

THINGS AT STAKE IN THE TENNESSEE TRIAL

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THE trial of Mr. Scopes at Dayton, Tennessee, for teaching Evolution brought an unknown individual and an obscure town on the world stage. Interest in the proceedings was wide and intense; the world's premier journals gave their columns to leading comment. The object of this article is to seek some appraisal of the matter involved, as to which there is even yet much dim and confused perception.

It must be emphasized at the outset that there is one thing the Dayton issue was not. It was not *Evolution*, even though the word was on everybody's lips. The verdict of a panel of discreet Daytonians has no effect in deciding the fate of what is a vastly momentous scientific hypothesis; whether Evolution is to become an established principle of belief, is not resolved for anyone by a judicial finding. With Dayton contrast the following:

A few years ago what were then the novel theories of Einstein were beginning to arrest scientific attention. Einstein was contending, in opposition to traditional physics, that light has mass and weight, i. e., is subject to gravity. On this view, rays of light passing the sun or planetary bodies would be deflected; Einstein estimated the amount of this deflection with the sun as the attracting agent as yielding an average of 1.75 seconds of angular distance. Satisfactory observation being ordinarily impossible, owing to the sun's brilliance, the testing of Einstein's calculations could be made only under conditions of eclipse. An eclipse of the sun had been predicted for May 29, 1919, and the British Astronomical Society detailed two expeditions to points where a total interception was expected; to Sobral, Brazil, under Dr. Crommelin, and to Principe, an island off the west coast of Africa, under Professor Eddington. Stellar photographs were obtained, to be compared later with other photographs of the same region taken when the sun was elsewhere in the heavens. The comparison was strongly confirmatory of Einstein's hypothesis. "After a study of the plates," said the Astronomer Royal, "I am prepared to say there can be no doubt as to Einstein's prediction." And Sir J. J. Thomson, discussing the Eclipse Expedition before the Royal Society, pronounced the

result the most important obtained since Newton's day in connection with gravitation.

Now it is plain that the trial in Dayton has not in any degree the significance possessed by this. It is an episode in a totally different category; by the side of a real scientific event it looks a burlesque show fairly fit for ridicule. Ostensibly occupied about one of the greatest of scientific concepts, it has not a particle of scientific consequence. By its result the doctrine of Evolution is neither checked nor aided, proved nor disproved; whether Evolution is finally to be held as true must depend for arbitrament, not on legal process such as Dayton exemplifies, but on scientific investigation and evidence. It is before this bar that the theories advanced by science must uphold their cause; and if here they can stand accredited, they will continue to win ever-widening credence, though a thousand Daytons should seek, Canute-like, to stem the tide.

All this would make Mr. Scopes and his adventures seem hardly worth writing about. If Evolution is not the issue, if whether men are to accept the evolutionary teaching or not is not seriously affected by the Dayton decision, then why all the agitation? It is clear that we must find some other approach, some other point whence to view the little drama that for a while held captive the world's regard. Lacking for the scientist the crucial fascination of the ordeal that threatens to dislodge or revolutionize his scheme of thought, it may be found to have meaning in another relation whence may be furnished some semblance of proportion to the prominence it has received.

That meaning it has, conspicuously; indeed the trial in Dayton, as disjunct as anything can be from a scientific epoch, yet signalizes in the broad human field something even vaster, something as compared to which even Evolution and the testing of Relativity become matters small enough. The prosecution of Mr. Scopes was only an incident; but the forces and tendencies lying in the background, reaching far afield into human life and rooted deep in the remotenesses of the past, of which this trial was the fruit or symptom, are freighted ponderously with meaning if not with menace both for Knowledge and for Religion. It is with respect to these two severally that I shall now consider the principle involved.

I.

I have tried to show what the Dayton issue was not by submitting a contrast; it may help to convey what it is to cite a parallel.

This shall be the well-known one of Galileo, the great Italian

physicist, born at Pisa in 1564. In early life he became convinced of the truth of the theory of Copernicus, and he devoted many years in the same field to acute and fruitful research. Early in the seventeenth century he published a work on the *Solar Spots*, in which he set forth the Copernican doctrine and explained the movements of the earth and the heavenly bodies in conformity therewith. For this book he was duly cautioned by the ecclesiastical authorities. Soon after there appeared from his pen a *Dialogue on the Copernican and Ptolemaic Systems*, in which the interlocutor who defends the former has easily the winning argument. For this Galileo was, in 1633, brought before the Inquisition, and after examination and threats made to abjure all he had believed and taught. So the old scientist, to whom the world owes not a little, was silenced, and it is not certain if his *e pur si muove* is really authentic.

History affords no better illustration than this of the futility in each attempt by jurist or official fiat to arrest the spread of scientific truth. Galileo's alleged words as he rose from his recantation reflect, at all events, the real position of things; his condemnation by the Inquisitors could not alter cosmic fact, and mankind has since come to his way of thinking. If Evolution is true, its fortune will be similar, even though it should rain Mr. Bryans, or there should be as many anti-Evolution laws as there are shingles on the roofs in Dayton. However, it was for a purpose other than this that the subject of Galileo was introduced.

The clash of Galileo with his judges was a graphic moment in an elemental, titanic struggle. It focalized, as few epochs in history have done, the unceasing war between blind devotion to the established order in the realm of ideas and the spirit of enquiry, between abhorrence of change—especially if relative to modes of thinking—and hospitality to new facts no matter what their impact on existing data of belief. The episode registers, in other words, the collision of a mental mood that is routinized, authoritarian, with the scientific mind and temper, with the passion for research in the field of knowledge, and with the mood of adventure. The later Middle Ages saw much of this conflict, owing to an elaborate system and method of formal instruction, loaded with premisses and assumptions, at last finding itself assailed by new-awakened intellect and by that first outburst of its vigour and daring to which modern science owes its rise.

Mediaevalism, however, is not a chronological term. The drama of Galileo is re-enacted perennially; the indictment of Mr. Scopes (whom someone described as a village Galileo) is another

moment, even if a more minor one, in the same great clash of elements. The battle is joined again between, on the one side, free enquiry and the pioneering thinker's right in the use of critical method, and on the other, the fetichistic mind in religion and knowledge, the mind to which certain things are "settled" and are not to be questioned, even though facts press upon one and make the doing of this inescapable. It was said that Dayton epitomized something vaster than a conflict within the field of science over some outstanding disputed hypothesis. What was meant is now before us. We have here, not a division among the scientists, but science as such *versus* its antinomy in intellectual disposition, science in the lists with the foe that would annul its birthright, that denies its claim freely to make and announce discoveries; and none will fail to see in this a subject of wider human interest than any particular tilt within the circle of science itself.

Such, then, in one aspect is the Dayton issue; it is the question whether the ends of knowledge are to be baulked by the votes of legislators—whether, as *The Manchester Guardian* expresses it, "a legislative body may assume the right to make certain trains of thought illicit and establish a sort of mental Prohibition." I have referred to this conflict as in principle continuous; men fight the battle for mental freedom with each new age, or with each salient step in the growth of knowledge. This fact of recurrence may seem a veritable satire on the idea of progress. The same weary war always for an end that eludes even the victors! But it is just to observe that this perpetual friction and controversy is a sort of rough crucible which helps to test the pragmatic worth of new knowledge; it serves to mediate the assured gains of science to the average mind, notwithstanding the blindness and occasional ferocity of the mind's resistance. It is an irritant that provokes to the democratizing of knowledge, to the bridging of the gulf between the expert or specialist and the rank and file of thoughtful people. Thus it operates, however clumsily, as a vehicle of common advance. This is the process that is going forward all over this continent at the present time. It is sometimes said, with slighting allusion to the American nation, that in no other first-rate country could such a phenomenon as the Dayton trial occur. The Editor of *The World's Work*, in an article contributed to *The Spectator* for July 25, 1925, admits this fact, but is not sure that "this means that in other countries the people of the farms and small towns know more of science than do the people of Tennessee." What it rather implies is that, whereas in older countries science may be the property of an Intelligentsia, the populace passively adhering to

whatever may filter down to them, in America the common folk insist on their beliefs more independently. Hence "in the American body politic it is not enough to discover a new fact and state it on high authority. It is necessary to convince the majority." This is slow work, and in it the Dayton trial and similar events may not be without their part, in that they do bring a scientific question in some fashion before the people.

This is not intended to make innocuous what was said above about the gravity of the Dayton issue. It is good, and makes for enlightenment, to combat ignorance, but this does not make ignorance itself good. It is well for opposition to science to become clamant, if this rouses the spokesman of truth to give clearer and more cogent elucidations, but this does not make opposition to science virtuous. There is a real threat to truth and knowledge in all the movement in North America against liberal ideas and scientific teaching whenever these show any variance with previous and familiar opinion. The triumph of such a movement, the overthrow of Evolutionism not because it had been found contrary to facts adduced by enquiry, but because it is irreconcilable with the dogmatic beliefs of men who have never approached the problem in the impartial truth-seeking spirit; the cramping of historical instruction within the iron framework of Ussher's chronology; the circumscribing of cosmological, geological and anthropological knowledge under forms which embody the outlook of men two or four thousand years ago—all this would sap the spring of mental vigour and progress, and spread a desolating atrophy over the whole field of research and education. "The principle of the Tennessee statute," says *The New York World*, "would prevent a public school from teaching what has been learned about the early history of Chaldæa and Egypt, because those highly developed civilizations existed before the date assigned by the Bible to the creation of the world. It would prevent a public school from teaching geology for the same reason, and would make it difficult to teach botany. It would rule out modern astronomy." The issue thus seen is evidently between light and darkness; it is truth doing battle with ignorance for its right to live. That trial in Dayton comes and goes and soon seems forgotten, but there is a death grapple going on around it. Shall the Tree of Knowledge flourish and bear its fair fruitage, or shall our intellectual patrimony become an arid and barren waste?

There is no need, however, to view the case too gloomily. The crisis may be grave, but the outcome is not much in doubt. In the *Spectator* article above cited, the writer assigns the strength and prominence of the extreme literalist and anti-science agitation

to certain historical causes, which of their nature are bound to become less operative with the passing years. Hence he closes his argument with the ready confidence that the battle for freedom of thought and speech is sure to be won. Apart from this, our hope lies secure in the inherent merits of the matter. Science seeks no selfish end; her goal is truth, which she pursues with unwearying fidelity and patience. Whither fact as it comes to light may tend, there with disinterested and reverent step will wend the scientist; there are few finer or holier things in our life to-day than this simple subservience of the scientific mind to what is true and real. There is nothing that can permanently frustrate an enterprise so actuated, and not least among a people so eager and volatile as the Americans is its final vindication already sure.

II.

How are the interests and problems of religion affected by the Dayton trial and its concomitant processes in thought and life?

It is sometimes set up in defence of Mr. Bryan and his co-Fundamentalists that they are deeply religious, and are moved by a sincere concern for the welfare of religion. The retort one hears to this is that the men who destroyed Jesus or who lit the martyr fires in the sixteenth century were also ardent religionists; the judges of Galileo were unquestionably sincere. But they were blind and wrong, and enlightenment has met no greater obstacle than such sincerity as theirs.

It is doubtful, however, if this is a sufficient answer to the point raised by the zeal of the Fundamentalist, or reflects a sound diagnosis of the problem his attitude presents. For all is not well with present-day religion, and lying behind the Fundamentalist's contention is often a true impulse, the conviction of a real need. He feels, and to some extent rightly, that the modern presentation of Christianity does not bring plain men and women into the same conscious, dynamic fellowship with spiritual reality as the older appeal was wont to do. He misses the ancient certitude and positiveness; he is keenly sensible of the lack of definiteness in the religious experience that is fostered by modern religious programmes. He is not alone in this. Other movements within Christendom, poles removed from Fundamentalism in intellectual outlook, have the re-gaining of the true, authentic Christian experience as their acknowledged object. In all that is said to-day about religious re-discovery, the oft-reiterated plea for a return to reality, there is much to justify the Fundamentalist. Modern religion shows an

absence of depth in its conviction and feeling; it shades off easily into conventional optimism and respectability. All this contrasts ill, as the Fundamentalist sees it, with the sturdy, distinctive piety of other days.

Many, then, who are not Fundamentalists, may still share their dissatisfaction with existing religious conditions, and may so far appreciate their problem. It is when they bring along their remedies that they abandon reason, offering nothing but dust and ashes, chaos and despair. They begin by attributing all the trouble to modern methods of knowledge, to acceptance of the discoveries of science, and they proclaim that all would be rectified if men would only eschew these. In particular, the Fundamentalist conceives Christianity and Evolution as specially antithetical; it is with him an axiom that if Evolution is true, then the Bible and Christianity are not true. He stakes his religious faith on the negative premiss of the non-truth of Evolution.

Than this it would be difficult to find a greater disservice being done to religion at the present time. If the truth of religion depends on the non-truth of Evolution, suppose Evolution should prove to be true—and the Fundamentalists are not in a position to judge whether it is likely to do so or not. They place religion, for themselves and especially for their children, in utmost jeopardy. It must stand in holy fear of increase of knowledge or further scientific triumphs, lest these by confirming the scientific concept uproot its own claims. If children are reared to think of Evolution and Christianity as simple opposites, then every fact that makes the one seem more reasonable will so far weaken the appeal and authority of the other. Mr. Bryan admitted at the Dayton trial that to the question of Evolution he had given no thorough-going thought or study. He was satisfied, that is, that his spiritual faith should hang on something he had not troubled to investigate. This is to make religion the gambler's hazard, to stake all on the throw of dice, with the dice moreover loaded adversely.

For it is not on the non-truth of something whose chances of being true or not true are about even, that the Fundamentalist holds religion to rest. On the contrary, it is on the non-truth of something which, as certainly as a scientific dictum can be, is already established as true. This is not the place to detail the evidence for Evolution; but *a propos* of the way the Fundamentalist envisages the fate of religion if Evolution is maintained, the remark is relevant, just as it can be made fully emphatic, that science shows no disposition to relinquish the doctrine. The position of the Fundamentalist is strangely paradoxical. He recoils from the Modernist

on the ground that the latter's gospel is vague, it lacks the old ring of certainty. In answer the Modernist admits that most things with him are problematic, but dilates on the stimulus this affords to enquiry and mental exertion and on the joy of discovery. He might reply that the Fundamentalist succeeds only in eluding the thrills of uncertainty, while he is enmeshed more than anyone else in its perils. For he it is who, while making large claims to certitude, has applied that name to an attitude that is mainly subjective. He has reared the belief in which he feels so confident on intellectual foundations which, viewed objectively, strike the observer as sinking sand; foundations moreover which—surely the last limit of precariousness—he himself, as the above allusions have certified, does not dare or will to examine.

The Fundamentalist's disservice to religion can be summed up by saying that he denies effectually the independent nature of religion. Religion rightly conceived has its basis in real moral and experimental values. It is not a by-product of a way, now archaic, of viewing the universe; it is an order of life possessed of its own absolute and immediate authentication. The Fundamentalist principle would make religion a suppliant, a starveling awaiting its sentence at the hands of scientific development. But religion confesses to no such sufferance; it expects only to be enriched in outlook, never falsified, by anything science may bring to light. For it is the autonomy of moral experience as this gains form and character from the inner realization of God. As to it, neither Evolution availeth anything nor non-Evolution; that is, truer views of the universe may assist in clarifying its concepts, but as a principle of life it can thrive in men of widely divergent intellectual convictions. Religion is not opposed to science, nor is its basis intellectualistic, so that to attain its benefits it is necessary to become adept in science. It is not a contingent good in either direction, but the activity, self-directing and creative, of man's spiritual nature. This is true of the religion of the Fundamentalist. I have been dealing here with the Fundamentalist's religious theory. As to the fact of his religion, it really rests on grounds other than those which he postulates. He is making the mistake many good men have made of esteeming a connection to be absolute or essential that is merely adventitious. He is religious, and he has never been persuaded to believe in Evolution; these two, juxtaposed in his experience, are given a necessary causal relation. Should he expose himself to the evidence for Evolution and become convinced, he would discover that the one piece of mental furniture can be dislodged without ruin or damage to the other, that religion

is not so pitiably placed as he had feared, but amid changing views of man's origin can persist and continue to increase, having its roots in a soil that is deeper and its sanctions and evidences inherent and inviolable.

There is no incompatibility between the doctrine of Evolution and essential Christian belief. It is only a defective scientific teaching that excludes creation as a spiritual act, or professes to derive the universe from the unintelligent action of matter. The total facts are against such a view, demanding a place for the operation of Supreme Intelligence and the influence from the first of moral ends. On the other hand, the marks of development and adaptation are everywhere, so that centuries before Lamarck and Darwin such Christian thinkers as Augustine felt constrained to conceive creation as mediate and gradual, and the formation of the world as an orderly progress under natural laws. Religion gains the elements of clearer vision through admitting juster views of reality. It has been not only its reproach but disloyalty to its own nature to have opposed, as it often has opposed, the spread of knowledge. For however side by side with erroneous ideas it may subsist as a spiritual passion, it can execute its mission in the world far better from having as its intellectual counterpart a scientific conception of life. The attitude of the Fundamentalist reveals the fact that the common religious mind has not yet domesticated itself on the basis of its own spiritual laws, so that it confronts increase in knowledge with apprehension, being fearful lest it disturb existing forms, whereas possessed of its full attribute of freedom it would seize such increase as its own more effective instrument.

One sees little reason, however, to doubt the outcome here, any more than in regard to the issue considered in the first section of this article. Just as science will win and maintain its right untrammelled to discover and explicate the facts of the universe, so religion will come to comprehend its own integral character, and will not continue rent and torn because a new conception of man's origin or of the earth's past history has been brought to light. It will be found that Evolution is no more fatal to real religion than was the Copernican system. Men thought the acceptance of the Copernican doctrine would be the end of religion; witness Luther describing Copernicus as "this upstart astrologer, the fool who wishes to reverse the science of astronomy, for sacred Scripture tells us that Joshua commanded the sun to stand still, and not the earth." To-day, however, the boy in school learns the Copernican theory as a matter of course, and if he is not religious, it is for some reason

other than this. So with the principles of Evolution: we believe they are destined to win common assent,—indeed were it not for such anachronistic outbreaks as Fundamentalism one would say this has already come to pass, and men will wonder how it could ever have been considered that they imperilled true religious values or seemed fraught with challenge and evil portent to essential religious teaching.