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THE BUILDER SPIRIT

WHAT has become of the builder spirit? A century or even fifty years ago, men used to dream dreams, and labor to make their visions come true. They spoke the expansive language of Progress, of a course that would ever lead onward to more stately mansions for the human race. Idealism had a positive construction and impulsion. The trinity of Science, Education and Democracy was invoked without embarrassment and a humanitarian interest could be expressed without apology to cynicism. Those were the days which our fathers remembered—our bewildered fathers who saw the dreams of their fathers turn to ashes like squibs of paper which curl under a hot flame, become black, and then dissolve into a formless white ash.

Is there less idealism, now, than then? If constructive human hope has not altogether died away, what forms is it taking?

The fundamental question to be faced is this: Must idealists become alienated individuals under the conditions of modern civilization? Is there nothing left for a man of principle to do but rebel and protest?

These questions may sound alarming and even a bit hysterical, but they are not, really. They have a familiar ring because they are usually asked in a framework of political doctrines and assumptions, but here they are intended to introduce a kind of moral inventory of our lives and a review of the various compulsions, both apparent and real, under which we live.

It hardly needs pointing out that the "building" activities of previous generations, whatever they intended, have gone seriously awry. Today, the conditions of "freedom" as we have traditionally conceived it seem to involve acceptance of the conditions of slavery—that is, in order to preserve the forms of our free institutions, we are told that we must fit ourselves into the requirements of a monstrous military apparatus which has no foreseeable end to its growth and control over civilian life. Indirectly, but as inevitably, the economic life of the world is slowly submitting to a rigid pattern of taxation which makes big business little more than an aspect of the State, dooms medium-sized enterprise to slow extinction, and leaves only a tenuous existence to the small businessman who is too unimportant to be caught securely within the tax-gatherer's encompassing net.

Agriculture is "developing" according to the same pattern. The big, industrialized farms are crowding out the family farm. As this occurs, the suppliers of farm equipment plan their production to suit the needs of the mammoth farms of the future, thus helping to make the monopoly of bigness inevitable. Finance supports the trend, giving its impersonal assistance to the strongest, largest companies, hoping to avoid unexpected or "disturbing" developments by this policy.

Universities, like armies, are getting larger and larger. A thousand students may attend a single lecture in one of the great state universities. We have not heard as yet that students are being "processed" in institutions of learning, but in a few more years it is not unlikely that matriculation will be described in this way. And it is all very plausible—the way this worship of bigness has come about. The argument for doing things on a large scale gets stronger with each new large-scale operation that is added. After a while, it will be impossible to deviate from any part of the pattern without starving to death.

The most appalling thing about this process is that it seems entirely acceptable to the great majority. They do not go hungry as it proceeds, so that the warnings of the social revolutionaries

fall on deaf ears. Actually, the only difference between the chains which revolutionaries used to invite the masses to throw off and the chains which the revolution itself would impose—judging from recent historical experience—is that the chains now worn by the unreconstructed masses are invisible, while the chains they would wear under a "revolutionary" regime are heavily obvious. In any event, the same adoration of bigness would prevail under a revolutionary order, except that the worship would be accompanied by a totalitarian litany instead of hymns to profits and free enterprise.

This, in substance, is why men who try to think their way through to a practical, working idealism are very lonely men, today. They live on the fringes or in the interstices of our society. If they are public servants, they hardly dare think their own thoughts. They have no party, no church, no club—not even a rallying cry. Only their growing apprehensions and their pessimism unite them. They do not know what to do.

Idealists must learn to be builders, or they turn sour. It is not enough simply to protest, to withdraw, to criticize and to despise the corruptions of the age. Anarchist revulsion has the virtue of being an honest and open break with confining institutions—the "grooves" which give a semblance of order to the convulsive life of our time—and yet it also means a break with the human beings who only suffer without understanding the nature and origin of their pain. But how to build, and what to build with, in a society that seems so clearly hell-bent for self-destruction—these are difficult questions to answer.

At a time when there are no "sides" to choose between, few publicly defined issues worth talking about, and only a handful of men who seem to have some realization that it is the *aimlessness* of our common existence which has created nearly all our difficulties, and not any particular social or moral evil—at such a time it is extremely easy to lapse into a passive if reluctant acceptance of things as they are. This, at least, is the temptation for persons of intelligence and potentiality, and no one will reproach them, for no one will know about their inner surrender. Such men, while they do no evil, do no particular good, yet they are the men from whom good might come, and they, at any time, belong to the very few.

A more active betrayal occurs when intellectual leaders resort to the repetition of popular slogans and lose their integrity by merging their minds with a rising emotional tide. The recent editorial declaration in a technical journal, "We have too few men of God ... among the men of science," is an illustration of this submission to the rhetorical piety concocted for the masses at this time. "God," like Modern Industry, Private Enterprise, or the Nation, stands for a vastly complex and unrationalized body of ideas. There can be no objection to an interest in God, but such references have nothing to do with a serious inquiry into the problem of Deity; instead, they are hopeful incantations repeated by those who would like to charm some security into human life without any effort at discovering where genuine security is rooted. This is a time, perhaps, when, more than anything else, we need to re-examine the meaning of *all* the ideas which are used to create emotional reactions in masses of people. For these seem to be the ideas which convey a spurious sense of meaning and of purpose for human life.

If it is Peace we are urged to labor for, does this mean hating no one and fearing no one—or some other kind of "peace" involving the support of a program that will probably lead to war? The sort of analysis we have in mind was contributed to *McClure's* by William James, the father of modern American psychology, as long ago as August,1910, in a now famous article, "Moral Equivalent of War." Prof. James wrote:

> At the present day, civilized opinion is a curious mental mixture. The military instincts and ideals are as strong as ever, but are confronted by reflective criticisms which sorely curb their ancient freedom. [Not so effectively, these days.] Innumerable writers

> are showing up the bestial side of military service. Pure loot and mastery seem no longer morally avowable motives, and pretexts must be found for attributing them solely to the enemy. England and we, our army and navy authorities repeat without ceasing, arm solely for "peace," Germany and Japan it is who are bent on loot and glory. "Peace" in military mouths today is a synonym for "war expected." The word has become a pure provocative, and no government wishing peace sincerely should allow it ever to be printed in a newspaper. Every up-to-date dictionary should say that "peace" and "war" mean the same thing, now *in posse*, now *in actu.* It may even reasonably be said that the intensely sharp competitive *preparation* for war by the nations *is the real war,* permanent, unceasing; and that the battles are only a sort of public verification of the mastery gained during the "peace"-interval.

This is far truer, today, than it was in 1910, and it is truer because too few people who recognize its truth are willing to do anything about it. We have plenty of men of God, but not enough men of truth. There are plenty of men who will fight a war for "peace"—the kind of "peace" Prof. James is talking about—but too few men who will fight in a war for justice, and will fight in no other. (Of course, it is a long time since men were offered an opportunity to fight in a war for justice —longer than we can remember.)

There must be some significance to the fact that nearly all the things we are urged to believe in, to support and to give our money and our lives for are things which conceal endless inner contradictions. Nobody campaigns for the simple things like honesty in personal relations and in business—for the things which people can't possibly misunderstand. Nobody advocates charity and kindness to others, and simply that, without strings attached. Charity is always identified with the function of some big organization: it might be the Marshall Plan, it might be the Community Chest; and if you hear about charity in Church, it is almost certain to be Christian charity, as though Christian charity were somehow superior to plain human charity.

The virtues, in other words, are not virtues unless they fit into some larger pattern which makes them desirable. Courage means courage-in-conformity, not courage-in-dissent. Spirituality means belonging to some religious group—one of the larger, more powerful denominations—not the search for one's own way to truth. In short, the premises of modern civilization are rapidly becoming the premises of the herd and the hive.

One effect of this tendency is that it drives conscious individuality to the periphery of the social organism and marks it with a mood of desperation. Rebels, eccentrics, constructive idealists and misfits find themselves increasingly together, some of them members of the only remaining "unorganized" and therefore unpopular minority by the constraint of circumstances, and some of them by choice. They make a motley crew, these dissenters, and an easy target for ridicule and contempt.

Here, then, is the unattractive field which awaits the labors of those who are determined to do more than merely drift with the tide or to live out their lives in sullen alienation. They must contemplate the offense of Lucifer and Prometheus, and be willing to accept its penalties. For Lucifer, whatever theological tradition has made of him, is the principle of independent moral decision, of knowledge of the difference between good and evil; and Prometheus, also a constructive rebel, typifies the fire of independent mind. What are the raw materials of their labors? They are always the same —the unexamined and undiscriminated preconceptions of mankind.

For most people with ideals, the puzzling thing about the present is that all the avenues to individual creation and discovery seem closed. But this is because the pioneering spirit is thought to have no scope except in areas of physical discovery, physical mastery, physical exploration, or in the realm of social organization. The effects of physical achievement and political integration seem to have combined into a web of regimentation, and any further progress in either of these directions promises only to strengthen the bonds of submission to an outside authority. And

yet, a universe of untouched human problems awaits the daring pioneer who would attempt to fathom psychological and moral realities. Some may suppose that mere "thinking," at a time like this, is akin to doing nothing; yet discovery and achievement *without* thinking seem to be the principal causes of the confusion and aimlessness of modern man.

To seek out and to make plain the roots of this confusion—this is certainly the task of the idealists of the twentieth century. Any building for the future which ignores the problem of "slogan" thinking or which seeks to make a foundation of unexamined prejudice and traditional belief will be a structure that will inevitably house delusion and become but another means to human betrayal. This is easily illustrated by applying the analysis of William James to the great endowed institutions which men of wealth have established—doubtless with the best of intentions—in the interest of world peace.

After the first world war, Sherman Miles, then a Major in the United States Army who had been detailed to the American Peace Commission in Central Europe, discussed the work of various peace organizations in the March, 1923, *North American Review*. One organization, which announced as its primary objective "the thorough and scientific investigation of the causes of war," expended more than half a million dollars in eleven years. Its historians and researchers produced twenty-four pamphlets and ten books. The pamphlets, however, were simply descriptive studies of World War I, without concern for causes, and nine of the books dealt "with the general subjects of industry, commerce and finance; with casualties in war and military pensions; with existing tariff policies and with conscription in Japan; but none of these subjects are studied as possible causes of war." The one exception was an essay on two minor Balkan wars. Major Miles comments:

> . . . it seems strange indeed that the germ-essence of the thing should boil down to that one anonymous volume, recounting the dull stories of two almost forgotten wars. And as for the economic studies, the one thing about them that strikes a soldier is that they throw no light on the causes or prevention of war, but that they would be most useful guides to any government *while waging war*.
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> . . . it would appear that at least two of the greatest of the peace societies, the two probably best fitted for research and planning, have made no real attempt to study the causes of war, and (perhaps for that reason) have no definite plans for combatting it beyond the teaching of respect for law and justice. Stranger still, these two societies appear to know of no peace organization anywhere that has ever studied the causes of war scientifically. A search in the Library of Congress reveals but one such study by any peace society, and that consists in a compilation of individual theses written by five members of an English Quaker Meeting during the war.

And yet, there is no dark plot in which the directors of these foundations combine with the munitions-makers to ease the path to war. They are all, as Antony said, "honorable men," as honorable, at least, as other leaders and pillars of modern society, and as well-intentioned as the millions of people who trust and listen to them.

Builders, in this epoch, and for the future, have no choice but to consider these things, and to consider them without anger, without alienation. It may be that we are reaching the bottom of Pandora's box, and that now, after all the horrors of war and cruelty and human weakness and self-deception have emerged, there is both opportunity and necessity to recognize that the sole basis for hope lies in uncringing honesty and a willingness to admit our past mistakes. It will take a new sort of building to construct a livable world for the future. And before that building can begin, the free minds that are left will have to formulate some plans.

Letter from ENGLAND

LONDON.—The cruelty of man to man is at least accompanied by articulate objection, but how few there be who will speak in defence of those who are unable to voice their sufferings at the hands of mankind. The House of Commons here, so far from hastening, recently spent its time in rejecting, by a majority vote, a private members' Bill to prevent the hunting of deer, badgers, and otters, and the organized coursing of hares and rabbits. The Labour Cabinet and Ministers, having lost the idealism of the early days of their movement, voted in strength against the Bill. It was opposed vehemently by the Minister of Agriculture (who spoke for the Government). When himself a private member, this man had been known for his advocacy of humanitarian measures for the protection of animals. Once again, therefore, as so often in the past, a Government has done, not what it believed to be right, but what is politically expedient. This time they were afraid of losing the rural vote at the next General Election.

However, the fight against cruelty goes on. Even the Government has recognized the force of enlightened public opinion on this subject, by promising to appoint a Royal Commission to go into the question of the law relating to cruelty to wild animals. It is to be hoped that this will lead ultimately to appropriate legislation being passed to stop all cruel sports. Further, two other private members' Bills are likely to pass through Parliament, having received Government support, namely, one prohibiting the baiting of animals for sport (chiefly cock-fighting) and the other forbidding the docking and nicking of horses. There is also some expectation that steps will be taken to humanize, as far as possible, the slaughter of horses for food, and to protect them when being exported to other countries, often when beyond their working age.

Those who have a penchant for philosophizing upon the contemporary scene might do worse than consider the significance of the pleasure or profit motive in relation to cruelty of any kind, particularly as applied to the members of the living world who are defenceless against human predation. There is Lord Winterton, for example, one of the oldest members of the House of Commons (his peerage does not entitle him to sit in the House of lords). In the course of the debate on the Hunting Bill, he said that it was a well-known fact of psychiatry that a great many of these people supporting the Bill "are slightly unbalanced mentally." Many of them, he added, "are people who have had the misfortune in their lives of not succeeding in attracting the other sex"! Quite apart from doubts about the "facts" in psychiatry, a vista opens out! With the medical profession practically nationalized in England, this kind of psychiatry in the service of the State would make short work of dissident minorities. Unfortunately, it is just this kind of specious nonsense that so often succeeds in the counsels of men. We do well to heed the warning, while intensifying our humane education in every direction. *Pace* Lord Winterton and others of his persuasion, we may remember that Leonardo da Vinci, for instance, bought and released caged birds. And Apuleius tells us in his *Apologia* that Pythagoras one day, near Metapontus, purchased from some fishermen all the fish in their net, that he might have the pleasure of releasing them. It is the business of any true philosophy to humanize our natures with compassion.

ENGLISH CORRESPONDENT

REVIEW
AMERICA'S UNDEFINED RELIGION

A. POWELL DAVIES, a Unitarian preacher of Washington, D.C., and, it seems, a man of considerable note, has written a small, paper-covered book of particular interest and value—*America's Real Religion,* published by the Beacon Press in Boston at one dollar. The book is really the story of free religious thought in the United States, from Revolutionary days until the present, told in terms of the beliefs—or lack of beliefs—of America's great men. The title, however, while accurate enough, would have conveyed more meaning if it had been "America's Undefined Religion," for while Mr. Davies is stating a case, he is also stating a problem, and it is the problem side of his discussion that holds the most interest for this Department.

When Mr. Davies speaks of America's *real* religion, he means the sort of religion believed in and practiced by men like George Washington, Thomas Jefferson, James Madison, and Abraham Lincoln—the religion, in short, of the men who have been the principal inspiration of American idealism and the major exemplars of American character. These men were not, however, in the majority. They were the few, as great men, everywhere, have always been among the few. Nevertheless, we think Mr. Davies is entitled to speak of what they believed as the real religion of America, for religion ought not to be defined according to statistical averages of human belief, but in terms of the highest conceivable aims and ideas of the best of men. There is both a great danger and a great fallacy in allowing the census-takers to tell us what we think and how we behave and what is typically "American." Census-takers have a use, we suppose, but it is certainly not a use important to religion. What "the majority" are said to believe and think about religion is no more a guide in the search for truth than the fruit of Mr. Kinsey's inquiries is an aid or inspiration in personal relations between the sexes.

The author of *America's Real Religion* starts out with a mind disturbed by recent aggressions of sectarianism in the United States. He finds the representatives of denominational religion increasingly determined to claim authority over the religious life of the American people in the name of American "traditions," and he intends, in this book, to show what the ideal American tradition in religion really is.

The first qualification for representing that tradition, it appears, is to be called an infidel by the spokesmen of orthodoxy. First on the list is George Washington. Mr. Davies writes:

> Washington was a Deist: that is to say, he rejected the supernatural and the miraculous and believed in the existence of God on the evidence of reason and Nature only; he thought of God as an Ultimate Cause and as Providence rather than as a being accessible through rituals or as a God to be worshipped according to set forms. But he certainly believed, to use his own words, that those who raise up "a standard to which the wise and honest can repair" could do so in the faith that "the event is in the hands of God." . . .
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> Washington had "no sort of living interest in the issues upon which organized religion lays stress.". . . Washington was an indifferent church-goer; was not a communicant; kept the sabbath chiefly to avoid offending public sentiment or the opinions of his friends; officially visited every sort of religious congregation, Quaker, Jewish, Methodist, Episcopalian, and even, in his own words, "the Presbeterian Meeting in the forenoon and the Romish Church in the afternoon"; but . . . nowhere did he pretend to an orthodox belief.

Jefferson and Franklin, who expressed themselves more explicitly in Deist terms, were of the same general persuasion as Washington; and Lincoln, who has been alternately claimed for piety and criticized for his unbelief, expressed himself in these words:

> I do not see that I am more astray—though perhaps in a different direction—than many others whose points of view differ widely from each other in the sectarian denominations. They all claim to be Christians, and interpret their several creeds as infallible ones. I doubt the possibility, or propriety, of

> settling the religion of Jesus Christ in die models of man-made creeds and dogmas.

Mrs. Lincoln said of her husband: "He had no faith and no hope in the usual acceptation of these words. He never joined a church, but still I believe he was a religious man by nature."

It is of some interest that these men, primarily political reformers—or perhaps it would be better to call them men who gave new formulations of social ideals—have left behind them mostly negative statements about the senselessness of creedal conflict, and very little about their positive convictions. This reticence was doubtless necessary if they were to perform their tasks in the theater of political action. Thomas Paine, who did not keep silent on the subject of religion, experienced the ingratitude of the entire Christian world, and was even hampered in his services to the cause of freedom.

But what, actually, did the Deists believe, beyond the short summary given by Mr. Davies of Washington's views? If we turn to one who is generally regarded as the founder of Deism, Lord Shaftesbury of seventeenth-century England, we find only pantheistic generalities such as might be expected of a modern scientific thinker. John Toland, who lived about the same time as Shaftesbury, and who was also a Deist, in his remarkable volume, *Clidophorus,* reports an anecdote which seems to contain the essence of the Deist faith. Shaftesbury and a friend were one day conferring together about "the many sects of religion in the world," and, as Toland tells it:

> . . . they came to this conclusion at last: that notwithstanding those infinite divisions caus'd by the interests of the priests and the ignorance of the people, ALL WISE MEN ARE OF THE SAME RELIGION; whereupon a Lady in the room, who seem'd to mind her needle more than their discourse, demanded with some concern what religion that was. To whom the Lord Shaftesbury strait reply'd, MADAM, WISE MEN NEVER TELL.

This, then, is the problem set by Mr. Davies' book—a problem to which, unfortunately, he gives little attention. It seems to be the general impression among liberal thinkers, humanists and Unitarians that strenuous attempts to revive the spirit of Deism will be sufficient to counter the rising tide of presumptuous dogmatism which threatens to erode and finally to destroy the bulwarks of religious liberty in the United States. The struggle is between defined religion and undefined religion, and the literalists with definitions and formulas for salvation seem slowly to be gaining popular support. What is apparently overlooked by the modern defenders of freedom in religion is that the passage of some three centuries—since the Deist doctrines were born—has created a number of specific intellectual and moral needs which were not perceived in the days of Washington and Jefferson and Thomas Paine, nor even in the days of Lincoln. It is not that Deist principles no longer have value, but that their meaning has to become articulate for contemporary society, lest the older, simpler meanings become merely slogans without clear relation to the pressures and tensions of life as it imposes itself on the men of our time. The great Deists were men of great personal character and power. For them, Deism was not a philosophical inheritance but a living and personally discovered credo. They applied its principles to the issues of the day and followed wherever the principles led. They were *making* history, initiating a great movement toward human freedom, not fighting a rear-guard action against social and moral decay.

An inherited Deism, it seems, is not enough. We can read Mr. Davies book to learn what our forefathers did, and how they stood out against the evils of their time, but learning about *their* Deism will not turn the good will of the present into a great creative surge of history. Something is missing from our time—something called human greatness—and we shall not begin to replace it until we recognize half-measures for half-measures, and nostalgic dreams about past greatness for what they are.

COMMENTARY
THOUGHTFUL JOURNALISM

A RECENT issue of the *Jewish Newsletter* (edited by William Zukerman in New York City) contains facts of such interest and comment of such excellence that it seems appropriate to call special attention to them.

The facts: Within the first four days of admission to the United Nations of the new State, Israel, the Israeli delegation had voted against giving Great Britain a mandate over Libya; against the Union of South Africa's policy of racial discrimination toward its Indian population; and for the Indian resolution asking for a UN commission to investigate the entire colonial problem, aiming at making all colonies free and independent. A Moslem delegate from Burma, after witnessing the Israeli stand on these and other issues, publicly expressed his admiration. This Moslem had himself a few days before voted against Israel's admission to the UN.

The comment: Dealing with the significance of these events, the *Newsletter observes:*

> The moral and psychological effects of this on Israel, on Jews outside Israel and on the world at large, are much greater than the political benefits that will accrue. In the first place, it will help to lift Jews from a spiritual isolationism from the rest of humanity from which they, as a people, have suffered more than others. Hitherto, the bulk of the Jewish people were so preoccupied with Jewish problems exclusively that a good many of them were prone to forget that they were, after all, a part of humanity. . . .
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> Secondly, Jews as a group, had hitherto always asked favors from the non-Jewish-world and were never in a position to repay them in the same coin, They always needed help desperately and all they could do was to plead for it without being able to reciprocate politically or otherwise. This has led to a beggar-psychology which is not healthy for an individual or a group. [This UN participation] was probably the first time in centuries that representatives of Jews, as a group, spoke *for* other nations and helped them, instead of asking their help. If this practice is kept up it will have a heartening effect on the Jewish people as a whole, even outside Israel.

We reprint these observations as much to call attention to the high quality of journalism in this *Newsletter* as to note the developments to which they refer. It embodies a dignity and common sense too often lacking among the spokesmen for minority groups.

CHILDREN
. . . and Ourselves

FOR some time, now, a correspondent has been requesting discussion here of the educational treasures available in the life of Bronson Alcott, the schoolmaster friend of Emerson and Thoreau.

Alcott should be, beyond question, an important focus of consideration for sympathetic readers of this department. In the first place, Alcott not only pioneered in directions now covered by the term, "Progressive Education," but his thinking also embodied the spirit of non-sectarian religion. For him, every child was a Soul, possessing illimitable, mysterious moral and ideative abilities, but also a "soul" in need of a much better educational environment than he was apt to be provided with. Alcott was one of the first ardent advocates of informality in the entire educational process, and favored turning the classroom into a conservatory for the development of spontaneous enthusiasms.

Our correspondent's enthusiasm is of a sort to arouse extravagant expectations of Alcott, but these, we believe, are wholly justified by the facts of Alcott's life. We are invited to—

> Think of a school-master with complete faith in the notion that children from four to twelve could manage the ideas and intimations he himself had most respect for. Think of carrying on a school as if the real world is in the mind, and all outside things were reflections only. Suppose you heard of a school where the main business seemed to be the learning and defining of words—and where even this "lesson" was almost pure Conversation! What of a teacher who moved, in all his pedagogy (that would have been his term for "educational psychology"), toward Philosophy? How about a school preoccupied with the *soul's-view* of life, things, people, and events?

Readers who refer to Odell Shepard's *Pedlar's Progress,* a detailed account of Alcott's career, will find this portrait unexaggerated.

Unfortunately, the most complete records we have of Bronson Alcott's teaching techniques are provided by a rather uninspiring diarist named Elizabeth P. Peabody. But even in Miss Peabody's prosaic account we find unmistakable evidence of Alcott's depth as a teacher:

> A common conscience was the first object toward which he aimed. And this he defended on the ground that the general conscience of a school would be the highest; for which, also, he had some very excellent arguments. He said that the soul when nearest infancy was the purest and most moral; that the artlessness of children made them express their strongest convictions, even when made against themselves; and that though the very young were apt to do wrong things, they did not defend wrong in the abstract. From all this, it was to be inferred that the moral judgments of the majority would be higher than their conduct; while those few, whose conduct was more in proportion to their moral judgment, would still keep their high places, and occasionally throw their finer elements into, the general conscience, which might be called the treasury of the school.

During the years when Alcott was free of the definite responsibilities of teaching and superintending a school, he travelled extensively in a sort of gentle odyssey of learning and of teaching by "Conversation." As a youth he peddled household goods through the South, somehow securing access to all types of homes, bringing with him a stimulation of the mind which became a precious gift to many of those who invited him to accept their hospitality. In his later years, he established "conversation" tours, and this approach to the problem of learning was central to Alcott's work with children in his school. Learning, he felt, must be thoroughly natural and must have for its inspiration an environment which would encourage thought. Miss Peabody reports that Alcott once told the children:

> Conversations are the most perfect transcript of mind. Could the conversations of great men be recorded, it would give us a better idea of them than any history of their lives. Why is the New Testament interesting? Because it is full of the conversations of Jesus. And the conversations of Socrates make perhaps the next most interesting book in the world. Conversation is full of life, for the spirit's workings come out in conversation, fresh and vivid. . . . A little boy exclaimed, "I never knew I had a mind till I came to this school," and a great many more burst out with

> the same idea. I asked a very little boy, who I think has improved his intellect more perhaps than any other child in the school, if he knew he had a mind before he came to this school. He said, Yes. I then asked him if he ever thought before. He said, Yes. If he ever thought about his thought. He said, with a bright smile, No! If he liked to think about his thoughts. He said, Yes.

But Alcott found a satisfactory transition from "conversation" to books, too. He believed, said Miss Peabody, that "every book read should be an event to a child; and all his plans of teaching keep steadily in view the object of making books live, breathe, and speak; and he considers the glib reading which we hear in some schools as a preventive rather than as an aid to his purposes.

Those who do secure a copy of Shepard's *Pedlar's Progress* will be interested also in Alcott's experiment with a utopian community. As described in V. F. Calverton's *Where Angels Dared to Tread*, an account of socialistic and utopian experiments in the United States, Alcott's efforts at the Fruitlands site seemed to result only in failure. But in the light of Shepard's biography we are encouraged to believe that no utopian ideal pursued as Alcott pursued it could possibly be a failure. For even if Alcott was unable to construct the perfect school or the perfect community, he was constantly succeeding in constructing people—and constructing himself. The apparent success or failure of his school or of his community actually seems a bit irrelevant. Alcott was not trying to reform the world or mold it to his imaginative liking, but was seeking every avenue for the encouragement of enlightenment of mind and soul in the relationships of human beings. Incidentally, he was probably the first American educator to perceive the remarkable degree to which adults may learn from children. His respect for children was enormous, and while he sought to teach and improve their capacities, all that he did and said evidenced a great personal humility. He was still enough of a child, himself, to appreciate the subtleties of perception in children which he knew were often impossible for adults to achieve.

FRONTIERS
Mysteries of the Cell

FROM a reader who is active in scientific research, and who often comments upon material appearing in these pages, Mr. Herbert O. Albrecht, of Springfield, Pennsylvania, comes the following suggestion:

> To make a prediction on the positive side—we may be on the brink of considerable revelations concerning a "new" sense of selective response to certain infra-red frequencies. . . . The recent development of new means for investigating the infra-red spectrum his set many minds to turning over faster, and the following details are at least something I have not yet read: The "mitogenetic radiation" looked for in the ultra-violet has a much better chance of being a genuine phenomenon in the infra-red, where a vast body of frequencies of easily detectable intensities exist around us, than in a region where we *know* that the intensities are at least very low, if not nonexistent. Almost certainly, if the above specialized functions of the body or growing cells are substantiated, a more generalized response (selective, still, to frequency) will be discovered, and this could mean all kinds—of subtle responses to the presence of other humans, animals, or even plants, and drugs. However, please note that this would *not* be ESP in the sense that most believers want to take it.

A little scientific history seems called for, at this point. The mitogenetic rays referred to by our correspondent are regarded—by those who think them real—as growth-producing rays which stimulate the subdivision or multiplication of cells, the process called mitosis by biologists. Why, after all, should some cells divide when others do not? This is almost a philosophical question, asking why living forms take shape as they do, and not in some other fashion. Then there is the further question as to what, specifically, causes the division in a particular cell, regardless of the general pattern which seems to be developing. It is this act of subdivision which the theory of mitogenetic rays may help to explain.

Mitogenetic rays are nothing new in biological science. A summary of work done along this line appeared in *Science* for June 15,1928 describing the experiments of a Russian scientist, Alexander Gurwitsch, who reported in 1924 that cell division in plants and animals is caused by some type of radiation. According to the account in *Science:*

> Gurwitsch found that if the tip of one of the rootlets of an onion or a turnip was fixed so as to point at right angles to the side of another root, though as much as a quarter of an inch away, the cells in the side nearest the tip would multiply more rapidly than elsewhere and so bind the root away. That this influence was not due to the emission of some gaseous emanation from the root tip was proved by the interposition of a thin sheet between the two roots. Glass and gelatin sheets stopped the transmission of the growth stimulation power, but quartz did not. This is characteristic of ultra-violet rays and Gurwitsch concludes that the radiation from the root tips has a wavelength of 180-200 millimicrons, which would place it among the ultra-violet waves of high frequency.
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> The German botanist, N. Wagner, has repeated these experiments with bean and onion roots and measured the effect by counting the number of new cells produced in the roots acted upon. The increase is as high as 70 per cent in some cases. Old cells that have ceased growing show the greatest relative increase.
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> The German bacteriologist, M. A. Baron, his found that the radiation from onion roots will likewise accelerate the growth of anthrax bacillus and other bacteria. The growing tip of toadstools gives off these growth-generating (mitogenetic) rays.
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> The Siemens Electrical Company has taken up the question and Doctors Hauser ard Vahle working in these laboratories report that certain growing animal tissues, such as cancer, emit such rays.
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> These results, if confirmed, will radically revolutionize present theories of life and growth. It has hitherto been assumed that the impulse to cell subdivision was somehow due to the direct contact of certain chemical substances transmitted through the tissues, but it now seems that an energy agency is active in vital processes, in immaterial radiation of the nature of light but of too high frequency to be detected by our eyes.

These views, formulated more than twenty years ago, seem to have a broad theoretical confirmation in subsequent physiological research.

The work at Yale with the vacuum tube microvoltmeter has made it fairly clear that all living things possess electro-dynamic fields, and, as H. S. Burr has observed, "that such fields must have importance in determining the arrangements of the units of the pattern of cellular configuration." From the medical point of view, the proliferation of cells is of extreme interest, not only as a problem of normal development, but also in relation to the abnormal growth which characterizes cancerous tissue. After a summary of observations pointing to the fact that every organic body possesses a "true field," Burr concludes:

> It is inconceivable that such a widespread phenomenon should be a by-product of life, for it is so intimately bound up with fundamental biological processes that it disappears at death. It may well be, therefore, that here lies the long-sought due to the problem of organization, disturbance of which results, among other things, in the wild, unrestrained, atypical growth of cancer. *(Yale Journal of Biology and Medicine,* January, 1940.)

It has long been known that electrical polarity is an essential characteristic of cells. Prof. Edmund Wilson, in the well-known text, *The Cell in Development and Heredity*, shows that the electrical polarity of the living cell is not dependent upon the location of the tiny bodies within it—nucleus, golgi-bodies and chondriosomes, etc.—but that the axis of polarity remains undisturbed when these bodies are displaced by a centrifuging process. Further, there is direct correspondence between the gradients in polarity and gradients in metabolic activity, "levels of high metabolic rate being electro-negative to those of lower." Polarity may even be the most enduring trait of cellular activity. In the case of the lowly liverwort, *Marchantia*, mutilated fragments of the plant regenerate their damaged structure according to polarity. Even very small pieces, according to Prof. Wilson, "retain their original polarity, the new apical region being formed typically from or near to the most apical region of the piece; and since these pieces may be very small, Vochting concluded that every cell is probably polarized in the same sense and may give rise to a complete plant." As to polarity itself, Wilson remarks:

> Fundamentally, both the nature and origin of polarity are unknown. We know only its visible expression, which in most cases is both structural and functional, appearing on the one hand in a polarized grouping of the cell components, on the other in differences of functional or metabolic activity with respect to the axis thus marked off.

While the nature of polarity itself may be "unknown," there can be little doubt concerning its importance. Drs. Burr, Lane and Nims at Yale have developed a larger pattern of observation of vital processes—a pattern into which the phenomena described by Prof. Wilson fit perfectly. A press account of studies made with the vacuum-tube microvoltmeter demonstrates the electrical polarity of the entire organism—or rather, of its governing field:

> Thousands of tests already made show that living creatures all generate electricity in measurable amounts and that each species has its characteristic, rather stable electrical pattern. The pattern changes minutely and thus reflects variations in the process of the living. . . .
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> They [the Yale researchers] saw that living things are amazingly consistent. Flesh is cut and bleeds and heals; tissues fall a prey to disease but cure themselves. Somehow the integrity of the whole organism is never lost. No one knows why this should be so. In the field, thinks Prof. Burr, may lie the causative factor that gives meaning to the unity of nature and that explains why wholes tend to remain wholes and atoms to form wholes, whether bits of wood or men. . . . In a word, "animal electricity," scoffed at since Galvani's time, may manifest itself as life.

What, then, is so improbable about the idea of growth being stimulated by some form of radiant energy? As a matter of fact, Dr. Burr has reported that "spontaneous adenocarcinoma ("wild" cancerous cells) of the mammary gland can be recognized by a change in the electrical pattern of potential differences some weeks before it is evident as a result of palpation." This being the case, other radiations may be responsible for

other types of growth. It is even conceivable that the entire spectrum of radiation affords a gamut of biological influences, varying with wave-length and doubtless with other unknown factors.

In any event, these speculations are far more satisfactory than merely "chemical" theories of growth and development with which the majority of biologists have been preoccupied for many years. But assuming the field and ray theory of growth to be the true one, what, it may be asked, maintains the integrity of the field? A Platonic form, or *idea?* There is nothing unreasonable in this suggestion.