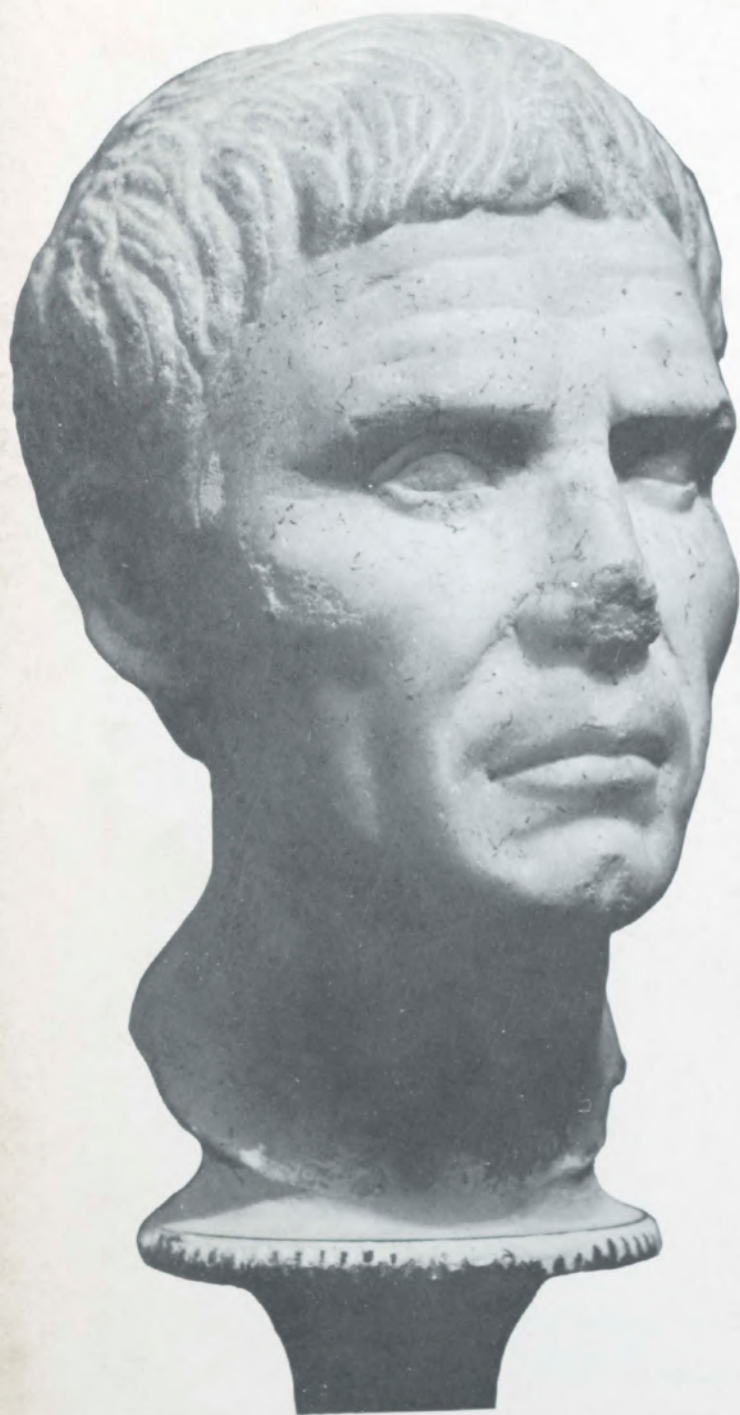


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"To sail beyond the sunset
and the bathes
Of all the western stars."

—Alfred, Lord Tennyson

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AN EDITOR'S VIEW:

Though in its infancy, we believe that ERA has begun its journey with auspicious winds, under prosperous stars; this present issue contains some measure of the diversity of subject matter and perspective that we will want to continue to present to our readers through the future. We hope that everyone will find in ERA something to excite him and something to disturb; an issue for agreement and a thesis for debate.

Here you will find an analytical examination of the foundations of religious faith; two commentaries upon tendencies of our complex age—one, that concerns the type of vital concepts that men may reduce to dangerous simplistic theories; the other, about our life

in future decades and the possibility of an urban society of bright machines and dull people. Here, also, is a study of the warring of religions for men's bodies and souls; a contemporary philosopher's reminiscences and burst of classicism; and a short story, relevant to all of these subjects, speaking about the ways and worths of the human journey.

We have read that Wordsworth was drunk but once in his life, the time of his visit to Cambridge, to the rooms once occupied by Milton. We would have ERA possess such a spirit of the intellect. And if it could become an apéritif for the mind, we will have accomplished much.

EDUCATION AND THE GOOD LIFE IN THE URBAN SETTING

■ Teachers work at the grass roots of city planning. They are in a unique position for instilling the right ideas and arousing a vision of what our urban environment should be in the minds of young people still in a state of formative development. It is their mission to awaken in the young generation a spontaneous feeling, an ever-present sensitivity for the improvement of their environment. It is the great privilege of all teachers to explain to their pupils that *knowledge* alone is not enough, but that *understanding* of the world around them opens the gates to a better and fuller life.

The theme of education in an urban setting gives me an opportunity to be as controversial as I possibly can in talking about the problems of our cities, about urban life, and our environment in general. However, these problems do not concern one country only, but all countries, for urbanization is now engulfing all parts of the world.

In such a world our cities are archaeologically interesting remnants of our neolithic past.

Competitive Conurbation

Basically, cities are still the same as they were five thousand years ago, consisting of narrow canyons—called streets—lined by rows of houses; grouped around a center and limited now, not by walls, but by invisible barriers city treasurers have thrown around their communities through the imposition of local taxes; and surrounded by suburbs, as has been the case in past millenia. The competition between cities, which could be a creative emulation, has degenerated into the antagonism of the in-group and the out-group, into an uneasy coexistence of parochial attitudes. A sort of urban imperialism is spreading: the greater the number of workers absorbed into fewer and larger combines, the more cities swallowed up villages and smaller towns. The more the appetite of the big metropolises grew, the more they

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indulged in a Cult of Bigness *without* trying to find new forms of community living.

The results are enormous: disorganized conurbations such as the Ruhr District in Germany; the Black Country of England; the urbanized belt from Boston to Washington, D. C.

A Post-Civilization Begins

The transition through which we are passing has the same unsettling effect as the transition from a primitive agricultural civilization to the early stages of city development, when man was uprooted from the land and became a city dweller, when his mentality changed from that of a human being embedded in his natural environment to that of an urbanite independent of nature and evolving a social and economic structure under totally different conditions.

Continents, which in the past seemed to play a passive role in the self-centered mind of Western man, enter as active participants the world of historical evolution. The impact of these tremendous changes can be felt everywhere. Think of Africa and Asia, and the enormous pressure these continents exert upon the rest of the world, upon the thinking and acting of humanity, upon the distribution of goods, upon their production, and upon the needs and ambitions of the emerging masses.

The transition to Post-Civilization, as it has been called, is just as far-reaching as the step from pre-civilized to civilized society; and yet we believe that we can deal with these problems primarily through so-called "economic development" as we understand it today.

City planners are particularly inclined to continue on the established course and to evade the real issues. They believe that if they use a contemporary language of form, that is modern architecture, they are progressive. They fail to see that this hits only the surface, not the substance. Since they are in the forefront of those dealing with urban problems, theirs is an especially grave responsibility.

Our world is shrinking in time and space at an unprecedented rate and scale. To select one country only would knock the bottom out of our discussion. The problems of cities can be understood only in their world-wide implications. They are everywhere the same—only differences of degree, of scale and intensity distinguish them from one country to another.

City Planning as Social Art

City planning is *the* social art par excellence. It is inescapable. To restrict an attempt at the clarification of these problems to a survey of so-called *facts* is, in my opinion, worse than useless; it is misleading. I intend, therefore, to try to bring out the *ideas behind* the facade of what you can see or touch, to elucidate, as far as possible, the ideas that have

shaped and reshaped the outward appearance of our cities. For ideas are stronger than facts; they are the formative power that determines the scope and character of the facts and the type of environment in which we live.

The formulation of the theme is in itself contradictory. What is a "Good Life"? and is "Urban Setting" something that is almost automatically conducive to a "Good Life"? Cities exist—but why are they growing more and more obsolete, more destructive, more confusing, more disorganized? This question is still hotly debated. I am reminded of Ogden Nash's charming and profound statement:

God in His wisdom made the fly.
And then forgot to tell us why.

It is this *why* that shall occupy us in this essay.

Man is the center of everything. And only man can find a solution to his problems—man as an *individual* being and man as a *social* being. What has gone wrong?

I have no intention to play Cassandra. I am an incurable optimist, but I want to be truthful about our situation. I want you to share with me the courage to face facts, real facts, not just empty slogans masquerading as the result of wise decisions. I want you to give up the futile waste of your time trying to find solutions to problems that have not yet been thoroughly analyzed and understood. I want you to face with me the problems of a world in violent upheaval, a world in the birth-pangs of creation and tremendous changes. I want you to be convinced, as I am, of the justification of the famous words: "And yet—it moves."

To prove this we must try to comprehend where we have failed, for—

Man, proud man,
Drest in a little brief authority,
Most ignorant of what he's most assured,
His glassy essence, like an angry ape,
Plays such fantastic tricks before high heaven
As make the angels weep.

What is the terminal point of our situation? What is a "Good Life"—for most people?

The Ambiguity of Greatness

This country has been promised a New Deal, a Fair Deal, New Frontiers, and now a Great Society that will be, I am afraid (judging from the somewhat confusing statements of the present administration) at best a great suburban society of narrow philistines and at worst a materialistic society with a thin veneer of uplifting generalities. It is entirely credible that our scientists and computers, these high speed idiots—I don't mean the scientists—may create an environment in

which man has plenty of leisure, and plenty of time; but, when he has gained it, he will not know what to do with it. Leisure as one of the gifts of a "Good Life" will then be a burden, not a state of creative regeneration.

To multitudes the "Good Life" means going to a cinema, a theater, a concert, a game, in other words taking part in commercialized entertainment. There are, of course, the opportunity for social intercourse, the availability of institutions of learning and culture, and many other activities.

For the great majority of people the "Good Life" is identical with trivial entertainment, cheap music, superficial writing, and an unending stream of visual trash. Their life is divorced from an enthusiastic faith in the future. It is focused on immediate pleasure sustained by a simplification of the grave problems pressing in upon them. Their great ambition is the imitation of the upper classes, to keep up with the Joneses. The prospect of more leisure, more frightening than hard work, has turned into a fear of leisure. And science in its present morally irresponsible state does not hold out any hope of happiness—though it could do this—but only an ever-growing helplessness and dependence on the "wonders of science and technology."

Sub-human Settings

And what about the "Urban Setting"? In our cities there are now living—it would be more sincere to say "vegetating"—more slum dwellers, more unemployed, more uprooted people than there are farmers on the land. We have only recently experienced, in this country, outbursts of despair in the slum areas of Los Angeles, Chicago, Philadelphia, and other towns. The reasons for these outbursts are very simple. There is no need to search for complicated explanations.

The Urban Setting in which these masses are living is sub-human. Their environmental conditions are below even the minimum standards of decency and morally justifiable modesty.

For decades very little, or virtually nothing, has been done to eradicate this blot on the social conscience of society. Instead of large-scale operations to erase these slums, we have offered endless talk about *Urban Renewal*. But what is Urban Renewal?

It is, as a matter of fact, one of the most reactionary movements in our time. Compared with the advances in science and technology, it is a pastime of the eternal laggards who still rely on "conventional wisdom." Cities have existed for five thousand years. But the early advantages of close proximity, of intimate and easy social contact, of mutual aid and purposeful personal activities have given way to traffic arteriosclerosis, to urban nomadism, to loneliness and an ever-growing emptiness of the life of the masses that can hardly be surpassed.

The fundamental fallacy of Urban Renewal is that it tries to renew something that is already dead or decaying and to retain a physical structure that is sick and out-of-date. Closely knit and functionally organized cities belonged to a world limited in extent and relatively simple in the interdependence of its different parts.

The old idea of a city center holding the urban area together has become meaningless. It belonged to an era when cities were small and their socio-economic structure was an organic whole. It belonged to an era that ended with the Industrial Revolution, when towns grew up around a temple, a church, a fortified castle, a palace, or a city hall as impressive symbols of their inner coherence and as active centers of their community life.

For Regional Redesign

These are today's needs: replanning whole countries and large regions; thinning out all cities; creating new small communities; reorganizing the interdependence between all places of settlement; disentangling traffic; moving people out to new communities, and driving nature into the old, amorphous, and ugly towns and cities.

Can city planners not understand that the scale of all our actions is widening beyond anything we have known in the past? Can they not give up their preoccupations with minor and unrelated details and short-lived reforms? Is it really a solution to suggest the further development of the already over-urbanized belt from Boston to Washington, D. C., as one enormous megalopolis? Is it realistic to expect that, to mention only one example, Market Street of Philadelphia will be the hub of this vast conurbation?

Is it a solution to spend 300 to 400 million dollars on the erection of office buildings in the center of a city, as has been done, and to do virtually nothing about slum clearance and the systematic decentralization of a city?

But all this is regarded as part of Urban Renewal! Can't the narrow-minded administrators, who follow this line, shake off the fetters of the past, break through the thought-barrier and help to promote a revolution in our minds before we witness revolutions in the streets? I am extremely skeptical that they will ever live up to this challenge as long as they cannot shed the fetters of "the insolence of office," as Shakespeare said, and step down from their self-erected monuments.

We have now, in this country, a Cabinet Department of Housing and Urban Development grouped around the Housing and House Finance Agency that has already existed for quite a few years. During this time, not one single genuinely creative idea has emanated from this Agency. There is no reason to expect that this will change in the

future. So far, Urban Renewal has meant renewal of the city center, not the community as a whole.

That there is something fundamentally wrong with the whole concept of Urban Renewal was recognized at the opening session of the 42nd Conference of the National League of Cities held this year in Detroit. It was said at this meeting that "a city, a central place on a map assumed to be a creator of urban culture, is becoming obsolete as commerce, industry, wealth and political and intellectual power follow the movement of populations to the suburbs."

The cities were called "dustbowls of the 1960s"—and rightly so—and it was pointed out that they had lost all "sense of community, of common responsibility."

This is the "Urban Setting" about which I am expected to talk and to explain why it could be a place for a "Good Life."

What is being created on the conveyor belt, so to speak, are standardized suburbs and the pompous emptiness of architectural showpieces in the city centers. The trend outwards from the center is not directed into productive channels.

How can this be expected from the commercial culture-mongers and their all too benevolent henchmen, those who are supposed to be responsible for community life?

Slogans and Fallacies

One of the arguments most often used to justify the renewal of city centers is: Here decisions are made and these decisions need proximity and cannot be made anywhere else. Even if this fallacy were true—and it is definitely not—what does it prove? It is a miscalculation based on a misconception. It is an empty slogan, deceptive, misleading, and out-of-date.

The days of these executive-ghettos are numbered. Nobody denies that decisions by the so-called power élite are needed—in the present set-up—and may increase in quantity and far-reaching influence. But telephone and closed-circuit television are gradually replacing proximity. We all know that a trend outward, a decentralization of offices, especially of head offices, is emerging and that there is no need to press more and more office buildings into the narrow space of the central cities.

The "Urban Setting" of today is everywhere basically the same. The result is standardized dullness and chaotic conditions. New York, Tokyo, Rio de Janeiro, Calcutta are supreme examples. They are, like Imperial Rome, megalopolises without a soul, a conglomeration of unrelated details, without identity and without a general plan.

All these remarks may seem to be a rather negative assessment of the situation. But I maintain, and cannot emphasize too strongly, that

we have not even *begun* to discuss the *essential* problems cities are faced with.

What are these essential problems? I can mention only some of them, the most pressing ones: the impact of increased leisure on the physical, social, and economic structure of cities in all parts of the world; the impact of automation closely related to the problem of leisure; the enormous intensification and spread of mobility which make a loosening-up of the urban conglomerations possible and imperative; and, finally, the impact of science and technology in general upon all spheres of life, opening up unheard-of potentialities in reorganizing the decaying structure of cities.

Before we set out to chart a course for future actions, we must have a clear understanding of the present situation. However, don't expect me to present anything like a blueprint, like a detailed plan. What we should and can do is to outline the general trend, to chart the direction in which we should be moving and, having made a decision, stick to it.

Symptomatic Treatments

Cities as centralized entities, as we have known them for millennia, are disintegrating through the impact of external and internal forces. Their organic coherence is disappearing, a process that began with the Industrial Revolution. Some of you, possibly even a larger number, will reply: We feel perfectly happy in our city. We have friends, we have stimulating experiences, and we don't think that our environment is too bad after all. My answer is—and I know that I am in the good company of people who have given more thought, more time, and more energy to the examination of these problems than most of those who produce more noise and smoke than their timid but well advertised actions justify—my answer is: Those who are satisfied with the present state of affairs—and I don't deny for a moment that they are sincere in their belief—are too self-centered, too modest, and not aware of the underlying causes that have brought the present situation about. They do not know what they can get and are blinded by the smoke-screen of facts enveloping them. They fail to see that the innumerable facts incessantly presented to them are not the problems themselves but are offered *instead* of the issues, *instead* of the causes. This bombardment with facts is just a plethora of *information* about *symptoms*. The result is that symptoms are taken for causes, and most people believe that to treat symptoms is a sufficient remedy.

But facts as such are meaningless. Everything depends on how we interpret them and how we use them. In other words, the ideas behind the facts are the formative powers. As Alfred North Whitehead said: "The new mentality is more important than even the new science

and the new technology."

If a leg has to be amputated, it is not sufficient to deal with the symptom of pain and to give the patient aspirin. The remedy is to cut off the leg.

The aspirin for the ills of cities is the installation of traffic lights and the construction of expressways leading into the central city to improve the flow of traffic. We expect that this treatment of symptoms will heal the arteriosclerosis of our cities instead of asking ourselves (and acting in accord with it) what are the causes of this congestion, what is attracting more and more people and cars to the central areas. It is this failure to investigate the causes that makes all our actions stop-gap solutions. What a pitiful self-deception!

The people who are responsible for these misguided actions belong to that strange species of men who know all the solutions but none of the problems.

Widening Scale

An era is drawing to its close that has lasted for many thousands of years during which mankind has passed through the Agricultural Revolution, the Urban Revolution, and the first phases of the Scientific Revolution. These three Revolutions mark definite stages in the development of civilization.

The Agricultural Revolution made man a sedentary agriculturist leaving behind his life as a wandering hunter and food gatherer. The Urban Revolution, cutting man loose from the land and from the eternal rhythm of Nature that had dictated the scope and character of his work, made him a city dweller engaged in trade and industry and protected by the walls he built around the space he had cut out from the surrounding country. He could do all this because agriculture had advanced far enough to produce a food surplus for those not working on the land.

The Scientific Revolution awakened man from the slumber in which the Middle Ages had held him captive, seeking his salvation in an unquestioning faith and accepting as the final revelation the limited universe with the earth as the center. It aroused his inquisitiveness, his quest for *understanding* the *modus operandi* of nature, and his ambition to verify his observations by experimental enquiries.

At this moment, modern man was born and the foundations for our own period were laid.

One common thread runs through all these Revolutions, linking all these millennia together in an uninterrupted continuity that is of paramount importance for the problems occupying us today.

This thread is the *widening scale* of all human actions, the ever widening scale of our environment from the narrow personal world of

the early agriculturists and the city dwellers within the girdle of the town walls to the breakdown of these limitations in the Renaissance, to the expanding of man's living space and of his outlook, and now to the shrinking of our planet in time and space and to the conquest of outer space. Distances have become meaningless. *Mobility* is one of the supreme preoccupations. The irresistible advance of science and technology promises mankind relief from drudgery and narrowness.

Is man ready for these changes? Can our cities cope with these tremendous possibilities? Can our cities survive?

The widening scale has disintegrated our cities without offering—so far—constructive solutions.

Our industrial societies are based on and conditioned by a complex conglomerate of knowledge of a multitude of facts that fail to merge into a synthesis. In large parts of the world they are dominated by an almost religious adherence to the profit motive, to the belief that innumerable isolated actions will eventually be fused in a coordinate whole.

Here we have the roots of one of the major contradictions baffling mankind though most people are not aware of it. It is the irreconcilable contrast between the rational precision of science and technology and the *laissez-faire*, haphazard way in which we deal with environmental problems.

For Moral Renewal

Science and technology have outgrown social and, above all, moral integrity and awareness. And since city planning is first of all a *moral responsibility*—not a technological discipline—our cities and our environment are in the deplorable state we all know too well.

In spite of the heavy investment in the production of instant culture which, at the moment, is going on in this country, it is just a wish-dream to believe that culture—and above all a unified culture—can be made to order. This is particularly unlikely, since city planning and, for that matter, the transformation of our environment, have always lagged behind the often tempestuous changes in architecture and the arts in general. It is obviously easier to build an individual good building than to change the basic structure of a city. This gives us a welcome opportunity to pause for reflection and to prepare ourselves for the next stage of development, for a *Revolution of Environment*.

The humanist tradition, with its respect for the dignity of the individual which has guided our thinking and acting for centuries, is fading away. Depersonalization and a shallow rationalization are spreading. The factors that have contributed more than anything else to this decline were the rise of the masses—or the massification of society—and the deteriorating conditions of the urban environment

since the Industrial Revolution. The concomitant result was a flight from reality as it was handed down to us by past generations. As Ortega y Gasset put it in *The Revolt of the Masses*: "We feel that we, actual men, have suddenly been left alone on the earth. Any remains of the traditional spirit have evaporated. Models, norms, standards are no use to us. We have to solve our problems without any active collaboration of the past."

Hence our preoccupation with experimentation and external forms so characteristic of the arts, the morbid trend running through all literary work; and the now all too famous break-up of a unified civilization into Two Cultures.

It is difficult to explain the essence of a unified culture in a few words. But I believe we are near the truth when we say that it is the unison of the individual will with the general will, the merging of personal consciousness into group consciousness. And as to the Two Cultures, representing a scientific and a humanistic attitude respectively, I may add that this break-up of a unified culture has resulted in the appearance and the dominating position of *practical* man, of the *Expert*, and that it has prevented, so far, the development of new forms of social coherence, of new criteria and new values that could be embraced by a mass society.

It was architecture that led in the creation of new forms of expression, facing the challenge fearlessly and responding to the demands of an emerging new outlook.

Since architecture and city planning are basically identical, different only in scale but facing the same task, that is, to create space and space relations for the environment of social man—this is a hopeful sign. Both *together* can be—and I believe will be—most potent factors in evolving a new synthesis of the art of living and in giving direction and meaning to the forward march of a genuinely creative society reshaping anew its life, its goals, and its ambitions out of the raw materials of existence.

But let there be no mistake. This synthesis will be created only by humanity as a whole or it will not be created at all. It will be attained only by all countries, by all cities, not by one country, not by one city alone, and only if and when our standards and values have undergone far-reaching changes.

As I said before, the scale of our thinking and acting is widening. In such a world the centralized cities of the past cannot survive. Their self-centered, parochial narrowness cannot cope with the impact of new forces. They will have to be adapted to new goals, to the challenge of a newly found *leisure*, of a vastly increased *mobility*, and the still

incalculable consequence of *automation* and science and technology in general.

Without wishing to indulge in an unfounded prophecy, I would remind you that the time may not be too far off when, with the aid of artificial insemination, mankind may be enabled to create a new species of composite men. This sets the standard for what we may be able to do. Why should we be afraid of a radical rejuvenation of our environment, if such unheard of potentialities are at our disposal?

Seen against this background of a world in turmoil, of the disintegration of old values, of a population explosion, and of the shrinking of our planet, Urban Renewal as it is offered us today, is just a pathetic parody of what is needed and of what could be.

The hectic, short-sighted activities of the eternal pragmatists who discard thinking and acting on the great problems in favor of a loyalty to little and quick results, and in favor of the self-perpetuating futility of never reaching a goal, will lead us nowhere. Nor will the blind adoration of the *Expert* and the almost fatalistic belief in his infallible superiority ever free us from the fetters of the past. As George Bernard Shaw said: "No man can be a pure specialist without being, in the strict sense, an idiot."

Are all these considerations too abstract? Is this discussion of the ideas behind the facts, of the mentality that shapes and reshapes them inappropriate? I have no doubt that the incorrigible pragmatists and experts will say *yes*. But I would remind them of the truth that those who are afraid of ideas lose in the end their meaning and significance. Forgive me, if I remind you again of Whitehead's words: "The new mentality is more important than even the new science and new technology."

Now, what shall we do to create conditions in which a "Good Life" in an "Urban Setting" can develop? Let me give you at least the outlines of a program of action.

Revolution of Environment

The essence of this program is the *remaking of our environment as a whole* and the decongestion of our cities by an internal loosening-up and a far-reaching decentralization leading to the replanning of vast regions on a large scale. In other words, to replace our dying and amorphous cities by living and stimulating communities.

The scarcity of space is first felt in our cities. The agents that make this most obvious are the automobile and the growth of the urban population. Hence, the chaotic sprawl of the urban agglomerations and the eruption into suburbs.

This means the end of our old concept of the city. It is not only

the material but, above all, the ideal structure of cities that is crumbling and spreading disorder everywhere.

Is it a failure of nerve that prevents us from reshaping our environment and our cities on a large scale and makes us believe that we can attain far-reaching results from minor reforms?

What does decentralization mean? It means that *physical* and *cultural* decentralization must proceed *together*. One without the other will not produce the desired results. It means a new distribution of people, industry, and settlement, a reapportioning of functions over large regions, and the creation of numerous, new community units freed from the predominance of a metropolitan center. I admit that this very condensed definition may be somewhat difficult to grasp in all its implications. But, in this limited space, it is impossible to go into a detailed description.

People have a special gift of picking up the most easily available misinformation. This general apathy and the escape into predigested ignorance should be turned into constructive cooperation. A Revolution of Environment should, therefore, begin with educating the public to dispel the fog of complacent credulity, misunderstanding, and illusion that hides the true nature of the problem.

The Teacher's Role

It is here that teachers can play a leading role. They can help young people to distinguish between symptoms and causes and teach them to look at their environment in a spirit of unbiased curiosity and inquisitiveness—and to see things whole, in the totality of their interrelationships.

The public does not know what it can get. Most people believe that it is sufficient to satisfy the demand for standardized cells for human ants. This response to the apathetic modesty of the masses and their ignorance of what would be possible if they were not exposed to the soporific effects of psychological manipulations, is a poor and dangerous escapism. The reversal of this process is a formidable task. May I quote a few passages from a paper read by Sir Julian Huxley, the eminent English biologist, at the Darwin Centennial Convocation of the University of Chicago in 1961:

It is hard to break through the firm framework of an accepted belief-system and to build new and complex successors, but it is necessary. It is necessary to organize our *ad hoc* ideas and scattered values into a unitive pattern transcending conflicts and divisions in its unitary web. Only by such reconciliation of opposites and disparates can our belief-systems release us from inner conflicts: only so can we gain that peaceful assurance which will help unlock our energies for development in strenuous practical actions.

The new organization of thought-belief-systems

must help us to think in terms of an overriding process of change, development, and possible improvement, to have our eyes on the future rather than on the past, to find support in the growing body of our knowledge, not in fixed dogma or ancient authority.

And he went on to stress the imperative need to free the individual from the fetters of conformity and timidity for:

our thinking must also be concerned with the individual. The well-developed, well-patterned individual human being is, in a strictly scientific sense, the highest phenomenon of which we have any knowledge; and the variety of individual personalities is the world's greatest richness.

What is to be Done?

The amorphous mass of urban conglomerations is to be split up into small and directly imaginable units.

Underdeveloped or overcrowded urbanized regions are to be opened up and thinned out.

The result of this systematic dispersal and decentralization is the Ideal Region and the end of the urban chaos and sprawl.

Easy mobility, a decongestion of traffic will make every place equally accessible.

A continuous grid of parkways, parks, and gardens will spread to all parts of the country.

To realize these goals we should begin with the firm resolve not to rebuild any slum areas but to retain them as open spaces or playgrounds, however small they may be. This is the initial step in the loosening up of the urban area.

The core of every city is to be thinned out and to be developed as a central open space. This, I am sure, will arouse the violent opposition of the so-called present leaders of the community. But I deny them the right to continue their misleading influence that has brought our cities to the brink of disaster.

It is the central city, the tendency to press ever more and higher buildings into the already overcrowded central district, that is the main obstacle to an improvement of urban living and urban planning. The center has lost its former significance as a unifying symbol holding the physical and the ideal structure of cities together as it has done in the past.

Only the absolutely indispensable functions of administration and commerce are to be centralized in a small but loosely laid out *Desk City* at the fringes of the central open space. This can be done in conformity with the present trend: More and more offices are already moving out to peripheral locations.

Parks, parkways, and highways for superspeed travel—100 to 150 miles per hour—are to be driven into the hitherto congested urban area and linked with traffic arteries throughout the countryside.

In contrast to depersonalized cities, new community units, restricted in size and functions, are to be laid out, and industrial units are to be dispersed at suitable intervals between the residential communities.

The nondescript canyons of the streets are to be transformed into open ribbons rhythmically articulated by buildings and natural features with free views to other parts of the communities.

Cultural and social facilities are to be organically distributed among the community units.

Our environment, now automobile and work centered, will be centered on man, and instead of computerized cities—the great ambition of the pseudoscientific pragmatists—we will have life-centered communities without air pollution, noise, traffic jams, and all the paraphernalia of present city life.

A dream? No. This is the only true reality that can save the future happiness of mankind. I am saying this as responsibly as I can. I know great risks are involved in such a far-reaching transformation of our environment; but to be creative means to take risks which we have to face and *can* solve, if we understand the impelling *moral* nature of the challenge and act accordingly.

Knowledge alone is not enough. It is essential to understand the implications not only of the changes which affect our institutions and the forms of organizing our economy but the still partly hidden forces bringing change about.

The old cities were well organized social organisms with a stratified class structure, fairly well defined boundaries, and personal face to face contact. All this has disappeared but so far no constructive alternatives exist. Our cities have been too successful, that is, they have destroyed themselves through their over-ambitious growth, disorganized variety, and commercialized superficiality.

If we continue to press into our decaying cities which cannot offer a "Good Life in an Urban Setting," the material and spiritual forces of the future that is painfully but clearly taking shape before our eyes, we will witness a social explosion that will sweep away the few hopeful beginnings that seem to emerge.

A War for Rejuvenation

We have to fight for this peaceful revolution. We cannot and must not stand aside and leave the battlefield to the entrenched establishment. The innate aggressive spirit of man must be turned towards a

war for the rejuvenation of urban and rural living. *This is the only war we want.*

It is this war between man and nature, between his innate constructive and destructive urges, between a superficial tradition and the challenge of the future that will bring out man's potentialities that should be directed into creative channels.

Man must be enabled to rediscover his own personality, to distinguish between depersonalized institutions and living reality.

Will man be the master or the slave of the agents he himself has called into existence?

Your indulgence if I conclude with a special appeal to the teachers and the young people. The future is in your hands. You are the guarantors of the future. To live in a time like ours, with its tremendous possibilities and promise is the greatest gift that can be bestowed upon us. May I repeat to you, as guideposts and beacons of your thinking and acting in the future, a few words by André Gide which he wrote in *Nouvelles Nourritures*: "It is not only a question of changing the World, but also of changing Man. End credulity. Do not accept life as Men offer it to you. Rather, ceaselessly persuade yourself that your life and that of *others* might be more beautiful. As soon as you realize that it is not God but Man who is responsible for almost all the evils of life, you will have no share in them. Do not make sacrifices to false Gods."

That is the war we want!



A GIRL BESIDE THE SEA

She flings in the water that sweeps past the land
The flowers she has plucked along the strand,
And the way she leans as she stands there alone
Shows that she listens to the sea intone
A song to the flowers that sink in the foam;
And there seems, in the rhythm of her spending hand,
More sympathy with sea than with life or land,
And I wonder if her eyes, like the flowers, are blue,
And why there should be such a rhythm to rue.

—Peter B. Murray

ON KEATS' LAST DAYS IN ROME

Angel with faltering breath,
O Keats, hell-bound eagle with acid wings,
You flutter in the half-truths
Of your hellish world.
The goddess you sought with strident cries
And fierce uproarings
Hovers pale and sickly
Above the Roman hills.
Her eyes are exposed
Her brows are shrouds
Her hair is the wreath
To your closing lines,
And her silent, twisted mouth
Beseeches you to her breast
For the coughing wine
Of sacrifice and forgetfulness.

And that halo-haired goddess is two,
For twice you are lacerated
In the web of all your strivings
That now subside like the floundering
Fountains of Fall.

One, the goddess of your poem,
Shrieks in failing, feverish half-wails,
And one, the goddess of your heart,
Withdraws her darkened sails
And is heard no more.
Both clasp hands and chant their spell-bound songs
That chain you in a downward spiral,
A whirlpool where thought, feeling, and faith
Blend in the dark-hued perfection
Of a complete, parasitic, possessive love.

Yet, in the last fiery clashes
Of your doomed struggle
Look up!
Up above the downward sucking cross-currents
And dead, bloodless ballast,
Look and behold the towering, giddy
Perfection of what you have wrought:

Exult, rejoice, and be brave
In that which even all-selfish death
Holds no sway to save:
For what you have left us
Is like the fluid, glowing crystal
Upon the pinnacle of some glacier range
Maturing in the vastness
Of the turning, returning,
And eternal sun.

—Eugene Stelzig

SOCIAL CONSEQUENCES OF MENDELISM

■ About one hundred years ago, a priest from the Augustinian Monastery at Brunn in Czechoslovakia gave a paper before a small local scientific society. The paper was long and its presentation extended over two meetings. The next year, 1866, the paper was printed in the Proceedings (Verhandlungen) of the society. We do not know how many of the members heard the paper when it was first presented but we do know that none of them recognized its importance. Indeed, until the last year of the century no one at all was aware that the paper Mendel gave would form the basis of a new science. Many historians of biology have tried to explain this neglect of perhaps the most important single scientific contribution published in the nineteenth century, but none of their explanations are entirely satisfactory. It is true that few professional biologists read what Mendel wrote but some few did. None, however, saw its implication.

The paper, however, was not completely neglected. The periodical, in which it was published, went to 120 libraries; 11 copies even reached the United States before 1900. Hermann Hoffman referred to it in 1869. Mendel himself corresponded with the famous biologist, Carl Wilhelm von Naegeli who, as we can tell from the exchange of letters, just did not understand what Mendel had done. In 1881, W. O. Focke mentioned Mendel fifteen times in his famous book on plant hybrids but showed by his comments that he did not understand what Mendel had accomplished. Mendel's paper was listed in the *Royal Society's Catalogue of Scientific Papers* and it was also included in a bibliography in the 9th edition of the *Encyclopedia Britannica*. In 1894, Liberty Hyde Bailey of Cornell University listed Mendel's paper in his book, *Plant Breeding*, but Bailey himself never saw the paper. Thus we see that Mendel's paper was incorporated in the scientific corpus of the nineteenth century, but it was hidden very effectively by thousands of other papers.

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The rediscovery of Mendel's paper and of Mendelism itself was very dramatic. In 1900, three biologists—Hugo DeVries, Carl Correns, and Erik von Tschermak—discovered it independently and, from this date on, Mendelism has been a most important part of biology. Characteristically, its discovery was accompanied by a controversy, and, incidentally, Mendelism has been accompanied by a controversy throughout its entire history. But this first dispute was due, perhaps, to an accident. DeVries had learned of Mendel's paper, he said, by reading Bailey's citation. He had already found a number of incidents of Mendelian segregation and Mendelian ratios but had missed their significance. On reading Mendel's paper, however, he wrote up his own findings and showed how Mendel has preceded him and had discovered all that he himself had discovered. DeVries sent his paper to the *Berichte der deutschen botanischen Gesellschaft*. His paper was received on March 14, 1900. DeVries then sent a short account of his own discoveries to the *Comptes rendus l'Academie des Sciences* of Paris. This second paper was received for publication on March 26, but it was published before the first paper. In this second paper DeVries did not mention Mendel's name which may have been a mistake. The result was that Mendel was not mentioned in the earliest paper which described Mendelian segregation. When Correns saw DeVries' French paper he practically accused DeVries of trying to get the credit for work that Mendel had done a third of a century earlier. Here we have the first incipient Mendelian controversy. As we have stated many more were to follow.

But before we consider these controversies, let us return to the 35 year neglect of Mendel. The question is: why was he neglected? And there is no easy answer. Mendelian segregation had actually been seen and recorded innumerable times for over 300 years before it was understood. Its first detailed description—in Indian Corn—was published in 1588. Here it was ascribed to a direct act of the Deity. When God created these variegated ears of corn He was only showing what He could do when He really tried.

In 1822, the year in which Mendel was born, two Englishmen, John Goss and Alexander Seton, described Mendelian segregation in peas, the very plant that Mendel himself worked with. They described dominance and recessiveness. They recorded the fact that the recessives bred true but there were two kinds of dominants, one of which bred true (the homozygous), while the other (heterozygous) continued to segregate. In 1826, Sagaret recorded the independent assortment of factors and in 1856, Johann Dzierzon described a definite ratio in honey bees. And all of this together constitutes Mendelism. But no one

saw the significance of these varied discoveries, and no one put them together.

Many of the guesses as to why Mendel's work was ignored are certainly not what we would call educated guesses. The most common guess is that, when Mendel published, all the biologists were pre-occupied with the newly announced theory of evolution. Darwin's *Origin of Species* had been published in 1859, just six years earlier. But the biologists were probably not thinking about evolution all their waking hours. It seems clear to me that Mendel was ignored because he was not understood. There are in fact many blocks to the understanding of Mendelism. A large fraction of the biological fraternity could not understand Mendel even after he had been rediscovered. When I was a student, I met a number of these elder biologists. A real oddity lies in the fact that some of the leading Mendelians themselves never understood Mendelism. Even today, there are biologists who are confused by Mendel, and this fact still has political significance.

At this point, I would like to include a bit of gossip. I got it "from the horse's mouth" and I believe that it should be included in our historical records. Some years ago I spent a summer at the Mountain Lake Biological Station with Dr. Hugo Iltis, who wrote the definitive *Life of Mendel*. We were both interested in genetics and in its history, and we often talked about the fact that anything as simple as a Mendelian ratio should be misunderstood so frequently. Dr. Iltis was born in 1882 at Brunn, where Mendel lived; he studied and lived there until 1938. He served as the Director of the Hochschule. As a boy he was interested in natural history, in the local flora and fauna, and, of course, he was familiar with the *Verhandlungen* in which Mendel's paper was published. In 1898, he saw and read Mendel's paper. He told me that he took it to his professor and showed it to him with some excitement.

The paper seemed to Iltis to be of some importance. His professor, however, quenched his enthusiasm and said, "Oh, I know all about this paper. It is all numbers and ratios, ratios and numbers, pure Pythagorean stuff. Don't pay any attention to it. It is not important."

By 1900, Mendelism was received hospitably in Germany and in the Scandinavian countries, and by a number of biologists in the United States. In Britain, however, where Karl Pearson had been investigating heredity for a number of years, it met with a violent opposition. Pearson had created a number of mathematical tools for measuring the role of heredity both within groups and between groups. He had specialized in human heredity and had studied a number of quantitative characters in which Mendelian ratios were not at all evident. He was a good mathematician and he understood Mendelism thoroughly, but he just did not like it. To him, Mendelian heredity was a trivial and

showy excrescence, which did not come near the heart of the scientific investigation of heredity. Pearson never accepted Mendelian heredity completely.

In the English world, the champion of Mendelism was William Bateson, who had published *Materials for the Study of Variation* in 1894. Bateson's "discontinuous variations" fit well into the Mendelian picture. He had Mendel's paper translated into English and started to publicize Mendelism. The fight was soon begun between the Biometricians led by Pearson and the Mendelians led by Bateson. The controversy became so bitter that in 1903 the British periodical *Nature* closed its columns to the Mendelians. But here we run into the ironic fact that Bateson himself never quite understood Mendelism, and could never quite force himself to accept the chromosome theory of heredity. His Mendelian discoveries, however, were many and important. It is important that we record this instance of a leading Mendelian geneticist being unable to follow his own discoveries.

In biology itself, the Mendelian controversy was chiefly technical. Animals and plants had been hybridized for ages and the hybrids were nearly always intermediate between the two parental types. This, of course, was to be expected if both parents contributed to the offspring. Actually, in species crosses, this is what does occur. It happens routinely in most quantitative characters—in the characters that seem to be important—such as size, vigor, intelligence, strength and effectiveness. These were the characters whose inheritance Galton and Pearson had been investigating for years. Mendelian segregation just did not seem to fit in the transmission of such characters which all seemed to blend in their inheritance. It was not until the second decade of the twentieth century that the Mendelian basis of blending inheritance was established. Some of the older hybridizers never understood this. I shall give an example.

In the 1880's, John Muirhead Macfarlane, who was chairman of the department of botany at the University of Pennsylvania from 1893 to 1920, was one of the leading plant hybridizers. His species hybrids among the pitcher-plants were meticulously measured and were found to be exactly half-way between their parents. This seemed to be incompatible with Mendelian dominance and recessiveness. When I came to Penn in 1930, the head gardener took me aside and asked me if I really and truly believed in Mendelism. On the other hand, the Penn zoologists accepted Mendelism completely and for years the feeling between the two departments was not too cordial.

It is also worth recording that the most famous American plant hybridizer, Luther Burbank, never understood nor accepted Mendelism. Burbank, however, never kept any genetic records and

marketed, as his own hybrid creations, plants that had been imported by the Department of Agriculture and given to him to raise. Many years later the Post Office Department put his face on a postage stamp.

The real impact that Mendelism has on our social and political theory comes through its contribution to our understanding of organic evolution. Evolution is concerned not only with the origin of human beings, but also with the forces that brought them into being. That which created the human species in the first place is obviously pertinent to our welfare and even to our continued existence. No explanation of evolution is adequate or is in keeping with our present information if it fails to incorporate Mendelian heredity. Evolution can only take place through the preservation of novelties that are heritable, and these novelties are inherited as Mendelian factors.

The fact that evolution has occurred can be established through the mere accumulation of relevant data. Evolution can be proved to have taken place, even in the total absence of any explanation. But the theory of evolution under such conditions would be very unsatisfactory. To accept evolution under such conditions would be little more than to accept a current, popular *mystique*. We cannot be satisfied intellectually with the theory until we can explain what caused evolution. And the first step in explaining evolution is to test all the hypotheses that we are able to invent. We should invent and test them, moreover, as soon as possible, because hypothetical explanations of evolution have always accompanied an acceptance of the fact of evolution. No biologist who has an imagination need ever lack hypotheses, and hypothetical explanations of evolution are numerous. Some of them are even reasonable. Most, however, have run up against some ugly facts and have had to be discarded. Only two of them are of any historical importance.

Chronologically, the first of these hypotheses, and also the most widely accepted with the public at large, is still the most popular. It is described by the phrase "the inheritance of acquired characters." Now, oddly enough, this hypothesis is called Lamarckism. The oddity lies in the fact that the hypothesis of the inheritance of acquired characters was devised and stated precisely over two thousand years before Lamarck and that, over the centuries, it had been recorded hundreds of times and had been accepted almost universally up to the time that Lamarck endorsed it. The second hypothesis goes by the name "natural selection," although it is often referred to as "Darwinism." This hypothesis of "natural selection" had also been used to explain evolution many years before Charles Darwin gave it his name.

It should be pointed out here that these two hypotheses are in no way antithetical. In fact they are supplementary and Charles Darwin

used them both to explain evolution. This was important because, with the limited information available to Darwin at the time, if either hypothesis had been used alone, it would have suggested some unfortunate and even dangerous correlaries. Lamarckism would, and did, develop into an aberration that I have called "Marxian biology," and Darwinism gave birth to Social Darwinism. Here biology, especially the segment concerned with evolution, impinged directly upon social theory. It is here also that Mendelism, by way of evolution theory, has its relevance to our thinking on social problems.

Let us first consider the application of Lamarckism to our own species. For the sake of clarity, we shall oversimplify and even overstate the case and save the complications until later. It is obvious that all animals and plants do better in a good environment and, in an animal as complex as man, a favorable environment is necessary for his full development. To reach our optimum development we need an excellent diet, adequate clothes and housing, freedom from disease and plenty of intellectual stimulation. We also need all of the education that we can assimilate. If we lack any of these prerequisites we shall not reach our full potential. These things are good in themselves and we are stronger, smarter and better animals if we have them. It is certainly desirable to develop such an environment and to develop in such an environment. Lamarckism, however, goes further. It holds that the advantageous modifications that we acquire in such good surroundings are passed on to our children, that these effects are additive from generation to generation, and that by using environmental conditions we can channel our future evolution very easily into some glorious utopia.

At this point it might be well to point out some of the social implications of the factors that cause evolution. To do this I need two terms that I will have to use in a special and limited sense. These terms are "aristocratic" and "democratic." A "democratic" type of evolution would be one in which the whole population participated. With this type of evolution the whole group would evolve together and would advance as a unit. There would be no hindmost for the devil to take. On the other hand, an "aristocratic" evolution would be secured through the segregation of an elite, who would take advantage of their superior endowment and would, in due course, supercede the mediocre majority, and be superceded in turn by a new and super-elite. And this process would continue indefinitely.

Now the doctrine of the inheritance of acquired characters can fit into either a "democratic" or an "aristocratic" evolutionary process. If the characteristics that an individual acquires during his life can be transmitted to his progeny, then his experiences and the effects of

environment upon him assume a genetic importance. All living conditions which improve him as an individual would also improve his progeny, hence also his species. In addition, the transmission of acquired characters would furnish a technique for securing a real biological equality of all individuals. That is, an altruistic concern by the exceptionally able for the welfare of their less fortunate fellows, their giving every possible advantage to the backward and the stupid fraction of mankind, would, in time, make these depressed human specimens equal to the best.

Once equality were reached, the whole population could move forward as a unit and everyone would evolve in the same direction and, with very little social adjustment, at the same rate. And this mode of progress still seems to be ideal in some very powerful political philosophies. "From each according to his ability, to each according to his needs" could, under these conditions, be the slogan of a rapidly evolving and improving species. Thus it is not remarkable that the present Communists, as well as those others who get their intellectual directives from Marx and Engels, accept the inheritance of acquired characters as an article of faith.

But another and antithetical application of the doctrine can also be made and the two applications are so far apart that men as philosophically and ethically antagonistic as Karl Max and Herbert Spencer, could both incorporate the doctrine into their systems of thought. According to this second view, the successful social-Darwinian (or rather Spencerian) competitor, by grabbing the best of everything and retaining a disproportionate share, could assure his children having "the most of the best" and, strengthened by their superior environment, they would be in a better position to grab for themselves and for their own children, and so on, as long as evolution lasted. In such a system, "he should take who has the power and he should keep who can" and this taking and keeping would ensure evolutionary progress.

At this point we should point out the fact that Lamarckism even has a racist implication. Races that have achieved a superior environment would, by this concept, be biologically superior races. Races that have had to live on an inadequate diet would be weaker than those who have had plenty to eat; the races who have never achieved a high educational level would be the more stupid and quite unable to compete with those who have inherited the superior intellectual development of their ancestors. This aspect of Lamarckism was admitted by Karl Marx and accepted by the communist theoreticians of Russia.

The "aristocratic" aspect of Lamarckism lies in the fact that the upper classes through their superior environment produce biologically

superior children who, taking advantage of their superior endowment, become the more successful in the struggle for existence.

On the other hand, evolution by natural selection is exclusively an "aristocratic" process—at least it was so understood in the nineteenth century. Natural selection means that the fit survive. The fit are the better adapted for whatever conditions exist at the time, and they survive or leave the greater number of offspring while the unfit—the unadapted—perish or leave the fewer offspring. The discovery of Mendelian segregation, however, introduced a most puzzling complication. Mendelian genes do not follow any laws of primogeniture. The ablest fraction of mankind are heterozygous for the genes that make them able, and they do not breed true. Their children are only seedlings. This throws the problem of aristocratic selection into some of the complex mathematics of population genetics and surprisingly it revives Galton's old "law" of ancestral regression.

This does not mean, of course, that the children of our exceptionally able minority will have the same gene frequency as the children of the mediocre. Far from it! The able will produce more children of higher ability than will the average; otherwise human ability could never have evolved in the first place—otherwise our intelligence could never have risen above the simian. But some of the mediocre, even some of the sub-mediocre, will produce some very able children through the chance combinations of Mendelian genes. This means that the elite of very generation can be recruited from many different groups within the whole population but, of course, in very different ratios from the different groups. Thus it follows that, unless the opportunity for an individual to develop into a member of elite is widely distributed throughout the whole population, the elite itself will suffer. This introduces a "democratic" element into evolution by natural selection.

Thus the ideal society for an evolutionary improvement by means of natural selection is an "open" society, a society where vertical migration is both easy and of common occurrence, a society where the able rise and the dimwits sink. It must also be a society in which the able reproduce copiously and in which the bums do not breed to excess.

By this time, I believe that it should be clear that the work done by Mendel—by a harmless priest in his monastery garden—was far from harmless. His discoveries were so pertinent to the theory of evolution that no valid concept of evolution can ever omit them. We can not ignore them and explain the present status of our own species nor can we honestly evaluate its future. Mendelism is an all-pervading complicating factor. It is hostile to all the simplicisms that tend to dominate our thinking on social problems. It is unequivocally hostile to those pseudo-biological doctrines that get into the political arena. To

cite two extreme examples, it is completely at odds with the biological perversions of the late Nazis and just as hostile to the biological distortions of the Communists.

Biologists, as a whole, paid little attention to the Hitlerian assumptions. These doctrines deceived no biologists and were, in fact, too moronic to influence any educated or intelligent man. A large fraction of our species, however, seems to be quite unthinking and can often be set in action by emotional slogans, songs and catch-words. The twisted biology of the Nazis should be explored and studied carefully, and I am glad to say that my friend, Dr. Jacob Lorch of the Hebrew University of Jerusalem, has undertaken to bring these often hidden assumptions out into the open. He and I have both spent some time in exploring the other distortion, the series of assumptions I call "Marxian biology," and these are the biological evasions and half truths I wish to explore here. It was in the Communist World that Mendelism was denounced and outlawed. It was here that the Mendelians were forced to recant—to deny their knowledge—and to promise to attack Mendelism from that time on. Vavilov, the leading Mendelian, in charge of all agricultural research in Russia, was even sent to Siberia, where he died in 1942. His name was expunged from the Soviet Encyclopedia and the Russians set out to make him into an un-person. Not long ago Vavilov was revived.

The heresy that was denounced in the Soviet textbooks was called Weismannism-Mendelism-Morganism. In the place of the genetics of the Western World, the Soviets erected a doctrine called Mitchurinism—a doctrine we can call anti-Mendelism. This Mitchurinism received the official support of the State in 1948, and from that time on until the present year, it furnished the directions for all agricultural research in the Soviet Union. Now, I am glad to say, its high priest, T. D. Lysenko, is having his troubles.

Two major factors can be identified in the complex of causes that resulted in this outlawing of Mendelism. The first of these lies in the fact that some of the older biologists could just not understand what Mendel had done. Scientists who can not keep up with their science remain susceptible to many ancient errors. Normally, these past mistakes do little damage. Those scientists who are left behind by their growing science gripe a bit, retire, mutter into their beards, and ultimately lapse into silence. If, however, the politicians get hold of these laggards, give them state support, honorary degrees, medals and high salaries, they are not so harmless. They can bring much confusion into the field, yet they can rarely do as much harm as a political appointee who is totally ignorant. The leader of these anti-Mendelians in Russia was not even a scientist. He was Ivan V. Mitchurin, a nurseryman and

practical plant breeder. His scientific standards were on a par with those of our own Luther Burbank. He ran no controls for his experiments, he knew nothing of the microscopic details of sexual reproduction in plants, and he intentionally contaminated the pollen he used in his cross fertilization. He and Lysenko both believed the egg cell showed choice and always selected just the pollen grain that would make the most desirable plant. He was, however, a good Communist. He was in fact a "natural" for those who followed the biological line set by Marx and Engels. These founders of Communism were deeply interested in human evolution and especially in what the forces were that had made us evolve.

Our ideas of our own origin have always affected our thinking on social problems. If we are all descended from Adam and Eve, our differences and inequalities would have to be superficial and of very recent origin. The well known fourteenth century couplet:

When Adam delved and Eve span,
Who was then the gentleman?

shows how the idea of where the human race had come from was hostile to the justification of the existence of aristocracy. By emphasizing the supposed kinship of all mankind, the followers of Wat Tyler attempted to show that aristocracy had no excuse for existence. Later, when our origin was ascribed to organic evolution, evolution was also used to justify one or another of the many social organizations. The factors, which controlled and directed human evolution, were held by Marx and Engels to bring about the future utopia that they envisioned. To be sure, however, that the theory of evolution would be compatible with a socialist society, they were careful to accept just those biological principles that they could fit into their schemes, and to reject and deny those that did not. They committed themselves precisely to Lamarckism.

The analogy between the struggle for existence in nature and business competition in a *laissez faire* economy is so clear that almost as soon as Darwin brought natural selection to the attention of the scholarly world, it was recognized and commented upon. The Social Darwinians saw in it a justification of a cutthroat competition in business and of a struggle for existence that extended to all walks of life. The Marxians also reacted. As early as January 16, 1861, Karl Marx stated in a letter to Ferdinand Lassale that "Darwin's book is very important, and serves me as a basis in natural selection for the class struggle in history," and a little later on he wrote to Friedrich Engels on June 18, 1862:

It is splendid that Darwin again discovers among plants and animals his English society with its division of labour,

competition, opening up of new markets, "inventions" and Malthusian "struggle for existence." This is Hobbes' *bellum omnium contra omnes*, and reminds one of Hegel in his *Phenomenology* in which civic society is expressed as the "spiritual animal kingdom" whereas with Darwin the animal kingdom represents civic society.

On March 29, 1865, Engels wrote to F. A. Lange:

I too was struck, the very first time I read Darwin, with the remarkable likeness between his account of plant and animal life and the Malthusian theory. Only I came to a different conclusion from yours: namely, that nothing discredits modern bourgeoisie development so much as the fact that it has not succeeded in getting beyond the economic forces of the animal world.

Later, in the *Dialectics of Nature*, Engels stated:

The whole Darwinian theory of the struggle for life is simply the transformation from society to organic nature of Hobbes' theory of *bellum omnium contra omnes*, and the bourgeoisie economic theory of competition. . . .

Some confusion has been introduced into this application of biological principles to social organization by a misleading use of words. Both Marx and Engels believed in the inheritance of acquired characters, and, as we have seen, disliked Darwin's natural selection. But Darwinism was a good word, and it had to be kept. When the Russians used the phrase "Creative Soviet Darwinism" they mean what the Western World means by Lamarckism.

When genetics was outlawed in Russia in 1948, those who outlawed it were all "creative Soviet Darwinists" and the reactionary doctrine they outlawed was called "Weismannism-Mendelism-Morganism." The Nobel Laureate, H. J. Muller, has described this extirpation of genetics in his presidential address to the Eighth International Congress of Genetics. The date of his talk was 1948.

In that country, unfortunately, it has come to pass that genetics, as we know it, no longer finds a place in the official curricula, and that it is regarded by the dominant group of officials as a dire heresy. Most of the chief geneticists are, as the case may be, broken, executed, disgraced, not to be located, fugitives, forced into other work or, in the mildest cases, driven to such a redirection of their lines of research and publication as to give the appearance of working somehow in support of the doctrines approved by the officials. These officials have not been educated in modern natural science as we know it, and they have failed to understand its modes of procedure. All honor to those workers in our science who have suffered in this cause: to the heroic and tragic names of Nicolai Ivanovitch Vavilov, Philipchenko, Chetverikov, Karpechenko, Levit, Agol, Kerkis, Efroimson, Ferry, Serebrovski, Levitski and many others whom we will leave unnamed.

It is perilous, however, to ignore a science, and any attempt to destroy a science can prove fatal. Russian agriculture went from bad to worse; Lamarckian principles would not improve the varieties of wheat that the Russians raised. In the Soviet Union the human population increased but the food supply remained almost constant. In spite of every opportunity, wheat could not be taught to grow in the newly plowed lands of Siberia. Khrushchev could conceal this spectacular failure only so long. Now the planting of wheat in Siberia is an admitted failure, and, at last, the attempt has been abandoned, Khrushchev has lost his potency, and Lysenko has been removed from his office as President of the V. I. Lenin Academy of Agricultural Science. As of 1965, Mendelism is once again respectable in Russia. But there is still one more task to be faced. All the biological textbooks in the Soviet Union will have to be destroyed and new ones written and printed. This job is now under way.

It seems almost incredible that, in the twentieth century, any responsible group would attempt to destroy a science. Their failure was inevitable, yet they tried. Quacks, of course, are found everywhere, sometimes in the most unexpected places. Old quacks, of course, will die and their odd notions will become archaic and even amusing. But with all the new discoveries in science and with the new scientific advances, and perhaps because of them, we may expect newer quacks to emerge. The ever-increasing complexity of science always invites over-simplifications. New clichés and slogans become popular. Sometimes they are disguised as great moral principles. Escapism has always been with us and escapism does not die easily. Our species has always found the big promise to be enticing, and the intellectually able must always remain alert to preserve their intellectual honesty; and this is not always easy.

In this country we have been relatively lucky, for here the Lysenkoids never penetrated into American biology. It would be nice if they could be kept out of all of our sciences. Lysenkoism has many points of contact with our thinking because Mendelism applies to all living things. This will remain a constant source of future danger. As our knowledge accumulates, it becomes more difficult to master and tempting simplistic doctrines will emerge. Politicians have discovered that the big promise costs them nothing and will gain them votes. Both extremes of the political spectrum are now active, and the knowledge that should protect us is becoming harder to acquire, and extremely difficult to apply. The future, of course, is full of perils, but dangers have accompanied our species throughout its entire evolution.



Seated Dionysos, Rome, 1st Cent. A. D.
—University Museum

Barrows Dunham

VERGIL'S FOURTH ECLOGUE: Some Memories, Thoughts, and a Translation

■ In early August, 1965, I was visiting upon an island off Duxbury, Massachusetts. There, in a charming house, amid a profusion of books gathered long ago, I found an old Vergil—notes, glossary, and all. Enough was there for me to recover some of my lost Latin, and idle hours did the rest.

In a day's time I produced the version, or nearly the version, that I offer here. Vergil himself, it is said, composed no more than six hexameters a day. I would blush for my day's work, except that to match the majesty of

Aspice convexo nutantem pondere mundum. . .

one would have to be John Milton. But I did feel a wish, even a need, to sing along with the poet, to blend a feebler voice with his in some hoped-for harmony.

There was more. The poem opened up the lost and serried years to a time when I was sixteen. I was taking, so to say, a graduate year at the Lawrenceville School, and the Headmaster graciously offered a special course in the Roman poets.

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We read chiefly Horace and Vergil. I remember the Headmaster's impatience with Horace's *Integer Vitae* ode, which ends, as perhaps I need to remind an un-Latined generation, with a vow to love the sweetly speaking, sweetly laughing Lalage. A principled man, says Horace solemnly, need not fear danger: didn't a wolf run away from me while I was singing of this charmer? No one was to pull the Headmaster's leg, not even a Roman poet.

There came the time when we heard the grave yet mirthful music of *Sicelides Musae, paulo maiora canamus*. It was, of course, Vergil's Fourth Eclogue, the poem that Christians believed to have prophesied the birth of Christ, the poem that enabled Dante to take Vergil as guide up to the threshold of Paradise. No one will doubt that Dante could have charted the universe whether he had Vergil or not. More pedestrian spirits, however, walking in prose, may well seek Vergil when they wish to versify. At sixteen I was one of these, and one of these I still remain.

In the months I passed at Lawrenceville, there was a literary coterie, informal and unauthorized, presided over by Mr. Thornton Wilder, who was then on the faculty. No member has since become as famous as the founder; but John Kirkpatrick, the pianist-advocate of American music, and the late John Woodburn, a well-known editor at Harcourt, were two lesser stars.

We met every two weeks and read to one another the creations of the interval. Sometimes we walked a distance before we read. Sometimes we walked not at all, but met in a room in Upper House and listened to records of Galli-Curci and Jeritza—a world quite new and strange to me then. Moreover, I was undergoing a sort of literary distraction from literature in the poetry of Stephen Phillips. To an ear not quite made auditory, Phillips' pentameters seemed charming indeed.

Yet I must not cheapen him, for he gave me, momentarily, a slow beat of wings. I wrote a one-act drama in blank verse, which had to do with two lovers in Venice, with a balcony, and with tragedy in love. The members of Mr. Wilder's group heard my Phillipsian play with exquisite tolerance. Nothing in their behavior, so far as I could perceive, led me to doubt my powers. Indeed, that was the great thing: we were all, gathered together in our various skills, about to be shot like arrows toward a target mankind had not yet reached. Never mind where the arrows actually fell. I profoundly hope that the young men who have come after me have felt the same sense of target and of flight.

If, as I say, Thornton Wilder helped us to think that we could write, the Headmaster, sweetening himself amid discipline, gave us Vergil and Horace for models. I had the feeling then, and I have it

still, that no man, of any age, having an ear and a voice, can resist *Sicelides Musae* any more than he ought to resist Lalage. All art is the art of being in love.

And so, in due course, I versified the Vergil. I produced a translation of the Fourth Eclogue in English pentameters, feeling rather like the boy of the poem, in hope myself of one day talking with gods and bedding with a goddess. These rash and perilous dreams I immediately closed up with a rhyming couplet that had no source in Vergil but was, as a faculty reviewer said, distressingly similar to lines in a familiar school hymn. The lines, indeed, were very nearly identical. Yet the thing was published, echo and all.

The memory of these events, important only to the possessor, slept within me for more than forty years. And then I came to the island.

Home from the island, and set down near libraries, I began to acquaint myself with what scholars have said about the poem. They have said a very great deal, because the poem is as mysterious in some ways as is the identity of Mr. W. H. in the dedication to Shakespeare's Sonnets. There are scholars who believe themselves to understand these mysteries, but I am afraid that there are things in the Fourth Eclogue that we shall never know.

For example, who was the boy the poet writes about—the *nascenti puero* of line 7, the boy being born; the mere *ille* of line 15; the *parve puer* invoked in lines 60 and 62, the little fellow? Whose child was he? Or was he a child wholly of Vergil's imagination? Vergil doesn't say.

You may play with these problems pleasantly, and you may crown the pleasure with that special delight, known only to scholars, which comes with a credible conclusion based on unavoidably inadequate evidence. Some relevant things you can know, for they are known. The Pollio of the poem was Asinius Pollio (76 B. C. - A. D. 5), a patron of poets and himself a poet of sorts. He was Consul in 40 B. C., and this was the year during which Vergil wrote the poem.

Now, this was also the year when the Treaty of Brundisium settled for a time the conflict between Octavian and Marc Antony. The great Caesar had been assassinated in 44; Octavian and Antony had destroyed the assassin's military power at Philippi in 42. The victors were left to contest the Empire, and Octavian won it all at Actium in 31. Antony really had preferred the society of Cleopatra to government of the Mediterranean world, and he survives not merely as a martyr to passion but as a warning not to mix passion with politics.

In 40 B. C., however, there was the Treaty, which augured peace. It came after many long years of civil strife, dating back to the wars of Marius and Sulla. Americans will not need to be told the horror of losing a chief of state by assassination. Yet Philippi avenged Caesar,

and, as of the year 40, the avengers agreed to agree. Antony even gave up his Egyptian romance, and married Octavia, the widowed sister of Octavian.

Thus the state of Roman politics when Vergil wrote showed signs of a new and better age. Since the ancients were inclined to think that the world had been getting steadily worse after an originally excellent time, this new, better age seemed a return to first perfection—*redeunt Saturnia regna*. It happened that Pollio was the man who arranged the Treaty of Brundisium. He was of Antony's party; Vergil, of Octavian's. Vergil and he were friends, devoted also to poetry. And there's seldom a pleasanter time than when contending factions agree no longer to contend.

We can see why the poem is happy. But whose child is the *parvus puer*? The child of Octavian and his then wife Scribonia? Possibly, but, if so, the result was ironic. For this child turned out to be not *puer* but *puella*, the notorious Julia, who, later on, stayed true to her husband only so far as not to give him bastards: she "never took on a passenger unless the vessel was full."

The child of Antony and Octavia? But Octavia's pregnancies altogether baffle our dating. In 40 B. C. she did indeed bear a child, posthumously, to her first husband Marcellus. In that year, after her marriage to Antony, Vergil could not have known her to be pregnant, though he might have guessed it. The child of this marriage was, again ironically, a girl, Marcella minor (was she thus named after the first husband to spite Antony?).

A long tradition, going back almost to Vergil's time, affirms that the child was a son of Pollio himself. There were two such sons, and, of these, Gaius Asinius Gallus publicly claimed the attribution. We may doubt him, because, the poem by that time being famous, he may have transformed hope into an assertion of fact. Yet, since the poem is addressed to Pollio, and since the child and his exploits are to begin during Pollio's consulship, it snugly suits the context for the child to be Pollio's son. The trouble is that there seems not to have been a son of the proper date.

Thus scholarship collapses, and the child may have been quite imaginary. Perhaps the child is a sort of expectancy—a compliment to Pollio's progenitive powers, or to Antony's (already demonstrated on Cleopatra), or to Octavian's. I prefer, for esthetic reasons, to connect the child with Pollio. The poem has more unity that way: we can think of Vergil as praising a friend who has helped establish peace, and whose son, by way of reward, introduces a golden age.

There are other puzzles, such as the Sibylline books and the epochs of cosmological change. Vergil has played with these to his own pur-

pose, so that the exact origin of the notions is obscure. But we need none of this in order to enjoy the poem. The feats that Vergil performs are plain enough, though most extraordinary.

I suppose that this poem, the Fourth Eclogue, is as daring a poem as has ever been written—daring, I mean, in its use of the medium. There are constant shifts of mood, some of them violent, from banter to high seriousness and back again, from things personal to things historical, from Rome to the cosmos itself. Through all these remarkable changes persists the pastoral tone, faithfully kept as the genre requires. Vergil could do the impossible when he was thirty, and did it, as we know, to the end of his life.

See (*aspice!*) how the old master shifts the tone and feeling exactly as he wishes. The first lines are tentative and teasing: he knows, just as if Dr. Johnson had told him, that “passion plucks no berries from the myrtle and ivy,” that pastoral poetry is perhaps not proper for high personages and lofty themes. This difficulty he turns into a compliment to Pollio: given enough skill, it may be possible to sing of woods and consuls in the same breath.

Next comes the cosmological setting, the view that history is a repeating cycle and that we have come round to the first, best age. That age, the golden age itself! To be sure, the old habits will linger for a time, while the boy is young. There will be wars, perhaps even a big one, but when the boy has grown up, the age will be fully golden. No more commerce, no more shipping: *omnis feret omnia tellus*, earth will bear all things everywhere.

After an invocation to the Fates to hurry the process, Vergil swings back to the grand cosmological style, with the wonderful repetition of *Aspice . . .*: the sight of the world nodding beneath its weight, the sight of the joy of future centuries. The two *Aspice* lines have, respectively, two and three dactyls in them, so that the grandeur increases with the rolling effect.

Then back to teasing again. With a subject such as this boy to sing about, Vergil will easily outdo Orpheus and Linus, with their parents thrown in for good measure. He will even beat Pan.

Then a sudden shift to the human business of parents smiling at children¹, and children learning to love parents. And then the ineffable quiet close, with its touch of supernatural or at least superhuman personages—the gracious hint at fellowship and love-making that await the boy when he is old enough. I think that the way the poem trails

1. Reading (line 62) “. . . cui non risere parentes” instead of “. . . qui non risere parenti.”

off at its end and is lost in the distance, a future distance, is one of the loveliest effects in literature.

In our own time, when political themes are thought too much tainted for any work of art, it may be useful to perceive that Roman poets felt no such fear. Vergil, indeed, wrote the *Georgics* at Octavian's request for a specific political purpose, that of persuading people to go back to the farms of Italy. They are lovely poems, for all that; their political intent (which, by the way, failed) in no way damaged their artistry. A great poet can do anything. The seeming limitations of theme or material are simply means of seizing hold to do just what he wishes.

The Treaty of Brundisium, which inspired the Fourth Eclogue, is far from us now, but the world of abundance that Vergil prophesied is very near. Between ourselves and it there hangs, to be sure, a veil of present angers. Yet the Vergilian touch is true: the mother's smile, the child's answering smile—how gracious the world would be if we could make them common habit among mankind. Hope is, of course, not fulfillment, nor will it much amend weak versifying. But it may help to excuse the wish of a man of sixty to do a better translation than he did at sixteen.



VERGIL : ECLOGUE IV

Sicelides Musae, paulo maiora canamus . . .

Muses of Sicily, it is time to sing
songs rather nobler. For not everyone
likes pastorals—the tamarisk and vine.
If we sing woods, let them befit the Consul.
Now comes the latest age the Sibyl sang,
newborn the vast procession of centuries,
justice comes back and Saturn's perfect rule,
a new generation issues from high heaven.
Holy Lucina, grace this boy at his birth,
with whom the iron ends and the age of gold
rises upon the world. And now Apollo reigns.
Thus, Pollio, within your consulship
the aeon brightens, the great months proceed,
and, marks of our old crimes being effaced
forever, all the lands are freed from fear.
This boy will take life from the gods and see
heroes consort with gods, himself among them,
and he will rule a world made peaceable
by the virtues of his father.

To you, my boy,
as first-gifts, earth will burgeon without toil,
with ivy everywhere and lady's-glove
and lily with acanthus intermixed,
the laughing acanthus. Goats will carry home
their udders taut with milk, nor will the cattle
dread any lions. Your very cradle itself
will pour delightful flowers. And the serpent
will die, the freakish poisonous herb
will die, and the Assyrian spikenard,
once distant, will be growing everywhere.
And you will read the fame of heroes, deeds
of your father, and know what manhood is.
Little by little the field will yellow with wheat,
and red grapes hang from wild untended vines,
and the hard oaks sweat honey.

Nevertheless
some traces will remain of old deceits

that risk the ships on sea, that wall the towns,
that crease the earth with furrows. There will be
another Tiphys, other Argonauts,
heroes elect. There will be other wars,
and great Achilles go again to Troy.

After, when age has made you manly, strong,
the very sailors will leave the sea, the ships
lose profit: earth bear all things everywhere.
Ground will not suffer hoe nor vine the knife,
the sturdy plowman will unyoke his oxen,
there'll be no need for artificial colors,
rather, the ram himself out on the meadow
will change his dye to purple or to saffron,
and scarlet freely clothe the pasturing lambs.
Hasten then, happy ages! say the Fates,
following the firm will of destiny.

Dear offspring of the gods and child of Jove,
rise to high honor! There will be such time.
See the world nod beneath its curving weight—
lands, tracts of sea, and the deep firmament—
see how all things rejoice at the coming age!

Let me but keep some part of a long life,
keep inspiration and the skill to tell
your deeds. Why, Orpheus that came from Thrace
would not excel my singing, no, nor Linus—
not even if Orpheus had his mother with him,
Calliopea, or Linus had his father,
the fair Apollo. Even Pan himself,
Pan even, vying with me in Arcadia,
would by Arcadian judgment lose.

Little boy,
begin to know your mother by her smile—
she's had her months of pain—and, little boy,
begin to live: your parents have not yet
had chance to smile upon you, nor no god
to think you worthy of his table, nor
as yet no goddess worthy of her bed.

STUDIES IN THE LOGIC OF RELIGION

Religion and Philosophy

■ Not all who discuss religion are pious. Nor, in recent times, are those who call attention to some of the shortcomings of certain aspects of theology and belief necessarily motivated by conviction antagonistic to those of the devout. Contemporary theologians, aware of the increasing failure of traditional doctrines to inspire conviction, have begun to realize that an important reason for this phenomenon is to be found in the inability of past dogmas to be intellectually satisfying or to meet current standards of logical cogency and rigor. They have, therefore, become quite willing to undertake a critical examination of the foundations of faith in the hope that the difficulties could be eliminated and in the belief that a suspension of the rational process of the intellect is not a necessary condition for enlightenment of the soul.

This paper consists of an attempt to apply some of the concepts and methods of modern analytic philosophy to an investigation of several important articles of Judeo-Christian faith. Philosophy is here viewed as a method for the examination of ideas and concepts. This method does not—and indeed (if properly applied) cannot—issue in the *a priori* justification of any set of theological propositions, but it can contribute to a clarification of issues, a more accurate formulation of distinctively religious queries, and to a revelation (in the logical sense) of the tacit and submerged propositions to which the believer commits himself.

It is sometimes argued that religion or, more frequently, some particular religion, does not embrace *any* doctrines, and that the “essential” tenets of religion do not consist of a set of allegedly factual propositions (such as, e.g., “There exists an omnipotent being”), but rather comprise some group of statements to the effect that one ought to perform certain acts (prayer, ritual, good work, etc.). If such analyses of the term “religion” were correct, it is quite clear that such

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clarificational efforts as are, for example, undertaken in this paper would not be at all germane to questions bearing upon the nature of religion.

For what is attempted here is a philosophical analysis of the relationships between statements which occur in religious discourse and factual statements such as the truths of logic and the laws and theories of natural science. But a set of moral injunctions, commands, exhortations, and ethical imperatives, *considered apart from their justification in terms of alleged matters of fact*, are unaffected by the truth or falsehood of such statements as are found in physics, chemistry, geology, biology, astronomy, and other sciences, and are only tangentially affected by the laws of logic.

None of the laws of natural science furnish, in themselves, evidence that it is advisable to obey some particular command. If, for example, I am told that I should cover my head in a house of worship, I may sensibly ask a number of related questions, all of which may be interpreted as a demand for some justification of the questioned moral injunction. I may ask, "*Should I, in fact, cover my head in a house of worship?*" This means, "Given some prior set of assumptions, does it follow from these that I should perform the act in question?" In order to answer this kind of question I must have at my disposal a "prior set of assumptions," as well as a means of drawing inferences from them. But clearly, if among these assumptions are statements of natural science—statements formulating the conditions under which phenomena occur, based upon the evidence of past observation—such statements alone will be of no value in deciding whether I ought in fact to cover my head in a house of worship. We may also consider that the above example is in the form of a moral injunction; that is, it is of the form, "*x should do such and such.*" Were it in the form of a command, such as "*Cover your head when in a house of worship!*" it could not be derived from statements of natural science for the simple reason that it is neither true nor false. Truth and falsehood are not properties which can sensibly be ascribed to commands, although they can be so ascribed to their correlate moral injunctions. It follows from this that a moral injunction cannot be logically derived from its correlate command.

Someone might now argue that the moral injunction in question is justified on the grounds that God has commanded me to obey it. Quite apart from the dubious character of such a "justification," this argument will not do, because it tacitly introduces into the discourse a religious doctrine; namely, "God exists," and it thus contradicts the assumption that religion consists solely of statements to the effect that one ought to perform certain acts. The "justification" which has been

offered, on the other hand, is of a dubious character because, as has been noted above, a moral injunction cannot be logically derived from its correlate command. What is needed, in addition to God's command to obey the moral injunction in question, is a statement to the effect that we ought to obey the commands of God, itself a moral injunction in need of justification.

Thus, if religion consists solely of moral injunctions, commands, exhortations, and ethical imperatives, then any analysis which argues from the facts of the world to statements bearing upon the reasonableness of religion is necessarily inutile. But, it is now clear, on the basis of the preceding considerations, that the referent of the term "religion" is something other than what may, broadly speaking, be termed a set of "ethical" statements. For if religion treats, at least in part, of such statements, it must also involve their justifications, and these, as we have seen above, involve not questions of natural science but matters of theological doctrine such as the statement, "God exists."

On the other side of this question, it may be argued that no amount of religious or theological doctrine is an adequate justification or a sufficient reason for an "ethical" statement. Consider, for example, the Eighth Commandment, "Thou shalt not steal." Interpreted literally, of course, this is not an "ethical" statement at all, but rather a false empirical prediction, for it is literally equivalent to some such sentence as "Men will not steal," and, on the assumption that it is a prediction concerning all men who live during times subsequent to that of the confrontation on Sinai, it is clearly false. But this absolutely literal rendering of the Commandment is certainly not the usual one. The Commandment is almost always taken to be an "ethical" statement either in the form of a command or of a moral injunction. (Linguistic evidence for this interpretation derives from the fact that the word "shalt" in the environment "Thou ——— not . . ." has an imperative connotation.) If the statement is a command, (such as, "Don't steal!"), then it is neither true nor false, and there is therefore no valid rule of inference which will yield such a statement from allegedly factual premises. Since those who make such claims as, "God exists," "There is an omnipotent being," "Man is endowed with an immortal soul," etc., are clearly making what they believe to be assertions of fact, they cannot be correct in also claiming that such statements of doctrine justify or supply sufficient grounds for "ethical" statements such as "Don't steal!" Thus for the Eighth Commandment construed as a command. If, on the other hand, the statement is a moral injunction, such as "You should not steal," it can be derived only from a set of statements which contains at least one moral injunction, such as, "You should

obey the commands of God," and it therefore cannot be derived from a set of nothing but statements of religious doctrine.

Similar arguments can obviously be applied to any and all "ethical" statements with the result that we are led to the conclusion that religion and ethics are, from a logical point of view, mutually disjoint, that one is not logically grounded in the other, and that those who attempt to justify a code of human behavior on the grounds of some system of theology must, in the nature of the case, commit a logical blunder.

The subject of our analysis is, then, a set of theological doctrines which occur in religious discourse. It has been claimed that the tenets of theology are not open to philosophical analysis because religion is a kind of substitute for philosophy. To affirm the truths of a particular theology, so the argument goes, is *a fortiori* to subscribe to a set of answers to the problems of philosophy; therefore, to effect an analysis by unpacking philosophical issues from theological doctrine is simply to beg the question. At the heart of this objection there is, to be sure, a germ of truth. The belief in the endowment of man with a non-physical immortal soul implies, at least *prima facie*, a solution to the classical mind-body problem of metaphysics. If it is true, as the Hassidic and other apocalyptic sects claim, that the "end of the world" is imminent, then the Kantian categorical principles of the uniformity of nature and the topology of time are quite conceivably false.

Notwithstanding, it remains true that the large majority of issues with which philosophers are perennially concerned receive little, if any, intelligible commentary, much less a solution, at the hands of the theologians. The affirmation of religious doctrines fails to offer any clarification of large issues in the theory of knowledge, or in formal logic, or, as we have seen above in some detail, in ethics. Nor, if we forget about various narrations of the Cosmic displeasure with "graven images" and certain institutions which are an "abomination," does scripture have much to say about aesthetics or legal philosophy. It almost certainly has nothing at all to say about political and social philosophy or the philosophy of science. This is not to say that there is nothing in the Bible which can be *construed* as a commentary on any of these subjects, for an appropriate interpretation can always be achieved by the right kind of theological legerdemain. However, not every statement in the Bible which could be so interpreted is a distinctly religious one, there being numerous historical statements such as "Cain slew Abel." and "Jesus wept.," as well as ethical statements such as, "Thou shalt not steal." Moreover, what we wish to deny is not that *some* theologies take a stand on certain philosophical questions, but that there is anything in the nature of theology which makes it a

substitute for philosophy.¹ The poverty of this claim is obvious when we consider that, at least according to the analytic approach, philosophy is primarily a *method* for the clarification and solution of certain problems, while religion consists of a set of *doctrines*. Indeed the role of theological dogma in traditional religious doctrine renders it antithetical to the analytical conception of philosophy as a means of inquiry.

I conclude this section by turning to a currently fashionable point of view which heroically maintains that human reason itself is useless as a device for the appreciation or understanding of the concept of God. Religion, according to this conception, deals with what is "beyond" or "transcendent." God is, in the words of Karl Barth, "altogether Other" from any identifiable subject matter of rational investigation, which is incapable of grasping the "ineffable," the "unfathomable," and the "inconceivable." A variant of this position is held by Maritain, who allows that "The Supreme 'Mystery' is the supernatural Mystery which is the object of faith and theology. It is concerned with the Godhead Itself, the interior life of God, to which our intellect cannot rise by its unaided natural powers." Maritain's view apparently differs from Barth's in that the latter holds that God is *entirely* beyond the pale of reason (He is "altogether Other"), while the former consigns to "faith and theology" the task of dealing with "the interior life of God," presumably on the grounds that there are *some* aspects of God, such as necessary existence, which are open to rational consideration and, perhaps, even to proof.

In fairness to the proponents of these and similar views, it should, perhaps, be at once granted that what they wish to maintain is not really that there is nothing about the "object of faith" which is able to be grasped by means of reason, since this amounts to a clear-cut self-contradiction. Surely the fact, if fact it be, that God has no properties which are within the compass of human understanding is a fact about God, and hence a property of God, which is within the compass of human understanding. If it were not, then it could not be asserted. Nevertheless, an examination of the language in terms of which such a theory is invariably couched cannot fail to yield the conclusion that its advocates regard it as a kind of ultimate sanctuary from the inroads of critical discursive reason upon sacred territory. Terms such as "unfathomable" and "supernatural Mystery" seem clearly to have been imported into the discourse in order to insure that the rational intellect

1. Exemplifying this view is the Abbasid Caliph, who, before burning the library of Alexandria, is supposed to have said, "All the books contained herein are either in agreement with the Koran, in which case they are superfluous, or are contrary to the Koran and therefore pernicious. Let them all burn!"

will not come up with a really crushing critique when it goes snooping around among treatises on theology. In this, Barth, Maritain, *et al*, win the battle, but lose the war. Reason proceeds by establishing definite relationships between concepts and ideas. To isolate the concept of God, to hide it behind a barrier against reason, is to lift it out of the contextual web within which it has meaning and significance. If the term "God" is not related to any other terms—if it is "unfathomable"—then the utterance "God" has (in English) precisely the same value as the utterance "glub." It becomes nothing more than a sound. Nor will it do to maintain that theology consists of a group of concepts (such as God, the soul, omnipotence, etc.), all of which are related in special ways, but the mass of which is not connected with any other identifiable subject matter. Theology then becomes nothing more than an uninterpreted theory, which has meaning only implicitly. It is as if someone were to write a textbook of geometry in which no effort is made via pictures or anything else to indicate that terms such as "point," "line," "plane," "congruent," "between," "parallel," etc., bear any relationships to any material external to the pages of the text. If theology is nothing more than a system of abstract logical relationships, then it is nothing more than a branch of mathematics. This is a view which might have been pleasing to Sir James Jeans, but hardly to anyone else. Perhaps the matter was most succinctly put by Morris Cohen, who said:

But men who will not give the reason for their faith are not always modest. They try to save their own prestige by condemning the whole enterprise of reason, and this they do by professing scepticism as to the value of reason. But in a world of conflicting faith scepticism lends no permanent support to any creed against its destructive rivals, and a faith that becomes aware of its impotence is on the decline.

Religion and Science

For most people in the Judeo-Christian tradition, the document most relevant to the doctrines of religion is the Bible, supposed by traditional modes of belief to be (in some sense of the word "revealed" and in some sense of the word "God") the "revealed word of God." In this section we are concerned with the meaning of the word "revealed" in this usage.

To approach this question, let us first ask, "Exactly what is it that has been 'revealed'?" If the Bible is to be taken literally, then one of the things which has been revealed is that the universe was created by God during a period of six days. Now if this constitutes part of "God's word," and if God's word is to be taken literally, and if modern physics, astronomy, and cosmology are to be taken seriously, then we are bound to conclude that it is quite likely that "God's word" is

mistaken. This is not an altogether facetious statement. It is worth considering just how and why a believer will reject such a conclusion. The notion that "God's revealed word" is mistaken is somehow in conflict with the believer's conception of God as a perfect Being, an Entity which does not commit errors—such as the inclusion of falsehood in his revealed word. Therefore, for the believer, if God exists and the Bible is his revealed word, then it is not mistaken. Thus a believer is forced to maintain that no argument whose conclusion is the statement, "The revealed word of God is mistaken.," can be sound.

Now let us consider the following argument: Let T_1, T_2, \dots, T_n be those laws and theories of physics, astronomy, and cosmology which indicate that the world was created in substantially more than six days.

P_1 The Bible is the revealed word of God.

P_2 The Bible is to be taken literally.

P_3 The Bible states that the world was created by God in six days,

P_4 T_1, T_2, \dots, T_n are correct.

C_1 The revealed word of God is mistaken.

Since the above argument can always be given a valid form, the believer is bound (by his belief) to reject at least one of the premises P_{1-4} as false. It would evidently be rather foolish to subject P_3 to doubt, as it is a simple matter of empirical fact that the Bible *does* in fact state that the Creation took place in six days, "and on the seventh day God rested." (Remember that we are not concerned with alternate interpretations of this passage in view of the fact that P_2 is a premise.) Let us assume further that the believer in question is an adherent of the traditional view according to which P_1 is true. Thus, by elimination, we arrive at the conclusion that traditional belief entails the doctrinal consequence formally stated by the proposition [$\neg P_2 \vee \neg P_4$] (not P_2 or not P_4).

If we define "strict fundamentalism" as the doctrine that the Bible is to be taken literally (P_2), then we see at once that *a strict fundamentalist is doctrinally bound to reject as false certain laws and theories of current natural science*. Now it is also clear that the results of natural science which strict fundamentalism rejects are not limited to the set T_1, T_2, \dots, T_n , but span a large domain of systematic controlled inquiry. For example, if we substitute for P_3 in the above argument, the statement,

P'_3 The Bible states that the sun moves around the earth.

and for P_4 substitute the set (P'_4) of laws and theories T'_1, T'_2, \dots, T'_n which indicate that the sun does not move around the earth, then the same logical considerations as were employed above lead to the conclusion that a strict fundamentalist is doctrinally bound to reject

Copernican astronomy, Kepler's laws of planetary motion and, derivatively, Newton's laws of mechanics. (It is assumed here that the strict fundamentalist does not call into question observed facts of experimental data, but only the laws and theories which attempt to account for these facts.) Similar reasoning will, of course, apply to Darwinian evolution, large segments of paleontology, geology, relativistic mechanics, the gene theory of heredity, etc. By way of an historical and sociological aside, we might note that these considerations reveal that the state school system of Tennessee would be a strange phenomenon to behold if all teachers in its employ were to adhere to the statute (still on the books) making it illegal to teach evolution "or any other doctrine contrary to the sense of Holy Scripture."

Now, for reasons which are generally made clear in studies of the philosophy of science, experimental laws and theories, such as the sets P_4 and P'_4 , cannot, for logical reasons, be said to be unimpeachably correct in the way the traditional believer claims that the statement, "The Bible is the revealed word of God," is correct. Such laws and theories are, rather, said to be more or less highly confirmed. This fact furnishes the fundamentalist with a kind of "out" which serves (after a fashion) to mitigate the seriousness of his quarrel with many of the important results of modern science. He might argue that, since these laws and theories are only "highly confirmed" they entail only the weaker proposition that the revealed word of God is *likely* to be mistaken (recall the usage employed at the beginning of this section), and then point to the logical compatibility between this statement and one to the effect that the revealed word of God is *not* mistaken. In so doing, however, the fundamentalist is left to account for the existence of an overwhelming amount of evidence contrary to a belief to which he is doctrinally bound. Of course, at this point he may simply choose not to give any such account, pointing out that this is probably just one of the "ineffable mysteries" of God. He may claim with William Jennings Bryan that he is "more interested in the Rock of Ages than in the ages of rocks." But, a reply of this genre is incompatible with rational investigation of any kind.

The summoning up of spirits and mysteries is, moreover, a rather shortsighted maneuver since there is still a great deal that the fundamentalist can do. He can, for example, take note of the fact that the quandary has arisen, not because of his belief in the existence of God, but because of his unwavering subscription to the propositions P_1 (The Bible is the revealed word of God.) and P_2 (The Bible is to be taken literally.) By suitable modifications or weakening of either one or both of these premises, the conflict may be made to disappear. But even if he does not wish to alter the foundations of his faith, even if he wishes

steadfastly to cling to the "Rock of Ages," he still has one trump card left to play. He can point out the fact that unless the methodological procedures whereby the laws and theories of science are established involve a system of "eliminative induction," the laws and theories which he rejects can be excluded in favor of sets of hypotheses which (a) do not conflict with his faith and (b) explain, predict, and otherwise systematize all experimental data to a degree as accurate as that of the original theories.

In order to illustrate this procedure, as well as its philosophical consequences, we may consider the following historical example: One of the great problems which confront those who believe that the Bible is to be taken literally, and therefore that the Creation took place sometime about 4004 B. C., is to explain the existence of fossils. Prior to Darwin, the traditional explanation was that they were the remains of plants and animals which had been destroyed by the Flood. Gradually, however, naturalists began to notice that, on the whole, the degree of complexity of fossilized remains varied inversely with the depth of rock strata from which they are taken. The lower, and hence older, the geological layers, the simpler the remains of primitive plant and animal life it will be found to contain. With the publication of *The Origin of Species*, the existence and location of fossils became corroborative evidence for the theory that the more biologically differentiated forms gradually evolved from lesser ones over long geologic ages. Thus the occurrence and location of fossils confirms the theory of evolution which, in turn, disconfirms the book of Genesis if the Bible is to be taken literally. The problem, then, for the fundamentalist is to account for fossils without entailing the negations of the two doctrines P_1 and P_2 and without flying in the face of the entire science of biology. This seemingly sophisticated question was, in fact, the subject of literally thousands of weighty treatises published during the nineteenth century which attempted to reconcile geology and Genesis. Eventually one of them hit upon just the right technique; the book was *Omphalos* (Greek for "navel"), by the zoologist Philip Gosse.

Quite simply, the thesis of this work is that, while the facts of the world point to a long history of gradual biological and geological development, what, in reality, happened is simply that God created the world in six days in 4004 B. C. *complete with fossils, rock strata and even* (whence the title) *Adam's navel*. When this simple hypothesis is added to the laws and theories of natural science, the fundamentalist no longer need have any quarrel with biological and geological theories.

This example has not been cited for its humorous value, or even as an admonition against the works of scientific cranks. It is a fair

sample of the technique whereby fundamentalism can preserve its integrity in the face of any facts whatever, by the introduction of *ad hoc* assumptions into the laws and theories of science. It remains to examine the logic of this procedure to see what, if anything, is wrong with it.

The first thing to note about this procedure is that it is illegitimate by any interpretation of scientific method which construes the establishment of theories as involving a process of "eliminative induction." The theory of eliminative induction is rather highly technical in its accurate formulation; for that reason, what is presented here is an abbreviated (and somewhat inaccurate) version of the relevant aspects of this theory.

In the form in which it is relevant here, the method of eliminative induction functions in a formal theory of scientific method as a means of establishing explanations of events by ruling out alternate explanations which account equally well for the events in question. As an example of such a procedure, consider the case of a physician who is called upon to treat a patient who exhibits a certain set, say a, b, and c, of outward symptoms. In order to establish a correct diagnosis (that is, to give a correct explanation which will account for the patient's symptoms), the physician will, in general, note that there is a group of diseases, such as x, y, and z, each of which is associated with the group of symptoms a, b, and c. The physician will therefore take steps to eliminate, as possible explanations of the patients' symptoms, two of the three alternate hypotheses (that the patient has disease x, or that he has disease y, or that he has disease z). One such step might be the performance of a test which will indicate the presence of a certain condition d in the patient's blood, the physician knowing that the complex abcd is associated with x and z but not with y. Radiological data might, for example, be considered which would indicate that the size of the patient's heart is compatible with the hypothesis that he is suffering from x and y but not from z. If both of these tests give positive results, then the physician has employed a procedure of eliminative induction which has furnished him with evidence for the hypothesis that the patient is suffering from x and not y or z.

Such eliminative procedures are embodied in the methodology of every well-developed science. There is, however, a theory of scientific method which holds that *every* scientific law and theory must fulfill the condition of being subject to test by a procedure of eliminative induction. What we now wish to establish is that if this stricture upon laws and theories is adopted as a fundamental postulate of the method of science, then the technique employed by fundamentalists such as Gosse to end their disputes with science—namely, the addition of *ad hoc*

assumptions to the laws of science—is in violation of scientific method, and therefore illegitimate.

To clarify this point, consider the case of a theory T which is invoked in order to explain an event e . The conception of scientific method in question holds that if T is to function in a genuine scientific explanation of e , then T must be subject to test by eliminative induction. This means that, for any alternate theory T' such that T and T' are not logically equivalent, the set of events explainable by means of T' must not be identical with the set explainable by means of T .

Consider, now, Gosse's hypothesis:

H_1 The earth was created in 4004 B. C. complete with fossils, rock strata, etc.

There are, of course, an infinite number of non-logically equivalent alternate hypotheses which carry the identical explanatory burden:

H_2 The earth was created in 5000 B. C. complete with fossils, rock strata, etc.

H_3 The earth was created in 4001 B. C. complete with fossils, rock strata, etc.

.

.

.

H_n The earth was created yesterday complete with fossils, rock strata, human memories, etc.

Since it is clear that there is no possible experiment which could yield evidence to discriminate between any of $H_1, H_2, H_3, \dots, H_n$, all of them must be rejected as inadmissible on the ground of the eliminative induction theory of scientific method.

As against this provisional refutation, the fundamentalist might argue that what our argument has established is that the set of hypotheses $H_1, H_2, H_3, \dots, H_n$ are not *differentially* testable, that is, that there is no reason to discriminate between any of them on scientific grounds alone. Since, he might argue, one of these hypotheses, say H_1 , will be the scientists' conjecture as to when and how the world came into being, there is no good scientific reason to accept the scientists' hypothesis either, and we should therefore accept H_1 on extrascientific (religious) grounds inasmuch as it is scientifically as acceptable as any of the others. The false character of this argument becomes apparent when we consider the actual facts:

(1) There is no such thing as H_1 . There is no presently unified scientific theory about the origin of the world, but only a set of separate theories concerning evolution of biological species, geologic structure, the workings of the solar system, etc., for which the facts of the world furnish evidence.

(2) Even if there were an H_1 , it would not be in the set $H_1, H_2, H_3, \dots, H_n$, as is readily apparent when we recall that the conflict between science and theology vaporized only after Gosse *added* H_1 to the laws and theories of science. The laws and theories in question, therefore, do not range over the same events as does H_1 .

The preceding considerations serve to demonstrate the uncongeniality of the "eliminative induction theory" of scientific method to fundamentalism. But they also furnish a starting point for the ultimate logical demise of the fundamentalist's last ploy. We recall, to begin with, that in order to reconcile his religion and science, the fundamentalist must construe hypotheses such as H_1 as *additions to the facts, laws, and theories of science*. Ever since Hume, but more especially since Mach and the logical positivists, it has been generally recognized that the essential and outstanding feature of any truly scientific statement is either its direct or indirect openness to some sort of experimental test. There have, of course, been disagreements over this thesis, but they have all been over the particular logical form in which this fact is properly expressed. The fact that scientific statements invoke experiential verification has itself never been called into question. But just how could we verify H_1 ? How could we ever even falsify it? That there are no facts which independently verify H_1 is seen from the recollection that all the relevant facts are accounted for by theories to which H_1 was added. There is, moreover, no possible way in which H_1 could be subjected to test by falsification. There is no evidence which could count against it, for such evidence is impossible to specify. Suppose, for example, that someone were to suggest that H_1 could be tested by the radioactive "dating" of rocks. But if the test indicated that a particular rock were, say, 1,000,000 years old, the proponent of H_1 would simply argue that in 4004 B. C., God created the rock with an amount of radioactive material giving off an intensity of radiation commensurate with the present hypothesis that the rock is 1,000,000 years old.

It is, in short, just as impossible to subject hypotheses such as H_1 to tests of any sort (and therefore just as little grounds for considering them "additions to science") as it is to test the hypothesis—also once seriously maintained—that fossils were put on the earth by Satan to confuse and demoralize the faithful. But if these conjectures are not scientific, then there is no reason to believe that they are factual at all, for they are alleged to be additions to the verified statements of science.

So ends the fundamentalist's linguistic game. It was, in retrospect, a rather meager bag of logical and theological gambits. What has an examination of its contents taught us? We stated that we would consider the sense of the word "revealed" in the sentence, "The Bible

is the revealed word of God." We have seen that, for an individual who takes this sentence to be true, it is unnecessary, and indeed somewhat dangerous and absurd, to take it as entailing a construal of the Bible as setting forth unambiguously specified factual assertions concerning the universe and what it contains. We have learned that the true fundamentalist cannot consistently settle his dispute with science, for it is with the *spirit* of science as well as with its contents. We have learned about the logical relationships which exist between questions of doctrine and of science on a fundamentalist interpretation of the Bible. This much we have learned. This and perhaps something which Saint Augustine knew long ago:

It very often happens there is some question as to the earth or sky, or other elements of this world . . . respecting which, one who is not a Christian has knowledge . . . and it is very disgraceful and mischievous and of all things to be carefully avoided, that a Christian speaking of such matters as being according to the Christian Scriptures, should be heard by an unbeliever talking such nonsense that the unbeliever perceiving him to be as wide from the mark as east from west, can hardly restrain himself from laughing.



PLUMB LINE

There was no light; there was no light at all
to tell the leaden eye that in the night
the woods decay, the woods decay, and fall
blisters in the plaster of the mental hall.
They say that summer is another day—
there was no light; there was no light at all.
The ear is deaf to the silent call
of the not yet dead amid the blight
the woods decay, the woods decay, and fall
to questions answers bouncing ball
against the plaster in a childish way
there was no light; there was no light at all.

—Paul Hopper

CALL ME ISHMAEL

■ I first met Sam Irwin banging open my front door after only the most perfunctory knock. He was wearing khakis and bedroom slippers, his pink-skinned and hairless chest bare, slight rolls of fat hanging from his broad, muscular shoulders and expanded-for-the-occasion chest.

"Do you have a copy of *The Decline of the West?*," his eyes peering out impishly from behind clear-rimmed glasses.

"Spengler?"

"Yes. I'm writing a paper on Thomas Mann, and I need a quote."

"Sorry," I said, "I'm waiting for it to come out in paperback."

He looked around the apartment for a moment without comment. The only other presence there was Mozart's Jupiter Symphony, limping weakly out of an under-nourished record player. He turned around quickly, faced me and introduced himself, thrusting out a thick hand and smothering my returning clasp.

"I'm Jerry Allen," I said, "Graduate English."

He nodded approvingly and turned toward the door, obviously a man in a hurry. "When I'm done this paper, I'll come around again and we can bullshit."

"That'll be fine," I said, but he was already out of the door.

I saw him again about a week later, emerging from his room just after lunch, his dewy cheeks freshly shaven and scrubbed, tightening a tie against the collar of a pin-striped shirt, his khakis laundered and pressed. Over his arm hung a blue blazer that looked like the remnant of a prep school past. "Finished that paper," he said. He was holding a manilla folder in his hand. "Have to deliver it to the class at two." He looked at his watch. He had seven minutes to make a four block walk.

"Good luck," I said.

He looked at me reflectively for a moment. "Aren't you going to come?" He seemed slightly puzzled and hurt.

"Well . . ."

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"It's a good paper. I want someone there who can appreciate it."

I was wearing a jacket and tie, and all I had to do was close the door. "Okay," I said. I felt instinctively for my keys, threw the latch on the door, and followed him outside.

It was a good paper, delivered in a smooth voice oozing with confidence, countenance beaming down divinely on all in the room, at once caressing us and demanding attention, the text lavishly larded with quotations and esoteric references. It was impossible to tell whether he had read all the books referred to, but it was worked into such a beautiful unity that you couldn't help but be impressed. Jung, Freud, Erich Heller, Cassirer, Husserl, Hegel, Marx, and Nietzsche all made quick bows, accompanied by the nods of the professor and the occasional murmurs of the students.

When the class was dismissed I worked my way to the front of the room. Sam was surrounded by a horde of admirers of both sexes, answering questions in a rapid professional staccato, waving his arms excitedly, obviously having forgotten that I was there. I waited for a moment and then walked slowly out of the room, leaving him to his moment of glory.

From then on we became close friends. Every evening precisely at eleven was "bullshit hour," a monologue of only Irwin proportions with occasional critical interpolations by me. At first, Sam threatened to push my roommate to distraction. He was driven initially into the bedroom with his medical books, only to fall asleep stretched across the bed. He then resigned himself to sitting with ten pounds of glossy-paged Anatomy on his lap, listening as Sam presented us with the daily smorgasbord of ideas that he had received from his reading. Discreet hints about David's and Medicine's need for quiet concentration had no effect. Sam was irrepressible. The hour was his. We considered the evening a *coup* if we could trundle him out of the apartment by twelve-thirty with all our cake and half our milk in his stretchbelly.

Vitality in a human being is probably unexplainable, and so perhaps is its appeal to others. As much as Sam bullied and oppressed us, we gave him his hour willingly. If the work load was heavy, we saw to it that it was done before eleven. There was always cake around, although we began serving tea as soon as the milk bill grew out of proportion.

"The amount of food we eat is definitely against physiological necessity. I'm training myself to live on less food each day. There's no need to be so self-indulgent." Sam was leaning his arm on the back of the front seat of my car, facing me intensely as I drove.

"Yes," I said, "but I enjoy eating."

"Yes, so do I. But that's not the point. First of all, if you eat less

you can save more money for books. Agreed?"

"Agreed."

"Second, you make yourself less dependent on your environment. Darwin says . . ." And so on. Sam used to accompany me to the supermarket every Thursday morning, expatiating on the evils of culinary overindulgence. He had a German class at that hour, but he never let it interfere with shopping. Good fellowship was more important than scholarship. Besides, he rarely did his assignments.

"They'll pass me. Don't worry about it."

"I'm not worried. You're the one who should worry, not me."

"I've read more German lit than anyone in the class."

"In translation."

"All right. In translation. But they know what kind of student I am. I'm not sweating a thing."

The supermarket was an adventure for Sam. He liked pushing the cart in and out of the aisles of stacked cans, steering around old ladies or young mothers with babies perched on the backs of their carts.

"Where else but in a capitalist economy could you walk so casually among so much food? Think of it." We were standing between the canned vegetables and the packaged noodles and spaghetti.

"Sure is a lot of food," I said, reaching for two cans of French-cut string beans.

"That's the trouble. It's too easy. You just reach up and grab whatever you want. You don't have to do anything."

"You still have to pay for it."

"That's nothing. Nothing at all." The roots of his hair along the forehead were beginning to flush red. "You don't have to grow it. We're separated from the land. We're away from the beginning of things."

"Who the hell wants to be a farmer?" I began to ask, but he had already wheeled around the corner to the cake counter. I took a box of rice from the shelf and walked to the cart. Sam was standing by a neatly arranged display of cakes, examining them carefully. Then he leaned over, opened the top of a box of sugared donuts, removed two of them, and neatly closed the lid of the box. All this without so much as a casual protective glance around.

"Here." He extended a hand with a donut, the other one having disappeared in two large gulps.

I shook my head. "I don't want it."

"All right then, the hell with you. I'll eat it myself." And he did.

"I like to pay for what I eat."

Sam just shrugged his shoulders, his jaws moving on the second donut, and began pushing the cart once again.

About a month later Sam moved. He appeared rather suddenly one evening during dinner, his hands dirty, sweat streaks down his cheek.

"Let me borrow your car. Okay?"

I looked up from my lamb chop. "What for?"

"I'm moving."

"You're moving?" I laid my fork down on the plate. I could see my roommate stop chewing.

"Yeah. I moved half the stuff this afternoon while you were out. Now I gotta move my books."

I shook my head and shrugged my shoulders. "When did you decide to move?" I reached to my back pocket for the keys.

"Last night." He walked over to the table and stood with his hands gripping the back of the empty chair facing me. "My roommate moved out on me."

"When?"

"Yesterday."

"Oh, how come?" I removed the key from the ring and slid it across the table.

He shrugged his shoulders. "I guess he's just too normal."

"So what did the landlady say?"

"Nothing. She doesn't know yet."

"She doesn't know you're moving either?"

He shook his head.

"Are you going to tell her? Maybe she'll lower the rent."

"The hell with her. I have a new place. Besides, my name's the only one on the lease. She probably won't do a thing for me."

"She can sue you."

"Like hell she can. I'm under twenty-one. She can't do a goddam thing." He picked up the key and put it in his pocket.

My roommate nodded and lifted his lamb chop with his fingers. In the middle of ripping at the bone he began to chuckle silently, a smile on his face, his shoulders moving. There was a moment of awkward silence in which I began to feel trapped. I looked up at Sam again. "Want a cup of tea or something?"

He was already moving toward the door of the refrigerator. "Thanks. I haven't had a chance to eat all day."

"Trying to save money for a book?"

He just smiled as he poured himself a glass of milk. "Got any cake?"

We saw Sam less frequently after he moved, even though his new apartment was only two blocks away. Winter had come, and Sam hated to go out at night in the snow. He owned only bedroom slippers,

sneakers, and a pair of shoes that didn't fit. The shoes he kept for occasional weekends, the sneakers had holes through which rain and snow seeped, the bedroom slippers were too cold for walking outside in the winter. However, his present roommate was affluent and willing to pay for two-thirds of the phone bill. And so, eleven o'clock sessions were continued on the telephone, at a saving to us of tea, cake and perhaps half an hour. It was like having a pet on whom you could completely rely to bring you your slippers or a newspaper. You could almost set your watch by the ring of the phone, and on those rare occasions on which the phone was in use at eleven, Sam would refuse to try a second time, demanding that we phone him or wait until the next evening for his call. More than once, my roommate contemplated leaving the receiver off the hook.

The winter passed slowly, the most snow-filled winter that I had ever remembered. Great drifts, piled high outside in front of the porch, refusing to melt. After a time Sam's visits ceased, and his calls became more and more infrequent. His new roommate moved out in less than a month, and he was forced to take a room by himself, once again breaking a lease. He called me once more after this to say that he had dropped out of school for the spring semester.

"I don't have enough time to read."

"Why not?"

"Courses take up too much time."

I laughed. "You never let that bother you."

"What do you mean? What about all the homework?"

"You only do it when you want to anyway."

"Yeah, but what about all the classes?"

"You never go when you don't feel like it."

There was a pause on the other end of the line. "Well," he said, "I just don't want the aggravation. I want to be free." There was another pause.

"What about your degree?"

"Well, what about it?"

"When are you going to finish?"

"I'm going back. Don't worry. I think I can get more right now by reading on my own."

"You're only kidding yourself. You can't do anything without a degree."

"Bullshit. It's not worth it to me right now."

"Sometimes you've got to pay a high price for something."

There was another lengthy, uncomfortable pause. Then: "Oh Jesus!"

"You don't want to pay the price for anything." I shifted the

phone to my other ear.

"You know, you sound like Jiminy Cricket."

"Who?"

"Pinocchio's conscience."

"Well, I'm only trying to . . ."

"Yeah, I know."

The conversation sort of died right there. We stretched it out into another two minutes, talking away from one another. Finally, we both began to ease it to a close.

"Well," I said, "come on over to see us, why don't you?"

"Okay, I'll be over soon."

"Okay, see you."

"So long."

I held the phone until I heard the click on the other end. Then I replaced the receiver, knowing he had no intention of coming again. It was just another relationship to write off to the past.

We didn't see Sam again for almost a year. Rumor reached us that he had moved in with a girl downtown and was living off her earnings as a school teacher. I wondered what the board of education would say if they heard about it. As near as I could make out, he was just sitting around reading. He had obviously not returned to school for his degree. My roommate met him downtown one day, walking with his girl. He was in khakis and a wrinkled shirt, and two or three days in need of a shave.

About a week later, the knob turned on the apartment door and Sam's head appeared. He was smiling broadly. Before I could smile back and invite him in, he was in front of my chair pumping my hand.

"I read all the books in the public library downtown, so I had to come back and use the school library."

"Good to see you again."

"Yeah, how've you been?" He sat down carelessly in the middle of the sofa.

"Okay, I guess. What's new?"

He shrugged his shoulders. "Not too much. What's new with you?"

"I got my master's degree. Still taking courses for the Ph.D." I couldn't think of much else to say. Aside from that, Sam wasn't really listening. He had gotten up from the sofa and walked to the small bookcase I kept beside my desk. He leaned his crew-cut, too-large head down awkwardly to read the titles.

"New books?"

"Yeah."

He ran his hand over the week's frizzled blond beard that covered his chin, nodding with approval occasionally at one of the books. Every now and then he would take one of them from the shelf to leaf through it.

"*Fear and Trembling*," he mused aloud.

"Kierkegaard," I said.

"Yeah. Seminal book. You can't understand the modern dilemma without it."

"I don't know. I haven't read it yet." I watched him turning the pages. "Too much work for my courses."

He continued to turn the pages, nodding absently at my last remark. I continued watching him, a little annoyed. A book of Melville criticism was on my lap, and I was debating with myself whether or not to pick it up again.

"Listen," he said, replacing the book and turning toward me in almost the same motion, "I wonder if you could do me a favor." He came to within two steps of the chair and looked directly at me.

"Yeah? What?"

"What are you doing tonight?"

"I don't know. Same as usual, I guess."

"You mean you're gonna sit around and study."

"Yeah, I suppose so."

"What about David?"

"Same thing, I guess."

He nodded, put his hand to his chin, and walked around in a small circle. "Do you think maybe you could study in the library for a couple of hours?"

"Well, I don't know. I mean, what do you want it for?"

"I've got this chick lined up. A sure thing. I'm supposed to pick her up about seven."

"And you want to bring her here?"

"Yeah, it won't take long. Just a couple of hours." He paused for a moment, sensing, I think, my hostility to the idea. "It won't take too long," he repeated.

"Well, you know, I can't speak for David. Suppose *he* doesn't want to do it. He won't be back for at least an hour."

"Yeah, I saw him down town last week. Same old guy."

There was a moment of clumsy silence. I closed the Melville book on my index finger to hold the page. "David says you're living downtown with a girl."

"That's right. Carole. Really good kid. You oughta come down some night. She can really cook."

"This isn't who you want to bring over tonight, is it?"

"Of course not. I don't have to bring Carole here. We've got our own place."

"So who is this?"

"Some chick I met at the library."

"What's wrong with the one you've got?"

"This is only a quick roll in the hay. She doesn't mean a thing to me."

I pulled a pencil from my chest pocket and put it in the book in place of my index finger. "You know something."

"What?"

"You're a son of a bitch."

He only smiled in reply. I looked at him for a moment. "You're sponging off this girl, taking her money, sleeping with her. That's bad enough. Now you want to bring some tramp you just picked up over here and screw her. At least you could stay faithful to the one you've got."

He continued to look directly at me, an expression of the utmost incredulity streaking across his features. "You know something. You must think you're my goddam mother."

"Your mother? What *about* your mother? What does she think of how you're living?"

"Shit!"

"Where are your values, boy? When are you going to settle down?"

"Values?" He threw back his head in a vicious, boisterous laugh. "Values? Screw your values. Who makes values anyway? God? God is dead, man. Remember? He's dead. Nietzsche. A hundred years ago. I make my own goddam values. If I want to go to school, I go. If I want to boff some broad, I boff her. Values. You and your goddam absolutes."

"You'll be a fine addition to society. Real fine. And just where do you intend to live when you grow up?"

"Addition to society? Who the hell am I hurting? I want to use your apartment for a couple of hours. What skin is it off your ass? Who do you have to answer to?"

He looked directly and intensely at me, trying to challenge me into a response. I returned his gaze without words.

"And you know something else? I'll be a hell of a lot more of an addition to society than you'll ever be."

"You don't say!"

"I do say. Cause I don't sit around all day worrying about conventions. Melville criticism!" He paused for a moment. "That's the kind of stuff you read. And if you're a good industrious little scholar, maybe some day *you'll* write a goddam book of Melville criticism." He looked with disdain at the book. "You think Melville sat on his ass all day and worried about conventions? Don't you wish you were half the man Melville was?" He had run down now, and he paused to wait for the next idea.

"You know something, Sam? You know something? You want to go through life taking and not paying. You want to get everything for free. You don't want to earn one single experience you have."

"Pay the price yourself. Pay your life away, for Christ's sake. That's what you're doing. Pay it all out and there's nothing left. You can have it, man." He walked to the door, opened it, and held it that way for a moment. "I'm free, man, free." He smiled at me, his eyes gleaming with impish vitality. "See you around." He pulled the door closed behind him.

That was the last time I saw him. I suppose you might say we've gone our separate ways. I left the city a year later, and have been teaching the last five in a good midwestern university. It's not a bad life—wife, two kids, a small home with a mortgage. Every semester eager young faces—not so much younger than mine—welcome me with their sophomoric challenge. Always a few good students come to the office to talk about T. S. Eliot's symbolism or existentialism in *Absalom! Absalom!* Sometimes they just come in to brownnose, but even that can be interesting. In the spring the campus is especially beautiful. The trees seem to get green all at once, and the dogwoods bloom the entire length of the main quadrangle. There are even places to hold an outdoor class.

Last week I got a letter from David, who's in Paris on his honeymoon. He says he met Sam there in one of the American bars. He's living in a fifth-floor walk-up a few blocks from the student quarter. Doesn't seem to be doing anything visible to support himself. But he gets by all the same. Same old Sam. He told David he's written a novel and a book of verse; but he hasn't found a publisher yet for either. Now he's writing another book, but he won't tell anyone what it is. He gave David his address and asked him to have me write when I get the chance. Says he wants to get some letters in English for a change. I suppose I will write him one of these days and tell him what a good prophet he was. I *have* finished a book on Melville, with particular emphasis on his poetry in relation to the imagery in *Moby Dick*. I think it will go a long way toward illuminating the color

symbolism in regard to the whale. The whiteness of the whale in contrast to the deep blue of the sea is especially significant. At any rate, the book will be out shortly. Harvard Press. I guess that's not too bad an achievement, is it?



MORNINGSTAR

Wounded darkness bleeding light,
 Lucifer, the eye of Night,
 That burns before the eye of Day
 Can feel the pain of sight;
 When shadows fall, and close
 The horizon bounds your eye
 (Black trees that feed the rising pyre),
 Turn your eye to passion-fire,
 Burn the darkness of your sky,
 And find Oblivion Dawn.

—Peter B. Murray

"Virgin and Child Enthroned"
by Gerard David c. 1460-1523
—John G. Johnson Collection, Phila.



Richard S. Dunn

CALVIN AND LOYOLA: RIVAL CRUSADERS

■ West Europe throughout the second half of the sixteenth century was a giant battleground fought over by two crusading armies, Protestant versus Catholic. The Calvinists, followers of John Calvin, most militant of the Protestant reformers, were trying to expand the Reformation by gaining control of France, the Low Countries, and the British Isles. The Jesuits, followers of St. Ignatius Loyola, were determined to stamp out the Protestant heresy and restore the seamless unity of the Christian Church. Both sides in this extraordinary contest can be labelled "conservative" in the sense that they were trying to revive the Christian fervor of the bygone Middle Ages. Calvinists and Jesuits alike clung to the traditional medieval belief that no diversity could be tolerated within Christendom. There was only one interpretation of God's commands, only one road to salvation, and only by vanquishing the forces of Satan could Christ's rule on earth be achieved. Yet these sixteenth-century crusaders were by no means trying to turn the clock back four hundred years. What gave the Calvinists and reformed Catholics such dynamic power was their active involvement in the

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world, the expanding, aggressive society of sixteenth-century West Europe. Both sides recognized the new secular forces which were transforming western civilization—overseas expansion to America and Asia, commercial capitalism, the rising wealth of the upper classes (especially the urban middle class), dynastic rivalry, nationalism and state sovereignty—and they harnessed these forces to the service of God. For the last time in West European history, religion was the central animating principle. The headquarters of the two opposing armies symbolized the conflict: austere Geneva, nucleus of international Calvinism, and resplendent Rome, citadel of the reformed Papacy and the Society of Jesus.

Calvinism

If Martin Luther was the creator, John Calvin was the developer of the Protestant Reformation. This truism scarcely indicates Calvin's vital role. For when Calvin joined the Protestant cause in the 1530's, the whole Reformation movement was losing momentum. Luther's challenge to the pope in 1517 had been an electrifying success, and Luther had laid down the basic religious principles which all Protestants would adopt—that man's belief in God is nakedly personal, solely contingent on God's grace, and that God's revealed message in the Bible is open to all believing Christians. Luther's call for the overthrow of the Catholic hierarchy, the Catholic priesthood, the Catholic sacraments, and Catholic monasticism had been eagerly carried out in many parts of Germany and Switzerland. The rulers of England, Denmark and Sweden had followed his example and broken with Rome. Nevertheless, the future of Protestantism was very precarious. Luther had been greatly assisted by the paralysis of papal leadership, now showing signs of recovery. Meanwhile he had not been able to prevent the reform campaign from fragmenting. His teachings were quickly challenged by rival leaders such as Ulrich Zwingli of Zurich, who agreed fundamentally with Luther but quarreled violently over details of doctrine and worship. Moreover, radical Protestants soon appeared, loosely called Anabaptists, who developed Luther's emphasis on the Bible and individual faith into an uninhibited emotionalism or mysticism—far worse in Luther's view than the Roman Church. Lutheranism was always primarily a German phenomenon, and it lost its mass appeal even in Germany when Luther refused to support the social agitation of the downtrodden peasantry. By the 1530's the chief Protestant supporters were kings and princes, many of them not very religious men, who had broken with Rome in order to get control of their local church offices and property. Should the Catholic Church recover enough vitality to convert these German princes and the kings of England, Denmark and Sweden back to Rome, the

whole Reformation seemed bound to collapse. There was desperate need for new recruits—articulate, socially powerful and zealous people—to the Protestant cause, and a new discipline to mold them into a fighting force. Calvin provided both.

John Calvin (1509-1564) was one of the most successful organizers in modern history. Personally he was somewhat unprepossessing, being thin and sickly, with a pale face, scraggly beard, and imperious manner. He was the son of a self-made bourgeois in the French provincial town of Noyon. When his ambitious father found that the boy was a first rate student, he sent him off to the University of Paris, intellectual bastion of orthodox Catholicism. Young John was fourteen years old, which in sixteenth-century educational practice was the normal age for an entering freshman. Calvin's father intended him to become a theologian or a lawyer; he could not foresee how his son would combine the two disciplines. For his part, John wanted to become a Humanistic scholar like Erasmus, and over the subsequent ten years he acquired the necessary linguistic training in Latin, Greek and Hebrew, and read Law as well. He studied in three different universities—Paris, Orléans and Bourges—moving around, like many medieval students before him or twentieth century students after him, to find the instruction and academic climate that best suited him. The contrast with Luther's early career is striking. Though both men were university bred, Calvin's training was much more cosmopolitan and secular. He was far more self-controlled, sharing little or none of Luther's agonized fear of being tortured with eternal hellfire for his sins. In fact, we do not even know when Calvin became a Protestant. The best guess is that in 1533, at age twenty-four, he experienced what he later called a "sudden conversion," or spiritual rebirth. He had an overwhelming conviction of his own helpless depravity and of God's sovereign mercy in redeeming him from Hell and electing him for salvation. Tearing aside Catholic ritual, which he now saw as Satan's device to hide the true knowledge of God, he drew tremendous strength from the belief that he was among the few, the happy few, so liberated. But France in the 1530's was not a safe place for God's elect. Calvin fled to Protestant Switzerland and soon settled at Geneva, a little independent city-state of 13,000 people near the French border.

Calvin imparted a new vigor to the Reformation as early as 1536, the year he first reached Geneva, with the publication of his masterly exposition of Protestantism, *The Institutes of the Christian Religion*. He amplified this work enormously in later editions, without modifying his interpretation. Calvin, like Karl Marx but unlike most other creative intellectuals, had a closed mind—a very advantageous

characteristic for a polemicist. Taking for granted Luther's attack upon the Catholic Church, he set out to formulate a theological system which would rally new recruits to the Protestant cause. The key to this system was Calvin's conception of the sovereignty of God. He argued that in order to comprehend God's absolute and all-pervading power, man must abandon every shred of self-importance or human dignity.

From the feeling of our own ignorance, vanity, poverty, infirmity, and—what is more—depravity and corruption, we recognize that the true light of wisdom, sound virtue, full abundance of every good, and purity of righteousness rest in the Lord alone.

Calvin laid tremendous stress on Adam's disobedience to God and Man's responsibility for his permanent natural wickedness or original sin. Even unborn infants are guilty: "their whole nature is a seed of sin; hence it can only be hateful and abhorrent to God." Thus the corollary to God's total sovereignty is Man's utter depravity. Though Man has the rational ability to understand God's law revealed in the Bible, he cannot fulfill this law unless God frees him from sin by infusing him with grace. Calvin is most famous for his doctrine of predestination—God chooses to bestow grace upon some men, not for their merits but solely by His mercy, and thus elects them to salvation. The sign of election is a "conversion" experience such as Calvin himself had. These predestinated persons are the "elect" or the "saints," the only true Christians. All others, presumably the majority, remain condemned by their wickedness to a Hell horrible beyond imagination.

Calvin's argument is logical and compelling, once his major premises are granted. Perhaps no other Christian thinker has so powerfully evoked the divine majesty. But humanitarians and sentimentalists cannot find much Christian charity in his theology. Calvin taught a God of Will, not of Love. He put more stress than Luther on human crime and punishment, and his doctrine of predestination borrowed heavily from the fifth-century writings of St. Augustine. Calvin is certainly open to the charge of invoking the jealous God of the ancient Hebrews, and forgetting Jesus Christ's redemptive message. Calvin's supporters point out that there are almost twice as many New Testament as Old Testament references in the *Institutes*, but it is perhaps more revealing that Calvin cites St. Augustine as often as he cites the four Gospels. His legalism is conspicuous: Man in his view is a criminal in the dock, judged by God for breaking His law. Yet any reader of the *Institutes* must be impressed by Calvin's ordered system and his precise, cutting style. He wrote the work both in Latin

and in French. During the sixteenth century it was printed twenty-three times in these two languages, and was translated into Italian, Dutch, German and English.

Calvinism was more than a creed; it was a way of life. Calvin himself spent twenty-five years in reorganizing Geneva, and his city became the model for all Calvinists. Geneva in 1560 was a far cry from the charming and cosmopolitan city of today. Built on a hill at the tip of Lake Geneva, encircled like all European towns by formidable ramparts, her tall stone houses were topped by turrets and towers, and the narrow cobbled streets twisted like canyons up to the grim cathedral in the center of town. Even in the sixteenth century Geneva had the reputation of a gay place, but that was before Calvin lived there. He quickly drove out all professing Catholics, and then set up a code of discipline which would keep the remaining inhabitants obedient to the Word of God. In place of the Catholic priesthood Calvin devised four ranks of church officers: the pastors who preached and administered the Lord's Supper, the teachers who educated the young, the deacons who looked after the poor and unemployed, and the elders who watched for immorality and disorder. The pastors and elders together formed the Consistory, a church court which examined offenders and turned them over to the secular arm for punishment. Calvin did not presume to manage civil affairs, but he insisted that the State enforce God's Word, and this made Geneva an effectual theocracy, dominated by the clergy.

John Knox called Geneva "the most perfect school of Christ that ever was in the earth since the days of the Apostles." The citizens feasted on sermons (three every Sunday) in lieu of dancing and play-acting—such wicked practices being prohibited by what we today call "blue laws." Education was of prime importance to Calvin, and he opened the University of Geneva in 1559. Thousands of Protestant refugees came from France, Italy and England. But there was a darker side. Calvin's discipline made heavy use of imprisonment, torture, and capital punishment. During seven years in the 1550's, 620 persons were excommunicated; during five years in the 1540's, 58 persons were put to death. One man was beheaded for scribbling "All nonsense" on the margin of a book by Calvin. The most famous victim of Genevan persecution was Michael Servetus, an extremely radical Protestant and forerunner of modern Unitarianism. Servetus ridiculed Calvin's belief in the sacredness of the Old Testament, and worse yet, he denied the doctrine of the Trinity. Calvin dealt with him just as the Church had always dealt with heretics. When Servetus foolishly came to Geneva in 1553, Calvin brought him to

trial. When Servetus bravely refused to recant, he was burned at the stake, a martyr to the cause of religious liberty.

How could this misanthropic creed, so uncongenial to the modern secular temper, win any adherents, let alone fire up a Protestant crusade? The answer is that Calvinism had no appeal for those who would not or could not rise up to its harsh challenge, but once a man abased himself before God's power and caught the belief that he was chosen for salvation, his exhilaration was strong and lasting. As Calvin himself explained, "when that light of divine providence has once shone upon a godly man, he is then relieved and set free not only from the extreme anxiety and fear that were pressing him before, but from every care." Despite Calvin's stress on human worthlessness, his doctrine spread chiefly among the well-educated rather than the ignorant, the upper and middle classes rather than the peasantry. It was, after all, an exclusive brotherhood, separating the saints from the sinners, the wheat from the chaff. The saints felt stifled by their unregenerate neighbors, and supposed that God wished them to master and reconstruct their corrupt environment. Far from being fatalistic, the Calvinist was intensely active. This is the chief practical difference between Calvinism and Lutheranism. Though Calvin could not begin to rouse Luther's popular enthusiasm, he did convince a high percentage of the West European privileged classes—merchants, lawyers and landowners in France, the Netherlands and Britain—that they were God's elect. These self-professed saints soon proved to be more ardent fighters for the Protestant cause than the kings and princes Luther had relied upon.

If it is hard for the modern student to fathom the militance of Protestantism in the era of religious wars, it is even harder to assess the impact which the Calvinist movement had upon business and politics. Calvin taught that every man's worldly vocation or career was a "calling" assigned to him by God. Does this mean that he created a business atmosphere in West Europe favorable to the great sixteenth and seventeenth century commercial boom? The sociologist Max Weber believed so, starting a seemingly inexhaustible controversy some sixty years ago by arguing that the Calvinistic virtues of discipline, asceticism and industry stimulated the rationally ordered profit-system of modern capitalism. It is no accident, according to Weber, that the hardest-driving businessmen in sixteenth and seventeenth-century Europe lived in Calvinist Amsterdam and London. Weber's critics hotly deny that militant Protestantism engendered the new business ethic. They point out that Calvin himself frowned on commercial capitalism, that Catholic Venice and Antwerp were capitalistic before Amsterdam and London, and that the most intensely

Calvinistic centers (such as Scotland and the rural Netherlands) remained economically backward. Yet there remains a large kernel of truth in Weber's argument, for the dynamism in this religious movement necessarily spilled out into many other aspects of life. It certainly spilled out into politics. Here again there has been much debate as to whether Calvin's church engendered political tyranny or political democracy. The iron discipline and self-righteous zeal smacks of modern totalitarianism, while the mutual covenant binding the community of predestinated saints expresses egalitarian democracy. Calvin himself paid little attention to political theory, and (like Luther) preached obedience to the secular prince. But unlike Lutherans, Calvinists did not prove to be very obedient to their princes. Out of Geneva's priest-ridden, bigoted system there gradually developed theories of constitutionalism, revolution and democracy which have enriched our whole modern world.

The Catholic Reformation

At the same time that Calvin was developing Protestant discipline and élan, his adversaries in Rome were starting a much needed overhaul of the Catholic Church. This process is often called the Counter-Reformation, which implies that the Catholic action was essentially negative, striking back at the Protestants. No prominent sixteenth century orthodox Catholic spokesman was willing to let the Protestants go in peace, nor work for a compromise by which Christians could express diverse doctrinal views and still worship in the same church. Heresy was damnation, the Church had always fought heretics to the death, and this new Protestant heresy must be eradicated as the Arian, Manichean, Pelagian, Donatist, Waldensian, Albigensian, Lollard and Hussite heresies had been previously crushed. But war against heresy was futile until something was first done about the Church's internal mismanagement and spiritual torpor. As events worked out, Protestantism was *not* crushed but Catholicism *was* revived. Thus the term Catholic Reformation is clearly preferable to Counter-Reformation. The central question for students of sixteenth century Catholicism is how the Church leaders managed to revitalize their badly outmoded institution.

It was no easy task. The Catholic Church, despite her millions of devout adherents, long-established administrative hierarchy, vast resources and superb cultural heritage, had been well-nigh paralyzed by Luther's attack. Throughout Germany, Switzerland, Scandinavia and England people became obsessed with hatred of the pope and all his works. Church property was eagerly confiscated by the secular princes. The climax came in 1527 when soldiers of the Catholic

emperor Charles V stormed and sacked the city of Rome. Why was the Church so helpless?

The basic trouble was that the Church was a worldly institution as well as a spiritual one, and her worldly practices in the early sixteenth century disastrously conflicted with her spiritual ideals. For one thing, the Catholic hierarchy administered large and expanding revenues, more easily directed to purely secular purposes than ever before. Whereas in the medieval subsistence economy, ecclesiastical wealth had largely consisted of low-yield or unmarketable real estate such as church buildings and farming lands, in the sixteenth century Church wealth was much more fluid, and lucrative taxes and fees were funneled into the hands of relatively few higher clergy. Thus the new capitalism not only tempted the worldly appetites of the upper echelon among the Catholic priesthood, but it magnified the social stratification within the Church. When the average bishop or cardinal was an aristocrat who bought his office in order to enjoy its large income, while the average parish priest remained an impoverished and ignorant peasant, inspired leadership was necessarily in short supply.

The leading Catholic intellectuals of the early sixteenth century, the Christian Humanists, argued that internal corruption was the Church's one great weakness. In the long run, however, it was easier to combat than the rising power of the new secular sovereign states. The kingdoms of France, Spain and England, as well as the German and Italian princely and city states, had sapped the Church's traditional international authority. The Renaissance popes, the series of pontiffs who ostensibly led the Church between 1447 and 1534, were prime victims of this new secular sovereignty. They tried to stay powerful and independent by building their papal state in central Italy through war and diplomacy. But in fact the pope was now one of many petty princes mired in Italian political intrigue, unable to stand up against a mighty prince like Charles V or Francis I, and unable to control Church offices, property and revenue beyond the Alps. Desperately needing agents on whom they could rely, the Renaissance popes resorted to systematic nepotism, filling every available ecclesiastical post with their own relatives and personal dependents. Unable to see beyond their own city walls, the Renaissance popes put their best efforts into the artistic beautification of Rome rather than the propagation of the one true faith. French or Spanish priests habitually obeyed their king before the Pope; German or English laymen were easily stirred by nationalistic tirades against the wine, women and poison of Rome. Thus the Church, from top to bottom, needed a renewed sense of purpose. If she could not extricate herself from the world, she could

at least reaffirm her spiritual mission. She needed what the Protestants needed—new leaders of high caliber drawn from all Europe, and a new discipline to mold them into a fighting force.

The Church was so inert and so complex that no one man, not even the theoretically all-powerful pope, could change it very much. Pope Paul III (1534-1549) was the first of a series of reforming pontiffs who tried throughout the remaining years of the sixteenth century to repair the damage caused by their predecessors, to revive Catholic zeal, and to crush Protestant heresy. Their achievement was real, but strictly limited. They could check ecclesiastical abuses within the papal territories, restate Catholic dogma, and anathematize Protestantism. But ecclesiastical reform in other states and action against the Protestants continued to depend entirely on the Catholic kings and princes. Even the reform of the Roman curia or court, riddled as it was with scandal and intrigue, was almost beyond the pope's strength. About one quarter of the total papal income was derived from simony (the sale of Church offices), and the entrenched members of the curia clung tenaciously to their perquisites and luxurious habits. The first reforming popes thought it necessary to continue practicing nepotism, sometimes selecting teen-aged boys among their nephews and grandsons as cardinals, because they could find no other way of dominating the papal court. By the late sixteenth century, however, the popes were men of humble origin, divorced from Italian dynastic politics, supported by genuinely spiritual advisors. Not necessarily abler leaders than the Renaissance churchmen, they had the great advantage of being entirely committed to the service of God. Papal wealth no longer seemed too great because it was now applied to religious rather than worldly purposes. The whole Roman moral climate was tremendously improved.

If the Catholic revival was to have any lasting effect, it had to be endorsed by a general church council which would bind all Catholics to a dogmatic statement of doctrine and practice. The Renaissance popes had been terrified of calling a general council. Whenever an international church conclave had met during the fourteenth and fifteenth centuries, the non-Italian prelates had championed their local rights against the pope's autocratic power. The rise of Protestantism encouraged Catholic priests to call more vehemently than ever for the regulation and reduction of the papacy. Most secular Catholic princes hoped that a council would complete the decentralization of the Church, while Protestants looked for doctrinal concessions. Nevertheless, Pope Paul III summoned his cardinals, archbishops, bishops and abbots to meet at Trent on the Alpine border between Italy and the Holy Roman Empire. The Council of Trent met off and on for

eighteen years (1545-1547, 1551-1552, 1562-1563). It was regarded with indifference or contempt by the vast majority of Catholics. Attendance by Spanish, German and French prelates was far below the great medieval church councils, and even the Italian representation was disgracefully small. Only 60 bishops met to discuss the crucial problem of justification—how is Man saved from sin?—whereas 113 bishops were to be found in Rome in 1556, lobbying for preferment. But this negligence permitted Pope Paul III and his successors to steer the Council's actions.

Far from making doctrinal concessions to the Protestants, the fathers at Trent made reconciliation impossible. They glorified the Church's awesome role as Man's intercessor before God, and roundly denounced Luther's and Calvin's argument that Church ritual and superstition hindered Man's salvation. Far from decentralizing the Church, the Trentine decrees magnified the hierarchical authority of pope, cardinals and bishops. The Council recognized that the Church was corrupt and in need of reform. But it would not diminish the Church's spiritual power by renouncing the dispensations and indulgences, or the trafficking in holy relics, which produced large ecclesiastical revenue. Nor would it surrender the Church's secular power by renouncing ecclesiastical property, taxes and fees. On the contrary, the Council of Trent insisted that every existing Church ritual or practice was spiritually efficacious, and any attendant abuses could be rooted out by new disciplinary regulations. The most damaging ecclesiastical abuses were reckoned to be the purchase of office (simony), the neglect of office (non-residence), and the holding of several offices simultaneously (pluralism). The Council's recipe for ending such abuses was to give each bishop larger power to educate, examine and punish all the lower clergy within his diocese. The pope similarly supervised the bishops as well as the members of his Roman curia. No one could regulate the pope, for the fathers at Trent acknowledged that he was superior to a general church council.

The Council of Trent gave the Church new discipline, at considerable cost. Its dogmatic decrees were the theological counterpart to Calvin's *Institutes*, imparting a systematic rigor and clarity to sixteenth-century Catholicism which the Church had hitherto lacked. The intellectual latitude which enabled early Christian theologians to develop ideas akin to Luther's conception of grace or Calvin's conception of election was henceforth impossible within the Roman Church. Catholics were told to treasure every aspect of the Church which the Protestants criticized. Her monopoly on the interpretation of Scripture, her celibate priesthood, her seven sacraments, her Latin translation of the Bible (the Vulgate), her Latin ritual, saints, images,

indulgences and pilgrimages, all were endowed by Jesus Christ. The Trentine fathers recognized the critical need for improved religious education. The average Catholic's massive ignorance made him vulnerable to Protestant propaganda. To train up a more intelligent, articulate priesthood, the Council decreed that every diocese must maintain at least one seminary. To instruct the laity, the Council called for more sermons and catechizing. Despite the Catholic emphasis on Man's natural constructive power (free will) and human achievement (good works), the Church denied that the individual believer has any private right to interpret the Bible for himself, or even to learn about the anti-Catholic point of view. For this reason in 1559 the pope issued his Index of prohibited books which could only be read by the faithful with special permission. The first Index prohibited the complete works of Erasmus—a distinction to be extended over the next four centuries to most other modern creative writers. In 1542 the pope also authorized the Roman Inquisition to search out heretics by examination, torture, imprisonment and capital punishment—like Calvin's Consistory in Geneva. Ironically, the Inquisition's best known victim was not a Protestant but a scientist, the great Galileo, who was forced under threat of torture to recant his belief in Copernican astronomy. Ever since 1517 the Church has carried the scar of her battle against Luther—an intuitive aversion to revolutionary new ideas.

The Council of Trent's reform program disappointed the great Catholic princes, both because it sharpened the Protestant-Catholic conflict and because it tampered with secular authority by reorganizing every episcopal diocese. In the 1560's the Holy Roman Emperor and the king of Spain refused to accept those disciplinary decrees which encroached on their sovereign power, and the king of France rejected the Trentine reforms completely. Naturally the Protestant rulers paid no heed. Secular sovereignty thus limited the immediate impact of the Council of Trent outside Italy. In the long run, however, the Council of Trent was of immense importance, for it provided a permanent platform for modern Roman Catholicism. The papacy found no need to summon another general council until 1870, more than three hundred years after Trent.

The best proof of mid-sixteenth century Catholic revival was the flocking of young men and women into new reforming orders devoted to teaching and preaching. Throughout the Church's long history, ardent Christians had recurrently formed new communities or orders of monks, nuns or priests specially designed to meet pressing current problems. For instance, in the Dark Ages the Benedictines had provided escape from political anarchy for thousands of Christians

who craved repose and spiritual security; in the High Middle Ages the Cistercians and Carthusians had set a high standard of cloistered austerity for those who felt corrupted by Europe's rising wealth, while the Franciscans and Dominicans had gone out into the world, into the growing towns and the new universities, trying to maintain popular religious fervor in a mobile, urban society. In the sixteenth century crisis these long-established orders were significantly not the centers of reforming zeal. Rather, new communities were organized to tackle the acute current problem of Catholic apathy and ignorance. Among these new orders were the Theatines, the Capuchins, the Ursulines, and above all the Society of Jesus founded in 1534 by St. Ignatius Loyola.

The Jesuits were the shock troops of the Catholic crusade. According to the papal bull which instituted the new order, their purpose was "the defense and spread of the holy Catholic faith . . . by preaching, public reading of the Scriptures . . . teaching Christian doctrine to children and the ignorant, hearing confession, and administering the sacraments." Calvin spoke contemptuously of "the Jesuits and like dregs," but the resemblance between Calvinist and Jesuit is a fascinating one. Working from diametrically opposite religious principles, Loyola and Calvin each built a select, cohesive, extroverted band of Zealots.

Ignatius of Loyola (1491-1556) was a small and wiry Spaniard, with the faith of an innocent child and the will power and psychological insight of a master tactician. He was born into an ancient, proud and warlike noble family, and throughout his youth was a soldier, obsessed with the desire to be a famous chivalric knight. In 1521 he was severely wounded in battle, his leg shattered by a cannon ball and further mangled by the clumsy surgeons. Ignatius subjected himself to the excruciating agony of having a protruding stump of leg bone sawed off and the deformed limb stretched on a rack in a desperate effort to regain his courtly physique. He asked for romances to read during convalescence, but the only books in the house were saints' lives, and learning about the tortures these men endured for Christ made him ashamed of his worldly vanity. Rededicating his life to the Church, Ignatius spent several years exploring all the customary avenues of Christian self-abnegation. He punished his body by wearing prickly sackcloth, by scourging, fasting and devotional vigils. He begged for all his food, and distributed most of the alms he received among the poor. He made a pilgrimage to Jerusalem, begging his way across the Mediterranean and back again. None of this seemed to give lasting satisfaction. Up to a point he was being driven like Luther by his guilty conscience, but the outcome of his

spiritual conversion was profoundly different. Loyola concluded that uncontrolled self-mortification and undisciplined introspection were spiritually unhealthy. There must be some more creative use for his ardor and will power, some way to help other Christians and to serve the Church.

Loyola's answer was to found a special society of priests dedicated to Jesus, a carefully chosen band of pious, intelligent and socially well-connected men—persons such as Loyola himself—to be trained into dynamic teachers, missionaries and confessors. The Jesuit hallmark was (and is) emotional and intellectual discipline. Loyola devised a more systematic discipline than was practised by any rival order of monks or friars. Each novice carried out Loyola's famous course of meditations, the *Spiritual Exercises*, which was designed to strengthen the imagination and moral sense while instilling conformity to the will of God and obedience to one's superiors. Loyola also drew up a highly centralized semi-militaristic organization. The head of the Society was appropriately entitled the General. Jesuits took a special vow of obedience to the pope, but otherwise they were independent of every priest outside their own order.

Jesuit militance, autonomy and busy intervention in all phases of Church work aroused deep hostility among many sixteenth-century Catholics. Loyola himself, when he first began teaching in Spain, was twice imprisoned by the Spanish Inquisition, and powerful men in the Roman curia tried to stamp out his movement. But with the reforming popes encouraging the Society, membership grew to 1,000 by the time of Loyola's death in 1556, and to 16,000 by 1624. An even better measure of Jesuit power was the hundreds of schools they established throughout West Europe for the education of boys, especially upper class boys. Loyola wanted to teach children how to rethink accepted truth, not how to search for new truth. Accordingly Jesuit schools taught Latin grammar to exercise the memory, classical literature to facilitate the elegant expression of ideas, and logic to define and defend the authoritative dogmas of the Church. The curriculum was hardly up to date; science, history and modern literature were almost entirely ignored. But teaching techniques were modernized. New textbooks, systematic examinations and thorough class drill produced such impressive results that Protestants sometimes sent their sons to Jesuit schools. The most notable sixteenth-century Catholic missionary was a Jesuit, St. Francis Xavier. Though he was a proud and courtly Spanish hidalgo like his brother Ignatius, Xavier steeled himself to work exclusively among the wretched and ignorant. He even nursed lepers. Sent by the pope to India, he exposed Portuguese brutality toward the natives of Goa, and traveled

as far as Japan converting thousands of Asians to nominal Christianity. Others of Loyola's soldiers fought against Lutheranism in Germany, and against Calvinism in Switzerland, France and England. They made a speciality of serving as confessors to Catholic princes in order to engage the secular authorities in the counter-attack on heresy. To Protestants, "Jesuitical" meant the same thing as "Machiavellian," a curse word for the crafty intrigues and immoral tactics sponsored by these devilish priests.

The Catholic Reformation is symbolized in stone and mortar by the late sixteenth-century reconstruction of Rome, the papal city. With a population of some 40,000, Rome was a smaller place than Venice or Florence, to say nothing of Paris or London. The chief local business was the reception of pilgrims. A Roman census of 1517, listing more than half the adult women as prostitutes, suggests that the pilgrims were not entirely occupied with visits to the holy places. Physically Rome was dominated by the ruined temples, arenas and baths of the ancient imperial capital. The Renaissance popes had been greatly impressed by these pagan ruins, and they had started to rebuild the basilica of St. Peter's in the classical style, modeled on the best preserved antique Roman temple, the Pantheon. Characteristically the Renaissance popes did not make much progress with St. Peter's because they were so much more interested in enlarging and richly decorating the papal Vatican palace. When Paul III came to power in 1534, St. Peter's had stood for many years roofless and half dismantled. The reforming popes ordered construction to proceed on a far grander scale than before. Michelangelo, given charge of the building in 1546, designed a spectacular dome almost three times the height of the Pantheon's. The basilica, when finally finished in the early seventeenth century, was the largest and most majestic church in Christendom. Michelangelo's conception has been repeatedly imitated in public buildings all over the world—by the U. S. Capitol in Washington and most of the American state capitols, to name a few. In keeping with St. Peter's heroic scale, the whole city of Rome was refurbished. Wide new streets opened onto dramatic piazzas, embellished with theatrical public buildings and colorful fountains, all perfectly attuned to the brilliant Roman sunlight. This was the Baroque, an architecture of movement, contrast and show. Among the finest examples of Baroque is the Gesù, the principal Jesuit church in Rome, decorated with a lavish intensity hard to describe. The vaulted ceiling painting depicts ecstatic worshippers straining upward toward the mystical name of Jesus. As in all Jesuit churches, confessionals and pulpit are conspicuous, but the high altar is the focus of attention. St. Ignatius' dazzling tomb, studded with lapis

lazuli and bronze, expresses exultation rather than grief. The statue groups to either side show religion trampling on heresy and barbarians adoring the faith. No longer harking back to pagan classicism, Baroque Rome expressed the power and exuberance of reformed Catholicism.

The battle between reformed Catholics and Calvinists for control of West Europe reached its peak between 1560 and 1600. French Calvinists (known as Huguenots) and ultra Catholics nearly tore their country apart in an endless series of civil wars (1562-1598). Dutch Calvinists opened a forty-year rebellion against their Spanish Catholic king in 1566. In England and Scotland throughout this period Calvinists and Catholics struggled for control. By the close of the century it was apparent that neither side could conquer the other. The French religious wars resulted in a compromise: king and country remained Catholic, with the Huguenot minority granted political autonomy and religious liberty. The Dutch revolt also resulted in compromise: the northern Netherlands became Calvinist and independent, while the southern Netherlands remained Catholic and Spanish. England saw still another compromise: Queen Elizabeth blocked Catholic attempts by Mary Queen of Scots, Philip II of Spain, and Jesuit missionaries such as Edmund Campion to conquer or convert her country. Elizabeth also blocked internal Puritan attempts to make the English church more Calvinistic. It would be a great mistake, however, to dismiss the Calvinist-Catholic conflict as unimportant because neither side won. Though Calvin's and Loyola's religious ideals were quickly diluted and twisted in practice, these sixteenth century crusaders had a strong and lasting effect. They strengthened the moral purpose and community spirit of every West European state. The religious crisis stimulated an articulate urban capitalist class, as well as national consciousness and state sovereignty. Calvin and Loyola contributed in many ways to the strength, wealth and cultural vitality of the Spanish, French, Dutch and English people during the sixteenth and seventeenth centuries.



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