Chapter II

DIALECTIC AND RHETORIC AT DAYTON, TENNESSEE

WE HAVE maintained that dialectic and rhetoric are distinguishable stages of argumentation, although often they are not distinguished by the professional mind, to say nothing of the popular mind. Dialectic is that stage which defines the subject satisfactorily with regard to the logos, or the set of propositions making up some coherent universe of discourse; and we can therefore say that a dialectical position is established when its relation to an opposite has been made clear and it is thus rationally rather than empirically sustained. Despite the inconclusiveness of Plato on this subject, we shall say that facts are never dialectically determined—although they may be elaborated in a dialectical system—and that the urgency of facts is never a dialectical concern. For similar reasons Professor Adler, in his searching study of dialectic, maintains the position that "Facts, that is non-discursive elements, are never determinative of dialectic in a logical or intellectual sense. . . ."[1]

What a successful dialectic secures for any position therefore, as we noted in the opening chapter, is not actuality but possibility; and what rhetoric thereafter accomplishes is to take any dialectically secured position (since positive positions, like the "position" that water freezes at 32°F., are not matters for rhetorical appeal) and show its relationship to the world of prudential conduct. This is tantamount to saying that what the specifically rhetorical plea asks of us is belief, which is a preliminary to action.

It may be helpful to state this relationship through an example less complex than that of the Platonic dialogue. The speaker who in a dialectical contest has taken the position that "magnanimity is a virtue" has by his process of opposition and exclusion won our intellectual assent, inasmuch as we see the abstract possibility of this position in the world of discourse. He has not, however, produced in us a resolve to practice magnanimity. To accomplish this he must pass from the realm of possibility to that of actuality; it is not the logical invincibility of "magnanimity" enclosed in the class "virtue" which wins our assent; rather it is the contemplation of magnanimity *sub specie* actuality. Accordingly when we say that rhetoric instills belief and action, we are saying that it intersects possibility with the plane of actuality and hence of the imperative.[2]

A failure to appreciate this distinction is responsible for many lame performances in our public controversies. The effects are, in outline, that the dialectician cannot understand why his demonstration does not win converts; and the rhetorician cannot understand why his appeal is rejected as specious. The answer, as we have begun to indicate, is that the dialectic has not made reference to reality, which men confronted with problems of conduct require; and the rhetorician has not searched the grounds of the position on which he has perhaps spent much eloquence. True, the dialectician and the rhetorician are often one man, and the two processes may not lie apart in his work; but no student of the art of argumentation can doubt that some extraordinary confusions would be prevented by a knowledge of the theory of this distinction. Beyond this, representative government would receive a tonic effect from any improvement of the ability of an electorate to distinguish logical positions from the detail of rhetorical amplification. The British, through their custom of putting questions to public speakers and to officers of government in Parliament, probably come nearest to getting some dialectical clarification from their public figures. In the United States, where there is no such custom, it is up to each disputant to force the other to reveal his grounds; and this, in the ardor of shoring up his own position rhetorically, he often fails to do with any thoroughness. It should therefore be profitable to try the kind of analysis we have explained upon some celebrated public controversy, with the object of showing how such grasp of rhetorical theory could have made the issues clearer.

For this purpose, it would be hard to think of a better example than the Scopes "evolution" trial of a generation ago. There is no denying that this trial had many aspects of the farcical, and it might seem at first glance not serious enough to warrant this type of examination. Yet at the time it was considered serious enough to draw the most celebrated trial lawyers of the country, as well as some of the most eminent scientists; moreover, after one has cut through the sensationalism with which journalism and a few of the principals clothed the encounter, one finds a unique alignment of dialectical and rhetorical positions.

The background of the trial can be narrated briefly. On March 21, 1925, the state of Tennessee passed a law forbidding the teaching of the theory of evolution in publicly supported schools. The language of the law was as follows:

Section 1. Be it enacted by the general assembly of the state of Tennessee, that it shall be unlawful for any teacher in any of the universities, normals and all other public schools of the state, which are supported in whole or in part by the public school funds of the state, to teach any theory that denies the story of the Divine creation of man as taught in the Bible, and to teach instead that man has descended from a lower order of animals.

That same spring John T. Scopes, a young instructor in biology in the high school at Dayton, made an agreement with some local citizens to teach such a theory and to cause himself to be indicted therefor with the object of testing the validity of the law. The indictment was duly returned, and the two sides prepared for the contest. The issue excited the nation as a whole; and the trial drew as opposing counsel Clarence Darrow, the celebrated Chicago lawyer, and William Jennings Bryan, the former political leader and evangelical lecturer.

The remarkable aspect of this trial was that almost from the first the defense, pleading the cause of science, was forced into the role of rhetorician; whereas the prosecution, pleading the cause of the state, clung stubbornly to a dialectical position. This development occurred because the argument of the defense, once the legal technicalities were got over, was that evolution is "true." The argument of the prosecution was that its teaching was unlawful. These two arguments depend upon rhetoric and dialectic respectively. Because of this circumstance, the famous trial turned into an argument about the orders of knowledge, although this fact was never clearly expressed, if it was ever discerned, by either side, and that is the main subject of our analysis. But before going into the matter of the trial, a slight prologue may be in order.

It is only the first step beyond philosophic naïvete to realize that there are different orders of knowledge, or that not all knowledge is of the same kind of thing. Adler, whose analysis I am satisfied to accept to some extent, distinguishes the orders as follows. First there is the order of facts about existing physical entities. These constitute the simple data of science. Next come the statements which are statements about these facts; these are the propositions or theories of science. Next there come the statements about these statements: "The propositions which these last statements express form a partial universe of discourse which is the body of philosophical opinion."[3]

To illustrate in sequence: the anatomical measurements of *Pithecanthropus erectus* would be knowledge of the first order. A theory based on these measurements which placed him in a certain group of related organisms would be knowledge of the second order. A statement about the value or the implications of the theory of this placement would be knowledge of the third order; it would be the judgment of a scientific theory from a dialectical position.

It is at once apparent that the Tennessee "anti-evolution" law was a statement of the third class. That is to say, it was neither a collection of scientific facts, nor a statement about those facts (i.e., a theory or a generalization) ; it was a statement about a statement (the scientists' statement) purporting to be based on those facts. It was, to use Adler's phrase, a philosophical opinion, though expressed in the language of law. Now since the body of philosophical opinion is on a level which surmounts the partial universe of science, how is it possible for the latter ever to refute the former? In short, is there any number of facts, together with generalizations based on facts, which would be sufficient to overcome a dialectical position?

Throughout the trial the defense tended to take the view that science could carry the day just by being scientific. But in doing this, one assumes that there are no points outside the empirical realm from which one can form judgments about science. Science, by this conception, must contain not only its facts, but also the means of its own evaluation, so that the statements about the statements of science are science too. The published record of the trial runs to approximately three hundred pages, and it would obviously be difficult to present a digest of all that was said. But through a carefully selected series of excerpts, it may be possible to show how blows were traded back and forth from the two positions. The following passages, though not continuous, afford the clearest picture of the dialectical-rhetorical conflict which underlay the entire trial.

THE COURT *(in charging the grand jury)*

You will bear in mind that in this investigation you are not interested to inquire into the policy of this legislation.[4]

THE PROSECUTION

Attorney-General Stewart: If the Court please, in this case, as Mr. Darrow stated, the defense is going to insist on introducing scientists and Bible students to give their ideas on certain views of this law, and that, I am frank to state, will be resisted by the state as vigorously as we know how to resist it. We have had a conference or two about the matter, and we think that it isn't competent evidence; that is, it is not competent to bring into this case scientists who testify as to what the theory of evolution is or interpret the Bible or anything of that sort.

Mr. McKenzie: Under the law you cannot teach in the common schools the Bible. Why should it be improper to provide that you cannot teach this other theory?

THE DEFENSE

Mr. Darrow: I don't suppose the court has considered the question of competency of evidence. My associates and myself have fairly definite ideas as to it, but I don't know how the counsel on the other side feel about it. I think that scientists are competent evidence—or competent witnesses here, to explain what evolution is, and that they are competent on both sides.

Mr. Neal: The defendant moves the court to quash the indictment in this case for the following reasons: In that it violates Sec. 12, Art. XI, of the Constitution of Tennessee: "It shall be the duty of the general assembly in all future periods of the government to cherish literature and science.... I want to say that our main contention after all, may it please your honor, is that this is not a proper thing for any legislature, the legislature of Tennessee or the legislature of the United States, to attempt to make and assign a rule in regard to. In this law there is an attempt to pronounce a judgment and a conclusion in the realm of science and in the realm of religion.

Mr. Darrow: Can a legislative body say, "You cannot read a book or take a lesson or make a talk on science until you first find out whether you are saying against Genesis"? It can unless that constitutional provision protects me. It can. Can it say to the astronomer, you cannot turn your telescope upon the infinite planets and suns and stars that fill space, lest you find that the earth is not the center of the universe and that there is not any firmament between us and the heaven? Can it? It could—except for the work of Thomas Jefferson, which has been woven into every state constitution in the Union, and has stayed there like a flaming sword to protect the rights of man against ignorance and bigotry, and when it is permitted to overwhelm them then we are taken in a sea of blood and ruin that all the miseries and tortures and carrion of the middle ages would be as nothing.... If today you can take a thing like evolution and make it a crime to teach it in the public schools, tomorrow you can make it a crime to teach it in the

private schools, and the next year you can make it a crime to teach it to the hustings or in the church. At the next session you may ban books and the newspapers.

Mr. Dudley Field Malone: So that there shall be no misunderstanding and that no one shall be able to misinterpret or misrepresent our position we wish to state at the beginning of the case that the defense believes that there is a direct conflict between the theory of evolution and the theories of creation as set forth in the Book of Genesis.

Neither do we believe that the stories of creation as set forth in the Bible are reconcilable or scientifically correct.

Mr. Arthur Garfield Hays: Our whole case depends upon proving that evolution is a reasonable scientific theory.

Mr. William Jennings Bryan, Jr. (in support of a motion to exclude expert testimony) : It is, I think, apparent to all that we have now reached the heart of this case, upon your honor's ruling, as to whether this expert testimony will be admitted largely determines the question of whether this trial from now on will be an orderly effort to try the case upon the issues, raised by the indictment and by the plea or whether it will degenerate into a joint debate upon the merits or demerits of someone's views upon evolution.... To permit an expert to testify upon this issue would be to substitute trial by experts for trial by jury....

Mr. Hays: Are we entitled to show what evolution is? We are entitled to show that, if for no other reason than to determine whether the title is germane to the act.

Mr. William Jennings Bryan: An expert cannot be permitted to come in here and try to defeat the enforcement of a law by testifying that it isn't a bad law and it isn't—I mean a bad doctrine—no matter how these people phrase the doctrine—no matter how they eulogize it. This is not the place to prove that the law ought never to have been passed. The place to prove that, or teach that, was to the state legislature.... The people of this state passed this law, the people of the state knew what they were doing when they passed the law, and they knew the dangers of the doctrine—that they did not want it taught to their children, and my friends, it isn't—your honor, it isn't proper to bring experts in here and try to defeat the purpose of the people of this state by trying to show that this thing they denounce and outlaw is a beautiful thing that everybody ought to believe in.... It is this doctrine that gives us Nietzsche, the only great author who tried to carry this to its logical conclusion, and we have the testimony of my distinguished friend from Chicago in his speech in the Loeb and Leopold case that 50,000 volumes have been written about Nietzsche, and he is the greatest philosopher in the last hundred years, and have him pleading that because Leopold read Nietzsche and adopted Nietzsche's philosophy of the super-man, that he is not responsible for the taking of human life. We have the doctrine—I should not characterize it as I should like to characterize it—the doctrine that the universities that

had it taught, and the professors who taught it, are much more responsible for the crime that Leopold committed than Leopold himself. That is the doctrine, my friends, that they have tried to bring into existence, they commence in the high schools with their foundation of evolutionary theory, and we have the word of the distinguished lawyer that this is more read than any other in a hundred years, and the statement of that distinguished man that the teachings of Nietzsche made Leopold a murderer. . . . *(Mr. Bryan reading from a book by Darrow) "I will* guarantee that you can go to the University of Chicago today—into its big library and find over 1,000 volumes of Nietzsche, and I am sure I speak moderately. If this boy is to blame for this, where did he get it? Is there any blame attached because somebody took Nietzsche's philosophy seriously and fashioned his life on it? And there is no question in this case but what it is true. Then who is to blame? The university would be more to blame than he is. The scholars of the world would be more to blame than he is. The publishers of the world—and Nietzsche's books are published by one of the biggest publishers in the world—are more to blame than he is. Your honor, it is hardly fair to hang a 19-year-old boy for the philosophy that was taught him at the university." ... Your honor, we first pointed out that we do not need any experts in science. Here is one plain fact, and the statute defines itself, and it tells the kind of evolution it does not want taught, and the evidence says that this is the kind of evolution that was taught, and no number of scientists could come in here, my friends, and override that statute or take from the jury its right to decide this question, so that all the experts they could bring would mean nothing. And when it comes to Bible experts, every member of the jury is as good an expert on the Bible as any man they could bring, or that we could bring.

Mr. Malone: Are we to have our children know nothing about science except what the church says they shall know? I have never seen any harm in learning and understanding, in humility and open-mindedness, and I have never seen clearer the need of that learning than when I see the attitude of the prosecution, who attack and refuse to accept the information and intelligence, which expert witnesses will give them.

Mr. Stewart: Now what could these scientists testify to? They could only say as an expert, qualified as an expert upon this subject, I have made a study of these things and from my stand-point as such an expert, I say that this does not deny the story of divine creation. That is what they would testify to, isn't it? That is all they could testify about.

Now, then, I say under the correct construction of the act, that they cannot testify as to that. Why? Because in the wording of this act the legislature itself construed the instrument according to their intention.... What was the general purpose of the legislature here? It was to prevent teaching in the public schools of any county in Tennessee that theory which says that man is descended

from a lower order of animals. That is the intent and nobody can dispute it under the shining sun of this day.

THE COURT

Now upon these issues as brought up it becomes the duty of the Court to determine the question of the admissibility of this expert testimony offered by the defendant.

It is not within the province of the Court under these issues to decide and determine which is true, the story of divine creation as taught in the Bible, or the story of the creation of man as taught by evolution.

If the state is correct in its insistence, it is immaterial, so far as the results of this case are concerned, as to which theory is true; because it is within the province of the legislative branch, and not the judicial branch of the government to pass upon the policy of a statute; and the policy of this statute having been passed upon by that department of the government, this court is not further concerned as to its policy; but is interested only in its proper interpretation and, if valid, its enforcement.... Therefore the court is content to sustain the motion of the attorney-general to exclude expert testimony.

THE PROSECUTION

Mr. Stewart (during Mr. Darrow's cross-examination of Mr. Bryan) : I want to interpose another objection. What is the purpose of this examination?

Mr. Bryan: The purpose is to cast ridicule upon everybody who believes in the Bible, and I am perfectly willing that the world shall know that these gentlemen have no other purpose than ridiculing every Christian who believes in the Bible.

THE DEFENSE

Mr. Darrow: We have the purpose of preventing bigots and ignoramuses from controlling the education of the United States, and you know it, and that is all.

Statements of Noted Scientists as Filed into Record by Defense Counsel

Charles H. Judd, Director of School of Education, University of Chicago: It will be impossible, in my judgment, in the state university, as well as in the normal schools, to teach adequately psychology or the science of education without making constant reference to all the facts of mental development which are included in the general doctrine of evolution.... Whatever may be the constitutional rights of legislatures to prescribe the general course of study of public schools it will, in my judgment, be a serious national disaster if the attempt is successful to determine the details to be taught in the schools through the vote of legislatures rather than as a result of scientific investigation.

Jacob G. Lipman, Dean of the College of Agriculture, State University o f New Jersey: With these facts and interpretations of organic evolution left out, the agricultural colleges and experimental stations could not render effective service to our great agricultural industry.

Wilbur A. Nelson, State Geologist of Tennessee: It, therefore, appears that it would be impossible to study or teach geology in Tennessee or elsewhere, without using the theory of evolution.

Kirtley F. Mather, Chairman of the Department of

Geology, Harvard University: Science has not even a guess as to the original source or sources of matter. It deals with immediate causes and effects.... Men of science have as their aim the discovery of facts. They seek with open eyes, willing to recognize it, as Huxley said, even if it "sears the eyeballs." After they have discovered truth, and not till then, do they consider what its moral implications may be. Thus far, and presumably always, truth when found is also found to be right, in the moral sense of the word.... As Henry Ward Beecher said, forty years ago, "If to reject God's revelation in the book is infidelity, what is it to reject God's revelation of himself in the structure of the whole globe?"

Maynard M. Metcalf, Research Specialist in Zoology, Johns Hopkins University: Intelligent teaching of biology or intelligent approach to any biological science is impossible if the established fact of evolution is omitted.

Horatio Hackett Newman, Professor of Zoology, University of Chicago: Evolution has been tried and tested in every conceivable way for considerably over half a century. Vast numbers of biological facts have been examined in the light of this principle and without a single exception they have been entirely compatible with it.... The evolution principle is thus a great unifying and integrating scientific conception. Any conception that is so far-reaching, so consistent, and that has led to so much advance in the understanding of nature, is at least an extremely valuable idea and one not lightly to be cast aside in case it fails to agree with one's prejudices.

Thus the two sides lined up as dialectical truth and empirical fact. The state legislature of Tennessee, acting in its sovereign capacity, had passed a measure which made it unlawful to teach that man is connatural with the animals through asserting that he is descended from a "lower order" of them. (There was some sparring over the meaning of the technical language of the act, but this was the general consensus.) The legal question was whether John T. Scopes had violated the measure. The philosophical question, which was the real focus of interest, was the right of a state to make this prescription.

We have referred to the kind of truth which can be dialectically established, and here we must develop further the dialectical nature of the state's case. As long as it maintained this dialectical position, it did not have to go into the "factual" truth of evolution, despite the outcry from the other side. The following considerations, then, enter into this "dialectical" prosecution.

By definition the legislature is the supreme arbiter of education within the state. It is charged with the duty of promoting enlightenment and morality, and to these ends it may establish common schools, require attendance, and review curricula either by itself or through its agents. The state of Tennessee had exercised this kind of authority when it had forbidden the teaching of the Bible in the public schools. Now if the legislature could take a position that the publicly subsidized teaching of the Bible was socially undesirable, it could, from the same authority, take the same position with regard to a body of science. Some people might feel that the legislature was morally bound to encourage the propagation of the Bible, just as some of those participating in the trial seemed to think that it was morally bound to encourage the propagation of science. But here again the legislature is the highest tribunal, and no body of religious or scientific doctrine comes to it with a compulsive authority. In brief, both the Ten Commandments and the theory of evolution belonged in the class of things which it could elect or reject, depending on the systematic import of propositions underlying the philosophy of the state.

The policy of the anti-evolution law was the same type of policy which Darrow had by inference commended only a year earlier in the famous trial of Loeb and Leopold. This clash is perhaps the most direct in the Scopes case and deserves pointing out here. Darrow had served as defense counsel for the two brilliant university graduates who had conceived the idea of committing a murder as a kind of intellectual exploit, to prove that their powers of foresight and care could prevent detection. The essence of Darrow's plea at their trial was that the two young men could not be held culpable—at least in the degree the state claimed—because of the influences to which they had been exposed. They had been readers of a system of philosophy of allegedly anti-social tendency, and they were not to be blamed if they translated that philosophy into a sanction of their deed. The effect of this plea obviously was to transfer guilt from the two young men to society as a whole, acting through its laws, its schools, its publications, etc.

Now the key thing to be observed in this plea was that Darrow was not asking the jury to inspect the philosophy of Nietzsche for the purpose either of passing upon its internal consistency or its contact with reality. He was asking precisely what Bryan was asking of the jury at Dayton, namely that they take a strictly dialectical position outside it, viewing it as a partial universe of discourse with consequences which could be adjudged good or bad. The point to be especially noted is that Darrow did not raise the question of whether the philosophy of Nietzsche expresses necessary truth, or whether, let us say, it is essential to an understanding of the world. He was satisfied to point out that the state had not been a sufficiently vigilant guardian of the forces molding the character of its youth.

But the prosecution at Dayton could use this line of argument without change. If the philosophy of Nietzsche were sufficient to instigate young men to criminal actions, it might be claimed with even greater force that the philosophy of evolution, which in the popular mind equated man with the animals, would do the same. The state's dialectic here simply used one of Darrow's earlier definitions to place the anti-evolution law in a favorable or benevolent category. In sum: to Darrow's previous position that the doctrine of Nietzsche is capable of immoral influence, Bryan responded that the doctrine of evolution is likewise capable of immoral influence, and this of course was the dialectical countering of the defense's position in the trial.

There remains yet a third dialectical maneuver for the prosecution. On the second day of the trial Attorney-General Stewart, in reviewing the duties of the legislature, posed the following problem: "Supposing then that there should come within the minds of the people a conflict between literature and science. Then what would the legislature do? Wouldn't they have to interpret?.... Wouldn't they have to interpret their construction of this conflict which one should be recognized or higher or more in the public schools?"

This point was not exploited as fully as its importance might seem to warrant; but what the counsel was here declaring is that the legislature is necessarily the umpire in all disputes between partial universes. Therefore if literature and science should fall into a conflict, it would again be up to the legislature to assign the priority. It is not bound to recognize the claims of either of these exclusively because, as we saw earlier, it operates in a universe with reference to which these are partial bodies of discourse. The legislature is the disposer of partial universes. Accordingly when the Attorney-General took this stand, he came the nearest of any of the participants in the trial to clarifying the state's position, and by this we mean to showing that for the state it was a matter of legal dialectic.

There is little evidence to indicate that the defense understood the kind of case it was up against, though naturally this is said in a philosophical rather than a legal sense. After the questions of law were settled, its argument assumed the substance of a plea for the truth of evolution, which subject was not within the scope of the indictment. We have, for example, the statement of Mr. Hays already cited that the whole case of the defense depended on proving that evolution is a "reasonable scientific theory." Of those who spoke for the defense, Mr. Dudley Field Malone seems to have had the poorest conception of the nature of the contest. I must cite further from his plea because it shows most clearly the trap from which the defense was never able to extricate itself. On the fifth day of the trial Mr. Malone was chosen to reply to Mr. Bryan, and in the course of his speech he made the following revealing utterance: "Your honor, there is a difference between theological and scientific men. Theology deals with something that is established and revealed; it seeks to gather material which they claim should not be changed. It is the Word of God and that cannot be changed; it is literal, it is not to be interpreted. That is the theological mind. It deals with theology. The scientific mind is a modern thing, your honor. I am not sure Galileo was the one who brought relief to the scientific mind; because, theretofore, Aristotle and Plato had reached their conclusions and processes, by metaphysical reasoning, because they had no telescope and no microscope." The part of this passage which gives his case away is

the distinction made at the end. Mr. Malone was asserting that Aristotle and Plato got no further than they did because they lacked the telescope and the microscope. To a slight extent perhaps Aristotle was what we would today call a "research scientist," but the conclusions and processes arrived at by the metaphysical reasoning of the two are dialectical, and the test of a dialectical position is logic and not ocular visibility. At the risk of making Mr. Malone a scapegoat we must say that this is an abysmal confusion of two different kinds of inquiry which the Greeks were well cognizant of. But the same confusion, if it did not produce this trial, certainly helped to draw it out to its length of eight days. It is the assumption that human laws stand in wait upon what the scientists see in their telescopes and microscopes. But harking back to Professor Adler: facts are never determinative of dialectic in the sense presumed by this counsel.

Exactly the same confusion appeared in a rhetorical plea for truth which Mr. Malone made shortly later in the same speech. Then he said: "There is never a duel with truth. The truth always wins and we are not afraid of it. The truth is no coward. The truth does not need the law. The truth does not need the forces of government. The truth does not need Mr. Bryan. The truth is imperishable, eternal and immortal and needs no human agency to support it. We are ready to tell the truth as we understand it and we do not fear all the truth that they can present as facts." It is instantly apparent that this presents truth in an ambiguous sense. Malone begins with the simplistic assumption that there is a "standard" truth, a kind of universal, objective, operative truth which it is heinous to oppose. That might be well enough if the meaning were highly generic, but before he is through this short passage he has equated truth with facts—the identical confusion which we noted in his utterance about Plato and Aristotle. Now since the truth which dialectic arrives at is not a truth of facts, this peroration either becomes irrelevant, or it lends itself to the other side, where, minus the concluding phrase, it could serve as a eulogium of dialectical truth.

Such was the dilemma by which the defense was impaled from the beginning. To some extent it appears even in the expert testimony. On the day preceding this speech by Malone, Professor Maynard Metcalf had presented testimony in court regarding the theory of evolution (this was on the fourth day of the trial; Judge Raulston did not make his ruling excluding such testimony until the sixth day) in which he made some statements which could have been of curious interest to the prosecution. They are effectually summarized in the following excerpt: "Evolution and the theories of evolution are fundamentally different things. The fact of evolution is a thing that is perfectly and absolutely clear.... The series of evidences is so convincing that I think it would be entirely impossible for any normal human being who was conversant with the phenomena to have even for a moment the least doubt even for the fact of evolution, but he might have tremendous doubts as to the truth of any hypothesis. . . ."

We first notice here a clear recognition of the kinds of truth distinguished by Adler, with the "fact" of evolution belonging to the first order and theories of evolution belonging to the second. The second, which is referred to by the term "hypothesis," consists of facts in an elaboration. We note furthermore that this scientist has called them fundamentally different things—so different that one is entitled to have not merely doubts but "tremendous doubts" about the second. Now let us imagine the dialecticians of the opposite side approaching him with the following. You have said, Professor Metcalf, that the fact of evolution and the various theories of evolution are two quite different things. You have also said that the theories of evolution are so debatable or questionable that you can conceive of much difference of opinion about them. Now if there is an order of knowledge above this order of theories, which order you admit to be somewhat speculative, a further order of knowledge which is philosophical or evaluative, is it not likely that there would be in this realm still more alternative positions, still more room for doubt or difference of opinion? And if all this is so, would you expect people to assent to a proposition of this order in the same way you expect them to assent to, say, the proposition that a monkey has vertebrae? And if you do make these admissions, can you any longer maintain that people of opposite views on the teaching of evolution are simply defiers of the truth? This is how the argument might have progressed had some Greek Darwin thrown Athens into an uproar; but this argument was, after all, in an American court of law.

It should now be apparent from these analyses that the defense was never able to meet the state's case on dialectical grounds. Even if it had boldly accepted the contest on this level, it is difficult to see how it could have won, for the dialectic must probably have followed this course: First Proposition, All teaching of evolution is harmful. Counter Proposition, No teaching of evolution is harmful. Resolution, Some teaching of evolution is harmful. Now the resolution was exactly the position taken by the law, which was

that some teaching of evolution (i.e., the teaching of it in state-supported schools) was an anti-social measure. Logically speaking, the proposition that "Some teaching of evolution is harmful," does not exclude the proposition that "Some teaching of evolution is not harmful," but there was the fact that the law permitted some teaching of evolution (e.g., the teaching of it in schools not supported by the public funds). In this situation there seemed nothing for the defense to do but stick by the second proposition and plead for that proposition rhetorically.

So science entered the juridical arena and argued for the value of science. In this argument the chief topic was consequence. There was Malone's statement that without the theory of evolution Burbank would not have been able to produce his results. There was Lipman's statement that without an understanding of the theory of evolution the agricultural colleges could not carry on their work. There were the statements of Judd and Nelson that large areas of education depended upon a knowledge of evolution. There was the argument brought out by Professor Mather of Harvard: "When men are offered their choice between science, with its confident and unanimous acceptance of the evolutionary principle, on the one hand, and religion, with its necessary appeal to things unseen and unprovable, on the other, they are much more likely to abandon religion than to abandon science. If such a choice is forced upon us, the churches will lose many of their best educated young people, the very ones upon whom they must depend for leadership in coming years."

We noted at the beginning of this chapter that rhetoric deals with subjects at the point where they touch upon actuality or prudential conduct. Here the defense looks at the policy of teaching evolution and points to beneficial results. The argument then becomes: these important benefits imply an important beneficial cause. This is why we can say that the pleaders for science were forced into the non-scientific role of the rhetorician.

The prosecution incidentally also had an argument from consequences, although it was never employed directly. When Bryan maintained that the philosophy of evolution might lead to the same results as the philosophy of Nietzsche had led with Loeb and Leopold, he was opening a subject which could have supplied such an argument, say in the form of a concrete instance of moral beliefs weakened by someone's having been indoctrinated with evolution. But there was really no need: as we have sought to show all along, the state had an immense strategic advantage in the fact that laws belong to the category of dialectical determinations, and it clung firmly to this advantage.

An irascible exchange which Darrow had with the judge gives an idea of the frustration which the defense felt at this stage. There had been an argument about the propriety of a cross-examination.

The Court: Colonel [Darrow], what is the purpose of cross-examination?
Mr. Darrow: The purpose of cross-examination is to be used on trial.
The Court: Well, isn't that an effort to ascertain the truth?
Mr. Darrow: No, it is an effort to show prejudice. Nothing else. Has there been any effort to ascertain the truth in this case? Why not bring in the jury and let us prove it?

The truth referred to by the judge was whether the action of Scopes fell within the definition of the law; the truth referred to by Darrow was the facts of evolution (not submitted to the jury as evidence) ; and "prejudice" was a crystallized opinion of the theory of evolution, expressed now as law.

If we have appeared here to assign too complete a forensic victory to the prosecution, let us return, by way of recapitulating the issues, to the relationship between positive science and dialectic. Many people, perhaps a majority in this country, have felt that the position of the State of Tennessee was absurd because they are unable to see how a logical position can be taken without reference to empirical situations. But it is just the nature of logic and dialectic to be a science without any content as it is the nature of biology or any positive science to be a science of empirical content.

We see the nature of this distinction when we realize that there is never an argument, in the true sense of the term, about facts. When facts are disputed, the argument must be suspended until the facts are settled. Not until then may it be resumed, for all true argument is about the meaning of established or admitted facts. And since this meaning is always expressed in propositions, we can say further that all argument is about the systematic import of propositions. While that remains so, the truth of the theory of evolution or of any scientific theory can never be settled in a court of law. The court could admit the facts into the record, but the process of legal determination would deal with the meaning of the facts, and it could not go beyond saying that the facts comport, or do not comport, with the meanings of other

propositions. Thus its task is to determine their place in a system of discourse and if possible to effect a resolution in accordance with the movement of dialectic. It is necessary that logic in its position as ultimate arbiter preserve this indifference toward that actuality which is the touchstone of scientific fact.

It is plain that those who either expected or hoped that science would win a sweeping victory in the Tennessee courtroom were the same people who believe that science can take the place of speculative wisdom. The only consolation they had in the course of the trial was the embarrassment to which Darrow brought Bryan in questioning him about the Bible and the theory of evolution (during which Darrow did lead Bryan into some dialectical traps). But in strict consideration all of this was outside the bounds of the case because both the facts of evolution and the facts of the Bible were "items not in discourse," to borrow a phrase employed by Professor Adler. That is to say, their correctness had to be determined by scientific means of investigation, if at all; but the relationship between the law and theories of man's origin could be determined only by legal casuistry, in the non-pejorative sense of that phrase.

As we intimated at the beginning, a sufficient grasp of what the case was about would have resulted in there being no case, or in there being quite a different case. As the events turned out science received, in the popular estimation, a check in the trial but a moral victory, and this only led to more misunderstanding of the province of science in human affairs. The law of the State of Tennessee won a victory which was regarded as pyrrhic because it was generally felt to have made the law and the lawmakers look foolish. This also was a disservice to the common weal. Both of these results could have been prevented if it had been understood that science is one thing and law another. An understanding of that truth would seem to require some general dissemination throughout our educated classes of a *Summa Dialectica.* This means that the educated people of our country would have to be so trained that they could see the dialectical possibility of the opposites of the beliefs they possess. And that is a very large order for education in any age.

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[1] Mortimer J. Adler, *Dialectic* (New York, 1927), p.75.

[2] Cf. Adler, op. cit., pp. 243-44: Dialectic "is a kind of thinking which satisfies these two values: in the essential inconclusiveness of its process, it avoids ever resting in belief, or in the assertion of truth; through its utter restriction to the universe of discourse and its disregard for whatever reference discourse may have toward actuality, it is barren of any practical issue. It can make no difference in the way of conduct."

[3] Adler, op. cit., p. 224.

[4] All quotations are given verbatim from *The World's Most Famous Court Trial* (National Book Company, Cincinnati, 1925), a complete transcript.