THE EPISTEMOLOGY OF LEGAL JUDGMENTS

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THERE are three major ways of understanding any subject. The science of epistemology tells us what they are. It does this by investigating our human ways of knowing, with particular reference to how words obtain their various species of meanings. Since law, perhaps more than most subjects, is concerned with the use and the interpretation of language, it may help us to understand and evaluate the all-or-none principle in legal judgments if we describe three major epistemological theories of knowledge, including their respective conceptions of the meaning of words, and relate them to the settling of legal disputes.

I

The remarkable developments in mathematical physics during this century forced the physicists and mathematicians, such as Mach, Einstein and Whitehead, to become epistemologists, not merely reexamining the relation between directly observable data and the elementary concepts and premises of their science, but also watching with meticulous care the different ways in which their mathematical and ordinary linguistic symbols get their various kinds of meanings. Again and again Whitehead emphasized that one cannot be too suspicious of ordinary language in science and philosophy. In a final comment on the meaning of recent physics and the significance of his own part therein, Einstein wrote:

> The reciprocal relationship of epistemology and science is of noteworthy kind. They are dependent upon each other. Epistemology without contact with science becomes an empty scheme. Science without epistemology is—insofar as it is thinkable at all—primitive and muddled.[1]

The reasons for Whitehead's suspicion of an epistemologically uncritical use of ordinary language in any subject have been summarized and expanded by the writer elsewhere.[2] Briefly, the danger is that its two-termed subject-predicate syntax leads one unconsciously to falsify the facts of one's subject in the very act of stating what they are. More specifically, direct observation shows that any sensed quality is related to other factors in immediate experience by many-termed relations; it is

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[1] ALBERT EINSTEIN: PHILOSOPHER-SCIENTIST 683–84 (Schilpp ed. 1949). [Hereinafter cited as ALBERT EINSTEIN.]

[2] NORTHROP, MAN, NATURE AND GOD ch. 11 (1962).

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not related as the predicate of a local, supposedly underlying self-sufficient substance, after the manner in which ordinary language leads many to suppose. For example, the light blue color which I see at the present moment when I direct my gaze "at Squam Lake" is not, as ordinary linquistic thinking supposes, fastened as a permanently attached predicate to some underlying aggregate of material substances called "the water in Squam Lake"; instead, the sensed blueness is a many-termed relational function of the state of the water's surface, the intensity of the sunshine, the place where I am located, and even the rods and cones in my eyeballs.

The epistemological error of confusing the two-termed grammar of Aryan prose with the nature of things can be serious. In the case of visually and tactually sensed qualities, it misled most modern scientists and philosophers into populating the universe with countless nonexistent underlying material substances that were purported to be as directly sensed as were the qualities that were erroneously supposed to qualify them; and, in the case of one's "inner" sensations of pain or pleasure, it added similarly underlying and nonexistent mental substances that were supposed also to be directly observed.

The generally accepted name for this linguistically uncritical and erroneous theory of knowledge, and its meaning of words, is naive realism. Realism is the thesis that human knowing gives objective knowledge, *i.e.*, knowledge that is the same for all observers or, to use the language of mathematical physics, which remains constant or invariant for any change of standpoint or "transformation of coordinates." Naive realism is the thesis that such knowledge is given naively, that is, directly, by observation, with the senses alone. Linguistically stated, naive realism is that notion of human knowing in any subject which thinks of its particular subject matter in terms of supposedly local, directly sensed things, the defining properties of which are also directly sensed. Aristotelian physics was naive realistic because it defined its elementary scientific objects in terms of the directly sensed qualities hot, cold, wet and dry.

The error in naive realistic thinking and its interpretation of the meaning of words did not originate with Whitehead, even though he gave an independent and fresh demonstration of it.[3] It was evident to ancient Confucian, Buddhist and Hindu Asian epistemologists, to classical Greek and Roman Sophist, Democritean, Platonic and Stoic investigators of human knowledge, to the founders of modern physics, Galilei and Newton, when they rejected the aforementioned naive realistic scientific objects of Aristotelian and medieval scholastic science and theology, and to the modern British epistemologists Berkeley and Hume. Quite independently these Asian and Western experts in the theory of knowledge made two things clear:

[3] WHITEHEAD, THE CONCEPT OF NATURE (1920); WHITEHEAD, AN ENQUIRY CONCERNING THE PRINCIPLES OF NATURAL KNOWLEDGE (1919).

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First, a careful examination of the data of the senses shows that they are not objective or external in the sense of existing independently of their relation to the observer. Instead, the images given to the senses vary from one perceiver to another, one moment to another, one place to another, where the observer may happen to be standing or may choose as his frame of reference, and even from one sense organ to another of the same observer. This is what Berkeley expressed in his dictum that, for all knowledge given to the senses, *esse est percipi* by a particular perceiver. Thus, just as in contemporary physical knowledge, it is meaningless to say that two spatially separated events in the sky occur at the same moment in public time, unless one also specifies the frame of reference relative to which this is the case, so it is meaningless for the layman to say that a sensed region of sensed space is blue unless there is added the particular observer for whom, the moment when, and the place from which this is the case for him. As Einstein once remarked to the writer, "Berkeley was a genius," adding, by way of explanation, "Anyone should see that we do not observe scientific objects. It took a genius to realize that the same is true of common-sense objects." Instead, the data of the senses are temporally successive, unique, perishing particulars, each of which is relative to the perceiver and, as Whitehead reminds us, to many other factors of sensed fact as well; the sensed perceiver in turn being also merely a unique temporal succession of perishing particulars.

Second, the Oriental and Occidental epistemologists, referred to above, noted that the senses do not give the idea of substance.[4] This is the case whether the purported directly sensed or introspected substances be those of Aristotle and the Scholastics; the material substances of Hobbes, Marx and the Asian Charvakian materialists; the mental substances of Berkeley, Leibniz, Lotze, Cousin, Kraus and the lawyer Ahrens,[5] or the interacting material and mental substances of Descartes, Locke and the Asian Vaisesika dualists. Misled, probably by the thing-property syntax of Aryan prose, all these naive realists wrote what has been aptly called "metaphysical nonsense," when they thought they were merely describing the directly observable data of anyone's immediate experience.

It is important that we have a name for that part of, and kind of, human knowing which is given naively in direct observation, *i.e.*, by the senses alone, when such knowledge is not falsified, in the very act of stating what it is, by being thrust into the Procrustean bed that is the two-termed thing-property grammar of ordinary language. The name

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[4] Berkeley showed this to be the case for material substances. Hume showed it to be equally true for mental substances.

[5] For a description of the prodigious legal, political and cultural influence of this naive realistic spiritual pluralism throughout Latin America in the first decade of this century, see NORTHROP, PHILOSOPHICAL ANTHROPOLOGY AND PRACTICAL POLITICS 123–42 (1960).

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used by expert epistemologists the world over for this theory of knowledge is *radical empiricism* or *positivism*. Legal positivism is therefore the thesis that the language of the law and its procedural rules and norms for settling disputes find their entire meaning and sole warrant in items of knowing given by the senses alone. Clearly the difference between interpreting language in a naive realistic or in a radical empirical way is likely to be of considerable legal significance.

II

A comparison of ancient Asian and Greek epistemology and law shows that most people throughout the world thought initially in a combination of naive realistic and radical empirical terms and found meaning and warrant for their ethical and legal beliefs, practices and procedures in such a compound theory of knowledge. The present occasion permits merely a statement of conclusions, the evidence for which has been given elsewhere.[6] To a first approximation, it appears that all people originally thought naively realistically only about their own bodily and other local terrestrial phenomena, and radically empirically about the other data of their immediate experience.

Consequently, insofar as they grounded the meaning of their normative personal moral, and official legal language in the naive realistic portion of their thinking, they identified moral and legal rights, obligations, and duties with naively sensed bodily color of skin, racial ancestry, differences in sex, and primogeniture, or nonprimogeniture, of birth. In other words, their personal moral and public legal norms were those of the patriarchal or matriarchal joint family or tribe, with its ideal of racial purity of ancestry, and, in cases of a society of different races, its legal codes and customs of caste, as instanced in the oldest law books of Aryan Hindu India. Recently, the Indian philosophers, Professors D. M. Datta and P. T. Raju, have shown[7] that these law books were written by lawyers who were naive realistic Vaisesika dualists—dualistic because they believed, like the early modern Western Descartes and Locke, in the aforementioned material and mental substances; naive realistic because they supposed these substances to be directly sensed. In the ancient West this naive realistic theory of the meaning of and warrant for the litigational settling of disputes in terms of all-or-none principles with naively sensed, and conceived, bodily and racially focused patriarchal content, shows in the *pater familias* described in Fustel de Coulanges' *The Ancient City* and O. W. Westrup's *Introduction to Early Roman Law*. In short, the naive realistic portion

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[6] Northrop, *The Comparative Philosophy of Comparative Law*, 45 CORNELL L.Q. 617 (1960). See also the forthcoming symposium volume, LIVINGSTON & NORTHROP, CROSS-CULTURAL UNDERSTANDING: EPISTEMOLOGY IN ANTHROPOLOGY.

[7] PHILOSOPHY AND CULTURE EAST AND WEST 569–93, 263–92 (Moore ed. 1962).

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of the thought and language of the ancient world, both Oriental and Occidental, gave meaning and warrant to the all-or-none litigational codes of what Sir Henry Maine in his *Ancient Law* called a "law of Status" society, where "Status" is defined in terms of, and is relative to, naively sensed biological differences in color of skin, genealogical ancestry, sex and temporal order of birth. Procedurewise, this meant that a legal judgment could be rendered when the judge had before him the genealogical tables of the parties to any dispute.

Ancient Asian empirical science and normative morals and law are somewhat unique however in combining this naive realistic law of tribe, ancestral family and caste with a radical empirical theory of the person, and then giving the latter normative primacy.[8] This shows in the Laws of Manu, for example, where the ethics of family-focused personal morality and of caste are assigned to the second, or Householder, stage of the Aryan Hindu's life; with the radical empirical theory of the moral, legal and religious person (in which all people are undifferentiatedly identical with one another and with the divine Atman-that-is-Brahman) giving the norms for conduct in the first (Student) and the last two (Hermit and Ascetic) stages of the Aryan Hindu's life.

In their legal positivism, the Asian radical empirical lawyers were much more consistent than were their modern Anglo-American counterparts. As shown in the previous section, on a radical empirical theory of knowledge and the meaning of words, universal laws are left meaningless. Such is the case because, as noted above, radical empiricism or positivism affirms that any word (purporting to refer to anything determinate) is meaningless unless it finds its entire meaning in data given directly through the senses. But, sense awareness gives us only successive, perishing particulars, each relative to the perceiver, his physical frame of reference and his particular sense organs. Hence, it leaves meaningless the notion of litigational common law, the same in content and obligatoriness for everyone in the legal system.

Oriental radical empiricists accepted this consequence of their positivism by rejecting litigation with its all-or-none universal principles as a warrantable or even a meaningful procedure for settling disputes. The Confucian Chinese radical empiricists expressed this thesis by saying that the superior man does not indulge in litigation.[9] The Buddha, rejecting

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[8] For the radically empirical meaning and normative import of this primary person, see NORTHROP, PHILOSOPHICAL ANTHROPOLOGY AND PRACTICAL POLITICS ch. 19 (1960); NORTHROP, THE COMPLEXITY OF LEGAL AND ETHICAL EXPERIENCE ch. 16 (1959); NORTHROP, THE MEETING OF EAST AND WEST chs. 9 and 10 (1946); Northrop, *The Mediational Approval Theory of Law in American Legal Realism*, 44 VA. L. REV. 347, 356–60 (1958).

[9] CHIANG, TIDES FROM THE WEST 252 (1947); Liu, *Some Observations on Judges, Lawyers and Court Administration in China*, 7 NAT'L RECONSTRUCTION J. 3 (No. 4, 1947).

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the naive realistic concept of the person, repudiated its morals and law of Status and caste for that of the aforementioned radically empirical undifferentiated person. Practically, this means that the preferred legal procedure is that of mediation by way of a middleman or go-between.

It is to be emphasized, therefore, that mediation, unrestricted by litigation or positive rules of arbitration, is the only meaningful method of dispute settling for a consistent legal positivist. Moreover, in radical empirical knowing it is not merely the meaning of normative words, such as good and bad, just or unjust, that are privately relative to the evaluator, as the positivists Hume[10] and Hand[11] noted; the same is true also of "the facts of the case," the minor premise, in any litigational legal judgment. For in knowledge given wholly through the senses the pleasant facts which you sense, when you see me "floating through the breeze with the greatest of ease," after you have hit me with your automobile, are quite different from those that I sense. In other words, only a realistic epistemology, with its truly objective knowledge the same in content for all knowers and all parties to any dispute, can provide either a meaning or a warrant for litigational law, *i.e.*, for the settling of a dispute by measuring the facts of the case against universal legal rules, which are all-or-none norms of decision.

This becomes even more evident when we state the deliverances of knowledge given wholly through the senses in positive rather than negative terms. As noted above, all such knowledge is meaningless apart from the percipient for whom it is sensed to be the case. Also all items of sensed knowledge are unique, temporally successive, perishing particulars. Hence, *immediately sensed* events, such as "the collision between me and your car," are similarly unique, radically empirical particulars. They are not instances of a universal law. Being unique, the solution of the dispute must therefore be unique. This also eliminates litigation, with its appeal to universal all-or-none laws, as meaningful.

But how, then, if the sensed facts of the case for me are painful and quite different from the pleasurable sensed facts of the case for you, can any dispute be meaningfully settled for one who holds a radical empirical theory of knowledge and the meaning of all words? The only meaningful method is mediation through a middleman in which the latter functions never as a judge, or even an arbitrator, but merely as a go-between attempting the well-nigh impossible task of trying to put the one party to the dispute emotively and empathetically inside the private, to-be-is-to-be-perceived-by-me facts of the case as sensed by the other party. Moreover, the dispute is neither meaningfully, nor effectively, settled until by this process the disputants themselves, by better empathetic understanding of

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[10] HUME, A TREATISE OF HUMAN NATURE 245 (1951).

[11] Hand, *Mr. Justice Holmes*, 43 HARV. L. REV. 857 (1930), and reprinted in THE SPIRIT OF LIBERTY, PAPERS AND ADDRESSES OF LEARNED HAND 57–65 (2d Dillard ed. 1953).

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each other's unique, privately relative facts-of-the-case come to an agreement, usually involving concessions on both sides, concerning what is a unique and emotively satisfying resolution of the perishing unique event which was their particular dispute.

We draw, therefore, one important conclusion with respect to the fundamental theme and problem of this legal conference. This conclusion is that to the extent any contemporary branch of human society or positive law is still only in a largely inductive case method and ordinary language state of linguistic articulation, to that extent the litigational method of dispute settling is not merely unwarranted but also meaningless. A corollary of this is that legal positivists such as Hume, Austin, Thayer and the late Judge Hand, were talking "metaphysical nonsense," assuming their positivistic epistemology to be the entire truth, when they adjudicated disputes by appeal to universal positive legal codes.

That the latter is the case is shown by Austin's own so-called positivistic theory. The theory makes purely private personal moral judgments meaningful, but fails for official litigational law. The former is the case because all sensed knowledge is relative to the perceiver and hence a theory of moral rights and obligations which makes them relative to the perceiver is compatible with a positivistic epistemological theory of the meaning of language. It provides meaning also for legal rules personally assented to by the majority, or their officially elected representatives, so long as these legal rules are interpreted as obligatory only for the specific majority who assented to them. But no litigational system would exist for a moment if its legal rules were not made obligatory for everybody in it. In other words, the radical empirical or positivistic theory of law is incapable of solving what the writer in *The Complexity of Legal and Ethical Experience* called the problem of legal induction,[12] *i.e.*, the problem of making meaningful the induction from "x is approved by the majority" to "x is obligatory for everyone in the legal system." Similarly, in pure mathematics, scientists are now agreed that the radical empirical, or positivistic, theory of the meaning of all symbols cannot solve what mathematicians have called the problem of mathematical induction. More specifically, the radical empirical theory of the meaning of symbols leaves Peano's Fifth Postulate for arithmetic not merely without any warrant, but also meaningless. The same is true of the radical empirical theory of induction from experimental data to universal laws in mathematical physics, as the sequel will show in more specific detail.

That the legal positivist Austin recognized this failure of his radical empirical epistemological theory of the meaning of words, and his radical empirical theory of the meaning of personal ethical language, to account for the universal legal obligation which litigational law requires, is proved

[12] NORTHROP, THE COMPLEXITY OF LEGAL AND ETHICAL EXPERIENCE 297–300 (1959).

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by his own definition of the legal obligation of anyone in the legal system to be judged by its majority-approved norms. In his famous definition of law, its rules are not "laws, properly so-called" if the sovereign will or command is that merely of the assenting majority; in addition the sovereign must have the power "to inflict an evil or pain," greater than that possessed by any body of dissenters, to bear on anyone or all who dissent from his commands.

But what do the words "power of the sovereign" in the Austinian theory mean? On the positivistic theory of meaning, they denote merely radically empirically sensed, Berkeleyian to-be-is-to-be-perceived by a particular person's power. This is no more meaningfully the same for everyone in the legal system than are the similar radically empirical sensed and conceived aforementioned "facts of the case" in the minor premise of the legal positivist's judicial syllogism. Consequently, if Austin is to solve his problem of legal induction in a way that makes litigational law meaningful, by his questionable identification of legal and political obligation with "power", he must have epistemologically realistic, *i.e.*, objective *non-esse-est-percipi* power; radically empirically conceived power will not do. This is why he started out to be a thorough-going and consistent legal positivist, only to end, in his notion of legal obligation, by embracing the aforementioned naive realistic "metaphysical nonsense" that is (1) the Hobbesian meaning of personal moral, as well as legal and political, freedom from which (2) the warrant for the Austinian-Hobbesian identification of legal and political obligation with naive realistically conceived power derives.

The Hobbesian naive realistic meaning of (1) is given in the *Leviathan* where its author identifies *normative* personal moral, as well as civic legal and political freedom with the *nonnormative,* unimpeded motion of an "external" local naive realistically conceived material substance, even emphasizing the latter notion by affirming that moral, legal and political freedom applies as much to inorganic objects as to human beings[13]—a consequence which, were it not nonsense, would make it meaningful to say that a stone is naughty, or for a judge to decide that it is guilty of murder if, when falling *freely* from a cliff, it hits (without any provocation on the part of the deceased) a person to cause his death.

In short, the traditional Anglo-American "legal positivism" is a linquistically misled and epistemologically "primitive and muddled" contradiction in terms. Insofar as it provides the meaning for "legal and political obligation" that is required to make litigational law meaningful, it falls into (a) the is-ought *non sequitur* noted by the positivistic Hume[14] and

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[13] HOBBES, LEVIATHAN OR THE MATTER, FORME AND POWER OF COMMONWEALTH ECCLESIASTICALL AND CIVILL pt. 2 at 136–37 (undated).

[14] HUME, A TREATISE OF HUMAN NATURE 245–46 (1951).

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(b) the metaphysical nonsense that is the naive realism of Hobbes' definition of normative freedom. To the extent, on the other hand, that it remains consistently positivistic, *i.e.*, radically empirical, it leaves litigational law meaningless.

Austin's final recourse to Hobbes' naive realism confirms, therefore, the Oriental radical empirical lawyer's conclusion that the only consistent legal positivism is one which settles disputes by mediation. In the West, the only lawyer, to the writer's knowledge, with any intimation of this was the late Dean Wesley A. Sturges.[15] In any event, litigational law requires a realistic epistemology.

But we have already shown that the naive realistic theory of Hobbes, with his material substances, or any other version of the naive realistic theory of the meaning of language is erroneous. How then can the litigational method of dispute settling by the appeal to "the objective facts of the case" and to universally lawful norms of decision be made either meaningful or warrantable? It is at this point that Einstein's, as distinct from Whitehead's, observation concerning the indispensability of epistemology for science becomes important for the problem of this symposium.

III

What is the reason, within mathematical physics, for Einstein's statement, quoted above, that "Science without epistemology is . . . primitive and muddled"? The answer is given by him in his collected papers,[16] and has been brought together by the writer with Einstein's following comment in the Einstein volume of the Library of Living Philosophers.[17] Briefly put, the answer is that Einstein and his most influential predecessor Mach found their science of physics to be in a "primitive and muddled" state because both physicists and philosophers of this subject had given the mathematical physical concepts of mass, space and time a naive realistic epistemological interpretation, thereby populating the universe with the aforementioned nonexistent material substances, when, in fact, an analysis of their mathematically linguistic meanings shows them to be nonobservable, logically realistic, many-termed relational, indirectly confirmed constructs.

More specifically, Mach showed that "a mass" is not the naively or directly sensed thing-property material substance the modern materialists, misled by ordinary language, had supposed it to be, but is instead a mathematically linguistic, imageless, many-termed relational variable, all the

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[15] Northrop, *The Mediational Approval Theory of Law in American Legal Realism*, 44 VA. L. REV. 347 (1958).

[16] EINSTEIN, THE WORLD AS I SEE IT (1934).

[17] Northrop, *Einstein's Conception of Science*, in ALBERT EINSTEIN, *op. cit. supra* note 1, at 385–408.

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scientific properties of which derive from the formal properties of the relations (the mathematical equations of Newton's laws of motion) in which the symbol *m* functions as a relatum or term. Similarly, after noting the immediately sensed data of the Michelson-Morley experiment and turning epistemologist to reexamine afresh the relation in human knowing between the deliverances of our senses and the theoretical concepts and laws of mathematical physics, Einstein showed the following things: (1) The deliverances of the human senses do not warrant the layman's and the physicist's belief in external objects in public space and time. Why? (2) Because (a) to be an external object means to be in public space and time; (b) public time entails a meaning for the public simultaneity of spatially separated events; and (c) such public meaningful simultaneity is not given through the senses. Hence, (3) both the radical empirical and the naive realistic theory of the meaning of anyone's belief in external objects in public space and time is false; in short, neither common-sense nor scientific objectivity is given directly by observation. Consequently, (4) if the layman's and the scientist's belief in public objects in public space and time is meaningful, as our mathematically constructed Greenwich time with its mathematically and astronomically set and synchronized clocks shows is the case, then space and time as well as mass, must be speculatively discovered, logically realistic relational constructs, the confirmation of which is indirect. Finally, (5) because of the deliverance of our senses in the Michelson-Morley experiment and, as described in (2b and c) just above, the logical realistic constructs of mass, space and time must be different from those of Newton; the latter's coming out of those of Einstein's Special and General Theories of Relativity as a very important and prevalent, but nonetheless restricted special case. Thus Einstein writes:

> Since . . . sense perception only gives information of [the] external world or of "physical reality" indirectly, we can only grasp the latter by speculative means. It follows from this that our notions of physical reality can never be final. We must always be ready to change these notions—that is to say, the axiomatic substructure of physics [*i.e.*, the relationally axiomaticized constructs]—in order to do justice to perceived facts in the most logically perfect way.[18]

In short, the fundamental concepts and laws of Western mathematical physics are *logically realistic,* rather than naively realistic or radically empirical, concepts.

Being unobservable, these logically realistic constructs have to be epistemologically correlated, through their deduced concepts or theorems, with the radically empirical data, relative to each frame of reference, each perceiver and his various sense organs, which are given through the senses.

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[18] EINSTEIN, *op. cit. supra* note 15, at 60.

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Otherwise, theory designating these logically realistic, speculatively discovered scientific objects and universal laws cannot be put even to an indirect empirical test. Hence, the epistemology required by an epistemological analysis of (1) the deliverances of our senses and (2) the imageless, logically and mathematically relational constructs of mathematical physics is (1) logical realism in epistemic correlation[19] with (2) nominalistic radical empiricism.

It is the speculatively discovered and relationally constructed logical factor in this compound way of knowing that gives both common-sense and scientific knowledge its meaningful objectivity, the same in content for all perceivers. The criterion of this realistic objectivity is invariance of the relational constructs and laws for all observers or any transformation of coordinates. It is the noninvariant part of the logically realistic scientific theory that designates the knowledge which holds only for a particular frame of reference, moment, perceiver or one of his senses. It is the epistemological correlation of (1) the latter noninvariant part of logically realistic scientific theory, with (2) the completely relative radical empirical data given through the senses, that gives such logical realistic speculatively discovered and relationally constructed knowledge its indirect empirical and experimental testability. Consequently, in such theory meaning and testability must be distinguished. Also, otherwise the radical empirical references required for testability are confused with the logical realistic theoretical meaning of the theory that is tested. Then muddled results and erroneous inferences are made. This is avoided if it is noted that in logical realistic scientific theory, meaning is completely logical realistic, and the additional epistemically correlated radical empirical meanings and references are required only for testability.

Einstein was well aware that the discovery of logically realistic constructs was not original with him or with Mach. All non-Aristotelian Western mathematical physics contains them. They were discovered by the Democritean, Platonic and Stoic Greek mathematical physicists. The contemporary mathematical physicist, Greek classicist and historian of science, Professor S. Sambursky, has shown[20] that this epistemological theory of logically realistic constructs, confirmed indirectly by the correlation of their deduced theorems with radically empirically sensed data, reached its highest ancient articulation with the Stoic Greek physicist, Chrysippus. Einstein was well aware of this originality of the Greek mathematical physicists. He writes: "If Euclid failed to kindle your youthful enthusiasm, then you were not born to be a scientific thinker."[21] Later he

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[19] This relation and its importance will be described in the sequel. See also NORTHROP, THE LOGIC OF THE SCIENCES AND THE HUMANITIES ch. 7 (1947).

[20] SAMBURSKY, PHYSICS OF THE STOICS (1959).

[21] EINSTEIN, *op. cit. supra* note 15, at 32.

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adds that in mathematical physics, one "can grasp reality, as the ancients dreamed."[22]

Chrysippus was also one of the most important formulators of the Stoic ethical, legal and political doctrine that moral and just man is not naive realistically sensed, color-of-skin, bodily, sexual or racial man, but cosmopolitan man, *i.e.*, any one person, standing in equity, with any other, irrespective of naively sensed bodily differences in racial color of skin, sex or temporal order of birth, before a contractually constructed common law. Chrysippus logically formalized all his conceptions. The logic of propositions, and especially that of hypothetical propositions and syllogism, which are formal prerequisites for the logical realistic scientific method of indirect testability, are in major part his creation. They are a prerequisite also for the contractual law of contingent remainders and executory interests. Similarly, only a logically realistic, relational concept of the legal person, conceived in terms of any human being whatever, universally quantified, can give the Roman legal concept of *jus in rem* in the law of real property. Neither a radical empirical nor a naive realistic concept of the legal person can do so. Trusts and corporations are logically realistic constructs. In short, there are reasons for believing that Western contractual law arose when (1) the erroneous character of naive realistically conceived common-sense or scientific objects was made evident by the radically empirical Greek Sophists, (2) logically realistic constructs were discovered and relationally axiomatized by Theaetetus, Eudoxus and Chrysippus to take their place, and (3) the latter way of thinking passed from the Greek mathematical physical sciences into Stoic Roman law through Chrysippus, the Scaevolas and the later Stoic Roman lawyers.[23]

Under Aristotle and the dominant epistemologists and philosophers of the Middle Ages, natural science, ethics, law, politics and theology returned to the naive realistic notion that there are no ideas in the intellect which are not first in the senses. This made logically realistic constructs meaningless. Modern mathematical physics arose when Galilei and Newton in their theory of heat, and of mathematical motion, space and time, returned Western mathematical physics to the logically realistic theory. Unfortunately, however, as noted in connection with Whitehead above, due to the influence of ordinary language, these logically realistic constructs were interpreted naively realistically thereby generating the countless nonexistent material substances of the Hobbesian and Marxist materialists, the spiritual substances of Berkeley, Leibniz and the other

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[22] *Id.* at 37.

[23] See Sambursky, *Structural and Dynamic Elements in the Greek Conception of Physical Reality* and Smith, *The Theoretical Constructs of Western Contractual Law*, in LIVINGSTON & NORTHROP, CROSS-CULTURAL UNDERSTANDING: EPISTEMOLOGY IN ANTHROPOLOGY (1964); also NORTHROP, THE COMPLEXITY OF LEGAL AND ETHICAL EXPERIENCE ch. 17 (1959).

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mentalists, and the interacting mental and material substances of modern Cartesian and Lockean dualists.

Those of us in modern English-speaking culture are in the tradition of either the naively realistic and materialistic Hobbes or the blank-tabletish mental substances of the early Locke. From the latter theory (since the mind, antecedent to the action of the material substances upon it through the senses is a blank tablet), it follows that all meaningful words must find their meaning in the senses. The result is the radical empirical portion of Locke's *Essay Concerning Human Understanding* from which Hume, Bentham and Austin's theory of personal morals follows as does Austin's inconsistency, noted above, of falling back on the naive realism of Hobbes in order to account for universal litigational legal and political obligation.

Need one wonder that present legal and political science and practice are muddled? Our litigational contractual law is meaningless apart from universal all-or-none principles which are logically realistic constructs correlated with radically empirically given operational procedures and definitions. Yet our English legal positivists and most American Legal Realists, like the pre-Machian naive realistic materialistic physicists, have been interpreting these concepts of their science in either naive realistic Hobbesian terms (as have the dialectically materialistic Marxists) or in completely radically empirical, postivistic ones. In any event, we conclude that the settling of legal disputes by litigational means is warranted to the extent that those disputes, including the facts of the case and the norms for their decision, are stated in logical realistic relationally constructed language with its epistemologically correlated, radical empirically described operational procedures and references.

Such is the case, however, only for certain portions of Western positive law. Although his book shows little awareness of the epistemological distinctions at the basis of what he describes, Professor F. H. Lawson's *The Rational Strength of English Law* tells us most concisely what are the parts of law which approximate a formulation in logically realistic language and the parts which do not. He distinguishes them as those with a language of "rational strength" and those without it. Legal language with "rational strength" he describes as follows: Its concepts are (1) "intensely abstract" and "perfectly defined,"[24] (2) "completely generalised,"[25] (3) "move among themselves according to the rules of a game," and form (4) "a calculus remarkably similar to mathematics."[26] (1) and (3) insure that such legal language is neither radical empirical nor naive realistic in its meaning. By (2) and (3) Professor Lawson means (as illustrated in "England['s] most

[24] LAWSON, THE RATIONAL STRENGTH OF ENGLISH LAW 79 (1951).
[25] *Id.* at 90.
[26] *Id.* at 79.

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important rule governing the interpretation of statutes",[27]) that (5) the "words must be interpreted according to their grammatical meaning."[28] (3) and (4) show this grammar not to be that of ordinary language as does Professor Lawson's subsequent statement that the creation of such a legal language (6) "made it necessary to devise a special form of logic or grammar. . . ."[29]

He notes one very important consequence of such language, with respect to judicial judgments. It is that "judges have no great power to control [such] written law."[30] Our epistemological analysis shows why. In logically realistic language, let it be recalled, the words, including even the entity constructs such as mass, corporate personality, or the legal person, derive their entire realistic meaning syntactically by way of the imageless, logically formulated relations in which they function as entity variables or terms. From this two things follow: (1) all logical relations or laws are analytic, since the entity terms or variables mean only what the relational syntax formally specifies them to mean. Consequently, (2) all logically realistic laws hold for all instances of their variables on analytic, or tautological, grounds.

This is why logically realistic science has no difficulty in solving the problem of pure mathematical, mathematical physical, or legal induction, *i.e.*, for finding a *meaning* for all of the instances of the entity variables obeying the relationally formalized rules, be they non-normatively indicative with respect to the facts of the subject matter or normatively obligatory with respect to the norms of decision. Applied to litigational law this means that it is not necessary to fall into the is-ought *non sequitur* and the naive realistic metaphysical nonsense that is the Austinian-Hobbesian definition of "laws, properly so-called," in order to provide any meaning for the obligation of all logically realistic legal persons in the legal system to be judged by its norms. Nor is Kelsen's extra *ad hoc* postulate "One ought to obey the positive law" required.

It is to be emphasized that such is the case only to the extent that any branch of positive law has been formulated, as a calculus, in logically realistic technical legal language. To this extent, however, the American Legal Realists' criticism of "judge-declared law" is misguided; the "normative ambiguity" and "metaphysical nonsense" is in the "Realists" themselves, rather than in the legal language, because, like the naive realistic pre-Machian materialistic physicists, they have read naive realistic or radical empirical meanings into words, the meaning of which is logically realistic. Moreover, the Anglo-American legal positivists, with their radical

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[27] *Id.* at 16.
[28] *Ibid.*
[29] *Id.* at 87. See also p. 91.
[30] *Id.* at 16.

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empirical theory of the meaning of all legal language, combined incompatibly with their Hobbesian naive realistic meaning of the words "moral, legal and political freedom" and "legal and political obligation," are as much guilty of this error as are the American legal realists. The serious consequences of such a misreading (by some recent United States Supreme Court justices and Austinian-Hobbesian secretaries of state) of the meaning of the words "judicial review," "the Bill of Rights," "constitutional law," "international law" and "a *realistic* foreign policy" are by no means negligible.[31]

The merit of the American legal realists is their demonstration of the large amount of law which is not judge-declarable, but judge-made, and more accurately described as a "primitive and muddled" mess. Our epistemological analysis shows that this is very great indeed. It includes not merely all those parts of law, described by Professors F. H. Lawson and Joseph C. Smith, which have not been formalized in logical realistic language, but also the remainder as well when it is interpreted by the legal positivists or by the American Legal Realists most of whom were naive realists.

IV

At last we are in a position, by way of summary, to bring the over-all results of our epistemological analysis of legal judgments to bear upon the major question of this symposium, namely, the extent, if any, to which "all black-all white" judicial judgments are meaningful and warrantable. This, as shown above, is equivalent to asking whether judge-declarable litigational law is both meaningful and warrantable.

Briefly stated, the answer is twofold: (1) Such is the case only for those portions of law in which (a) the facts of the case and (b) the universally obligatory norms of decision have been formulated in logically realistic language and then interpreted by the judge logically realistically rather than radically empirically or naive realistically. (2) For all other parts of law, mediation is, strictly speaking, the only meaningful or warrantable method.

With respect to (1a), the putting of the facts of the case in logical realistic language means that the legal method for determining what is admissible evidence, cannot be, as is so often the case at present, the naive realistic *direct* observational "statement of facts" by the witnesses. Instead, it must be the method of logical realistic hypothesis, described in the previous section, with its *indirect* method of testability, in which logically deduced theorems of the logically realistic theory are tested against the epistemically correlated, ordinary linguistic statements of the wit-

[31] NORTHROP, PHILOSOPHICAL ANTHROPOLOGY AND PRACTICAL POLITICS chs. 11, 17, and 18 (1960).

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nesses, when these statements are interpreted completely radically empirically, *i.e.*, as denoting in the case of each witness merely the de facto *esse est percipi* successive perishing particular images that alone are directly observed by him, rather than the thing-property objects and events which the witness may naive realistically infer from these images and erroneously reify into metaphysical nonsense. To drive each witness back from the naive realistic meaning of his observational facts-of-the-case statements to their radical empirical meaning is precisely what is done by a cross-examining attorney who "knows his business," *i.e.*, who understands the epistemological ambiguity of most observational statements.

With respect to (1b), the putting of the norms of decision in logically realistic terms and under such procedural rules has an equally important implication. First, just as in logically realistic mathematical physics, or logically realistic legal rules of evidence, meaning must be distinguished from testability (meaning being completely logically realistic, and testability being an epistemological correlation of radical empirical meaning with logically realistic meaning); so, with respect to the norms of decision, (a) normative meaning, which is completely logical realistic, must be distinguished from its (b) *operational procedures and instrumental sanctions*, the latter (b) being an epistemic correlate of (i) logically realistic normative meaning and (ii) radical empirical *is* meaning.

The importance of epistemic correlations for logically realistic rules of evidence in legal science and mathematical physics is that they prevent the confusion of unobservable logically realistic scientific objects and laws, which are indirectly tested, with either directly observed sense objects or with purported directly observed naive realistically conceived objects. Such is the case because epistemic correlation is an epistemological relation between items of knowledge known in two different ways and which refer therefore to two different worlds of linguistic discourse. Epistemic correlation, therefore, is not the relation of identity or of logical implication between items of knowledge in the same linguistic world of discourse. This is why the epistemic correlations, which any logical realistic science requires, prevent the error of identifying (a) objective indirectly tested, logically realistically conceived, unobservable objects and their laws with (b) relative directly observable data. Similarly in logically realistic legal science, the relation of epistemic correlation prevents the aforementioned error and *non sequitur* of identifying (a) a realistic legal obligation, which is an *ought*, with its epistemically correlated (b) a merely instrumental and operational empirical police power, which *per se* is an *is*.

With respect to the part of present law that is not thus logical realistically articulated and interpreted, two things follow from previous sections. First, strictly speaking, as realized by the Oriental radical empiricists, and, in part at least, also by the late Dean Sturges, such legal disputes are

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meaningfully settled only by mediation. In other words, for radically empirically conceived disputes even judge-declared law is meaningless. Such is the case because the judge's statements of both the facts and the normative legal evaluation of them are, if completely radical empirical in meaning, as relative to the perceiver and hence incapable of giving meaning to even a judge-made common law, as are the factual and evaluative judgments of the parties to the dispute. Second, in a culture where dispute settling has become litigational, the result for those disputes that are not logical realistically formalized and interpreted will be a compromise between litigational law and mediational law. In other words, it will be in part judge-made law when such a dispute is taken to court, in part legislative litigationally authorized arbitration and mediation and in part pressure by the head of the executive branch of government upon the parties to the dispute to accept arbitration or mediation rather than the consequences of litigation. The latter compromise is especially likely to occur when the executive and his attorney general are approaching a national election.

Must one not also ask the question whether there is not merely an epistemological muddle, but, in addition, something legally improper when a chief executive publicly urges arbitration by a Supreme Court justice of a dispute which has arisen because one of the parties to the dispute proposes to put into practice what the Supreme Court, of which the justice is a member, has declared to be litigationally just? At the least it would seem to be the case that contemporary law is in the same "primitive and muddled" state in which physics foundered before Mach and in which Einstein tells us any subject ends when it neglects epistemology.

If this be so, one pedagogical conclusion seems to follow. Must not lawyers, and especially law professors, supplement their present study of linguistically expressed cases with an expertness in epistemology at least sufficient to make them aware of (a) the various epistemological kinds of meaning any word in their legal language may have, (b) the syntactical and semantic criteria for recognizing each, and (c) the linguistic and metaphysical nonsense and erroneous legal judgments which result when one kind of meaning is confused with another?

One final question remains: Should not all dispute settling be made mediational?

The answer must clearly be in the negative for the following reasons. By means of an epistemological analysis of the meaning of its mathematical and ordinary linguistic symbols, mathematical physics has escaped from its earlier primitive and muddled state to make some of the most remarkable advances in the achievement of more and more adequate logical realistic theory that have ever occurred in human history. This theory has generated present scientific technology and its instruments, including this atomic age. The logically realistic instruments and ways of this age are being imported from the modern West by everyone everywhere. In short,

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we are living, to a degree which was never the case before, in a logically realistic world. Only judge-declarable logical realistic litigational law can fit such a world.

Furthermore, the logically realistic atomic bomb makes naive realistic Hobbesian-Austinian power politics and foreign policy suicidal. A logically realistic world, in this atomic age, calls for meaningful international law. This, as shown elsewhere,[32] only logically realistic legal science provides; for both naive realists and radical empiricists, both international law and constitutional law are a contradiction in terms.

Finally, as demonstrated in earlier sections, law itself, especially insofar as it has achieved the status of being a science rather than a linguistic muddle, is *in considerable part* already logically realistic in meaning and method. It is only the epistemological confusion of radical empirical and naive realistic meaning with logically realistic meaning that has in recent times covered up this fact. Moreover, the part that is already judge-declarable, internationally meaningful and logically realistic is probably greater than most lawyers now realize. In fact, constitutional law, instead of being the joke that it is to so many law professors, is probably the most trustworthy part of contemporary law, as is logical realistically meaningful international law.

One point noted above when combined with an empirical fact of our world should make this clear. This point is that logically realistic norms of decision are analytic and hence true tautologically. The empirical fact is the appeal today by minority groups in our midst and peoples throughout Asia and Africa to Jefferson's Declaration of Independence principle. This Jeffersonian Declaration contains the word "self-evident." A principle can be self-evident only if it is analytic and hence true tautologically. This indicates that American constitutional law and the Declaration of Independence are falsely understood unless their language is interpreted logically realistically.[33]

In any event, then one must expect that, as law teachers and lawyers become more sophisticated epistemologically, judge-declarable logical realistic litigational law is going to take on greater and greater importance both domestically and internationally; also present parts of law that are not now litigationally judge-declarable are likely to be put in such a form by legal scientists who use the unique syntax and method of logical realistic science. When this occurs they may well find that many of the old judge-declarable constructs must be reformed, due to the fact that the legal grammarians, who made them, inconsistently introduced naive realistic normative content.

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[32] *Id.* at 316–38; also NORTHROP, THE COMPLEXITY OF LEGAL AND ETHICAL EXPERIENCE chs. 17 and 22 (1959).

[33] For a more detailed statement of what such an interpretation means, see Northrop, *Law, Language and Morals*, 71 YALE L.J. 1017, 1045–48 (1962).

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