

THE LOCUS OF POWER

WHILE a yardstick for measuring The Truth is almost impossible for modern man to conceive of—to have a measure for truth would be the same as having The Truth itself, and no one, we are sure, has *that!*—it ought to be feasible to develop a yardstick for what is practicable for a man to believe in, while waiting for the truth to be discovered, or while looking for it himself. From all appearances, it seems likely that we shall have a long wait before anything resembling final philosophical, religious or even scientific certainty becomes a matter of public acceptance, whatever the discoveries of individuals.

Christians who placed their initial faith in a Revelation that was to be vindicated by the Second Coming have grown a little doubtful during the past thousand years or so. And the technical experts—the men who say that we must wait until all the facts are in before Science can give us any decisive answers—have today only a very small following of people who still think that patience of this sort is worth preserving. Finally, if we can accept Bertrand Russell as spokesman for modern philosophy, the hope of arriving at basic convictions through abstract thought—by "*a priori* metaphysical reasoning," as he puts it—is quite vain. About all we can expect of philosophy, he tells us, is to learn to deceive ourselves a little less about the things we *think* we know.

Why not, then, if final truths are not now accessible, work on the development of a yardstick for what it is *sensible* to believe in? There is good precedent for this. Actually, pursuers of "pure truth," regardless of circumstances or emotional persuasions, have been very scarce in human history. Most believers of religion or followers of science have chosen their faiths out of practical considerations. It is well known that unhappy and oppressed peoples

who see no possibility of emancipation in this world usually adopt a creed which promises them extraordinary freedom and blessedness in the next. This choice has at least the virtue of permitting them to hope. As frequently, humanitarian individuals who observe the cruelties and injustices committed in the name of religion and God become campaigners for Atheism. Lamettrie, a heartily-hated iconoclast of the eighteenth century, wrote:

If Atheism were universally disseminated, all the branches of religion would be torn up by the roots. Then there would be no more theological wars: there would be no soldiers of religion, that terrible kind of soldier. Nature, which had been infected by the consecrated poison, would win back her rights and her purity. Deaf to all other voices, men would follow their own individual impulses, and these impulses alone can lead them to happiness along the pleasant path to virtue.

It seems logical to suppose that Lamettrie's reasoning to himself, if not to others, ran something like this: "I do not know, in the abstract, whether there be a God or not; but if there is a God, and He approves these terrible things which are done in his name, then it is worse to believe in him than to deny him—truth, in other words, loses its meaning, in terms like these. Therefore, I shall become an Atheist, and devote all my energies to demonstrating how unnecessary to life, nature and morality is this God of the priests."

How can we pick a quarrel with Lamettrie? He insists upon being a man, and when he is asked to embrace beliefs which destroy his manhood, he refuses. What good is a man who accepts a God who unmans him? What good is a God that an unmanned man will accept?

So the real issue, in practical terms, in the matter of religious belief, is the *locus of power*.

Actually, the locus of power is the important consideration at any level of human conviction. If a man is asked to judge a political system, past, present, or proposed, the first thing he looks for—or ought to look for—is the location of power. He is not so much interested in techniques of administration as in where the right of decision lies, and how it is distributed. In an absolute monarchy or despotism, the power is not distributed at all, but resides in the arbitrary authority of the personal ruler. In a democracy, the power is distributed among all the people. Should an autocratically ruled people attempt to explain to a visitor from a self-governing country that they have a *good* man set over them, the visitor will not be much impressed. He will ask them what they think of themselves, that they prefer to have their decisions made for them by someone else.

An entirely different sort of concern for the locus of power occurs in the literature of modern social science. Surveying the development of sociology, L. L. Bernard writes in *The Fields and Methods of Sociology*:

The old theological assumption of personal control through spirit direction, which later developed into a theory of spirit possession, and thence into a theory of an individual or personal soul (a permanent indwelling directive spirit), has given away, under the analysis of neurons, cortexes, and endocrines, to the behavioristic theory of the conditioned response and stimulus-response or behavior patterns. The spiritualists and the theologians and the metaphysicians have not welcomed this growth of a science of personality and they have not hesitated to reveal their intellectual character by their strenuous efforts to sweep back the oncoming tide of behavioristic science with their witch brooms on which they have been accustomed to ride in the clouds of spiritistic phantasy. But in spite of this bit of diverting hobby-horse play a science of personality based on a measurable mechanics of behavior is bound to replace the old magical and mystical spiritism which still survives in the thousand and one cults that delight in calling themselves psychological.

Quite apart from the question of whether the behaviorist theory of human nature has been more

effectively "proved" than the spiritist theories, the issue of power is plainly the important one in this paragraph, and in more ways than one. Prof. Bernard contends against the idea of "a permanent, indwelling directive spirit," as the locus of power in human beings, declaring emphatically for "the conditioned response and stimulus response" as the source of causation in human action. Also, he is quite obviously opposed to any intellectual authority on the part of spiritualists, theologians and metaphysicians, whom he accuses of obscurantist tactics to oppose the progress of science. Power, therefore, interests him in two senses: there is the question of the initial power which determines conduct, and that of the secondary power which affects conduct through cultural influence.

But if we apply the yardstick of the locus of power to Prof. Bernard's behavioristic "science of personality," with which he would sweep away the witch brooms of the metaphysicians, it is difficult to see just how mankind would be the gainer in adopting it. The behaviorist's man is no more a real man than one of Jehovah's predestined creatures. He has no thoughts of his own. They come to him via stimuli of his environment, and he responds by a mechanical process which admits no interference from the moral judgment of the individual. The idea of moral judgment, after all, is without meaning unless there is some sort of "indwelling directive spirit" to make it. According to Augustine, God molded man the way he is, and man can do little or nothing about it, once he is molded. According to behaviorism, the External Environment makes the man, and free will is an idle delusion. It should be evident that there is no way out of either dilemma except upon the hypothesis that man made both God and the External Environment, and that he can remake them more sensibly if he will take the time to think it over and do a little intelligent planning.

In the past, we have had to wait for long and often agonizing processes of history to drive us to undertake the remodelling of the idea of God, or

the External Environment. Wouldn't it save time, and an incalculable amount of human suffering, if we could apply the criterion of the locus of power to the theories of religion or science that we embrace, without waiting for the painful instructions of history?

The beauty of this touchstone of thought is in its extreme simplicity. Even though the problem of power is never simple, to know what is important to look for in a religious or a political system should be a great advantage. What, for example, is the distribution of power in traditional Christianity? It lies, first, with the Creator, second with Christ the Savior, and last, with individual man, although the power of man is usually described as attainable only through "Grace," which is itself a power borrowed from God, so that, logically, the man does not have any real power of his own at all. How, then, can man *get* some power, under this dispensation? He has to believe in the Christian religion. He has to participate in the holy rites known as the Seven Sacraments. These are the channels to the power he needs to be saved. But the Seven Sacraments must be administered to him by an accredited priest. So the power also belongs to the Established Church—in fact, some people have questioned whether it belongs anywhere else, and have grown suspicious of the entire arrangement as a result. That, of course, was Luther's great offense against the Church of Rome. When he taught that the individual conscience is the real religious power, he did away with the need for priests. Great wars and almost endless persecutions resulted from this shift in the Christian theory of where the power lies.

Nothing is so disturbing to a free man as the thought that his personal command over his actions is threatened by some outside force or authority. Nothing enrages an autocrat more than the possibility that his power over other people may be taken away from him. And nothing crucifies a lover of his fellow men so much as the realization that their power to choose for

themselves has been weakened and destroyed by false "theories of salvation, vicious political systems, and a corrupting belief in human impotence.

Well, where *does* the power lie, in human life? Whom will you ask—Tolstoy and Gandhi, or . . . ?—anyone can fill in the blanks for himself. It certainly lies in different places for different men. A lot depends upon where they *think* it lies, which is probably the most important difference between physics and psychology. The potential energy in one piece of coal is pretty much the same as the energy in another. A piece of coal can't think itself into becoming a ball of fire; but a man very nearly can. Of course, it is easy to say that human beings often delude themselves, and that the power of a mania is wonderful and strange. Perhaps there is a similarity between greatness and madness, but only fools will say that there is no difference. The abolition of human distinction is, after all, the only source of power available to the man who is determined to remain a mediocrity—if he can't be great himself, he can at least call greatness the names supplied to him by texts on abnormal psychology. In the Middle Ages, they called the thinkers heretics and sorcerers and often burned them for their originality. Today, we call them other things, and while we don't burn them, we ridicule them, let them go hungry, or manage to get them inside prisons, now and then.

Jawaharlal Nehru, who challenged a widespread conception of political power, spent some eight years of his life in prison. Gandhi, who disbelieved in both the political and the moral power of imperialism, was murdered by an assassin. But do we suppose that an individual man really killed Gandhi? Gandhi's life was taken by the power of a religious orthodoxy, and this orthodoxy did not obtain its power from the Gods of the Hindu pantheon, but from millions of Hindus who thought that orthodoxy was the source of *their* power—and that thought gave to the idea of orthodoxy the authority to cause Godse to murder Gandhi. The people,

everywhere, who make systems of religious orthodoxy a source of power are responsible for Gandhi's death, along with their miserable instrument, Godse.

It seems likely that the real reason for the moral puzzles in human life lies with this capacity of human beings to give power to delusions, and then to feel compelled to submit to the rule of these delusions. A principal task of the philosopher—and of every human being, therefore, who wants to be really alive—is to learn to distinguish between the natural sources of power in human life and the artificial sources which exist in the delusions of time and place, of nation, race, and creed. It might be said, further, that the only true revolutionists in any epoch are the persons who expose its delusions and refuse to live under their power.

From this point of view, it does not matter so much whether a proposed system of thought is "spiritual" or "materialistic" in its assumptions. The important question is: Where, in this system, does the power lie? Quite possibly, all systems which refuse any real power of decision to human beings ought to be called delusive, for, regardless of whether they are "true" or not, the man who believes in them accepts a destiny of impotence for himself, and what good is "truth" to such a man? Even if the theological backdrop of the system is decorated with heavenly choirs and all manner of celestial sights, the individual man is still a worm, without use to himself or anyone else, if God has all the power. On the other hand, a fantastic polytheism which proposes that every individual human soul may, by his own efforts, some day evolve into an intergalactic Regent of the Spheres, seems less objectionable than some "scientific" design for living which asserts that man is only a temporary focus of mechanical causes and effects, gaining a specious sense of unitary being from the fact that his body happens to be the junction-point through which they flow.

To have a primary interest in the truths that we have some hope of using, and little enthusiasm

for doctrines which declare our helplessness, need not mean an irrational defiance of the cold-blooded "facts of life." Many men have taken full account of the facts of life without succumbing to sullen despair. The criterion of the locus of power, intelligently used, means simply that we shall always demand an avenue of free human action, whatever the deliveries of either religion or science. For neither religion nor science can be of value to men who are unfree.

Letter from **INDIA**

BOMBAY.—Perhaps the most pressing fact of political life in India today is the growing discontent of large sections of the populace with the prohibition policy and the social legislation of the national and provincial governments. It is difficult to convey an impression of the reality and wide extent of this feeling, although it would be easy to make it appear more intense and assertive than it actually is. The ruling party, however, has adopted the view that popular opposition to its social program arises only from the selfish fears of vested interests and is not based upon any self-validating sentiments and ideas. This seems unfair. Ultimately, it is ideas, and not "vested interests," which become forces for good or for evil, and it would be puerile to believe that either the Government or its critics have a monopoly of good ideas.

No one can seriously contend that the irksome character of these prohibition, anti-betting and anti-gambling measures is an adequate argument against such legislation in the modern welfare State. The celebrated optimism of old-time liberals who, like Candide, having left this world for the cultivation of their gardens, teach that the best of all possible social systems will result if the State lets well enough alone, is obviously anachronistic in an age of social planning. Opposition which is based upon mere prejudice or which misconceives the role of the State in social reform, is hardly worth considering, even though it forms a large portion of current discussion. Thus argue the prohibitionists.

The Government, however, seems to ignore the opposition of those who maintain that all moral reform must begin with the awakening individual and needs neither State sanctions nor social controls to make it effective. The modern statesman, it is contended, is neither a pompous policeman nor a pontifical priest. To drink, to bet and to gamble may be bad, but to be forced into

good behaviour by a paternalistic State is worse.

Some people feel that if the Indian Government is to succeed with its social program, it should first discard all dogmatism and attempt to determine whether or not the purpose behind its prohibition policy is understood, accepted and desired by the common citizenry. This question cannot be answered by playing upon the citizen's fear of force or his sense of duty to obey. It is perhaps because there has been no serious inquiry of this sort that the Government clings stubbornly to its proposals, refusing either to recall or to justify the social program honestly and with grace.

But the Government has the right to expect the ordinary citizen to do better than oppose the program through moral inertia. The main weakness of the latter's case grows out of his confusion of the economics with the ethics of prohibition, and his comparable failure to separate the ends inspiring such social legislation from the means adopted, and to decide each issue and policy on its own merits. Unless the citizen is able to look constructively and sympathetically at the ends of the contemplated policies, he can hardly contend that his arguments deserve the serious consideration of the State.

It is, in fact, the need for this new constructive attitude on the citizen's part that makes us recur, as always, to what Gandhi would have done in the present situation. For, as the Good Citizen, *par excellence*, of our time, he would have brought to bear an attitude of unselfishness combined with courage upon the prohibition problem; he would have known why to obey and when to disobey. With his rare vision of the common good, he would not have hesitated to disagree, if necessary, with the methods of those who, although accepting his ends, attempted to impose them upon an unwilling people. Whether, therefore, the social legislation of the Indian Government will be successful is a matter which the Indian people alone can and must decide.

INDIAN CORRESPONDENT

REVIEW

PILGRIMS WITHOUT PROGRESS

IT may surprise some readers to learn that, while Galileo, in the seventeenth century, got into considerable trouble with the Roman Church for attacking Ptolemy's geocentric theory, Thomas Aquinas, dean of learned scholastics in the thirteenth century, was far less confident than Galileo's persecutors of Ptolemy's reliability as an authority on celestial mechanics. "Although," the Angelic Doctor remarked, "the phenomena can be explained on the Ptolemaic hypotheses, we do not assert that they are true since perhaps the phenomena of the heavenly bodies may be explained in some way not yet grasped by the mind of man." Aquinas, it seems certain, would not have persecuted Galileo, and might have supported him.

The Pilgrimage of Western Man, by Stringfellow Barr (Harcourt, Brace, 1949), is filled with bits of information of this sort, and is at the same time a remarkably complete survey of Western history from the Middle Ages to the present day. It is not an enormous book (355 pages), but attains its comprehensiveness by dealing with succeeding historical epochs in terms of synthesizing ideas. A book of this sort might be expected from Mr. Barr, who, with Scott Buchanan, revived the almost moribund St. John's College, of Annapolis, Maryland, some years ago, and made it the scene of stimulating intellectual activity through intensive use of the Great Books which Drs. Erskine, Adler and Hutchins have given a new lease on academic life.

While Mr. Barr's book is written from the same general background of conviction as Richard Weaver's *Ideas Have Consequences*, *The Pilgrimage of Western Man* is more a good textbook than an urgent tract for the times. It has, however, a thesis, or rather, it presents an invitation to the reader to reconsider certain judgments of great historical transitions such as the Renaissance and the Reformation. The

following may be taken as a thumbnail sketch of Barr's view of the Lutheran revolt:

. . . the chaos which Protestantism had frequently brought in its train derived from its denial of any authority except the individual conscience. In the name of his conscience, Luther had denied the authority of the Pope, had broken his vow of celibacy and had taken a wife. But in the name of his conscience, John of Leiden had denied the authority of Luther and had taken four wives. Wherever Protestantism flourished, the problem of authority had become acute. . . . And everywhere individuals were claiming direct communication with God, Who, it must be confessed, apparently directed them to do some quite remarkable things.

Mr. Barr is not without a sense of humor—in fact, what criticism the book affords (except that implied by his selection of facts to present) is usually in the form of the dry comment ending this paragraph. One wishes, however, that he had suggested in a manner equally dry, that it might be better for a man to have four wives and an active conscience than to have to leave every last moral decision to the Holy See. Conceivably, a man might learn more from having four wives than from the most sanctified of religious institutions.

But, looking at today's world, Mr. Barr cannot be light-hearted about the problem of order. He does not exactly make excuses for the defects in medieval society, but neither do they leave him unduly disturbed. It is as though Mr. Barr has decided that, already, enough indignant historians have castigated the Church for its corruptions and cruelties. He, while not hiding these things, is trying to outline another kind of problem. Speaking of the decadence of the Church at the beginning of the sixteenth century, he calls the sale of indulgences by Tetzal "one of the most glaring" of the financial abuses of Rome, but adds that the origin of the practice is "perfectly understandable." No swirls of disapproving righteousness upset the urbanity of Mr. Barr's informing prose. The linkage of the powerful acquisitive motives of the rising merchant class with Tetzal's "holy" enterprise is lucidly explained. The decadent moralism of the

Church was a natural ally of the aggressive amorality of the merchants. Just at the time when Luther was liberating conscience, the power of money, as an independent force, was beginning to make itself felt in European affairs.

But see what happens when such demonic potencies as conscience and money are set free to act for themselves, without any Mother Church to guide them! Mr. Barr is not exactly an admirer of the Roman rule, but he can't help implying that the loss of a central authority in morals was no small thing. Luther, alas, all for conscience and individual illumination at the beginning, was all for order and obedience a few years later when the German peasants took his doctrines to heart. They drew up a list of economic grievances against their temporal masters, and, armed with supporting Scriptural citations, invited refutation. They would, they said, forego any reforms shown to be in conflict with the Bible. But this, apparently, was not a matter for the construction of theses. Luther urged the German princes; "Whoever can should smite, strangle, or stab, secretly or publicly." It must have seemed to him that liberating the conscience of man was like opening a Pandora's box of vexations, so far as preserving social stability was concerned.

Mr. Barr is the partisan of no creed, party or school. His book is the fruit of a liberal education, and its values are those of a man who has inherited freedom of mind, but can see little orderliness in the society around him. Looking back on the period when Western civilization found its inherited order oppressive, and chose freedom instead, he is able to see the losses sustained in this transition more clearly, perhaps, than if he had been one of the oppressed. It seems pertinent, therefore, to propose certain questions for consideration along with the perspectives presented in this book.

How should we value a social order which impresses its "spiritual authority" so minutely upon the minds of men that when that authority is removed, a kind of moral chaos results? Is it

possible to conceive of a religion which carefully fosters the free exercise of conscience, deliberately working toward the ideal of the absolute moral autonomy of the individual? Both the Renaissance and the Reformation sought that autonomy, at different levels. But the freedom they gave grew like a weed, without discipline—without even the guidance of such natural tropisms as the earth and water and the sun provide to every plant that exists. Can there, then, be a natural moral order, spontaneous in impulse, that may create its own social equilibrium? Was there an essence, a quality, a form of the human spirit, which the Middle Ages suppressed and stultified, but which Reformation and Revolution ignored? And is there, finally, an educational and cultural approach to this missing factor in human life which might invite its emergence and nourish its development?

These are the questions which Mr. Barr does not ask, and because he does not, his book lets the reader down to a conventional comparison of the neglected virtues of the Middle Ages with the glossed-over weaknesses of modern "secular" society. The conventional comparison is "timely," of course, and Mr. Barr draws it with greater skill and impartiality than the special pleaders of our time. This makes the book worth reading—a good textbook, as textbooks go.

If, as a matter of fact, all that we ask of Mr. Barr is a good textbook, our review thus far has been somewhat ungenerous. The solid merit of the volume is illustrated by the following compact generalizations on the French Revolution and the Industrial Revolution:

The French Revolution was an open, heroic assault on intolerable social ills. It called upon men everywhere to risk their lives in a revolt for the liberty of all men against a decaying system of absolute monarchy, for the equality of all men against a decaying system of feudal privilege, for the fraternity of all men against dynastic war. It sacrificed some of its liberty to the autocratic government of Napoleon in an effort to guarantee its newly won equality against counterrevolution. And its spirit of fraternity was hammered on the anvil of war into the spirit of nationalism, in France, and in the countries she had

"liberated." But the Revolution was a socially responsible attack on social irresponsibility.

The Industrial Revolution, by contrast, was in its essence socially irresponsible. It was subterranean, impersonal, anonymous, self-seeking, ambiguous, hypocritical. Robert Owen and many others tried to give it social purpose, tried to make it socially responsible. They failed. The story of that failure was repeated, wherever the Industrial Revolution spread: to Belgium, France, Germany, New England, the world. Owen called frantically on England and all Christendom to use the Machine and not be used by it. Too few heeded. The Machine had taken those who failed to heed into an exceeding high mountain and had showed them all the kingdoms of the world. They fell down and worshipped. . . .

One reason for supposing that Mr. Barr wanted this volume to be more than a textbook is that he ends with a mild advocacy for world federation. Actually, these few concluding pages are anti-climactic. It is the history that is good, and not his faltering conclusion, added, one may think, to avoid the final pessimism which our history so easily inspires.

COMMENTARY
BIG AND LITTLE DELUSIONS

OF all spectacles of human folly, the most lugubrious that we can imagine is that of bewildered Christian Adventists on the chill morning after a Second Coming which did not come off. The annals of sectarianism have numerous accounts of these tragic disappointments of the Faithful. Secure in the belief that in the hour prophesied, their Lord would meet them, as surely as they prepared to meet their Lord, the Millenarians usually disposed of all their worldly goods and awaited His Coming clad only in the white robes of salvation.

But the Heavens did not open, and the Adventists had to return to a savorless existence without even the mundane bounties of the earth to comfort them.

It is something, however, to stake all of one's material goods and all the spiritual as well as earthly dignity that one possesses on an idea like the Second Coming. And while we laugh at their religious quixotry, the faith of the Adventists, even if misplaced, is still something to marvel at. Conceivably, it is better to be wrong about the next world than it is to be complacent about this one. Although the Adventists will doubtless always be reproved by Nature for their bad metaphysics and their somewhat self-righteous expectations, there may be a solid core of intuition in their hopes that is neither sectarian nor ridiculous.

Their real mistake, perhaps, was in conceiving the Second Coming as an event in the historical order of human experience, instead of in the psychological order, and in seeking the Christ outside instead of inside themselves. Nor is this externalization of the essentials of human progress a peculiarly religious delusion. The expectation that, by some political miracle or other, the autocratic power of the Communist State will "wither away" seems on a par with the millenarian delusion. Both are theories of salvation by some

outside power, and, to the extent of their externalization of the causes of human good, are betrayers of the dignity of man.

Our common difficulty lies in admitting these delusions while they still have only a junior status—before they grow into full-blown psychoses like faith in a historical Second Coming, in the Materialistic Dialectic, or in the power of the Atom Bomb to save us from harm. We imagine that we can afford to ignore "little" delusions, especially as the big ones seem always to afflict others, and never ourselves. But this is a variety of the Chosen-People delusion—the one hardest of all to recognize.

CHILDREN ... and Ourselves

[Readers of Tolstoy's novels are seldom familiar with the educational theories and experiments associated with this revolutionary mind. Tolstoy did originate a school, however, on his estate, from which it derived the name Yasnaya Polyana. During November and December of 1862 he wrote various accounts of the progress of his "radical" venturings into the educational field, interspersed with essays on educational theory. Tolstoy's insistence upon the spirit of freedom in the classroom and the conditions under which he most preferred to teach have reminded some readers of Bronson Alcott and his method of teaching children in "conversations."

The following excerpt, from an essay entitled "The Free Development of the School," is a remarkably concise statement of what Tolstoy hoped to achieve through Yasnaya Polyana, and of the difficult stages he recognized as being inevitable parts of the course of desired development.]

THE school had a free development from principles established in it by teacher and pupils. Notwithstanding all the weight of the master's authority, the pupil always had the right not to attend the school and not to obey the teacher. The teacher had the prerogative not to admit a pupil, and the power of exerting all the force of his influence on the majority of the pupils, on the society which was always forming among the scholars.

The farther the students advanced, the wider grew the scope of the instruction, and the more imperative became the demand for order. In consequence of this, in the normal and unconstrained development of a school, the more cultivated the pupils are, the more capable of order they will become, the more strongly they themselves will feel the necessity of order, and the more powerfully the teacher's influence on them in this respect will be felt. In the Y.P. school from its very foundation this rule was found true. At first it was impossible to classify either recitations or the subjects or the recreations or their tasks; everything was in confusion, and all attempts at

classification were in vain. At the present time there are students in the first class who themselves insist on following a regular order of exercises, and are indignant when you call them from their lessons, and these scholars are all the time driving away the little ones who disturb them.

In my opinion this external disorder is useful and indispensable, strange as it may seem and inconvenient to the teacher. I shall frequently have occasion to speak of the advantages of this condition of things; of the imaginary inconveniences I will say this: In the first place, this disorder or free order is trying to us, simply because we are accustomed to something entirely different, in which we were educated. In the second place, in this, as in many similar circumstances, the employment of force is due to haste and lack of reverence for human nature. It seems to us that disorder is increasing, becoming more and more violent each instant, that there are no limits to it; it seems to us that there is no other way of putting an end to it than by employing main force,—but really all it requires is to wait a little, and the disorder, or flow of animal spirits, would naturally diminish of itself, and would grow into a far better and more stable order than that which we imagine.

The scholars—though they are little folk—are nevertheless human beings, having the same requirements as we ourselves, and their thoughts run in the same groove. They all want to learn, and that is the only reason they go to school, and therefore it is perfectly easy for them to reach the conclusion that it is necessary to submit to certain conditions if they would learn anything. Besides being human beings, they form a society of human beings united by one impulse.

[The following passages are gleaned from some 140 pages of Tolstoy's writings on the Yasnaya Polyana school. Our arrangement of these quoted paragraphs has no especial meaning—more or less isolated ideas have been reproduced because they seem to bear upon thoughts expressed from time to time in this column. Many of these observations of Tolstoy's were simply "asides," remarked in the midst

of explaining some part of his school program.]

The healthy child is born into the world, perfectly satisfying those demands of absolute harmony in the relations of truth, beauty, and goodness which we bear within us; he is like the inanimated existences,—to the plant, to the animal, to nature,—which constantly present to us that truth, beauty, and goodness we are seeking for and desire. In all ages and among all people the child represents the model of innocence, sinlessness, goodness, truth, and beauty. . . .

Having been born, man sets up before himself his prototype of harmony, truth, beauty, and goodness. But every hour in his life, every minute of time, increases the distance, the size and the time of those relations which at his birth were found in perfect harmony, and every step and every hour threatens the violation of this harmony, and every succeeding step threatens a new violation, and gives no hope of restoring the violated harmony. The majority of educators lose from sight the fact that childhood is the prototype of harmony, and they take as an end the child's development, which goes on according to unchangeable laws. Development is mistakenly taken as an end, because with educators happens what takes place with poor sculptors.

Instead of trying to establish a local exaggerated development, or to establish a general development, in order to wait the new opportunity which puts an end to the previous irregularity, like the poor sculptor, instead of scratching off the superfluity, they keep sticking on more and more; so also educators apparently strive for only one thing,—how the process of development may not cease; and if they think of harmony at all, then they always strive to attain it, approaching the unknown prototype in the future, receding from the prototype in the past and present. However irregular the education of a child has been, there still remain in it the primitive features of harmony.

. . .

To teach and educate a child is impossible and senseless on the simple ground that the child

stands nearer than I do, nearer than any adult does, to that ideal of harmony, truth, beauty, and goodness to which, in my pride, I wish to lead him. The consciousness of this ideal is stronger in him than in me. All he needs of me is material for filling out harmoniously and on all sides. . . .

If children want to understand well, they must infallibly get very close to the person who speaks, must watch every change in the expression of his face and every gesture he makes. I have more than once thought that they understand best of all those passages where the narrator happened to make a genuine gesture or a genuine intonation.

FRONTIERS

Outrageous Hypothesis

IN a gratifyingly simple article in the *Scientific Monthly* for last November, Dr. William J. Robbins, professor of botany at Columbia University, presents some of the considerations involved in the problem of organic growth. The interest of scientists in the nature of growth is not, of course, a matter of "pure" research. The most terrifying disease of the twentieth century—apart from mental disease—is cancer, and cancer, "the basic causes of which are not known," is, as Dr. Robbins says, "a localized abnormal growth." Some twenty million people now living in the United States, according to the figures of the American Cancer Society, will die of cancer, if present rates continue. Intensified research into the problem of growth needs no further explanation.

Growth is much more than a simple increase in size. Even in the case of the development of a giant sequoia, the magnification of a tiny pinhead of protoplasm into a tree 300 feet tall with a trunk thirty feet in diameter is not so important for the meaning of organic growth as other changes which also occur in a blade of grass. Specifically, growing means an increase in the substance of cells; it means an increase in the number of cells; and most significant of all, it means "the differentiation or organization of the cells into the specialized parts of the adult body." As Dr. Robbins puts it:

Differentiation is a name frequently applied to that phase of growth which causes us to develop into the individuals we are and prevents us from becoming gigantic slime molds, a mere mass of 100 pounds or more of quivering jelly. It follows a definite rule, or pattern, with each kind of living thing; the frog's egg always grows into a frog and not into a dog or a chicken; our nose always grows on the front of our face and not between our shoulder blades. Differentiation not only results in the characteristic organization of the parts of the body but in a limitation on the size of the individual and the various organs. We don't grow forever.

The problem obviously focusses on the origin of *form*. Why, asks the writer, do we grow two arms instead of six or seven? Why do our bodies stop getting larger in structure, sometime between the ages of fourteen and twenty years? None of the available answers, says Dr. Robbins, is "entirely satisfactory." He briefly refers to the idea of "a vital force or principle which guides and shapes the clay of which we are made," but drops it at once with the explanation that this is a "supernatural answer," of no value to natural beings like ourselves. Evidently, Dr. Robbins believes that a scientific explanation of the phenomena of growth must be limited to the conceptions of physics and chemistry, for the remainder of his article is taken up with an analysis of the effects of "specific chemical compounds" on the processes of growth.

It would be gratuitous to find fault with this view of growth on purely "metaphysical" grounds and to insist upon further consideration of the "supernatural answer" simply because we do not "like" the materialism of a merely chemical explanation of growth. It happens, however, that there are sound scientific reasons for challenging the claim that a "vital force" which "shapes the clay of which we are made" would of necessity be a supernatural intruder into scientific theory. It is not clear why Dr. Robbins has seen fit to leave unmentioned several well-known projects of research in morphology, all of them indicating a more-than-chemical aspect to the construction of organic forms. The study of the influence of "organizers" in embryonic growth by Spemann and Schotte and numerous others points quite definitely to a principle or principles of formation in all living things. Further, the work of Drs. Burr, Nims and Lane with the vacuum-tube microvoltmeter, at Yale University, emphasizes as a minimum conclusion the possibility of electromagnetic formative forces which embody what might be called, for lack of a better term, the organic "memory of Nature."

Some years ago, the eminent sociologist,

Robert Lynd, spoke of the need of science for "outrageous hypotheses," if only as stimulants to more fruitful discovery. On this ground, if on no other, it seems justifiable to ask biologists working in the field of morphogenesis to consider the possibility that a controlling "vital force" in organic development may not be supernatural at all, but rather a necessary postulate for further progress in this field.

Normal growth, according to Dr. Robbins, results from the availability to the organism of the specific chemical compounds which are necessary for its metabolism. These, he points out, may vary with the organism. Elements essential to one kind of organism may not be necessary to another. The conclusion is this:

We may assume that the chemical steps in growth are somewhat different in different living things; otherwise all of them would look alike. We might expect to find substances which would upset the growth process in one organism and not in another, or in one type of growth and not in another. It is easy to understand why a good deal of time and money is being spent in searching for chemical compounds which may interfere more with the development of a disease organism than with the host on which it lives, more with the growth of cancer tissue than with normal tissue.

The suggestion that something besides "chemical steps" is involved in organic growth processes may have been considered by Dr. Robbins, but has it been *sufficiently* considered, or was it set aside as far too disturbing an idea for serious scientists to contemplate with equanimity? It seems reasonable to say that if different organisms require chemically different nutrients, then the differentiated organs of a single living body, too, must require chemically different nutrients to assure their differentiation. What, then, of an organism that is highly differentiated, yet chemically uniform in all its parts? A mushroom, for example, is an elaborately differentiated structure. But as Ludwig von Bertalanffy points out:

Here we find no chemo-differentiation, no separation of organ-forming materials, no unequal

distribution of determinative substances which must be the foundation of all development according to the chemical theory, instead we find a *wholly homogeneous [chemically] material which nevertheless attains a definite form.* . . . it seems that in embryonal development, in addition to chemical differentiation, there is yet another factor, a particular formative factor. . . .

The problem of organization is not exhausted by calling the germ a polyphasic chemical system. We must not forget that this chemical system, adjusted internally to bring forth a definite organic form, is not in any way comparable with any chemical system known to us in the organic world. . . . Development cannot be interpreted as though it were only a phenomenon of colloidal chemistry. (Quoted by William McDougall in *The Riddle of Life*, Methuen, London, 1938.

Thus, even on negative grounds, there seems ample reason for morphologists to dare to entertain theories of the explanation of growth which are more comprehensive than those which rely entirely on the effects of "specific chemical compounds." And it might be assumed that to admit a principle of formative intelligence in all organic bodies would invite the supernatural no more than does recognition of the reality of consciously purposive action in man.