

RELIGION AND CULTURAL EVOLUTION

by Fausto Massimini and Antonella Delle Fave

Abstract. The end of the twentieth century marks the slow disintegration of both the Marxist and capitalist socioeconomic theories, inasmuch as both have proven inadequate to meet basic issues of human existence. Their inadequacy rests on the tendency to use the criteria of extrinsic rewards, quantification, production, and consumption to evaluate human personhood and human activity. What is needed is a third alternative to these two systems, one that is based on intrinsic rewards and cultivates internal values rather than production, consumption, and quantification. Religious communities have traditionally been such an alternative and seem to represent an ordered nucleus of information that can counter the inadequacies of Marxism and capitalism. To carry out this function, religions must (1) minimize the trivial differences that set belief systems against one another; (2) support bimodal cultural evolution that allows the old and the new to coexist; and (3) discover the unifying factors that cut across human groups.

Keywords: cultural evolution; extrinsic/intrinsic rewards; psychological selection; religion; third way.

Editor's Note: The authors wrote this article just a few months before the startling events of 1989–90 that brought sweeping changes to the societies of East Europe. The insights presented here by Massimini and Delle Fave do in themselves throw light on the subsequent historical events, but in a complex and dialectical manner. Since readers can easily interpolate these societal changes into their reading, the editorial staff of *Zygon* decided to publish this provocative paper without change from its original version of Spring 1989.

THE DECLINE OF MARXISM AND THE FAILURE OF CAPITALISM

Students of cultural evolution will look back to the end of the

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twentieth century as the time of gradual disintegration of two great socioeconomic theories, Marxism and capitalism, which for a century had contended to explain human behavior. Marxist theory was translated into reality through various forms of *historical socialism*, whose fundamental principle is the elimination of private property in order to achieve human well-being. However, the expected predictions of the theory have failed to materialize in socialist countries; instead, deficits in several areas have unexpectedly followed the introduction of historical socialism.

Social Equality. Socialist countries show some of the strongest forms of stratification in modern times. Outstanding examples include concentration-camp slavery, feudal systems in relations among social classes, and the privileged position of the dominant bureaucratic families of the Soviet *nomenklatura*. Communist revolutions led to greater massacres than those perpetrated by the Nazis, if one counts the proportion of persons killed to those who survived within a population. For example, it has been estimated that the victims of Stalinism amounted to more than 40 million and that 30 percent of the Cambodian population was exterminated during the Pol Pot regime.

Peace within National Boundaries. Nations run by Communist governments have undergone internal conflicts in which different factions have opposed each other, often for several decades. Examples include Yugoslavia, Czechoslovakia, Poland, and Armenia. Such conflicts have been controlled or throttled by police agencies among the most cruel and powerful in the world, or through the intervention of occupying armored troops against unarmed citizens.

International Peace. According to theoretical expectations, communism was supposed to lead to peaceful cooperation among Marxist countries, which eventually would spread to the entire planet and result in universal peace. In fact, we have witnessed several conflicts, such as the war between China and Vietnam, and skirmishes between Russia and China. In addition, an imperialistic foreign policy resulted in the invasion of Tibet, of Cambodia, and of Afghanistan. The latter adventure alone resulted in over 4 million Afghans in a population of 16 million seeking refuge in Pakistan or Iran (Mo 1987).

Psychological Well-Being. In Marxist dogma, individual well-being is the result of productive work and the merging of personal

goals with community strivings, as interpreted by party ideology. It also involves giving up the various "opiates" that detract from an objective view of material conditions, including religious practices and spiritual beliefs that allegedly stand in the way of the development of social consciousness. In fact, dissatisfaction with work and recourse to alcohol are endemic in many Communist societies; at the same time, religious beliefs survive underground. The clandestine diffusion of religious objects and books almost equals the black market in Western material goods. One of the authors, during a 1980 visit to the Soviet Union, was asked to bring several pocket editions of the Gospels (printed in Cyrillic), and small crucifixes to distribute to people who asked for them. However, Russian border guards were on the lookout to confiscate such contraband because (among other reasons) they can be resold on the black market to Soviet citizens at a good price.

Mental Health. A central tenet of Marxism is that the mind is simply a superstructure built on the social and economic foundations of society. This dogma has become officially institutionalized in Soviet psychology, and even by the Academy of Sciences. It follows from such assumptions that, in a society where private property has been abolished, citizens should become optimistic, peaceful, perfectly healthy, and resistant to competitive capitalist ideologies. In reality, however, socialist countries are plagued by extremely high frequencies of mental illness and an immense network of insane asylums (the psychiatric hospital in Cuba is the largest in all of Central America). New forms of psychoses unknown in Western democracies have been invented. For example, "reformist delirium," a symptom that belongs to the larger class of "heterodox psychoses," is diagnosed when a patient expresses opinions or behaves in ways that contradict the party ideology (Artemova, Rar, and Slavinskji 1971). Thanks to such diagnoses, political dissidents were forced into asylums as psychotics, but Russian psychiatrists were therefore excluded from the International Society for Psychiatry.

Environmental Protection. Socialist democracies, though condemning the technological abuses and environmental pollution produced by the capitalist economy, have never done much to relieve this state of affairs. In fact, the ecology of the industrialized parts of the Soviet Union has been continuously deteriorating, as shown by the chemical pollution of Lake Baikal and the nuclear disaster at Chernobyl.

The weakness of the entire socialist mythology has been revealed as soon as its principles have been applied to real societies. Nor is human aspiration satisfied by the abolition of private ownership of the means of production. In short, historical socialism, advanced as an alternative to the many defects of capitalist society, does not seem to redress the weaknesses it was expected to overcome.

Capitalist societies, or the non-Marxist parts of the modernized world, have never promised to resolve such problems, which are deeply embedded in their competitive tendencies. In fact, the capitalist system in the last twenty years has produced, in addition to greater inequality, internal conflicts, imperialism, violence, and unease, a frightening increase in the degradation of the planet, spurred on by the necessity of producing and selling an ever-greater number of objects of every kind. Alcoholism and drug-induced "escape" have also become more acute.

It would seem that the modern West has little to teach to peoples of the Third World. Indeed, the two great theories it has produced are no longer credible: on the one hand capitalism, with its well-known faults, and on the other hand Marxism, with its many failures. Together, these two ideologies have produced an atomic arsenal that, according to recent estimates, is equal to 4,000 pounds of TNT per person (Cremasco 1983; Leontief and Duchin 1983). However, the two "superpowers" are unable to produce enough powdered milk to keep the children of the Third World alive. The ironic question that one hears in socialist countries, "If socialism is really scientific, how come it wasn't tried out first on rats?" may also be asked of capitalism. In view of atomic stockpiles and the rate of environmental destruction, one might wonder whether it is worth considering the future of cultural evolution at all.

THE POSITION OF THE THIRD WORLD

Since 1945, as the Third World has been undergoing a fast and thorough modernization, every country has had to align itself with one of the two great powers. Even the so-called nonaligned nations, in order to ensure their economic survival, must declare themselves in favor of the dollar or the ruble. Instead of representing a third socioeconomic alternative, they are extensions of one of the two ruling monetary systems.

Even the smallest nations and communities have been assimilated by the two large systems, either directly or through intermediary satellite countries. Nicaragua, for example, which has instituted a Marxist economy, has retained a mental health system designed

along capitalist lines. One of our authors has been involved in opening the psychiatric hospital of Managua, which included releasing patients to the family and community, following the practices of Italian mental health reforms. However, this entailed a long struggle with Marxist theorists and especially the Cuban government, which had been helping Nicaragua financially and was trying to introduce Cuban-style mental health practices, which were modeled on Russian prototypes.

Another example is the Navajo tribe in Arizona. Although decimated by Anglo encroachments on their territories, this tribe has succeeded in reestablishing a more or less sovereign state within the United States and keeping alive an internal tribal organization, with its myths, rituals, and healing ceremonies. Even though the Navajos are trying to counter the materialist orientation of the American life-style with their own ascetic and religious worldviews, they are economically and politically dependent on supports of the federal government. Their traditional sheepherding and farming are not sufficient to produce enough income for a growing population that is integrated into the dollar economy. Thus the Navajos are forced to adapt to the American life-style, which reaches them through the often overpriced consumer goods at the trading posts and through jobs in factories and offices that are often far away from tribal territories, thus accelerating cultural estrangement.

This culture clash among life-styles is responsible for inner confusion and for the demise of old value systems and forms of social organization. The consequences can be seen, first of all, in the individual. For example, alcoholism is constantly increasing among the Navajos (Levy and Kunitz 1974; Topper 1985). Especially for those who work outside the tribal territory, even marginal participation in the modernized culture and the difficulty of keeping one's identity within the tribal culture leads to severe psychological disturbances.

Cultural clash also leads to the disruption of entire cultural systems. For example, the small Neolithic tribe of Kapauku in New Guinea has been using seashells as currency for as far back as memory extends, but with the arrival of the Indonesian government and the importation of modern artifacts and glass beads, the seashells have become devalued. This in turn has led to the destabilization of the socioeconomic system of the Kapauku, which was based on the exchange of wives and pigs as mediated by seashells. Even this minuscule community, living in one of the most isolated backwaters of the planet, lacking knowledge of how to forge metals or bake clay, has been disrupted by modernization.

Similarly, small, helpless Tibetan communities have watched the destruction of their ancient cultural heritage after the Chinese invasion, as thousands of their sacred books were burned in public squares and their temples were made into movie theaters.

Nor should we forget what has been happening in Japan. This basically Buddhist country, at the center of the Eastern dollar market, has been forced to accelerate its cultural transformation. The Japanese worker, who traditionally consumed few resources, had to change into an avid consumer and adopt a hedonist life-style patterned on Western standards. Political economists from Western capitalist countries have applied pressure on the Japanese government to increase its internal demand for consumer products, in order to facilitate the sale of foreign products and thereby decrease the relative value of the yen.

Thus the thrust of cultural evolution has resulted in the two major systems' assimilating even the smallest subcultures of the world, which are often ignorant of the ideological principles that subvert their values. Indeed, no human group has yet been able to escape this influence and create a more hopeful "third way."

SIMILARITIES BETWEEN THE TWO GREAT SYSTEMS

At this point it should be noted that in certain respects the capitalist and the Marxist systems are much more alike than different despite their antagonism, which has resulted in many wars in the forty years since the Korean conflict. This similarity must be understood by anyone who wishes to study cultural evolution and a third alternative.

The main characteristics of the two world systems derive from a common European historical and philosophical matrix, as follows. Rationality is the primary way to order and justify experience, historical events, and even the human being; hence the importance of quantification, as opposed to value or qualitative dimensions, and the emphasis on material goods rather than on spiritual growth and enrichment. Indeed, attention is focused mainly on external and material rewards, as opposed to internal rewards, in guiding human behavior.

The assumption that extrinsic rewards motivate the development of behavior is fundamental to both the Marxist and the capitalist systems. In socialist countries, five-year plans are projected to reach production quotas in various industrial sectors, such as steel, electricity, or automobiles. In capitalist countries, well-being is measured in terms of objects owned, exports, gross national product,

public debt, and so on. The difference between the two systems consists largely in how the objects are manufactured and distributed.

In societies based on the "free market economy," individuals are induced to acquire "needs" that are tied to the consumption of an ever-increasing quantity of objects and to a constant substitution of obsolescent objects with newer and technologically more advanced ones. In socialist countries, an authoritarian regime imposes production *and* consumption, regardless of individual or real needs.

Both systems tend to evaluate social progress in terms of the quantification of objects, and these terms are used as the index of well-being. In contrast to the variety and differentiation that cultures have historically shown, these two modern worldviews endorse similar values underneath their superficial differences. Given this situation, the starting point in the search for an alternative future depends on the answer to this question: Is it possible to measure human well-being in quantitative terms?

A PSYCHOLOGY OF MARXIST INSPIRATION

From the earliest experiments of Pavlov and his followers, Soviet psychology has been based on a theory of extrinsic rewards. Its conceptual inspiration derived from the thesis Marx developed in the so-called German Ideology [Marxism], which asserted that the essence of human beings is their relation to productive forces and to private property. Social relations that derive from a person's economic situation supposedly explain the essential characteristics of each individual.

Such a belief is still strongly rooted. In his report to the Eighteenth International Congress of Psychology in 1966, A. N. Leontjev warned that, below the superficial differences among schools, "the same general theorems guide all of Soviet psychology, and the most important of these is the dialectic materialist theory according to which mental states are reflections of real relationships." E. Lomov, one of the leading figures of contemporary Soviet psychology, repeated Leontjev's concepts at the first Italian-Soviet Congress of Psychology in 1986.

It is impossible to publish a scientific article in a socialist country unless it contains the assumption that material rewards completely shape a person's behavior. A logical consequence is therefore the belief that a child raised in a socialist system will grow up to be a committed socialist; and if this does not happen, it is because he or she was corrupted by external rewards from capitalist sources, or because of organic lesions or physical stress. In the Soviet Union,

these alleged reasons are considered to be the main causes of a psychosis that leads Soviet citizens to be committed to psychiatric hospitals. The consequences of such a theory can be read in psychiatric accounts that have been smuggled into the West. For example, a typical case is that of V.E. Borisov, a young member of a civil rights group, who was repeatedly imprisoned in the Leningrad asylum (from 1965 to 1969) with the diagnosis "organic cerebral lesion with consequent changes in personality" (Artemova, Rar, and Slavinskji 1971).

In socialist countries, children from families belonging to subcultures or social groups of dubious Marxist conviction have often been removed from their parents and sent to special Marxist schools or families for "reeducation." This has happened to Asian and Islamic minorities and currently is a threat to Armenians, who fear that the recent earthquakes provide an excuse for "reeducating" orphans in socialist environments—especially after the protests against the regime that Armenians had voiced just prior to the disaster.

A PSYCHOLOGY OF CAPITALIST INSPIRATION

The psychological assumptions of capitalist countries are not very different from those of Marxist psychology. Starting with Watson and Skinner, the behaviorist school has also emphasized the role of extrinsic rewards. Biologically oriented psychology, as well as ethology and sociobiology, explain behavior in terms of material advantages bearing on survival and reproduction. For instance, altruism is seen as a form of genetic selfishness. When, say, a maternal uncle extends himself for his nephews in a society where paternity is uncertain (as in some Polynesian islands), it is said that the energy he expends is unconsciously invested to the advantage of the replication of those genes he shares with his sister's children. A large number of precise calculations purport to show the value of extrinsic rewards in terms of protein savings, territorial control, and other results of "altruistic" behavior.

Quantification and concern for extrinsic rewards are essential to most theories of social and personality psychology, as well as other social sciences such as anthropology and sociology. Even developmental psychology is heavily dependent on theories that stress the importance of material rewards in learning and in the cognitive and social growth of the child. However, these assumptions are completely opposed to concepts and practices that in other cultures direct the education of the young. In Thailand, for instance, male

adolescents spend their summer vacations in Buddhist monasteries and are allowed to substitute a period of monastic life for military service. Among the Navajo, maturity is based not only on productive capacities but, more importantly, on religious and social maturation. Such cultural systems are not based on activities and goals that tend toward material advantage, but on the cultivation of experiential states connected to the spiritual beliefs of the community.

ROLE OF RELIGION IN HUMAN EVOLUTION

The psychological theories and educational practices produced by the two leading systems have been built on forms of behavior that best fit their requirements, rather than on the entire range of behavior that the human organism is capable of performing. Both Marxist and capitalist psychology have excised the religious, spiritual, and experiential tendencies that attempt to transcend all quantifying and rationalizing ways of thought and that, in the past, have distinguished the evolution of *Homo sapiens*.

Archaeological research has everywhere uncovered traces of religious activity, as far back as the earliest human existence. In the opinion of Leroi-Gourhan (1987), evidence as far back as the early and middle Paleolithic, from 1 million to 35,000 B.C., shows the presence of religious activities in human groups otherwise very dissimilar from us. From even its first appearance, therefore, the human species has developed behavioral acts and artifacts that parallel its control of the natural environment. Moreover, this dual trend appears to intensify the closer we come to the better-documented finds of archaeological research. From Mesopotamia to Cappadocia, from China to Egypt and Central America, excavations have brought to light, in every community, the remains of buildings (generally the most spacious) reserved for rituals. The same is true for artifacts of ritual significance and for written records and icons used in religious ceremonies (which generally constitute the largest part of all objects in the various digs), thus demonstrating enormous psychic and physical "investment" in the religious and ritual components of everyday life. Such an attitude toward the spiritual is still alive in some cultures, for example, in the Neolithic groups in New Guinea and Amazonia.

A particularly interesting case is the Hindu culture of Bali, where even today a huge amount of energy, food, and time is spent in ritual celebrations. As Bateson (1972) noted, "In Bali the moving force of cultural activity is not greed nor crude physiological need . . . a considerable part of daily activity is dedicated to non-productive

work with aesthetic or ritual meaning into which wealth and food are channeled." Clearly, this is a culture where the ultimate goals of life are set by internal rewards. Bateson also notes that activities are appreciated for their immediate merits rather than in terms of future goals: "Sometimes artists, dancers, musicians, and priests receive monetary rewards for their professional performance, but this is rarely enough to repay even the time and the materials used by the artist. The payment is a sign of appreciation rather than a means of economic subsistence . . . similarly there is no return expected for the enormous expense of artistic labor and material wealth involved in the offerings that on every holiday are brought to the temples: the god will not confer any favors in return for the beautiful garland of flowers and fruits that the faithful has woven, nor will he avenge himself if it is omitted. Instead of a future goal there is immediate satisfaction in performing together with other people and with harmony and grace that which is right in every particular context." It is also interesting to note that, as late as a few years ago, the island, with a population of about 30,000, had almost 50,000 temples (Eisemann 1986).

To understand this dimension of behavior, which has always been a strong component in the development of humankind, the social sciences will have to develop a new outlook on what it means to be human. The psychological need that directs behavior to intrinsic rewards has not been recognized sufficiently to date. Indeed, several historical examples illustrate the power of intrinsic rewards in shaping human conduct. (By *intrinsic rewards* we mean a pattern of ordered consciousness that gives meaning and purpose to everyday behavior and is organized around a religious belief, artistic activity, or, more generally, any idea, conviction, or goal that is cultivated by an individual; it results in consistent attitudes and patterns of behavior. A person develops such patterns to be able to experience complex but ordered states of consciousness that are intrinsically motivating and independent of external contingencies.)

It may be useful to cite two examples of the power of intrinsic motivation that show how religious faith may affect decisions and actions. The first is the collective suicide of the inhabitants of Masada in 73 B.C. Surrounded by the Roman army after a year of siege, the 960 inhabitants of the mountain fortress chose to kill each other rather than surrender to the enemy (Yadin 1966). This extreme choice was motivated by the need to remain faithful to an internal pattern that took precedence over survival goals. The second (and similar) instance is the capture of the Italian city of Otranto in 1480 by the Ottoman army of Muhammad II when the eight hundred

surviving citizens were made to choose between being executed or converting to Islam. According to the contemporary historian Laggetto (quoted in Willensen 1980), the inhabitants preferred to forfeit their biological existence rather than betray their cultural heritage and legacy.

From this perspective, religion represents an ordered nucleus of information that is replicated and transmitted in human history throughout every population and group. The occasional attempts to destroy such patterns of order, together with their patterns of ritual, their artifacts, and their behavioral instructions, were usually initiated from above by governments or powerful minorities. (The few exceptions include the attempts at revolutionary government initiated in France after 1789 and the institution of historical socialism at the beginning of this century.) However, despite such attempts, no political system has succeeded in eliminating the intrinsic religious tendency, which survives in more or less clandestine form in even the most rigidly atheistic regimes.

Even though religion seems close to extinction in socialist countries, and despite the materialistic orientation of capitalism, the age-old religious orientation has not been extinguished. In several parts of the world, moreover, it seems to be again in the ascendant. Islamic integralism is spreading not only in Khomeini's Iran but in all those African and Asian countries where Islam has been implanted. Several Arab countries have even changed their constitutions to make Islamic education mandatory for children. As a result, in many schools and universities—a well-known example being Algeria—this ideological change has resulted in large turnovers of instructional personnel. Many technically and scientifically qualified teachers have been replaced by less-well-trained but more religiously committed teachers. It should also be noted that the Soviet invasion of Afghanistan was at least partly “justified” by the necessity to create a barrier of sorts between the Soviet Union and the Islamic expansion that has threatened Marxist hegemony in the southern republics of the U.S.S.R.

In Western countries, several social movements that started as atheistic and leftist ideologies have been infiltrated in the last few decades by values derived from Buddhism and Hinduism. An increasing number of missionaries proselytize both in Europe and the United States in favor of Oriental religions and cults. The number of such missionaries is beginning to approach the number of religious envoys whom the Western countries are sending to the East.

There are also signs that traditional religions are taking a more active role in the public sector. In Italy, for example, for many

decades up to the 1970s, university politics were controlled by students of an atheistic and Marxist orientation. In the last ten years, however, most university groups have been patterned on a strictly religious (and Catholic) orientation, such as the Communion and Liberation movement.

In fact, the beginning of the 1980s has seen a potentially very important departure in the evolution of spiritual conceptions vis-à-vis intrinsic rewards in a number of meetings among leaders of various Christian and non-Christian religions. One of the earliest was in the south Indian city of Cochin, and one of the most recent was the well-publicized conclave at Assisi in 1986, attended by the major religious leaders of the world, including the pope and the dalai lama. Thus the search for an alternative to the bankrupt socialist and capitalist worldviews seems to be uniting not only the many Christian currents but trying to unite them with Judaism, Islam, Buddhism, Shintoism, and Hinduism. It is perhaps significant that the place where this important step was taken is the city of Saint Francis, whose life was devoted to the cultivation of internal rewards, as well as to peace and universal brotherhood.

THEORETICAL DIRECTIONS

The evolutionary trend we have just sketched might become clearer within a theoretical framework, so it is important to define what we mean by *cultural selection*. This process, unique to *Homo sapiens*, is the differential replication of extrasomatic memory—that is, of information recorded outside the brain—starting with the first cave paintings and including stone tools and writing, as well as the most advanced contemporary instruments.

Culturally transmitted information is expressed in two forms: material artifacts and the behavioral instructions that people learn in the course of their lives and store as memories, attitudes, or beliefs. These objects and instructions shape our daily behavior and constitute the second line of inheritance, complementing the first (genetic) inheritance.

Cultural and genetic instructions are transmitted over long periods of time and survive the span of human generations. The relevant unit of replication may be called a *meme* (the cultural parallel of the gene, from the Greek *mimeme*; Dawkins 1976). Again, there are two kinds of memes: those contained in objects that are transmitted from generation to generation through human work, and intrasomatic memes, which are transmitted through imitation and oral traditions.

The paradigm of cultural selection is similar to that of natural

selection; the important differences are due to the kind of information transmitted. In the first place, genetic transmission is completed at the moment of conception, whereas cultural transmission is operative throughout the life of a person. Although both parents contribute equally to genetic inheritance, cultural transmission is often unequal. Genetic transmission relies on the transfer of chromosomes from one generation to the next whereas cultural evolution uses nonbiological memes (even a monk who has chosen celibacy can transmit cultural instructions). Finally, genetic transmission is a system that works "in parallel": there is a single transmission, containing all contributions, that cannot be changed. Cultural transmission works more "in series": gradually, with new contributions added and integrated over time (Richerson and Boyd 1978).

To understand how far this line of evolution has come, consider a survey that found that each American during a lifetime will be served by four hundred electrical "slaves" that add to the comfort of life. Each appliance, moreover, uses some of the resources of the planet, thus competing with human organisms for limited quantities of energy. In the modern world, therefore, cultural selection has become at least as important as natural selection (Csikszentmihalyi and Rochberg-Halton 1981; Csikszentmihalyi and Massimini 1985; Massimini and Inghilleri 1986). One trait that memes seem to share with genes is that both reproduce in a "selfish" way, by tending to take over energy at the expense of competing memes. An example is the competition among consumer goods for a niche in the market.

Moreover, cultural information may work *against* genetic reproduction. At current levels of modernization, which involve the unlimited reproduction of artifacts, a large part of natural selection has already been subordinated to the production and reproduction of artifacts. New hunting weapons are exterminating whales, new means of transportation are destroying the tropical forests, and the tools of humankind are threatening the continuation of *Homo sapiens*. In Europe, for instance, the leading cause of death for those under forty years of age is the automobile.

Figures obtained in 1988 illustrate the environmental threat caused by the uncontrolled reproduction of artifacts. Some 210 tons of oil are burned every second, and 150 tons of carbon dioxide are released into the atmosphere at the same rate. Every year, we emit 700,000 tons of chlorofluorocarbons, mainly in spray cans and refrigerators. Every day, about 60,000 acres of forest are destroyed. Meanwhile, the population of the planet increases; every year, 83 million infants are born.

Considering these trends, one may conclude that cultural selection

is at least as blind as natural selection. While reproduction in the natural world is maintained in dynamic equilibrium by the selective forces of the environment, the reproduction of objects, with the attendant cumulation of toxic gases and wastes, occurs in an increasing *lack* of equilibrium. This process seems to portend the destruction of the human niche, as well as that of all other species.

Unfortunately, both the capitalist and socialist systems are based on maximizing the reproduction of objects, as is evident in their constitutions. For example, the very first article of the Italian constitution reads: "Italy is a democratic republic founded on work," whereas the tenth article of the Chinese constitution says: "The state will gradually improve life . . . by a constant increase of social production." In both camps, therefore, the production of objects is seen as necessary to provide external rewards that will ensure the citizens' cooperation. But the cost of a cultural evolution that is based on material rewards alone is made clear by the evidence of the destruction of the planet.

Reliance on material rewards, however, can be implemented by a third selective system, midway between cultural and natural evolution. This process has been called *psychological selection* (Csikszentmihalyi and Massimini 1985; Massimini, Csikszentmihalyi, and Delle Fave 1986, 1988). It describes the moment-by-moment selective acts that occur every day inside our brain, without which neither our memes nor our genes could reproduce. Genes are reproduced by such behavioral patterns as courting, sexual activity, and care of offspring; memes are reproduced through planning, production, and consumption. Thus genetic and cultural inheritance is implemented day by day, thanks to the mediation of the human mind, which controls these two evolving systems, even though (as we have seen) the control may be exercised blindly. In other words, the two hereditary systems are ruled by the daily investment of attention in the human mind (Csikszentmihalyi 1978).

Attention is a form of psychic energy, and when a person invests a large amount of attention in the planning, production, use, maintenance, and consumption of artifacts, he or she will probably not have enough energy left to invest in other activities—for example, ritual. That, simply, is how psychological selection operates. In a more general sense, we can choose either external or internal rewards, and as history has shown, humans are able to select both kinds. Whether one prefers activities that lead to external or to internal rewards depends in large part on the kind of education and early background a person is exposed to (Csikszentmihalyi 1975, 1982, 1985). In a current study of marriage ceremonies in Thailand

of Islamic, Buddhist, and Hindu couples, we found that the psychological modernity of the partners was inversely related to the complexity of the marriage rituals. From the length of the ceremony one could predict the occupational and educational level of the partners. Conversely, modern Western couples consider time invested in ritual wasted—as so much psychic energy that could have been better spent on work or leisure.

Studies of traditional Italian communities have shown that modernization goes hand in hand not only with attachment to objects, but also with a greater investment of psychic energy in leisure activities, unknown to earlier, more traditional generations (Delle Fave and Massimini 1988). The data suggest, furthermore, that elders show very high levels of involvement, satisfaction, and psychic well-being in doing daily chores in the fields, caring for domestic animals, and keeping up the home. However, their children, and especially their grandchildren, experience well-being almost exclusively in free-time activities that are generally based on the use of consumer objects: motorcycles, stereos, television, sporting equipment, and so on.

Thus the culture within each of the two major socioeconomic systems must be said to control the individual's psychological selection. In other words, people surrender control over their psychic energy and learn to invest attention in the production and consumption of artifacts, in work as well as in leisure. Ideology therefore becomes a self-fulfilling prophecy and the mind becomes a reflection of social and economic relationships, making manipulation of the masses through material rewards increasingly easy.

This tendency, however, is not a necessary characteristic. As we know from archaeological remains and surviving primitive cultures, people have always oriented themselves toward intrinsically rewarding activities while also investing psychic energy in tasks that are necessary for survival. Rather, it is only a temporary tendency cultivated by the two main economic systems, that "socializes" people to invest their psychic energy exclusively in material goals.

In the current culture, the role of churches is to restore ascendancy to psychological selection over cultural selection by regulating the use and consumption of objects, by controlling the interface with the appliances that have come to rule our behavior, and by refuting the worldview that the mind is simply a mirror of external events. The fundamental role of religion is to compete with the processes of psychological selection that focus on material rewards. But to achieve this, the churches will have to change. Their main challenge, it follows, is a systemic, holistic attitude that will overcome the

particularism of their historical heritage while maintaining those differentiations that are part of every evolutionary process.

SOME POSSIBILITIES

At this point we propose an outline of the options (derived from a theory of cultural evolution) that the churches may pursue to influence the future away from ruthless modernization. Indeed, there are several reasons for the necessity of such a pursuit. The first reason is that religion offers one of the few alternatives to the concern for material rewards that saturates our planet. Second, the modern flood of information has brought different belief systems into confrontation with each other. Finally, as we have noted, the hegemony of the existing social and economic systems has thus far precluded humanity from finding a better alternative to dependence on material rewards.

From a theoretical viewpoint, religious innovation would require renewal of the cultural inheritance of each church in terms of the following requirements. To begin with, it is necessary to reduce the pressure of selfish memes, or the tendency to reproduce small differences that set one belief system against another. Although it is true that differentiation is an important survival strategy at the level of both natural and cultural evolution, when carried to extremes it results in ethnocentric and sectarian rigidity that militates against the development of spirituality and sensitivity to intrinsic rewards. For instance, the fact that the memes of Christianity were not reproduced among the Navajo Indians has been attributed to the fact that this population has been confronted by too many competing attempts at conversion by different Christian groups. Thus the attentional processes of the Navajo have been fragmented by sets of similar yet incompatible memes, thereby making it difficult for individuals to apply a coherent selection leading to the cultivation of Christianity.

All too often this tendency toward fragmentation creates divisions even *within* a belief system, weakening its effectiveness. The conflicts within Judaism and Catholicism, as well as the long-standing disputes (if not war) between the Shiite and Sunni versions of Islam, are well-known examples.

A tendency toward internal division is of course present in most religions; the big question, however, concerns the implications of such divisions. Oriental religions, such as Hinduism, usually have great tolerance for divergent practices and do not impose rigid conditions for personal belief and ritual behavior. Christianity, on

the other hand, is rigidly differentiated into subgroups that are opposed to each other more than they are unified by what should be their common faith.

How such conflicts can affect an individual's consciousness is illustrated by the following letter from an American teenager to a Catholic priest, who is also a columnist: "I have gone to Catholic school since the fifth grade. I have gone to mass almost every Sunday since I started in the Catholic school. The only problem is that I am not Catholic—I'm Lutheran. My mother is Lutheran and my father is Catholic. They thought that when I was old enough I could decide for myself. I wonder, can I go to communion in the Catholic church? Is there any way I can stay Lutheran and still be Catholic?"

The author of the column provided the following answer: "There are many similarities between the two churches but there are also some differences . . . Lutherans and Catholics both believe that Jesus is truly present in the Eucharist. I imagine that you share the belief. However, . . . the communion with Christ is also a communion with other believers. It is a proclamation that you share the same faith and hopes. Unfortunately, Catholics and Lutherans do not yet share the same faith and hopes with each other completely. Both groups recognize that, and are working to correct it. But because it is not yet corrected, they have decided that receiving the Eucharist in one another's church is not a good idea. Since communion is the sacrament of unity it is important that those who receive it are truly united in faith. Until the true unity is achieved, intercommunion is not permitted. . . . You should not deny the truth taught in Lutheranism just as you should not ignore the truth taught by Catholicism. But you should know that you can't choose both. . . . You must accept fully one or the other."

An important concept in genetic evolution is *inclusive fitness*, which is the tendency of organisms with common ancestors and a shared genetic endowment to help each other so as to promote the replication of the shared genetic inheritance, even when the helping behavior involves risk to the cooperating individuals. This concept is also applicable to cultural evolution: If the various religions are to make a constructive contribution in the current phase of human evolution, it will be necessary for them to develop a memetic alliance analogous to inclusive fitness. Such an alliance, which has shown signs of having started, involves churches with a similar Christian ancestry; later, it might include religious groups with a different cultural heritage but a similar focus on the importance of intrinsic rewards.

It is also important to support a bimodal approach to the evolution of culture. The introduction of new information and new values into

a culture must take into account the existing system, rather than destroy its structure and contents. It is necessary, in other words, to achieve a *bimodal selection of information*. This term, borrowed from genetics, describes a form of selection in which it is not the average individual at the midpoint of a normal curve who is favorably selected, but individuals at the two opposite tails of the curve. Such a process results in fewer individuals who in the future will display the average trait and more individuals with extreme traits, thus producing a bimodal curve (similar in outline to the humps of a camel).

In terms of cultural evolution, this means that ancient adaptive strategies might survive with modern adaptations, thus enriching the cultural pool and making it more complex and flexible. This type of selection would slow the ruthless modernization (*modernisation sauvage*) that has marked the last few hundred years of history. If this were accomplished, bicultural selection would allow the populations of the Third World to preserve their cultural roots and, at the same time, grow in complexity.

The same argument holds for subcultures within modernized populations. Bicultural selection would mean the cultivation of attentional processes, aimed at intrinsically rewarding goals, so as to provide a counterweight to preoccupation with material success.

Finally, one of the main tasks of religions in the contemporary world is to discover, beyond cultural differences, a unifying factor that cuts across the various groups. This common trait is likely to be a conception of humankind that, instead of being based on quantification and rationalization, recognizes the importance of intrinsic rewards in addition to utilitarian and material advantages.

To discover and achieve this, it will be necessary to revise theories, as well as to conduct studies, in order to compare and interpret religious norms and behaviors as practiced every day in the entire cultural pool. This would involve an enormous panhuman study, both theoretical and empirical, with the goal of identifying fundamental common traits. Such a comparative study of religions would be a great advance over the current fragmentation of belief systems. On one hand, it would add to the complexity and effectiveness of each element; on the other hand, it would promote the common end of an alternative to the channeling of psychic energy into exclusively material goals.

The last great efforts toward a synthesis of human history were accomplished by Darwin, concerning biological evolution, and Marx, concerning cultural history as interpreted from a materialistic perspective. There have been no further attempts at a synthesis of

equal scope, and this is especially true for religion—if we exclude a few exchanges between religious leaders. Most efforts at a religious synthesis have been fragmented because, in general, religions ignore each other and discount their common heritage. Religious memes contain conflicting sacred texts, harsh strictures against heresies, and detailed attention to idiosyncratic or marginal issues, even though all human religions have always been founded on common memes: the institution of marriage, the care of children, the respect for nature (created by God), the husbanding of scarce resources, and so on.

A religious synthesis may be possible at this time because of our vast increase in knowledge about the cultures of the world, including their religious practices. If successful, it would lead to the third great synthesis in the understanding of human nature; and what is more important, it could exhibit the “third way” in human evolution, through which people may find the route to spiritual development and intrinsic rewards.

From a theoretical viewpoint, such a synthesis should not be only synchronic, concerned only with existing religions. It should be diachronic as well, in order to return to the cultural pool forgotten memes that may still contribute useful instructions in our current predicament. We may learn, for instance, from confession as practiced in Zoroastrian religion and described in sacred texts of the fourth and fifth centuries. According to such texts, believers were told to repent for sins against the following entities, in this order: the (nonhuman) animal kingdom, fire in all its manifestations, metals in all their shapes, the earth, water in different forms, and plants in their great variety. To a present-day Westerner, such “sins” may seem bizarre, but Zoroastrian religion held natural objects to be visible symbols of heavenly prototypes. To sin against them was therefore equivalent to sinning against the divine order and, hence, against God. This explains why sins against people are mentioned *after* sins against other external entities. To pollute water or fire meant helping the principle of evil; it meant becoming an ally of the devil in an attack against God’s creation (Zaehner 1975).

Respect for nature is of course central in many other religious rituals. For example, the sixth-century liturgy of Saint John Chrysostom, used by the Orthodox church, starts with the following words: “Let us pray to the Lord for the wholesomeness of the air, for the abundance of the fruits of the earth, and for the orderliness of the seasons.”

The timeliness of such concerns is shown by the fact that in the last several years two of the major rivers in Europe, the Po and the

Rhine, have reached grave levels of contamination. The chemical pollution of water in southern Europe, as part of the pollution of the earth, has gone beyond acceptable levels. Indeed, our economy is based on the "pollution" of fire (chemical combustion), water (groundwater and acid rain), metals (radioactivity), and the animal and vegetable realms (most wild animal species are in danger of extinction, and deforestation is killing trees). If Zoroaster's ancient concerns had been widely reproduced in the cultural pool, the environmental degradation that threatens the human species might not have reached its present state.

Luther's rebellion against the secularization and commercialization of the Catholic church was prompted by a selective reorientation in favor of intrinsic rewards as opposed to external ones. Thus the attention of Christians was refocused on the personal union with God through the cultivation of consciousness, instead of through the mediation of good works and other material efforts.

Evolution consists in creating new information at the genetic and cultural levels and, at the same time, eliminating selected alternatives for various reasons. The synthesis we need for the future will have to pursue the path started at the Assisi meeting of 1986, while taking the past into account. Cultural history is a seamless whole, and by becoming conscious of its ancient, common roots it can become stronger and more self-confident. The "third way" must highlight the importance of wisdom and belief, as well as the realization of internal rewards and the sensible use of material rewards, all of which have always been the common factors that have made the evolution of human consciousness possible.

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