" which the trial judge does not disclose. Cohen, that is, ignored the difficulties arising

as Cohen, *Law and the Social Order* (1931) 362.

⁵⁶ *Tyson & Brother v. Hanson*, 273 U.S. 428, 445.

⁵⁷ Cohen, "Mr. Justice Holmes and the Nature of Law," reprinted in Cohen, *Law and The Social Order* (1931) 198, 217-218; "It is not at all certain that a similar state of facts in two cases will always produce a similar decision. When the judge is misled, . . . it is clearly not the objective facts but the judge's subjective impressions and reflections that operate. . . . But obviously a court may have been misled precisely because, like a jury, it allowed itself to be influenced by the impact of present but irrelevant facts which on subsequent reflection we can see should not have been decisive."

from the subjectivity of fact-finding when the oral testimony is in conflict. This appears in a remark he made in 1932 that, "The actual decision . . . may be judged by norms applicable to it, such as logical consistency, and fidelity to established rules or principles of communal welfare." And surely legal rule-magic is manifest in his statement that "to the scientific student of law, the significance of any decision is the rule that it embodies."¹⁸

Hexner, like Cohen, recently declared prediction of decisions easily possible because "there is an adequate perceptiveness of the legal rules . . ." and because "experience shows that, in the prevailing majority of cases, the human mind recognizes whether the individual decision corresponds [approximately] to the legal rules." But Hexner, like Cohen, neglecting the nature of the *P* factor when orally-testifying witnesses disagree, fails to inform us how this "recognition" of correspondence between rule and decision can be tested. Another writer, Timsheff, is similarly silent about the *P*'s when he says that those who, like Green and me, stress the "variable factors" affecting decisions, overlook the "constant factor" which, he maintains, is ultimately "decisive" in "routine cases"—namely the "tendency of [divers] judges to apply the same . . . rules."¹⁹

In 1946, Patterson published a second edition of his book, *An Introduction to Jurisprudence*. In its two hundred and twenty-three pages, all the passages, scattered here and there, which treat of trials, total up to about three pages. One such passage reads: "In the 1920's, one sometimes heard the sophisticated question, was X convicted of murdering Y because he did the deed, or because certain witnesses swore that they saw X run out with a smoking revolver from a room in which Y was found shot to death by such a revolver?" Now why does Patterson speak of such doubts as "cynical?" Pretty plainly be-

¹⁸ Cohen, *Law and the Social Order* (1933) 396. In 1937, Cohen seemed to have come somewhat closer to judicial realities. Writing of Pound, he said "He denounces the law without rules as Cadi Justice (which ignores the fact that in a simple community, governed by custom and the Koran, the rules are well known). Yet, in insisting on the element of judicial discretion and on the presence in the law of standards [i.e., broad, flexible legal precepts], he admits other elements than rules or principles. It is therefore hard to see the difference between Cadi Justice and a judge or jury exercising . . . discretion." Cohen, in *2 Law & Society of Progress* (1937) at 298-299.

Perhaps Cohen there recognized the breadth of "fact discretion," if so, then remarks fight with those in his earlier writings. Perhaps, however, he meant merely "rule discretion." That this is true is indicated by his exposition of "discretion" in his article, "Rule versus Discretion," reprinted in Cohen, *Law and the Social Order* (1933) 256.

¹⁹ See further discussion of Cohen in Chapter XIV.

²⁰ As to "routine cases," see discussion of Cook, Chapter XXIII.

cause he finds such doubts unplesant—and therefore wants to give the doubters a bad name. The truth is that a conviction of murderer does signify, at best, no more than that the trial judge or jury believed the testimony of some witnesses rather than that of others; but the believed witnesses may have lied or been honestly mistaken. Patter-son's characterization of the resultant doubts as "cynical" discloses his unwillingness to face courageously the occurrence of such tragedies, an unwillingness, I suggest, traceable to an addiction to legal magic. His will to believe that subjectivity has relatively little importance in the decisional process has induced him to look away from the realities of trial-court fact-finding, to dwell on legal rules.

I could quote dozens of similar remarks by eminent, legal scholars and lawyers. Back of all such statements is the magical notion that uniformity in the use of precise legal rules must yield approximate uniformity in the decisions of specific cases, if only the judges conduct themselves properly. These legal thinkers say or imply that the only real leeway for the judges is in the rules: If the legal rules are tight and neat, then, if a judge is intelligent and behaves himself, his decision can be predicted; and, if he doesn't so behave himself, his misconduct will be glaringly obvious to third persons.

I hope that by now you perceive the fallacy of these notions. Remember the many cases, reported by Borchard, where innocent men were convicted of crimes. Here is Jones, charged with a theft, but innocent. He is acquitted. Here is Campbell, charged with the same crime, to which the very same legal rule applied. Although also guiltless, he was convicted. Why? Solely because the trial court mistook the facts. Such fact-mistakes are not confined to criminal cases. They can occur in any kind of law-suit. And no legal rules can prevent them.

Legal rules, therefore, will not suffice to control the trial courts, even if those rules are applied conscientiously. You cannot control such courts unless you can also control their fact-finding. But that you usually can't do. For the process of fact-finding is altogether too subjective and, consequently, too elusive. It is "un-ruly." The refusal to recognize such unruliness constitutes modern legal magic. It stems from a "desire to be deceived."²⁰

²⁰ Said Bishop, Butler long ago: "Things and actions are what they are, and the consequences of them will be what they will be; why, then, should we desire to be deceived?"

XIV. "LEGAL SCIENCE" AND "LEGAL ENGINEERING"

MR. JUSTICE HOLMES once said: "You can give any conclusion a logical form," but the "logical method and form" may result in a certainty which is "illusory." That is, you can present any conclusion in the guise of a mathematical formula, but that formula will not yield certainty in practical results if it contains many variables, each of which is so vague and ineradicably unknowable that no correlations between them can be worked out with any approximate degree of exactness. More to the point, since most persons consider that a true science makes predictions possible,¹ we ought to put an end to notions of a "legal science" or a "science of law," unless we so define "legal" or "law" as to exclude much of what must be included in the judicial administration of justice, because no formula for predicting most trial-court decisions can be devised which does not contain hopelessly numerous variables that cannot be pinned down or correlated. True, by restricting "law" or "legal" to the legal rules, or to other discernible constants or uniformities in the decisional process, one might conceivably work out some sort of crude "science," although it would lack much precision. But that science would go to pot as a means of controlling or predicting the outcome of most law-suits, except, at best, on the upper-court level, after the facts had been "cooked" in the trial courts.

The chief impediment to the creation of a comprehensive legal science is that trial courts must deal with a multitude of situations that are unique—unique both (1) objectively, i.e., as to the actual past facts, and (2) in the subjective responses of the trial courts. To be sure, those situations have some aspects which can be generalized. But often the individualized facets of those situations defy nice categorization.² As we saw, the urge to individualize cases is frequently irre-

¹ Generally speaking, scientific prediction means that, if stated operations are performed, stated phenomena (a) will occur or (b) will be observed.
² "Everything ultimate, unique, exceptional—and nothing is more so than the individual soul—is anathema to scientific rationalism," says Dixon, "and in consequence unmentionable. Every soul is a living idiosyncrasy . . . and for a scientific age . . . beyond measure exasperating." That statement is unfair to the wisest scientists.

pressible; in our own judicial system, much of that individualization is surreptitiously achieved through juries' general verdicts or trial judges' fact-finding;³ when the rules apparently preclude all discretion, it creeps in via discretion in trial courts' choice of facts, due to their determinations of credibility. A legal science would therefore have to be a "science of the unique"—which is self-contradictory, like a red-hot piece of ice or a live dead man.

Approaching the problem from another angle, we reach the same conclusion: Most of the so-called "laws" of physics are now recognized as "crowd laws," i.e., statements of the average behavior of a huge multitude, or "crowd," of minute individual particles; the minute individual particles each behaves at random, and in a manner not predictable or stable in the form of a law.⁴ For most purposes, the physicist can and does ignore the unpredictable behavior of the individual particles, and concerns himself with the regularities of the "crowd" or macroscopic phenomena. But the trial courts must deal with individual law-suits which resemble the physicist's particles rather than his "crowds." The trial courts, that is, cannot ignore the unique conduct involved in each suit, cannot rest content with the merely macroscopic aspects of human behavior. Similarly, the lawyer cannot predict the outcome of many a particular future law-suit not yet begun; for it, also, is not a "macroscopic" phenomenon, and therefore the "charted configuration" of averages of a large number of decisions in previous cases will not help as a prediction-guide.⁵ Wherefore, the attempt to build a "legal science" on the analogy of physical science breaks down.

Some of those intent on having a "legal science," recognizing that there cannot be a science of the unique, go to great lengths to get

³ I shall come back to that theme in Chapter XXIX.

⁴ See, e.g., discussion in Frank, *Rate and Freedom* (1945) 149-156, 333-334; Frank, *Book Review*, 13 *Un. of Chi. L. Rev.* (1948) 462.

⁵ See Kallen, *The Liberal Spirit* (1948): "Not only do electrons within the atom have their separate and arbitrary motions, the atom as a whole has a motion without direction, without order. This . . . is . . . anarchic. . . . Thus, the closer we get to the intimate stuffs of existence, the less repetitive, the less predictable . . . its behavior becomes. To achieve prediction . . . we must move from the depths to the surface of existence. We must envisage the atoms and their energies in immense numbers, transfinite numbers, and measure them . . . statistically." See also, Wiener, *Cybernetics* (1948) 34.

⁶ Compare Goble's suggestion that, because "accurate predictions are made possible by the so-called classical laws of the physical sciences," perhaps "there is a range in the legal field within which prediction of results can be made with the probabilities weighing most heavily in favor of its accuracy." Goble, 9 *Ind. L. Rev.* (1934) 394. See Chapter XXV for further discussion of "averages" in the prediction of decisions.

rid of this problem of uniqueness. One method is that used by Cowan, an able legal thinker. He says that "reflection" turns a "unique" lawsuit into its opposite, converts it into a "universal." Why? Because, Cowan argues, "uniqueness is the most universal of all qualities" since "everything possesses it."⁶ Surely that is a specimen of verbal magic. For to say that differences between law-suits constitute an attribute common to all of them does not eliminate the differences.⁷ To say that it does, is the equivalent of assigning the name "unclassifiable" to what one cannot classify, and then asserting that the name solves the problem of classification; it is like labelling "unknowable" what lies beyond human ken, believing that the label removes human ignorance.

2

Because I underscore the need of keeping one's eye on the practical activities of courts, I am not to be understood as under-valuing theories about court-house government. No one, no matter how intent on being practical, can get along without theories. For theories induce much practice, good or bad; and any practice usually, sooner or later, gives rise to some theory, explicit or implicit. "Practical lawyers," who deride legal theorizing as a frivolous subject unworthy of their attention are theorists nonetheless. But their theories, being inarticulate and unconscious, are more likely to do harm than those of the lawyers who more consciously theorize. The self-delusion of the unconscious theorists "makes it psychologically easier for them to mold [their practices] in accordance with their beliefs and prejudices without feeling the weight of responsibility that burdens lawyers with greater consciousness of the issues at stake."⁸ Theory, as Holmes said, is "not to be feared as impractical, for, to the competent, it simply means getting to the bottom of the subject. . . . To an imagination of any scope, the most far-reaching power . . . is the command of ideas."

But just as practical activities are based on theories, so intelligent theories must rest on an understanding of practice. Consequently, it may be that one of the most important of theories is the theory of the relation of theory to practice. Of that theory, and with particular refer-

⁶ Cowan, "Legal Pragmatism and Beyond," in the volume *Interpretations of Modern Legal Philosophy* (1947) 137-38.

⁷ Demos more wisely says: "The individual is not a universal . . . The concept of individuality, of course, is a universal."

⁸ Of course, I do not suggest that every law-suit does have sufficiently unique elements to justify treating it as unique. I say only that many suits do.

⁹ Friedman, *Legal Theory* (1944) 230-231.

ence to theories and practice of government, including court-house government, Aristotle had much to say which is still meaningful. For he had closely observed the actual practices and carefully studied the theories.⁹

One cannot, he said, have a science of "politics" (i.e., government), only an art, since science (as he defined it) is knowledge of what always or usually "happens in the same way." Knowledge of government is "practical"; it deals "with what is relative" and, within limits, a matter of human choice. The "end of practical knowledge is action." In the art of government, then, one must employ "practical wisdom," which is based on experience. Those "who aim at knowledge of the art of politics need experience as well" as theory. Both are desirable, since "practical wisdom" is "concerned with particulars," with the ultimate particular fact, yet "details can best be looked after" by a man "who has the general knowledge" (theories). As Aristotle likened the art of government to the art of medicine, in discussing government he said, by way of analogy, that, in order that each patient will "get what suits his case," the physician must have "general knowledge of what is good for everyone or for people of a certain kind," such knowledge as may be obtained from books. But experience with patients is also necessary, as "medical men do not seem to be made by a study of textbooks," because information about "how particular classes of men can be cured and should be treated . . . seems useful to experienced people, to the inexperienced it is valueless." So if one "has a theory without experience, he will often fail to cure." Repeatedly Aristotle urged that "credit must be . . . given to theories only if they accord with observed facts." "The truth in practical matters is judged from operations and life, for the decisive factor is to be found in them," and theory in such matters should be brought "to the test of operations and life, and if it . . . disagrees with them, we must suppose it to be mere theory." He said that "political writers, although they have excellent ideas, are often impractical." Government, in that respect, differs from mathematics: "While young men become geometers and mathematicians and are wise in matters like these, it is thought that a young

⁹ John Dewey and his disciples have written much about the theory of the relation of theory to practice. These pragmatists—and some of Dewey's disciples far more than Dewey—have rather scornfully described Aristotle as if he had walked off theory from practice; as if he had regarded practice as something rather sordid and unworthy of a cultivated man. Actually, with reference to government, Aristotle was a wiser pragmatist than are many Deweyites. For his theories of government rested on far more intensive observation of governmental practice. It is therefore worth while briefly to consider his approach to such theories.

man of practical wisdom cannot be found. The cause is that such wisdom is concerned not only with universals [generalizations] but with particulars, which become familiar from experience, but a young man has no experience, for it is produced only by length of time."¹⁰ Aristotle always objected to theories of government—including notably what I call court-house government—if the theorizer did not fully recognize that, as practical experience shows, human frailties affect the operation of all rules, and that nice exactitude in such theories is therefore unattainable.¹¹ Modern advocates of a "legal science" would do well to adopt Aristotle's practice in legal theorizing, and to recall these famous Aristotelian lines: "We must not look for the same degree of accuracy in all subjects; we must be content in each class of subjects with accuracy of such a kind as the subject matter allows. . . ." And I suggest that these "legal scientists" never forget Aristotle's admonition that "those whom devotion to abstract discussions has rendered unservant are too ready to dogmatize on the basis of a few observations." Of course, Aristotle did not mean (nor do I) that any theory, in any field, can exactly match all the observed facts, for a theory (like a word) is an abstraction—a "drawing away" from—some of the facts.¹² But, as Aristotle advised, theories must not stray too far from ultimate check-ups by the facts.

3

The up-in-the-air character of the notion of any proposed "legal science" is in marked contrast with that of physical science. "Legal science," which resembles sociology, reminds one of Poincaré's remark that physicists have a subject matter but sociologists have only

¹⁰ "Practical wisdom" is not necessarily accompanied, he said, by "quiet reasoning," and therefore "we ought to attend to the undemonstrated sayings of experienced older people not less than to demonstrations; for, because experience has given them an eye, they see aright." In other words, the "hunches" of the experienced men may be more valuable in "practical wisdom" than articulate theories.

¹¹ See Chapter XXVI for further discussion of Aristotle on the workings of the courts.

¹² The quotations in this paragraph are from the following writings of Aristotle: *Nicomachean Ethics*; *Politics*; *Metaphysics*; *On the Generation of Animals*; *On Generation and Corruption*.

"But, of course, a theory even if true may be inadequate. Indeed, generally speaking, no theory can exhaust all that is involved in the existence of any subject however limited. If *per impossibile* any theory were as complicated as the actual facts, it would have no real value. All theory is a simplification and therefore incomplete. However, to despise theory is the essence of unwisdom, and those who quote Goethe as the authority for the statement, 'gray is theory,' forget that this is the advice of Mephistopheles to corrupt the callow student." Cohen, *A Preface to Logic* (1944) 121-2.

a method. That remark evokes the question, Whence came the physicists' subject matter? The answer carries a moral for would-be "legal scientists": The physicists' subject matter came from the combination of theory and technology, from the interactions of theories and instruments, such as, for example, the balance, the microscope, the telescope, the thermometer. Galileo inaugurated the systematic employment of skilled mechanics in the making of new instruments; the existence of a class of professional instrument-makers, writes Singer, was a main condition of the rapid progress of sciences in the succeeding centuries. Galileo, it is said, "worked out the theory of the telescope"; in that sense, much of physics consists of ingenious instrument-theories.¹³ Now the crude implements from which the more refined scientific implements derived were initially devices employed in practical pursuits, i.e., technology. Often, too, though not always, the great physicists have been stimulated, in part, by the requests of non-scientists for improvement of practical technological methods.¹⁴ Here is a parable: Legal theorizing should be interacting with legal technology, with the actual doings of the courts.

I am not suggesting that the quest of a "legal science" must necessarily be justified by results which are utilitarian (at any rate immediately). The natural sciences owe their practical advance, in part, to much thinking that had no empirical aim, to theories contrived by men whose mood resembled that of the creative fine-artist,¹⁵ men who had in mind nothing "useful" but who were merely playing with ideas, just for fun.¹⁶ Moreover, the current practitioners of those sciences successfully utilize ideas which refer to "ideal" or non-existent entities, such as "frictionless engines" or "free bodies"; these entities, expressing relations between existing particulars, do, however, derive from, and are helpful in understanding and controlling empirical reality. As Cairns says, "Traditionally science abstracts from the circumstances of the world, and concerns itself only with those distilled realities which yield to its manipulation. Its view of the world is necessarily incomplete, but it nevertheless achieves an insight into the nature of things

¹³ A physicist uses an instrument to test out a tentative theory (hypothesis); he revises his theory in the light of the consequent observations; often he then makes (or has made) a new instrument to test his revised theory; with the new instrument, he tests this theory, etc. etc.

¹⁴ For criticism of the notion that all great advances in science have come in response to practical needs, see Frank, *Free and Freedom* (1945) 59-51, 76-77, 183-84.

¹⁵ See Frank, *Free and Freedom* (1942) 300-01. See Chapter XII above as to the "hunches" of scientists.

¹⁶ See Frank, *Free and Freedom* (1945) 49-51.

which, for its purposes it accepts as satisfactory."¹⁷ The suggestion has therefore often been made that there can and should be a "legal science" which deals similarly with the legal world: Let men theorize about it playfully, just for fun; not only is such play worth while as an end in itself,¹⁸ but some of the resultant theories, originally constructed for purely non-utilitarian purposes, may later turn out to be practically valuable—as did Pascal's originally "useless" theory about gambling (which contributed to subsequent practical work in statistics and physics) or the non-Euclidean geometries (which originated in a spirit of play but which later greatly aided modern science). Through such legal theorizing, we may attain fundamental assumptions ("axioms") of a "utopian" character, from which we may logically arrive at starting new practical notions of matters legal, and invaluable new devices for coping with them. We may develop the legal equivalents of concepts like "frictionless engines" that will serve us in good stead.

We should not laugh off that suggestion. As I have elsewhere said, there can and should be non-Euclidean legal thinking.¹⁹ But that suggestion should be handled with care. Cairns is fascinated by it.²⁰ He thinks that "legal theory may eventually be reduced to something approaching the status of geometry so that we will have sets of entities from which we can account for all the important propositions of the legal order."²¹ Nevertheless he warns that advances in the natural sciences "are seldom made unless the ideas which control the investigation are constantly brought into relationship with the available factual data," that there "must be a constant reciprocal checking of data by ideas and of ideas by data," and that in the legal realm, we must "attempt to ascertain whether or not there are contradictions between the operations of the legal order and the conceptual foundation which endeavors to account for these operations."²²

Prominent among those "operations of the legal order" in any society which has existed, now exists, or conceivably will ever exist, is the "operation" of judicial fact-finding. A "legal science" whose "conceptual foundation" does not take such fact-finding into account can-

¹⁷ Cairns, *Legal Philosophy from Plato to Hegel* (1949) 476.

¹⁸ See Frank, *Fact and Freedom* (1943) 294-301.

¹⁹ Frank, "Mr. Justice Holmes and Non-Euclidean Legal Thinking," 17 *Cornell L.Q.* (1932) 561; Frank, *Fact and Freedom* (1943) 298-308. See further on this subject below Chapter XXXI.

²⁰ See Cairns, *Legal Science* (1941).

²¹ Cairns, *Legal Philosophy from Plato to Hegel* (1949) 301-02.

²² *Ibid.* 365. *—wenson reminds us that "the first principles are the last that can be obtained"; *Et*

not be anything but a ghost science, or dream science. It will furnish aesthetic satisfaction, but no more. And any legal theorizing which does take account of so inherently inconstant, so necessarily variable and subjective a matter as judicial fact-finding seems doomed never to resemble what ordinarily we call "science."

Many legal thinkers have tried to escape that conclusion, some bumblingly, some with acuity. On the bumbling efforts we need spend no time, if we can show that the more brilliant efforts have failed and are bound to fail. Among the brilliant, is that of Morris Cohen who tried to escape by employing, challengingly, a natural science analogy. In 1937, he wrote, "Using a method that has been most useful in the natural sciences, namely, ignoring perturbations or disturbances caused by other factors, and describing the ideal condition of our system when such disturbances are ignored, one can describe the ideal law as perfect certainty."²³ Now such an ideal is something which every lawyer, judge, or systematic jurist must employ if he is to make any order, system or meaning in the law.²⁴ Conceding that "disturbances" sometimes occur when judges or juries are moved "by passion," he continued: "The mere fact that there are disturbances . . . shows that there are *recognizable rules we normally expect to prevail*."²⁵ That last sentence, examined in the light of the actual "operations" of our legal system, is fatal to Cohen's thesis.²⁶ If the "disturbances" interfering with the efficacy of the rules were few and peripheral, if they seldom occurred, one could legitimately say that there are rules we "normally expect to prevail." But my discussion of the difficulties of communication in trials, and of fact-finding by trial courts, shows that in those courts the "disturbances" tend to be "normal," not exceptional. Especially in jury trials are they notoriously "normal"; indeed, as we saw, defenders of trial by jury esteem it highly for the very reason that juries freely disregard the rules. What, then, can Cohen mean when he says that "we normally expect [*recognizable rules*] to prevail?"

²³ I shall later raise some doubts about that ideal; see Chapter XXVIII.

²⁴ He had previously said that it is necessary not to "forget that the real problem is to find the precise relation between the certain and the uncertain in law," and that "the significant issue is precisely . . . where to draw the line between legal rule and judicial discretion." Cohen, *Law and the Social Order* (1932) 339-361.

²⁵ Cohen, "Legal Philosophy in America," in 2 *Law: A Century of Progress* (1937) 266, 310. (Italics added.)

²⁶ Which stems in part from his addition to legal magic, previously noted in Chapter IV. The quotations from Cohen, there and here, show him to be what I have called a legal wizard of the second (semi-leptical) class.

That is not the way a physicist talks of matters in his province. When he refers to the rule ("law") of the behavior of a freely-falling body, he knows and says that that rule holds good only in a vacuum. As observation teaches him that most bodies do not fall in a vacuum, he makes corrections of his rule to allow for "disturbances" affecting their ordinary non-vacuum behavior. He treats the "disturbances" as the usual, and vacuums as exceptional. He never believes or says: "We normally expect a vacuum to exist."

If Cohen had rigorously used the natural science analogy, I think he would have said something like this: "Recognizable legal rules would wholly govern most judicial decisions, if there were no fact-finding problem, if the actual facts of law-suits came into court neatly packaged, tailor-made. Let us provisionally take as an ideal a situation (resembling a legal vacuum) where the fact-finding problem disappears. Then let us ask whether that ideal is attainable. At once we see that usually it is not. Moreover, we see that, in the very trial-court process of attempting to 'find' the facts, the legal rules usually get inter-twined with the facts, that we encounter gestalten. In most law-suits, the 'ideal' is approximated—and then only in appearance—solely in the upper courts, on appeals, after the trial courts have packaged the facts." I say "only in appearance," because, of course, we can never be at all sure that those packaged facts are the actual facts.

Cohen's notion of what "normally we expect to prevail" describes, at best, the normality of the two-dimensional upper-court realm. Now there is nothing wrong with two-dimensional descriptions, provided that, in applying them to a three-dimensional context, one corrects them by adding the third-dimensional factors. Cohen's error, I think, was that he engaged almost exclusively in two-dimensional legal thinking, and forgot about the three-dimensional trial-court realm.²⁷

Cohen, like many other legal thinkers, wanted (as he admitted) to make a rather simple "system" of the "law." Accordingly, he shut his eyes to the usualness of what he desired to think the unusual, and consequently could not break importantly new ground in legal theory. As William James said, "the great field for new discoveries is always the unclassified residuum," the "dust-cloud of exceptional observations," which "ever floats about" the "accredited and orderly facts . . . and which it always proves more easy to ignore than to attend to." When a "consistent and organized" system has been once made, then "phe-

²⁷ Note again my suggestion that the trial-court gestalten may perhaps be regarded as adding a fourth dimension.

nomena unclassifiable within the system are . . . paradoxical absurdities. . . ." James might have been describing a host of legal systematizers when he went on thus: "Facts are there only for those who have a mental affinity with them. When once they are indisputably ascertained and admitted, the academic and critical minds are by far the best fitted ones to interpret and discuss them . . . ; but on the other hand if there is anything which human history demonstrates, it is the extreme slowness with which the ordinary academic and critical mind acknowledges facts to exist which present themselves as wild facts, with no stall or pigeon-hole, or as facts which threaten to break up the accepted system."²⁸

James Bryce once described an "ideal democracy" (resembling somewhat Cohen's ideal legal system). Bryce added, however, that it was "an ideal far removed from the actualities of any State." Graham Wallas tellingly commented: "What," he said, "does Mr. Bryce mean by an 'ideal democracy'?" If it means anything it means the best form of democracy which is consistent with the facts of human nature. But one feels . . . that Mr. Bryce means . . . the kind of democracy which might be possible if human nature were as he himself would like it to be, and as he was taught at Oxford to think it was. . . . No doctor would begin a medical treatise by saying, 'the ideal man requires no food, and is impervious to the actualities of any known population.' No modern treatise on pedagogy begins with the statement that 'the ideal boy knows things without being taught them, and his sole wish is the advancement of science, but no boys like this have ever existed.' It is but fair to say that, in general, no one more emphatically inveighed than Morris Cohen against the belief that, in dealing with human affairs especially, a theory can hold aloof from practice. "No slogan," he wrote, "is more productive of obscurantism than the cliché 'true in theory, but wrong in practice.' What is wrong in practice must be wrong in theory unless the theory itself is wrong. And if our theory is wrong it is certainly more intelligent to set it right by making appropriate qualifications than to attempt blindly to cling both to the theory and to the fact that contradicts it on the pretext that theories and facts belong to different worlds." Yet Cohen did stubbornly cling to his theory of a "legal science," a theory which made light of patent and observable "disturbances." Why? I think that perhaps Schlesinger,

²⁸ James, *The Will to Believe* (1896) 299-302. Compare the phrase, "the errors of the system," Leo, mistakes due to the way experiments are set up. *See A. Preller to Lytle* (1944) 174.

in a recent review of a book by Cohen, found the answer. He said that the book disclosed a kind of liberalism which involves "a deep fear of acknowledging the emotional and destructive impulses of man, a liberalism which 'in its rush to justify the beauties of reason and social organization . . . has underestimated the dark and subterranean forces of the human mind,' so that it engages often 'in fighting or denying the unconscious instead of trying to assimilate it.'"³⁰ Most of those who, thus far, have attempted to create a "legal science" have denied the "unconscious" in judicial fact-finding.

4

Their fault lies in over-simplification which, in physical science, is today a recognized danger. Bridgman says of theorizing in physics, "We have over-simplified our conceptual situations, and a necessary task before we can hope for adequate understanding is to recover some of the primitive complexity." Tocqueville warned against the tendency to arrange "hastily . . . under one formula." Francis Bacon had said much the same: "The human understanding, from its peculiar nature, easily supposes a greater degree of order . . . than it really finds. . . . The human understanding, when any proposition has been once laid down . . . forces everything else to add fresh support and confirmation; and although most cogent and abundant instances exist to the contrary, yet either does not observe or despises them, or gets rid of and rejects them by some distinction, with violent and injurious prejudices, rather than sacrifice the authority of its first conclusions. . . . It . . . is very slow and unfit for the transition to the remote and heterogeneous instances by which axioms are tried as by fire. . . ."³¹

All of us, of course, tend to over-simplify. Men, says Cornford, have a strong desire to "shape the chaotic world into some intelligible form" which they can "take in, in one survey." Faced with a baffling, complex world, men have always contrived simplistic "just-so stories," as if the confused phenomena they come upon must correspond to the

³⁰ *A Commentary* (1946) 299, 291. See, however, Cohen, *A Preface to Logic* (1944) 70: "And human wisdom consists in recognising both the supreme claim of rational effort and its pathetic inadequacy."

³¹ Compare Frank, *Rate and Freedom* (1945) 164-169, 327-33, 332-33.

³² See Frank, *Rate and Freedom* (1945) 27, 86, 183; Frank, "The Place of the Expert in a Democratic Society," 16 *Phil. of Science* (1949).

³³ Freud, in a letter written in 1922, observing that his own psychological theories seemed to amount to a "species of mythology," asked Einstein, "But does not every natural science lead ultimately to this—a sort of mythology? Is it otherwise with your physical science?"

human craving for simplicity. Employed cautiously, simplification is wise procedure. In natural science, it is called the "law of parsimony," although it is not a "law" but a man-made method, since, as Bridgman observes, "the overwhelming presumption is against the laws of nature having any predisposition to simplicity as formulated in terms of concepts, which is of course all that simplicity means. . . ." Scientists and philosophers of science make much of "Occam's Razor," a principle stated in the 14th century by Occam: "Entities are not to be multiplied beyond necessity," i.e., as between alternative theories (to explain or account for a group of facts) that one is to be preferred which gives an explanation which uses the fewest assumptions. But Occam's Razor may be a dangerous weapon if it shaves too fine, cuts off too much. Kenneth Burke sagaciously remarks that, correlative with Occam's principle, we need another: "Entities should not be reduced beyond necessity."³⁴ That caution the advocates of legal science have not heeded.

5

There are two astute thinkers, Laswell and McDougal, for many of whose views I have great respect,³⁵ who do not overlook the "unconscious," but who nevertheless believe in the feasibility of a science of legal prediction. In an article published in 1943,³⁶ they repudiate the notion that this "science" can be based upon materials "restricted . . . to the appellate court and the norms it announces." Yet they assert that it is possible to "lay a scientific foundation for prediction," to foresee "judicial behavior" in most specific cases. They speak of "the legitimate scientific goal of prediction." They admit that the job of thus "forecasting judicial behavior poses formidable problems," and refer to the "complexity of the task of making concrete forecasts." But they are undaunted in their conviction that the "skill to predict" court decisions "scientifically" can be taught and learned.

They grant that to predict the outcome of a trial, one must allow for "the personality characteristics of judges, parties, counsel, witnesses and jurors. . . . What judges and juries do is 'human' in the sense that

³⁴ See also quotation from Russell in Chapter XXVI.

³⁵ *A Grammar of Motives* (1945) 304.

³⁶ See Chapter XXVI.

³⁷ "Legal Education and Public Policy: Professional Training in the Public Interest," 32 *Yale L.J.* (1943) 293, 298, 241.

³⁸ Perhaps they are here referring to my article, "Are Judges Human?" 80 *Univ. of Pa. L. Rev.* (1932) 27, 33.

it is affected to some extent by the impact of personalities upon one another. There are many patterns of personality, and the interaction of an aggressive claimant or witness upon judge and jury may produce different results than when submissive types are involved." Perceiving that the predicting lawyer is thus presented with a host of "variables," Lasswell and McDougal say that such a lawyer "must equip himself with skills appropriate to the task of evaluating" those variables. He must, accordingly, acquire "naturalistic skills of observation and analysis." Presumably he will then be able to prophesy "that a certain judge will decide a specific case for the defendant or the plaintiff," and to do the same concerning any particular jury. How? By knowledge of "the most significant variables, affecting judicial responses," by taking "into account all variables that may significantly determine" the "response" of any particular judge or jury.³⁹

Now what do Lasswell and McDougal mean by "significant" and "significantly"? They do not explain. But I gather from their discussion that they mean that the trained predicting lawyer will take into account solely those "responses" of the judge or jurymen which accommodate themselves to generalizations, those "variables" which observably are likely often to recur. That surmise is strengthened when we find Lasswell and McDougal saying: "Truly scientific propositions can only rest on data of observation. Scientific prediction is based on the expectancy that past relations among variables will continue, and that, when a given list of variables occurs in the future, their inter-relations can be foretold on the basis of proper analysis of observations in the past." At that point my skepticism about the Lasswell-McDougal prediction program becomes almost boundless. For, when a trial judge is about to hear conflicting oral testimony by witnesses he has never previously seen—in an automobile accident case, or a will-contest case

³⁹ Lasswell and McDougal use the following formula to symbolize the decisional process:

$$R = \frac{E}{P}$$

E symbolizes "typical environmental factors," i.e., what goes on when a case is being tried—such factors as testimony, exhibits, briefs and arguments.

P symbolizes the "preposition" of the court before the lawsuit began. The author cites, as examples, a judge's bias for or against rich or poor, or attitudes towards legal rules and principles (e.g., the commerce clause of the Constitution).

R symbolizes the court's response to *E*. In other words, *R*, which results in the court's decision, derives from the impact of *E* on the court's *P*.

In the last analysis, this formula resembles the $S \times P = D$ formula (which I had suggested in 1931 before Lasswell and McDougal published theirs). I think it is equally useless for predictive purposes. Both formulas merely give names or symbols to unknowns. See Chapter XII.

involving undue influence, for example—can anyone have reliable observations of the "past relation among the variables" in the judge's previous conduct so as to be able to prophesy what will be his responses to those witnesses?

Perhaps Lasswell thinks so. For, in his interesting recent book, *Power and Personality*, he published "personality probes" of three judges. But no thoughtful reader of those judicial case-histories will be convinced that, with the assistance of those "probes," or of far more detailed studies, Lasswell or anyone else could foresee the reactions of any one of those three judges in a particular case to some particular witnesses that judge had theretofore never seen. And surely Lasswell cannot know in advance whether that judge on a particular day—because of a severe headache, a sleepless night, or aggravated domestic worries—will be inattentive to some vital testimony. Moreover, a predicting lawyer will often not know what judge will try a particular case, and will therefore be unable to use the Lasswellian divining method—unless "personality probes" of all trial judges are available. Let us assume, however, that all trial judges were psycho-analyzed, and that their psychoanalytic case histories were published. *Would not the very fact that a judge had been psycho-analyzed free him of most of his "compulsive" reactions and consequently render his responses less predictable than ever?*⁴⁰

Think, too, of juries. Seldom is it knowable what men or women will compose a particular jury. Do Lasswell and McDougal believe that a lawyer can intimately know the "past relation among variables" in the responses of all those who may become jurors, can obtain "personality probes" of all or most prospective jurors? And would such "probes" tell when jurors would be attentive or inattentive to the testimony? Especially in small communities, painstaking lawyers now learn something of the background of each juror; our authors' proposal might lead to more intensive knowledge of that kind; but I doubt whether it would very substantially improve the guessing of jury verdicts in most cases. In some cases involving "dramatic" issues,⁴¹ powerful group attitudes, for or against one side, shared by the trial judge or jury, will foreseeably outweigh all other considerations and dictate the decisions—e.g., a suit for assault by a Negro against a white man in some southern communities. Possibly studies, à la Lasswell and McDougal, would slightly enlarge our knowledge

³⁹ See Frank, *Law and the Modern Mind* (1930) 134.

⁴⁰ See Chapter XXV.

of issues of that sort. But the overwhelming majority of suits do not involve such issues.

Doubts about this science of legal prediction increase when Laswell and McDougal say: "Our knowledge of causal connections is much greater if we can follow the entire sequence that begins with the occurrence of a disagreement [which ripens into a law suit]. 'Thus we can hope to predict the probable response of courts . . . to probable kinds of objective situations.' This implies that the 'objective situations,' without the intervention of fallible testimony, ordinarily come before trial courts. Of course, our authors know better. Elsewhere in this article, they define the 'objective facts' in a law-suit as the facts as they would look to 'an objective, non-participant observer, who uses all available materials.' Are 'all available materials' usually brought into the trial courts? What of lost letters, missing or dead witnesses, witnesses who mistakenly saw or heard the past events or who mistakenly remember what they saw or heard? And are trial judges, and jurors, dispassionate 'objective' observers?

Since Laswell and McDougal use the label "science," they ought to follow good scientific procedure by telling us within what range of accuracy their prophecies have hit the target.⁴¹ I suggest that they take up the challenge I issued to Felix Cohen, i.e., that they announce their predictions, reached through their techniques, of the decisions in a hundred ordinary law-suits, chosen at random, and now awaiting trial, in which the testimony will be oral and in conflict. If their predictions turn out to be even 80% correct, I think I will be able to show them how to make a huge fortune (which they can devote to further legal research).⁴²

(On reflection, I think this challenge unfair to Laswell and McDougal. They are probably not to be taken as saying that they now have in stock a legal prediction technique, but only that, working along their lines, one can be invented. Even so, I disagree: I think it predictable that none can.)

A good part of the answer to any such proposal as that of Laswell

⁴¹ Said Polices: "In those sciences of measurement which are the least subject to error—metrology, geodesy, and metrical astronomy—no man of self-respect ever now states his result, without adding to it its probable error; and if this practice is not followed in other sciences it is because in those sciences the probable errors are too vast to be estimated."

⁴² Were their method wholly perfect, it would be foolish ever to try a law-suit, for the decision would be a foregone conclusion.

and McDougal was given (fourteen years before they wrote) by Keyser, a mathematician who interested himself in the possibility of creating a legal science. The subject matter of such a science, he said, "must be the distinctive behavior of judges, consisting of their decisions. 'It is,' he went on, 'a familiar and just saying that . . . a genuine science makes it possible to predict. An attempt to predict based on legal science . . . employs the assumption or postulate that a given pattern of judicial behavior will repeat itself when the corresponding stimuli and conditioning circumstances repeat themselves. Is the postulate sound? It is a fact that stimuli and circumstances seldom or never do repeat themselves exactly. That fact being sufficient to explain why prediction of judicial behavior is impossible, we need not deny the validity of the postulate upon which attempted prediction depends. The fact is obvious that the cosmic stream, including the stream of human life, goes flowing on; the new is ever emerging without exact repetition of the old; and, inasmuch as judicial behavior is a part of the life of mankind, we should expect what we see to be a fact, that law [defined by Keyser as judicial behavior] is not an invariant somewhat but is a variable, changing with the time and place and the things that these involve. Law [i.e., judicial behavior] changes because the stimuli that evoke it and the circumstances that condition it do not remain the same and do not repeat precisely, but continually alter under the influence of new things emerging endlessly in the flux of life and the world. We are thus led to employ the scientific notion of functionality in the study of legal science. It is a well-known fact of observation that law [judicial behavior] depends upon and varies with a variety of more or less familiar variables. And so in functional notation we may write

$$L(\varphi_1, \varphi_2, \varphi_3, \dots, \varphi_n)$$

merely to indicate the thought that the law L is a function of certain variables $\varphi_1, \varphi_2, \dots$ and undergoes changes due to changes in them. . . . Given a set of φ 's, can the form of L be ascertained? It is almost certain that it cannot by any known means or in any time imaginable but that is not a good reason for failing or refusing to envisage the problem."

If we do envisage it, and if we add to the variables mentioned by Keyser that host of variables found in the idiosyncratic personalities of the individual trial judges and jurors, we see, I think, how futile is the pursuit of a science of legal prediction. The emptiness of legal pre-

⁴³ "On the Study of Legal Science," 38 *Yale L.J.* (1929) 413.

dictionary-formulas recalls Holmes' statement that "the only use of forms is to present their contents, just as the only use of a pot is to present the beer . . . , and infinite meditation upon the pot will never give you the beer." Those who forget the beer have (to borrow a phrase from Gibbon) "extended their knowledge without correcting their prejudices."

Nevertheless, I welcome the strivings of Lasswell and McDougal, because, in part, they are my allies, since they support an attitude toward the courts the adoption of which I have urged repeatedly during the past twenty years. For those who follow the lead of those authors will learn much about phases of court-house government, which most legal scholars have disregarded. I think the Lasswell-McDougal theory erroneous; but an erroneous theory has often turned up new facts. (Consider the revolutionary effects on physical science of the famous Michelson-Morley experiment.)

6

The recent amazing progress in developing machines which rapidly solve complicated mathematical problems,⁴¹ suggests that a "logic machine" built on those lines could be the foundation of a "science of legal prediction."⁴² Let us see.

It is conceivable that an "ultra-rapid" legal-logic machine⁴³ could promptly answer questions like these: (1) Given a specific state of facts, *F*, what possible alternative legal rules, *R*'s, will logically lead to a desired decision, *D*? (2) Given a legal rule, *R*, and a desired decision, *D*, what possible alternative states of fact, *F*'s, will logically yield that decision? (3) Given a specific legal rule, *R*, and a specific state of facts, *F*, what is the logically correct decision, *D*?

Anyone who believes such a machine can supplant the human process of judging is hoping to revert, in a scientific way, to the "mechanical" method of the ordeals. I, who have done my fair share of jerking

⁴¹ See Wiener, *Cybernetics* (1948).
⁴² In the 17th century, Leibniz, a lawyer, dreamed of a logic machine. See Wiener, *Cybernetics* (1948) 301 Cairns, *Legal Philosophy from Plato to Hegel* (1949) 3001 Russell, *A History of Western Philosophy* (1945) 391-392. Such a machine, of sorts, was invented by Jevons in 1869, another by Venn in 1881, and another by Marquand in 1882. Professor Maguire has recently suggested a carding machine for assembling decisions in tax cases. See Proceedings of the Seventh Annual Institute on Federal Taxation (1949) 2008.
⁴³ I know too little of the subject to be sure, but I suspect it would resemble what Wiener calls an "analogy machine"; see Wiener, *loc. cit.* 154.

at "mechanical jurisprudence,"⁴⁴ have no such hope. Yet I think there is much merit in the idea of such a machine. I grant that its answers to the first two types of questions listed above might be singularly helpful to a trial judge who wanted to "fudge" his findings to produce a decision he deemed desirable, for good or bad reasons; whether in that respect the machine would be a boon may be doubted. But, that objection aside, it seems to me that judges and lawyers would benefit from having relatively simple problems—type (3)—speedily and correctly answered,⁴⁵ and from having put before them promptly all possible alternative solutions of more complicated problems, i.e., type (1) and (2) problems.⁴⁶

But my previous discussion shows that such answers would not aid in predicting the outcome of any lawsuit where the testimony was oral and conflicting. In an assault-and-battery suit, for example, the possible *R*'s and *F*'s are few and easy to learn. It is seldom possible, however, to learn, and no machine can tell, what will be the *F*, and therefore the *D*, at which a particular trial judge or jury will arrive; more accurately, the gestalts cannot be thus foretold.

Such a machine would not reduce, but would increase, the need for legal intelligence: great skill would be necessary in formulating the questions put to the machine. Semantic difficulties would, too, in many instances, prove a stumbling block.⁴⁷

Moreover, even were such a machine to disclose all possible available alternative legal rules, the judges (except when bound by statute or precedents) would still have to exercise "the sovereign prerogative of choice" between the rules, on the basis of the judges' conscious or unconscious notions of policy.⁴⁸ The machine might give judges the

⁴⁴ See Frank, *Law and the Modern Mind* (1930) 118-47.

⁴⁵ "It would be time-saving," I said in an opinion, "if we had a descriptive catalogue of recurrent types of fallacies in arguments presented to the courts, giving each of them a number, so that, in a particular case, we could say, 'This is an instance of Fallacy No. ____'." *United Shipyard v. Hooy*, 131 F. (2d) 555, 556.

⁴⁶ Some judicial opinions could be very brief, stating only the buttons to be punched and the number of the particular answer selected by the court. Some lawyers' briefs might be written in the same abbreviated manner.

⁴⁷ See Chapters XIX and XXI.

⁴⁸ See Holmes, "Law in Science—Science in Law," 12 *Harr. L. Rev.* (1899) 403, reprinted in Holmes, *Collected Legal Papers* (1920) 210, 339. "But I think it most important to remember whenever a doubtful case arises, with certain analogies on one side, and other analogies on the other, that what really is before us is a conflict between two social desires . . . , and which cannot both . . . have their way. . . . Where there is doubt, the simple tool of logic does not suffice, and even if it is dignified and unconscious, the judges are called on to exercise the sovereign prerogative of choice." For a brilliant portrayal of such a situation, see Fuller, "The Case of Speluncan Ex-plores," 62 *Harr. L. Rev.* (1949) 616.

benefit of offering the alternatives clearly.⁵⁵ But it would not realize the hope of Leibniz who thought that, if there were such a machine, then "if controversies were to arise, there would be no more need of disputation between two philosophers [or lawyers, we may interpolate] than between two accountants. For it would suffice [for them] . . . to say to each . . . ! Let us calculate."⁵⁶ Mr. Justice Douglas had in mind the judges' "sovereign prerogative of choice" when, in effect answering Leibniz, he said, "The law is not a series of calculating machines where . . . answers come tumbling out when the right levers are pushed."⁵⁷

7

Loevinger, dissatisfied with the uncertainties of the traditional legal techniques, proposes, as a substitute, what he calls "jurimetrics," i.e., "the scientific investigation of legal problems" which will "put law on a rational basis."⁵⁸ He seems to hope, among other things, by such scientific investigation, to contrive a dependable lie-detector; to measure accurately the ability of witnesses to observe and recollect; to ascertain accurately the effect of bias upon witnesses' observations and recollection.⁵⁹ Would such investigations, if wholly effective, achieve those aims? Would they disclose that, in a suit for assault by Ho against Hum, a particular witness, Jennings, had a hidden bias, of which he himself was unconscious, against Ho or Hum? I doubt it. But assume that such a bias would be revealed, that due allowance could be made for that bias, and that we had measured Jennings' ability to observe and recollect. Would we then be able to learn just what he saw on the day when, according to Ho, Ho was hit in the eye by Hum? Suppose that, when examined by experts, the witness Jennings shows up as having virtually perfect sensory reactions and memory, and as being free of bias. Even so, it cannot be known that, at the time when Hum was supposed to hit Ho, Jennings' attention was not distracted or that he was not then so emotionally disturbed by a

⁵⁵ Compare Patterson, "Logic in the Law," 80 *Un. of Pa. L. Rev.* (1942) 874, 894-896.
⁵⁶ See Russell, *loc. cit.* But see Schrecker, 7 *J. of the History of Ideas* (1947) 107, 110.

⁵⁷ 23 *Amer. Jud. Soc.* (1948) 104, 107.

⁵⁸ Loevinger, "Jurimetrics," 33 *Minn. L. Rev.* (1948) 455. He defines "law" as "the words and actions of government agents, acting in their official capacity," as in fairness to Loevinger, it should be noted that he does not say that he so hopes or expects. He does, however, state some of "the problems of jurimetrics," and the tenor of his article indicates that he hopes those problems will be solved.

breakfast quarrel with his son that his observations of the Ho-Hum quarrel were faulty? I am eager to have developed all possible devices for detecting witnesses' errors." But I think it unwise to encourage the belief that thereby we can remove all obstacles, in the form of witnesses' fallibilities, to learning the actual past facts of cases.

Let us assume, however, that such devices some day will approach perfection. We then come to Loevinger's hope that there will be contrived "statistical measures" which will "summarize the behavior of individual judges in various categories of cases." The word "categories" exposes the Achilles' heel of his proposed "science." That "science" will have the fatal weakness of the Laswell-McDougal scheme—the inability to foresee how a particular trial judge, on a particular future day, will react to, or how attentive or inattentive he will be to the testimony of, specific witnesses. Witnesses do not, for such predictive purposes, fall into categories; nor are such reactions of a trial judge constants or static. Similar but more biting criticism applies to Loevinger's notion that it will be possible, with respect to jurors, to "measure their reaction to evidence and instructions, and discover the determinant considerations in reaching verdicts." And so, too, of his hope that, "on the basis of inquiries relative to the behavior of witnesses," we "can construct . . . objective criteria for weighing testimony."⁶⁰

8

Proponents of a "legal science" are up against many of the insolubles met by the believers in "social science." Yet, calling "law" one of the "social sciences," many would-be contrivers of a "legal science" hope to emulate the "social sciences." To expose the futility of the notion of a "legal science" it is important to show that the idea of a "social science" has itself been a will-o'-the-wisp.⁶¹

The idea began with the aim of constructing a "social physics" which

⁵⁹ See Chapters VI and XVII.

⁶⁰ He also hopes that we can "adapt this generally recognized scientific measures of probability to the problems of legal proof." As to this hope, see the discussion of "averages" in Chapter XXV.

⁶¹ In this discussion of sciences and the "social sciences," I am borrowing from the following of my own earlier writings in which some aspects of the subject are considered more in detail: *Law and The Modern Mind* (1930) 235-288; *Are Judges Human?*, 80 *Un. of Pa. L. Rev.* (1931) 17, 233; *Experimental Jurisprudence and The New Deal*, 78 *Comp. Rec.* (1933) 1241-51; *Law and Freedom* (1945) passim; *Scientific Spirit and Economic Dogmatism*, in the volume *Science For Democracy* (1946) 11, 12-13; *A Plea For Lawyer-Schools*, 56 *Yale L.J.* (1947) 1293, 1330-1340; *Book Rev.* 15 *Un. of Chicago L. Rev.* (1948) 462.

was to have "social laws." Those "laws," like those of physics, were to be based ultimately upon observation, and were to be formulations of "recurrent patterns or relatively constant configurations of repeatable elements" i.e., invariants, uniformities, regularities. No such "social physics" has as yet developed,⁸⁰ nor has a "social science" modelled on biology.⁸¹ The subject matter of these social studies permits of so little exactitude that a "science of society" seems never likely to be invented. Certainly none is now on the horizon.⁸²

The basic trouble is that all the so-called "social sciences" are but phases of anthropology: Their attempted generalizations relate to the customs and group beliefs (the mores, the folk-ways), matters which, especially in a changing modern society, are not readily predictable, because of the numerous elusive and accidental factors, including the fortuitous effects of forceful ("earth-quake") personalities.⁸³

The hope of discovering reliable "social trends" through statistics has aroused much enthusiasm. Justification, or lack of justification, for that hope is pertinent to this book, for two reasons: (1) It is directly germane to the work of the courts, because of judicial reliance on such materials in connection with cases involving what I earlier referred to as "background" or "social and economic facts." (2) Also, some persons who talk of "legal science" mean, not the prediction of specific court decisions, but the social consequences of legal rules, whether those made by judges or by legislatures; such persons believe

⁸⁰ "The social sciences . . . are notorious," says Horace Fries, "for their unscientific concern to emulate physics in an unscientific manner."

⁸¹ Social studies have been analogized not only to physics but to biology; and the biologists who, like the students of society, deal with living beings, are properly considered scientists. As, however, the biologist's field is far less distastefully complex than human society, far more submissive to scientific control, it is now generally accepted as an error to pattern "sociology" on biology.

⁸² Note, for instance, the striking revaluative effects of viewing "economics" as but one aspect of cultural anthropology. "Economics," at best, has been descriptive of the social habits, and changes in such habits, of some particular groups in particular times and places, coupled with some rather inadequate guesses as to how other social groups will act under other circumstances. What our economists have done is this: They have observed some selected customary conduct, attitudes and beliefs of a society within a limited period, the selected conduct, attitudes and beliefs having what the economists call an "economic" character. The economists have generalized from these observations and then have drawn logical inferences from these generalizations. Those generalizations and deductions they treat as the equivalent of the natural sciences' "laws." Their error should be plain: A society is not a static entity. It does not stay put. Customs and social attitudes are neither unchangeable nor consistent within any society, nor alike as between different societies. The generalizations about them and the inferences derived therefrom, if nicely logical, are almost certain to be importantly false. For the consequences of the operation of certain customs or group attitudes are often cancelled out by the consequences of other conflicting customs and attitudes.

⁸³ See Frank, *Law and Freedom* (1945) Chapter 4.

it possible accurately to predict the social effects, for instance, of a change in the patent statutes or of a new zoning law. Society, they say, is a "crowd" or "macrocosm," like the large aggregates of particles with which the physicist deals: Just as the physicist, unable to foresee the action of a single particle, can foretell the action of an aggregate, so the "social scientist," who cannot expect to predict the way any single law-suit will be decided, or how any single man will be affected by a new legal rule, can predict the general social effect of that rule.

Let us, then, consider the reliability, the "objectivity" of the social statistics, comparing them with the observations of natural scientists. At once it appears that social statistics which, to the unsophisticated, may seem indubitably certain and "objective," always rest on someone's selection of "data," and that the selector's choice is seldom indisputably "objective" and reliable, for a variety of reasons. Chance, we are advised by able statisticians, frequently determines the statistical results. We are told that the investigator "may be compelled to employ data" which are fragmentary merely "because of their availability"; or that "his preconceptions" concerning the subject may lead him to believe that certain significant relationships existed, and, without sufficient verification, he may smuggle those preconceptions into both his "data" and his conclusions. "Disturbing" factors may be present but wholly undetectable, with effects that cannot be estimated or eliminated by the investigator's techniques. The undetected relationships may be more significant than those he can perceive. His "sampling" may not be representative, may involve the "fallacy of selection," the attribution, to an entire class of phenomena, of characteristics which pertain to the selected instances alone. His "data" are then not really "data," that is, "given"; and his inferences ("extrapolations") may thus be fatally mistaken guesses.

Dorothy Swaine Thomas, an eminent social statistician, says that even carefully chosen "data" will frequently allow of several reasonable alternative interpretations, that one who plots a curve of a social trend should "not fail to admit that the determination of the 'best' trend is largely subjective." Often, she confesses, "convenience has dictated" the statistician's procedure.

The Brandeis briefs," using statistical and related "data," were, for a long time, used by government lawyers to win law-suits against private corporations. Those court victories were due largely to the fact that the opposing lawyers did not file briefs containing contradictory data of the same kind. A few years ago, the engineering firm of Ford,

the predictor: No one in the nineteenth century, for example, foretold the coming of Fascism.

When "social scientists" recently asked Norbert Wiener to contrive rapid calculating machines for predicting social phenomena, he answered: "For a good statistic of society, we need long runs under essentially constant conditions. . . . [The] advantage of long runs of statistics under widely varying conditions is specious and spurious. Thus the human sciences are very poor-testing grounds for a new mathematical technique."⁴¹

Sometimes a short-range guess hits the target. Yet we have the example of John Maynard Keynes, an unusually sage and well-informed economist, who made one of the worst mis-guesses in history: He said on October 25, 1929, that the then precipitate stock-market break would liberate credit for non-speculative purposes and halt the deflation in world commodity prices. Precisely the opposite happened; the Great Depression was then just in its beginnings. Some of the ablest American economists went badly wrong in their prophecies of grave unemployment in 1946-1947. "Is there today," asks Sigety in June 1949, "an economist of repute who will squarely, and using no weasel words, make a prediction as to the number of unemployed six months from now, and what the price level will then be?"

The very fact of publishing a forecast of a future social happening may, indeed, have a transforming effect on that happening, so that it may turn out quite differently from what it would have been if the forecast had not been published. Thus, as J. M. Clark has suggested, the increased knowledge by businessmen of an expected business trend may undeniably hasten and intensify it.⁴² If, says Neurath, a scientist were to publish a prediction that a meteorite would fall and kill some people at a certain time and place, the people might leave, and the prediction would be false; if he merely wrote the prediction in his notebook, it might be accurate; on the other hand if he published it, the people might think he had a selfish purpose in trying to induce them

⁴¹ Wiener, *Cybernetics* (1948) 34, 109. Gabriel Tarde, an eminent French judge interested in statistics, united at the "special appetite which [the study of statistics] has whetted rather than satisfied, this thirst for social knowledge of mathematical prediction and impersonal impartiality. . . . Tarde, *Laws of Imitation* (1903) 133.

⁴² See, e.g., "Business Forecasting," 6 *Econ. Soc. Sci.* 349, 359-363 (1931); Neurath, "Foundations of the Social Sciences," 2 *Econ. Soc. Sci.* 1, 28 (1944); Allen, "This Time and Last," 16 *Harper's* 193, 203 (1947); cf. Keynes, "Time Series," 14 *Econ. Soc. Sci.* 609 (1934); Seligman, "Are Businessmen Human Beings?" 2 *Contemporary* 478 (1946); Katona, "Psychological Analysis of Business Decisions and Expectations," 35 *Am. Econ. Rev.* Pt. II (1945). See also Wiener, *loc. cit.*, 191.

Bacon & Davis published a pamphlet urging corporate executives to retain "experts" to prepare such briefs to favor corporations in litigation with the government. Whatever the cause, the fact is that now, in many such suits, both sides present material of that sort, and government victories have become less certain.

In such cases, or elsewhere, when "experts" with contrasting views collate statistics, each expert can often assemble figures which plausibly confirm his position. Referring to the "Brandeis briefs," Sigety, a teacher of statistical method, writes me, "There are ways of rigging your statistics so that almost any conclusion can be reached from the same basic information. . . . Just as the trial judge may sometimes first reach his *D*, and then, more or less unconsciously, 'fudge' his facts to justify that *D*, so the statistician may likewise 'fudge' his 'trend' curve." Of course, sometimes the "fudging" of a curve can be exposed; but frequently, for the reasons stated by Dorothy Swaine Thomas, it is difficult to prove the "objectivity" of one interpretation of figures as against another.

Hansen and Eldridge, expert social statisticians, in 1947 published an article, on future urban growth in this country, which is an admirable example of the modesty and circumspection needed in the use of such material. Their "estimates," they say, "are projections, not predictions," and are "presented . . . in accordance with varying assumptions" which represent "great oversimplification." They give this warning: "The one thing we can be certain about is that [our] assumptions will not hold."

The books are strewn with social predictions that went wrong. Burke scored a happy guess in 1790 when he prophesied that the lax relations of the French government with the French army would lead to the rise of a "popular general" who would become a dictator. But many wise men have made erroneous forecasts. Palmerston and Disraeli thought Germany would be defeated in the Franco-Prussian war of 1870; Morley believed Australia would never fight to aid Belgium. Many predictions of Marx and Engels misfired. Particularly in our dynamic society are long-range social predictions difficult, because today the time-span of continuity is shorter. New medicines can poke holes in the life-tables. Consider the accidental and unforeseeable origin of several major scientific discoveries which have revolutionized our society. (A banker once defined an invention as something which ruined his investments.) The utterly unexpected pops up to confound

and the "social sciences" (including "legal science") is but one of degree. That is a tricky suggestion: it has been said that the difference between a difference in kind and a difference of degree is not itself a difference of kind but one of degree—a violent difference, however. The difference under discussion here is peculiarly violent. Vivas, who notes that apologists for "social science" sometimes "fall back on the utterly unhistorical excuse that they have not yet had time enough in which to try their ways," remarks, "They find it convenient to forget that in the short span between Galileo's birth and Newton's death, classical mechanics succeeded beyond the expectations of the most sanguine of the earlier scientists. . . ."¹⁰

Since "social" and "legal" sciences are but phases of cultural anthropology, necessarily, too, they are phases of psychology. Now psychology, in so far as it has attempted to ape physical sciences, has been singularly unfruitful. "If," says Professor Langer, "we follow the methods of natural science, our psychology tends to run into physiology, histology and genetics; we move further and further away from those problems which we ought to be approaching. That signifies that the generative idea which gave rise to physics and chemistry and all their progeny . . . does not contain any vivifying concept for the humanistic sciences. The physicist's scheme, so faithfully emulated by generations of psychologists . . . is probably blocking their progress, defeating possible insights by its prejudicial force. The scheme is not false—it is perfectly reasonable—but it is bootless for the study of mental phenomena. It does not . . . excite a constructive imagination, as it does in physical researches. Instead of a method, it inspires a militant methodology."¹¹ Erich Fromm remarks that many social psychologists "believe that unless phenomena can be studied in a way which permits of exact and quantitative analysis, they must not be studied at all." Eager to be "scientists," they choose for study those problems that fit the laboratory method. "Their choice of problems is determined by their method instead of the method being determined by the problem."¹² Thereby, it should be added, they develop a "methodolatry,"¹³ and "are drawn into social blindness by the glare of the laboratory."¹⁴

¹⁰ Williams, "Law and Language," 61 *L.Q. Rev.* (1945) 172, 192.
¹¹ Vivas, "Two Notes on the New Naturalism," 56 *Sewanee Rev.* (1948) 477, 483.
¹² Langer, *Philosophy in a New Key* (Pelican ed. 1948) 18-19.
¹³ Fromm, in the volume, *About the Kiersey Report* (1948) 46 at 49.
¹⁴ Vivas, *loc. cit.*
¹⁵ Denahy, in the volume, *Language, Culture and Personality* (1941) 239.

to move and they might therefore remain, with the result that this prediction would be correct.¹⁵ Johnson refers to "that inescapable irremovable factor that every logician faces when he assumes to deal with human beings. He may predict the movements of a planet or any electron for a thousand years with almost absolute accuracy. He may predict the development of fruit flies, or of guinea pigs, through many generations with a factor of error of negligible proportions. But the moment humanity enters the equation, mathematical calculation loses its authority. . . ."¹⁶

I could go on enumerating inescapable obstacles of a kind encountered by the "social sciences" (including "legal science") and not by natural science. But I must content myself with the following terse, crude, summary of the fundamental obstacle to the creation of a "science of society" (or a "legal science"): The natural scientist uses effectively the method of an "isolated system," one from which he can, for all practical purposes, exclude all but a very few variables. He thus arrives at fairly exact recurrent patterns. Restricting his attention to what are approximately repeatables—i.e., constants, regularities—and (on the "principle of indifference") ignoring the unique, the non-recurrent, he is often able, with a sufficiently close approach to reliability, to trace the effects on the "isolated system" of modifying one of its components, and thereby to discover correlations which are definite within a high range of probability. In a social situation, however, usually the factors are so numerous and so complicatedly interacting, and there are so many unique non-repeatables, that the "isolated system" method becomes almost completely valueless. Seldom, therefore, can one at all accurately evaluate a change in terms of a single effect; thus nice controls and predictions are seldom possible.¹⁷

True, as the well-educated 20th century man knows, even the physical sciences are now recognized to be far less exact than they seemed to all but a few thinkers during the preceding three centuries. It might therefore be suggested that the difference between the natural sciences

¹⁵ Compare the physicist who, in the very act of observing tiny particles, affects them.

¹⁶ Johnson, *American Heroes and Hero Worship*, 64-65 (1943).
¹⁷ I have here, in part, drawn on three of Morris Cohen's articles: "The Social Sciences and The Natural Sciences," in the volume, *The Social Sciences and Their Interrelations* (1937) 437; "Law and Scientific Method," reprinted in Cohen, *Law and the Social Order* (1933) 124; "Philosophy and Legal Science," reprinted in *Law and the Social Order*, 219. His keen perceptions of the weaknesses of the "social sciences" make it the more surprising that he has been reduced by the idea of a "legal science."

hope, to talk of "social" or "legal engineering." For "engineering" is a technology which consists of a body of techniques based on the relatively exact physical sciences that have no social or legal counterpart. What is more, "social engineering" invites treatment of human beings as non-human entities, parts of, or materials to be used by, a machine; and "legal engineering" encourages "mechanical jurisprudence."

Demos, coming at the matter somewhat differently, arrives at a like conclusion.¹⁸ He points out that an engineer, trained to analyze a relatively simple situation into its elements, and then to recombine them so as to reach a solution of a problem, can exhaust the variables because they are few; he can predict, and control, the result with comparative ease. If now you put to the engineer a problem in social relations, he finds that his techniques won't work, because the variables are too numerous and their interactions too complicated, while the evidence, according to his accustomed standards, is insufficient and often unreliable. The engineer, therefore, is likely to throw up his hands, muttering that, since science is inapplicable, the problem cannot be solved by intelligence. That pessimistic reaction—one which an engineering approach to society may well persuade—is frightening. For, writes Demos, "if you say that the complex questions of human policy—inasmuch as they do not lend themselves to scientific treatment—must be abandoned to instincts and sentiments, you are in effect turning the control of human affairs into the hands of fanatics and fuchers."¹⁹ A similar danger lurks in the idea of "legal engineering" or

"it is necessary," said Chesterton, "to cease to be a man in order to do justice to a microbe; it is not necessary to cease to be a man in order to do justice to men. That same suppression of sympathies, that same warring away of intuitions or guess-work which makes a man preternaturally clever in dealing with the stomach of a spider, will make him preternaturally stupid in dealing with the heart of a man." Chesterton overstates his case: The able scientist does not waver away "intuitions or guess work."

It is worth noting that Pound, who coined the phrase "legal engineering," has not wholly given up the idea of "mechanical jurisprudence." See Chapter IV.

¹⁸ *The Spectrum of Knowledge*, 51 *Philosophy*, Rev. (1957) 337.

¹⁹ *When study of society requires a fusion of poetic imagination and the scientific spirit*. As Demos puts it, "The dilemma—either science or sentiment, either strict logic or poetry—is false; over and above these two choices there is relational or complex thinking. This is thinking in a context, thinking which searches for cross-connections between areas. . . ." The "scientific mode," the "mode of clarity," does "not exhaust the resources of intelligence. . . . Reason takes on various colors and is not limited to the scientific hue. . . . The false dilemma" which thrusts upon off "poetry" from logic, "constitutes a threat to the existence of our society."

The brilliant writings of David Riesman point the way to valuable studies of society. Not only is his own approach full of "poetic" insights, but he frequently resorts for helpful clues to the writings of gifted literary artists, such as Tolstoy, Kafka, Joyce, Sartre and Proust. Niebuhr, in a recent newspaper interview remarked: "The good poet and novelist have poets insight into human ambigulness. . . . Lionel Trilling

I do not mean that we should give up our efforts to make educated guesses about the social future and cautiously to plan that future in the light of those guesses. Constructive skepticism, I think, involves these two elements: (1) an eagerness to enquire, or to make enquire, social inventions which will improve the workings of our democratic society; (2) an unceasing awareness of the difficulties of that undertaking (because of its complexity and inescapably guessty qualities) and of the consequent need ever to be tentative, experimental, in the formulation of ways and means. The old anarchistic regime of ultra-left-alone-ism can no longer serve our needs. Increased social cooperativeness, both domestically and on a planetary scale, has become imperative. Plan, then, we must. (Not to plan is a kind of planning, often the stupidest kind). As to our domestic future, our traditions and values put us in a position where we may have to choose either (1) chaos, or (2) civil war, or (3) some sort of totalitarianism, or (4) some sort of democratic planning inside a profit system, planning which seeks a working compromise, in which government would be efficient without being despotic, ensuring individual political freedoms without crumbling into anarchy. Democratic planning should be exceedingly flexible and circumspect. When someone says, "We know how to clarify values into blueprints for action," we should answer, "Yes, we know a little about it."

But to call the making of social guesses a "science" has the disvalue of glossing over inescapable difficulties. I grant that anyone can define "science" (no one can stop him) so as seemingly to obviate my objections. Thus, for example, one can say that "science" is "intelligent observation guided by the best wisdom already in our possession" or "the method of dealing intelligently with all problems," or (more simply) "taking thought." But most persons will be misled when the word "science" is so used, for to them science means a fairly ponderable measure of exactness and of power to predict.²⁰

As, in that sense, we do not now, and almost surely never will, have a "social science" or a "legal science," it also misleads, and raises false

²⁰ McDougall, 56 *Yale L.J.* (1947) 1349.

²¹ Note once more that prediction may mean merely that, if stated operations are performed, stated phenomena will be observed. In some such way we may explain why geology is called a science. As the geologist studies the past, which cannot be predicted or made to occur again, geology might be considered not a science. But usually the geologist, under controlled conditions, can repeat many of the facts he studies. So to speak, he predicts the past. (Only the incautious, dogmatic, geologist denies the possibility that chance played a part in past happenings.)

"legal science." It tends to distract attention from first-hand study of removable evils in the all-too-human conduct of court-house government.

We are suffering today from the consequences of that "religion of science," widely popular in the 19th century, which dogmatically asserts that faith in science must be man's only faith.²⁰ James²¹ deplored this "religion of exclusive scientificism," as he dubbed it, with its over-emphasis on the virtues of "simplicity and consistency." He said that the "appetite for consistency," christened by "logicians . . . the 'law of parsimony,' . . . is nothing but the passion of conceiving the universe in the most labor-saving way." "It will," he warned, "if made the exclusive law of the mind, end by blighting the development of the intellect itself, quite as much as that of the feelings or the will." Our "moral, aesthetic and practical wants," wrote James, "form too dense a stubble to be mown down by any scientific Occam's razor. . . ." It frightened him that the "knights of the razor" were increasing in number, and that "their negations" were "acquiring almost as much prestige and authority as their affirmations legitimately claim over the minds of the docile public. . . ." That way, he felt, lay "mental barbarization." Ascribing to "scientificism" the motto, "Let science be done, though the world perish," James asked, "Was there ever a more exquisite idol of the den, or rather of the shop?" adding that, if all superstitions were to be wiped out, "let the idol of stern obligation to be scientific go with the rest. . . ." James's fears of such "scientificism" were justified. Too many students of human society, intoxicated with the idea that they must be "scientific," have followed a false trail. Where that trail may take them appeared in the boast, not long ago, of a leading sociologist. "Sociology as a science," he said, "is not interested in making the world a better place in which to live. . . ."²²

With some legal thinkers, the idea of "law" as a "science" has had moral consequences similar to those observable among economists. Many economists, bent on achieving what they believed to be scientific dispassionateness and objectivity, have striven to cut themselves from ethics and politics. In producing "economics," they gelded "political

. . . has a poetic understanding of the endless complexities that you don't ordinarily find in the social scientist."

²⁰ See Frank, *Faith and Freedom* (1945) 14-25, 135, 136-64, 169-73, 293.

²¹ *The Will to Believe* (1896) 111, 131-32.

²² Ogburn, "The Folkways of a Scientific Sociology," 30 *Scientific Monthly* (1930) 301-03. Salomon says that sociology has become "a dogmatic 'religion of sociology'"; 7 *Commentary* (1940) 394, 396.

economy"; and gelding, as usual, caused sterility. As Macdonald suggests, they have "confused scientific objectivity with disinterest in values." Worse still, in pretending a disinterest in ethical values and ideals, these economists and many "legal scientists" have concealed from themselves and others the ever-present activity, both in their thinking and their selection of "data," of their own social ideals, so that their buried and undetected ethical assumptions actually waxed the more pronounced. Asserting their dispassionateness, they have become peculiarly and partisansly passionate.

10

To reject the idea of a "legal science" does not mean rejection by lawyers of the use of the products of any science.²³ Nor does it entail their rejection of the "scientific spirit." It is, I think, a grave mistake, causing needless confusion, not sharply to differentiate the spirit, or attitude, of the physical scientist and his "scientific method." His method involves, increasingly, the use of mathematics as well as the search for, and contriving of, "scientific laws," which express "abstract universals dealing with repeatable elements." But the "scientific spirit" is another matter. That spirit entails the discipline of suspended judgment; the rigorous weighing of all the evidence; a consideration of all possible theories; the questioning of the plausible, of the respectably accepted and seemingly self-evident; a serene passion for verification; what I would call "constructive skepticism" (or what Fries calls the purpose of "doing one's damndest to poke holes in one's own theoretical assumptions")²⁴ plus an eagerness not to be deceived.²⁵ With that spirit all students of our legal system should be imbued. If so, they will, I think, deny that they are or ever can be scientists—not because of any mental inferiority to the natural scientists (all of whom, by the

²³ Courts and lawyers, in dealing with patents, for instance, must acquaint themselves with the principles and products of the physical and biological sciences.

²⁴ Fries, "On the Unification of Science," 3 *Am. J. of Economics and Sociology* (1944) 193.

²⁵ One may agree with John Dewey when he describes the scientific attitude as "freedom from control by routine, prejudices, dogma, unexamined tradition, sheer self-interest," and the "will to inquire, to draw conclusions only after taking pains to gather all available evidence." But I think Dewey errs when he describes as the "scientific method" the "systematic, extensive and carefully controlled use of alert and unprejudiced observation and experimentation in collecting, arranging, and testing facts to serve as evidence." That, properly, I believe, describes not the "scientific method" but the "scientific spirit."

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way, do not always have the "scientific spirit")⁸⁰ but because the subject-matter is far more complexly baffling.

A social ideal not yet realized, whether it concerns our legal system or anything else, represents an aspiration, a wish. It should be approached with the scientific spirit—the spirit which encourages the search for, or the invention of, means to a desired end. A man with that spirit will not use his ideal as a day-dream, but will try to ascertain what social changes must be made, if that ideal is to be actualized. He may discover that no changes can be made which will achieve his ideal. Such, I think, should be the conclusion of those who, in a scientific spirit, approach the ideal of a science of legal prediction. The astronomer Jeans says: "The inventor who tries to devise a perpetual-motion machine may come to the conclusion that the forces of nature have joined in a conspiracy to prevent his machine from working, but wider knowledge shows that he is in conflict not with a conspiracy, but with a law of nature. . . ." For "a perfectly organized conspiracy of this kind differs only in name from a law of nature." Apply that conclusion to the efforts to create a science of nice legal prediction! Those efforts come up against an "organized conspiracy" resembling that which balks the hope of inventing a perpetual-motion machine; and that "conspiracy" may thus be regarded as a "law of nature." Those efforts have, then, this great value, that they have proved a negative.⁸¹ We can now move on to more productive endeavors. There is much to be said for what Samuel Butler called the Art of Covery: "This is as important as Discovery. Surely the glory of getting rid of and burying . . . a troublesome matter should be as great as that of making an important discovery."⁸²

We need not capitulate to the pessimism which stems from the false hopes engendered by "scientifism." To conclude that legal or social studies cannot be "sciences" does not commit us to desperation. To those who demand that we look upon science as Olympus, and all else

⁸⁰ That some of the greatest natural scientists have been most unpleasantly lacking in dispositionness, have been selfish, jealous, vindictive, and have even shamelessly lied, see Frank, *Fate and Freedom* (1945) 186-187; Frank, "The Place of the Expert in Modern Society," 16 *Phil. of Science* (1949) 91.

⁸¹ 19 *Encyc. Britannica* (14th ed. 1939) 91.

⁸² See Chapter XXV as to Underhill Moore.

That one who has the scientific spirit will welcome "an observed fact that does not square with" his theory, see Dewey in *The Philosophy of John Dewey* (1933) 576.

⁸³ *The Notion of Samuel Butler* (1917) 186.

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as unworthy of respect, we should say with Tourtoulon, "There is no need to throw to the dogs all that is not fit for the altar of the Gods . . ."⁸⁴

Wise physicians have always admitted that the practice of medicine, while using the sciences, is not a science but is and always will be an art.⁸⁵ So we should admit that all government, and court-house government in particular, is not and can never be a science, that it is and ever will be an art—and a difficult one.

⁸⁴ Tourtoulon, *Philosophy in the Development of Law* (1932) 347-48.
⁸⁵ Aristotle, son of a physician, so recognized. It would seem that the famous skeptic, Sextus Empiricus, espoused skepticism about scientific certainty in general because he feared the results of degrading "scientifically" in the field of medicine. As to Sextus Empiricus, see, e.g., Frank, *Fate and Freedom* (1945) 149, 159, 308, 311-12, 331-32.