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When modern science excluded teleology from the natural world it dealt a fatal blow to the whole system of the teleological world-view, which leads from the "life" of organic beings in the natural world, to the "soul" and "spirit" or "mind" of man, and, finally, to the "divine" or "God." The world was no longer looked upon as having its ground in what may be called a pre-established harmony of the "internal" and "external"; rather, it came to be looked upon as an "external" world having its own laws in itself and existing only by itself.

Max Planck once said, after touching upon the universal character of the invariables appearing in the laws of heat radiation and gravitation, that if there were creatures endowed with intellect on other planets also, sooner or later they would inevitably have to encounter these same invariables. The natural laws comprehended by natural science have such a cosmic universality. In this scientific view, everything that exists in the universe under the rule of such natural laws is thought to consist of nothing but matter devoid of life and devoid of spirit. Further, in this view, that matter lies, in its usual state, under such conditions as can never constitute an environment for living beings. For its usual state is, for example, an extremely high or an extremely low temperature. The range of the possibility of existence for living beings is like one dot surrounded by a vast sphere of impossibility; one step out of that range and life would immediately perish. Thus, in this understanding, the universe in its usual state comes to be, for living beings, a world of death.

Nietzsche speaks, at the beginning of his Thus Spake Zarathustra, about a camel that goes into the midst of a desert. The

progress of modern science has presented the real face of the world as a desert not inhabitable by living beings; and since, in this world, all things in their various modes of being are finally reduced to elements of matter—to grains of sand of the desert called the physical world—modern science deprived the universe of the character of a "home." Metaphorically speaking, the world has been reduced to something like a greenhouse with all of its windowpanes broken, to an egg with its shell (which constitutes the boundary of its life-environment) thoroughly smashed. Max Planck speaks of this as the modern scientific view of nature completely detaching itself from anthropomorphism; but this also means that science has revealed a world-physiognomy entirely different from that which has been presupposed by most traditional religions.

Thus, directly underneath the field of man's being-in-the-world and of the possibility of that being there has been opened up the field of the impossibility of that being. The field in which man is in the act of dwelling teleologically as an animate being and in the act of living with conscious purpose as a rational being is revealed as merely floating for a brief moment within a boundless, endless, and meaningless world devoid of any telos and governed by mechanical (in the broader sense) laws. Our human life is revealed as established on the base of the abyss of death.

But the destruction of the system of teleology by science does not stop with the nullification and annihilation in their essence of the manifold forms of being and of the manifold functionings of "living" being. The various activities of human consciousness itself come to be regarded in the same way as the phenomena of the external world; they also now become processes governed by mechanical (in the broader sense) laws of nature. In this progressive exteriorization, not even man's thinking activities escape the grasp of the mechanistic view.

This means that all sorts of psychical and mental activity are reduced, together with the manifold modes of being, to a Nietzschean desert. In Buddhist terminology, the world of death comes to be seen through the veil, so to speak, of the five *skandhas* of our existence

(corporeality, feeling, perception, volition and consciousness). In a word, what is called "soul" and what is called "mind" or "spirit" become nullified in their essential mode of being. As a consequence, the concept of God is deprived of its foundation and its content becomes dubious, since it has been the so-called soul or spirit in man which has provided the footing for this concept, and because God Himself has been thought of as "Spiritual," the "Holy Spirit" being a persona in His Trinity. Thus, the denial of the teleological view of the natural world by modern science necessarily results in the collapse of the whole system of teleology extending from the natural world through man to God. This result is what Nietzsche has called the advent of European nihilism. Modern science itself, however, has not traced out this grave consequence arising in the wake of its own activity.

When modern science took the natural world to be self-existing, regulated by its own laws, it did not, as already noted, exteriorize the natural world alone. Its exteriorization was also directed to the field in which the "interior," such as life and mind, establishes itself. The necessary consequence was the annihilation of all sorts of "eidos" (or "substantial form"), that is, not only of the substantiality of visible things, but also of the essence of life, soul, and the spirit.

Science is always outer-directed, facing the external world. In that attitude of science, the field of that which might be called the pre-established harmony between the external and the internal retreats to the rear of the standpoint of science and is always hidden from its perspective. That this must be so is involved in the very essence of the scientific standpoint as such. Science while thus extending through its own activity an effect upon the domains lying at its rear, is not itself aware of this fact. The result is that, on the one hand, scientists destroy the teleological image of the world with its characteristic of being the environment for life and instead present as the true feature of the world material processes without life and spirit and devoid of *telos* and meaning; on the other hand, as human beings engaged in scientific research these scientists are living

personal existence within a world which constitutes an environment for life. Here is found a kind of contradiction hard to describe. Rather than being a fault of individual scientists, this contradiction is natural to science itself, deriving from the nature of the scientific standpoint as such. The same kind of contradiction also appears in philosophy when it assumes the standpoint of "scientism." In such a case, however, the contradiction is not natural, as it is with science proper. Scientific knowledge in its essential structure harbors the certainty that its method of experimental analysis can prevail, at least in principle, throughout the whole realm of natural phenomena. This inbuilt certainty within the structure of scientific knowledge itself is expressed in the scientist as his personal conviction. This conviction is supported by the actual accomplishments of science and by the efficacy of its method as proved by those accomplishments, although, more fundamentally, it is thought in general to rest upon the certainty inherent in mathematical reasoning. This certainty-conviction contained in the scientific enterprise thus necessarily appears in two diverse forms: objectively, in the form of the certainty of factual knowledge; subjectively, in the form of conviction as the immediate consciousness of self-evidence. But the nature of the scientific enterprise itself does not contain the base upon which to ask about the ground of the possibility of the concurrence of these two forms. With this question we move into the dimension of philosophy. It is from this standpoint that the scientific enterprise is seen as naïve.

The scientific enterprise is based, in terms of Hegel's distinction, upon "certainty" and not upon "truth." The so-called scientific truth is, in truth, no more than certainty. This is all right as far as science is concerned. The philosophical standpoint of "scientism," however, takes scientific certainty in itself to be the same as philosophical truth. The philosophical naïveté of the scientific enterprise is thus brought to the seat of philosophical sophistication, and scientific rationality is adopted as the standard for a system of value. In philosophy, this is a dogmatism with which science itself has nothing to do. Because of this philosophical dogmatism there could arise in all the various philosophical positions based on scientism a common

optimism which glorifies one-sidedly the enlightenment of mankind, i. e., the progress of society to be brought about by science and its rationality. This optimism has, however, too shallow a ground. This becomes apparent when we compare the atheism which inevitably accompanies this kind of optimism with the atheism of Nietzsche.

Nietzsche saw in the depths of the same situation which gave rise to scientific optimism the fact that "God is dead," and took this as the highest form of pessimism, that is, as nihilism. He then, through his own suffering of it, transmuted this pessimistic nihilism into what he called "active nihilism." In this active nihilism he was capable of accepting the fact that "God is dead" with the feeling as though a sort of shell in which mankind had been hitherto confined was broken, with the feeling as if the horizon were again looming brightly for an adventurous sailor. He could note his sense of emancipation and his sense of being unburdened, and could note that joyful palpitation one feels when one embarks upon the exploration The profundity of this affirmation of life of an unknown continent. grasped from the bottom of a pessimism, in which man was without hope, is beyond the reach of all "scientistic" philosophies and their atheistic attitude. In this latter atheistic attitude, the question of God is diluted with the question of the "idea" of God, and this idea is then understood as originating from the phantasy of pre-scientific "primitives."

П

Religions have generally held science, the activity of which deals a fatal blow to the teleological world-view and system of value which constitute their foundation, in abhorrence and shunned it as if it were a work of the devil rebelling against God. It is a matter of fact that as a result of science and philosophies, both scientific and "scientistic," the religious sentiment of mankind has been more and more attenuated, and skepticism and indifference toward religious faith have gradually spread. As is well known, this tendency has evoked from the side of religions various attempts at suppression or resistance. (These attempts stand in parallel with the various attempts

by artists to resist the influence of science in defense of their aesthetic sentiments,)

But is the attitude of religions correct when they try to challenge science holding on to their old teleological world-view? Is it not necessary that religions themselves first of all re-examine the basis of their own world-view in order to be able to stay on equal terms with science and to confront it competently? The world in its teleological view is, as stated above, essentially like a hothouse. in the theological view of the world, which puts it under the rule of a divine order, there is fundamentally implied the assumption that this world must have been created as the "home" of man working in this life or at least as a harbor for homo viator. When, however, such a world-view is contrasted with the callous indifference which science shows to be a normal feature of the universe, we can not but say that such a teleological world-view is "human, all too human." It is not yet free from the characterization of the world as seen from "inside," as an environment for life. In many religions, the deity has often been conceived as the bottomless fountain-head of life. The face of bottomless death appearing in the universe seems scarcely ever to have cast its shadow upon those religions.

To provide a way for the resolution of the conflict between science and religion is also the fundamental task of philosophy in modern times. But the philosophical systems which undertook this task were not, on the whole, free from teleological assumptions. Descartes, for example, carried through, in his investigation into physics, the point of view of scientific mechanism and even tried to interpret the various forms of human passion from this point of view. But the metaphysic which constitutes the trunk of the whole system of his philosophy, including his investigations into the physical sciences, is teleologically constructed, being sustained by his proofs for the existence of God. As a result, he was unable to be free from the dualism of res extensa and res cogitans. The same thing can be said as regards the basic standpoint of Kant's philosophy. In his concept of the "thing-in-itself," the whole issue appears in a condensed form. Further, other modern philosophical systems which

endeavored to be monistic on the basis of the absolute nature of God likewise came to be, in general, because of that basis, teleological systems. In short, the various attempts on the part of modern philosophy to bring about a resolution to the conflict between science and religion have thus far yielded unsatisfactory results.

It now becomes imperative for us to consider all the possible consequences which, in the nature of a chain-reaction, may be expected to arise necessarily from the collapse of the teleological world-view. In science as well as philosophy, when it assumes the standpoint of "scientism," all the phenomena in the universe are regarded as reducible to mechanical, material processes which are in themselves purposeless and meaningless; and yet the scientists and philosophers themselves who hold this view are nevertheless living, as human beings, as if their lives had purpose and meaning and as if they were living outside of the mechanical, material universe which they observe. The problem to which we are now exposed, however, does not permit us to rest complacent either with philosophical naïveté, as in the case of the scientists, or with the philosophical sophistication of that naïvete as in the case of the philosophers of "scientism." Nor can we, as philosophers heretofore have done, stop at the stage where we discriminate between the world to be ruled by mechanism and the world to be ruled by teleology, and then either regard the latter as transcending and comprehending the former or try to reorganize the whole system anew into a teleological hierarchy under the absolute nature of God. We must have the courage to admit that the "spiritual" basis of our existence, i.e., the ground from which all the teleological systems in religion and philosophy up to now have emerged and on which they rested, has been completely destroyed, once and for all. Science has descended upon the world of teleology like an angel with a sword, or rather like a new demon with a sword.

For the spirit which has sustained most traditional religions and philosophies, the establishment of modern science means, to use familiar Zen terms, a sort of "destruction of the house and demolition of the hearth," that is, a fatal break-up of the "nest and cave of the

spirit." This event is to be accepted as it is, whether it pleases or not. It is for man an historical "fate," or rather, in Heidegger's term, Geschick. It is a sort of fate which assaults man as a "fatal" question, so that man fundamentally becomes reduced, in his own eyes, once again to a question mark. In this context, the essence of science itself constitutes a problem in a region which goes beyond the region of science itself. The essence of science is not "scientific." The essence of science is something to be questioned in the same region where the essence of man becomes a question to man himself. Of course, the scientist himself may not be aware of this meaning with its grave consequence which the establishment of modern science implies. It is probably the same with philosophers who adopt the standpoint of "scientism." The killing-sword of the new demon which science has evoked must have reached every last one of them. But somehow they on their part may not dare to take it upon themselves to parry the sword. Hence the possibility of their simple optimism acclaiming only the perspective of "progress."

But while this "scientific" philosophy, which wants to philosophize scientifically and objectively about science, may proceed as it will, we can take note of another philosophical attitude which takes upon itself the emergence of modern science as a "fatal" question of the possibility or impossibility of man's own "existence," which dares to think existentially of the essence of science, and to note that this attitude has made its appearance, contrary to our expectation, in seemingly most unscientific and fantastic philosophers. Fr. Nietzsche, for example, discussing in his "A Genealogy of Morals" the basic attitude of modern science, remarks on those who hold scientism: "These trumpeters of reality are poor musicians. As is audible enough, their voices do not rise from the depth; out of them does not speak the abyss of scientific conscience (for today scientific conscience is an abyss); the word 'science' in such trumpeter-mouths being mere ribaldry, misuse, and impudence." What Nietzsche calls here the abyss of scientific conscience does not mean, of course, the

¹ Fr. Nietzsche, A Genealogy of Morals, III. 23 (translated by William A. Hausmann and John Gray.)

conscience of scientists in their scientific enterprise. He is not casting doubtful eyes upon scientists concerning that point. The real issue at stake, when he speaks of the abyss of the scientific conscience, is the question whether or not one pursues the consequence resulting from the establishment of modern science thoroughly and uncompromisingly to the end, whether or not one dares to penetrate down to the dimension where the question of the essence of science itself can be asked—the essence which in itself is no longer scientific. The problem here is the problem of philosophical conscience in inquiring existentially and essentially into what science is.

This means, in other words, to take science upon oneself as a fire with which to purge and temper the traditional religions and philosophies, that is, as a new starting point for the inquiry into the essence of man. It was exactly in this way, as already noted, that Nietzsche actually accepted the historical situation which he characterized with the declaration, "God is dead."

Upon our small planet, nature makes an environment for "life" and makes a base upon which the "soul" and "spirit" interweave strings of historical events. But in the borderless universe outside our globe, the usual state is that of a bottomless death which does not permit the subsistence of "life," the "soul" and the "spirit." This same state also pervades the "underground" of the condition of the life-environment on our own planet. It appears through living beings in their death. From the viewpoint of science, this constant feature of the universe may be regarded as nothing more than a material process, and the death of living beings merely one aspect of the same process. But from the viewpoint in which the essence of science is questioned on the same dimension as the essence of human existence and in which the fundamental attitude of science itself is taken up as an existential problem, this constant feature of the universe and the death of living beings should be taken up in a way totally different from the way in which they are taken up by science. Our conscience on that higher dimension, our philosophical as well as our religious conscience, demands this change of attitude.

It will be clear from what we have discussed thus far that the

fact that the teleological world-view has been excluded by science can not remain simply as such, for it implies the further consequence that the entire teleological system in traditional religions and philosophies has been robbed of its corner stone. What are called life, soul and spirit, including even God, who had been regarded as the ground of their being, have had their "home" destroyed. It is, as has already been suggested, as if the frame of the greenhouse had been thoroughly broken. The human spirit has been deprived of its hearth. A thoroughgoing destruction of his house and demolition of his hearth has befallen man

III

That the usual state of the universe is explained by science in terms of lifeless materiality means for a thinker who faces science existentially, i. e. who accepts it as a problem concerning his own existence as such, that the universe is a field of existential death for himself and for all mankind, a field in which one is necessitated, to use again a Zen term, "to abandon oneself and throw away one's own life," a field of absolute negation. For the explanation of this, an example would be convenient. The eschatological myth of older ages that the cosmos must someday necessarily be burned up in a cosmic fire also entered into Buddhism. Buddhists, however, in their interpretation of this myth have always accepted it on the dimension of religious existence and transformed the idea of the end of the world into an existential problem. Viewed from this standpoint, this world as it is, with the sun, the moon and the numerous stars, with mountains, rivers, trees and flowers, is, as such, the world ablaze in the all-consuming cosmic conflagration. The end of the world is an actuality here and now, is a fact and a fate directly underneath our very feet.

This is well illustrated in the famous Zen koan about Tai-sui¹ and the Kalpa Fire:

A monk asked Tai-sui: "The all-consuming Kalpa Fire now rages;

¹ 大隋. J., Taizui (834-919)

the thousand great worlds all perish. I wonder, does This One perish or not?"

Tai-sui answered: "It perishes!"1

Undoubtedly, the monk meant by the term "This One" the refreshing inner dimension of transcendence which he had realized in himself and in which he had extricated himself from "the burning house of the Triple-World" (i. e., this world). He stood apparently rooted in the firm realization of his "original self" which would not perish even in the face of the destruction of the thousand great worlds. And yet, even that original self is instantly burned up with the one remark of Tai-sui, "It perishes!" "This One," imperishable even in the destruction of the world, still contains in it a tint of "spiritual" realization and is not yet wholly free from the domain of teleology. Even if "This One" should mean an infinite "l'ame ouverte" which exists within an identity with the All, it would still be a standpoint of "inwardness" and to that extent still contain the character of something closed, the character of "nest and cave." Such a "This One" should be broken through and through.

The dialogue between the monk and the master continues:

The monk said: "If so, does it go off following the other?" (The word "other" used by the monk here means the universe in the cosmic fire.)

Tai-sui answered: "It goes off following the other."

"This One" must also follow "the other" and must perish together with the universe in the kalpa fire.

Here the myth of the kalpa fire receives an existential interpretation and is taken as an indisputable actuality by both the questioner and the one questioned. A Buddhistic de-mythologization is carried out here. The same myth of the kalpa fire can, of course, also be interpreted in a scientific way. It is at least possible, scientifically, that the globe on which we live, the moon which scientists today are striving to reach, and the whole cosmos itself might be turned into a huge fire-ball. This possibility can, as one mode of the usual cosmic state of bottomless death mentioned above, be said to

¹ 碧巖集 The Blue Cliff Collection (J. Hekigan-shū).

be already a scientific actuality hidden under the present condition of the cosmos. We can see, for example, in the condition of Hiroshima immediately after the fall of the atomic bomb, a piece of that hidden scientific actuality openly manifesting itself as an actuality in the human realm.

In the above mentioned dialogue, not only was the myth of the cosmic fire dealt with in the same manner as a scientific actuality, i.e. as a process of lifeless materiality and a state of bottomless death, but, furthermore, that scientific actuality itself was accepted as an existential actuality and made the subject of a question and answer on a religious dimension. In the *Blue Cliff Collection*, in which this dialogue is recorded, the following verse is attached:

"A question was raised within the glare of the kalpa fire;
The monk tarries before a twofold barrier."

Thus, the monk's question itself is a question raised amidst the kalpa fire at the end of the world, a question put forth while standing on the dimension where the universe has become a field for the "abandoning of oneself and the throwing away of one's own life." So, too, with the answer. Whereas, as we have said before, modern science has become a dagger of death for teleology, traditional metaphysics, morality, and religion, here in the case of Tai-sui, the same dagger is transformed into a dagger of death in a religious sense. This means, as shall be explained later, that it is transformed into a dagger of death which is at the same time a dagger of life.

Another Zen master T'ou-tzū,¹ when asked a similar question, "How is it at the time of the all-consuming kalpa fire?" replied: "An unspeakably awesome cold!"²

It is not impossible to say that this answer also indicates the ordinary cosmic state of bottomless death. In the universe a terrible heat as well as a terrible cold in which the subsistence of all living beings including man himself (as *animal rationale*) is impossible

¹ 投子, J., Tōshi (819-914).

² 禪林類聚. J. Zenrin-ruijū.

are both equally ordinary. Under such a general situation, an environment which contains various conditions suitable for the subsistence of living beings may be said to be an entirely special place comparable to the afore-mentioned greenhouse. In this sense, the answer. "An unspeakably awesome cold!" just like the all-consuming cosmic fire, may be interpreted as a demolishing of the greenhouse of the teleological world-view and the stepping out into the field of the scientific world-view. It would also be in keeping with common sense to interpret the answer as expressing the state in which all things in the universe have been reduced to cold ashes. But the answer, "An unspeakably awesome cold!" was offered by the master as a reality of religious existence on a dimension higher than that of science or common sense. This answer breaks down not only the teleological view of the natural world but also the whole world of soul, reason, and spirit based upon it, that is, the so-called "intelligible world," and thus, the whole system of teleology. It means a breakingthrough of everything "inner" on all levels—of whatever constitutes greenhouses or "nests-and-caves"; it means the spiritual "destruction of the house and demolition of the hearth." The very procedure of stepping out into the field of the scientific world-view is here translated into a decision to accept the universe with its feature of bottomless death as the place for the abandoning of oneself and the throwing away of one's own life. The life-inhibiting universe of modern science is thereby exposed as a field in which death in the religious sense, or the Great Death at it is called in Zen Buddhism, is to be realized existentially. When he presented the eschatological situation of the world in terms of an unspeakably awesome cold, the Zen master offered to the questioner—and through him to all things in the world—a place for their Great Death. The myth of eschatology was thus de-mythologized and turned into the religiosity of the Great Death of the questioner as well as of the world itself. And this was made possible through the process in which the scientific actuality of the cosmos, or the cosmos in its aspect of abyssal death, was transmuted into the reality of the religious existence of the Great Death. When the scientific world-view is returned to a deeper dimen-

sion in which the essence of science (which is in itself no longer scientific) is questioned in an inseparable correlation with the essence of man and when that world-view is taken on this dimension as a disintegration of one's spiritual household, i.e., as an essential transformation of man and, therefore, as a mode of religious existentiality, then this whole process is also at the same time the process of a thorough de-mythologization of the above-mentioned myth. In the religiosity of Zen Buddhism, de-mythologization of the mythical and existentialization of the scientific are contained in one and the same process. The religious existence in the Great Death makes possible at once the de-mythologizing of the myth of eschatology and the existentializing of the scientific actuality of the cosmos. The answer, "An unspeakably awesome cold!" was a presentation of the end of the world as the place for such a Great Death. It was a thrust of a religious dagger of death to the questioning monk. This presentation of the cosmos containing a terrible cold being transposed to the level of religion could become the brandishing of a religious sword of death and a demand to annihilate one's own self.

IV

On the level, however, where the Zen masters stood when they answered in terms of the cosmic conflagration or the august chill of the spheres, each in his own way thus making the universe under these conditions an expression of himself—or, rather, a revelation of his own selfhood—the sword which kills is at the same time a sword which brings life. In Tai-sui's declaring that the "This One" brought out by the monk must be broken and that "it goes off following the other," there is found what can be called "the Sole One exposing Itself in the midst of all things," exposing Itself in the burning cosmos; or, again, there is found that which can be likened to "a piece of ice glistening in the midst of a fire," glistening in the midst of the kalpa fire which burns up all things. There the universe

¹ A famous Zen saying by Chang-ch'ing 長慶 (854-932).

² Also Chang-ch'ing's saying.

is truly the universe as itself and the kalpa fire is truly the kalpa fire as itself, each of them being respectively in its Aletheia (truth) in the sense in which Heidegger wants to understand the term-in the sense of being unhidden and presenting itself. There the monk in the aforementioned dialogue is also taken in and brought to the dimension where he can find his salvation, the dimension in which he exists truly as himself, in which he is in his Aletheia. The very sword which kills is brandished here as a sword which gives life. Just where everything is negated radically and brought to ultimate extinction—just there, an indication of the life path is given by the master. Something "immortal" or rather, in Buddhistic terminology, something which is "unborn as well as imperishable"—something which lies beyond the duality of life and death, which is increate and immortal-stands there self-exposed. Everything that subsists has its subsistence from the first only through having been taken into this "unborn as well as imperishable," only through having been delivered thereto, preserved there, and saved from dissolution into nothing. But, in order for man to realize the unborn for himself and to give testimony to it, he has to travel the path to it existentially through the Great Death; he must disburden himself of himself, give up his egoistically small self and deliver it up to his "Unborn Self," set himself free from all things as well as from himself, and thus realize in the Unborn his own great Selfhood. Tai-sui existentially indicated this existential path of self-deliverance through his answer, "It perishes!" This may be called the Great Compassion side of Zen Buddhism. The light of the kalpa fire mentioned in the verse, "A question was raised within the glare of the kalpa fire; The monk tarries before a twofold barrier," may be called the shining rays emanating from Tai-sui's body.

To sum up, in Tai-sui both the mythical kalpa fire consuming the whole world and the scientific actuality of the universe comprising a tremendous incandescence stands exposed as an aspect of the reality of religious existence. This exposure, this "grand exposure," is none other than the Truth (*Alētheia*) itself. But in this "Truth in itself," what precisely is the meaning and character of

"truth"?

In the scientific actuality of the universe, the condition in which no living beings can maintain its existence must be regarded as ordinary. The state of an extraordinarily high or low temperature belongs to an aspect of that ordinary cosmic condition. Further, this same condition, which is a scientific actuality of the universe, is hidden behind our world of life-environment which constitutes the stage of the dramas of history and thus has furnished the base for the construction of the teleological world-view or the world viewed from the anthropo-centric standpoint. From all this it can be seen that the idea of the end of the world in the vast kalpa fire ceases to remain a myth and becomes instead an expression of a scientific actuality. As stated above, however, in this eschatological idea there is contained something more than a scientific actuality. The temperature of things, for example, however high or low, is always a quantity which can be measured in terms of number and is therefore finite. Even the kalpa fire must be scientifically of finite temperature. But in the idea of the end of the world, which means the termination of history and therefore the downfall of all kinds of teleological worlds, there is implied something abyssal, something which might be called a bottomless death. In the moment when this end of the world is accepted existentially as an actuality underlying the ground both of our present existence and of our present world, that abyss or bottomless death becomes for us a present actuality. The temperature of cosmic matter can be then accepted as something which could be termed abyssal in spite of its being finite, of its being necessarily finite however extremely high or low. It can be accepted, so to speak, as a bottomless and infinite heat or a bottomless and infinite cold.

The infinite heat here does not, of course, mean a heat which has an infinitely high temperature. Infinity here is not infinity in terms of quantity, but infinity in terms of quality. Such a thing as an infinitely high temperature is absurd and can not exist. Bottomless heat means that in spite of its being quantitatively finite, a heat of a certain temperature is, nevertheless, in its being hot as such,

bottomless and qualitatively infinite. In this sense, as will be subsequently explained, a heat which can be encountered in our environment—e.g., the comfortable warmth of hot tea—can be taken as warmth that is bottomless and infinite in its being warm even as it is appreciated in its mild temperature.

In this dimension of "bottomlessness" (Ungrund), all finite temperatures, regardless of their high or low degrees, can be appreciated each as it is in its respective being. All natural phenomena can be accepted as they are into the dimension of bottomlessness. When they are scientifically reduced to quantitative or even mathematical relations, these relations can also be accepted as they are into the same dimension. Natural phenomena, in whatever forms they may be, do not, of course, cease to be facts. Whether they be in their concrete, natural forms or in the abstract forms they take in the domains, for example, of physics, chemistry, and biology that is, in their abstractions particular to each of these domains, they always retain the character of fact as understood respectively in those disciplines, and in this sense can also gain the character of truth in so far as they are comprehended by those disciplines. This is not neglected when we speak of the dimension of bottomlessness. We only want to point out this dimension as a field in which all natural phenomena are of even more "truth" and of even more "fact," if we are permitted to express the transposition to the qualitative infinity of bottomlessness in this way. Indeed, this dimension is none other than the place where all natural phenomena emerge presenting themselves as they actually are. It can be said to be the place where concrete facts of nature emerge presenting themselves as they actually are and of more "truth" than when they are ordinarily experienced as true facts, and the place where scientific truths emerge presenting themselves as they actually are and of more "fact" than when they are ordinarily thought of as truths concerning facts. There the "vérités des faits" and "vérités éternelles," as they were distinguished by Leibniz, obtain on the same level and enjoy the equal ultimate qualification of being fact and being truth. They all are ultimately pragma and ultimately logos at the same time. But,

as was said before, such a dimension of bottomlessness can open up only through the religious existence which accepts the universe as a field for the abandoning of oneself and the throwing away of one's life; it can open only through the Great Death. Only in this way can the natural facts of the universe and the various forms of their truth be revealed as they really are, only then can they stand, as fact, in the consummation of their factuality and, as truth, in the consummation of their truth-character. When something, whether empirical or scientific, "is," its being always occurs as a presence on the dimension of bottomlessness.

Thus we see that all phenomena in the universe appear in a dimension of bottomlessness, presenting themselves as they really are—things as they individually exist, processes consisting in connections which can be further reduced scientifically to quantitative, abstract relations, the whole of these things and processes subsisting as the universe itself. Nevertheless, the significance of the aforementioned statement that the very dimension of bottomlessness is the Truth (Alētheia) itself is not yet clear. That dimension has been said before to be the field where all phenomena are of even more fact and of even more truth—the field of the Sole Self-exposed One in the midst of all phenomena. This Sole Self-exposed One, then, is there where every phenomenon is even more itself than it is in itself. But what does all this mean? Before we proceed to make this point clear, however, we need first to deal with several other points.

V

So far, we have dealt with the effort of modern science to exclude teleology from both the natural and the spiritual worlds. But upon second thought, it is also an undeniable fact that there are actually various phenomena which have been characterized by such terms as life, consciousness, spirit, etc. This fact is equally as undeniable as the aforementioned vast, boundless "desert" of matter stretching all over the universe. It would be impossible even for science to deny the existence of the world in which living beings are living, adapting themselves to their environment, or to deny the fact that from the

"inside" of some living beings, feeling, emotion, will, and thinking have come to evolve. This is the very world in which flowers bloom, birds fly, and men sing. When spring comes, scientists as well may sing. If, outside our earth, there were different kinds of beings endowed with intelligence and spirituality, developing their own art, philosophy, and religion, then they also might be taken into account here. Such an outlook of the world, which has been the basis upon which the whole system of the teleological world-view has been established, has its origin in the bosom of nature, from which it continually emerges even at present. We may call this teleological outlook of the world, as Theodor Fechner once did, the Tagesansicht (day-aspect) of the world in contrast to the mechanical outlook as its Nachtansicht (night-aspect). This world in its teleological outlook, the world of concrete things such as mountains and rivers, animals and trees, with their various "forms" (eidos), can be reduced, as in the mechanistic world-view, to material processes which can be further described in terms of mathematical formulas. But it can never, in its eidos-varieties, be deduced from material processes. Even though we think that whatever appears in the aspect of eidos (ontological form) can be assumed to be an idea or representation in our consciousness and that all functions of consciousness can be further reduced to activities of the brain cells, the fact remains that a brain and its cells themselves belong to the world of eidos-varieties. Whatever appears in the aspect of *eidos* always presents itself as a whole. Man's intellect also starts from this whole as given, even though it can then analyze this whole into component elements indefinitely. But our intellect is incapable of creating the original whole with its eidos out of the mass of analyzed elements starting conversely with them as something given. Even in those instances where the technics of man seem at first sight to have created some new artificial things which have never been given before in the natural world (for example, nylon, plastics, etc.), even then it is Nature herself that plays the rôle of an original creator, the technical procedure of fabrication only operating to prepare the necessary conditions for her creative power to start. The same may be said in regard to the effort of

scientists today to "create" life, to produce some living being. Everything is, in its aspect of *eidos*, a qualitative and therefore unanalyzable unity; so, too, from the same point of view, any component element of any thing likewise constitutes a qualitative unity. The world when viewed in terms of *eidos* is of an *eidos*-character through and through.

As we have stated above, however, it is on the field of bottomlessness that various phenomena with their eidos-varieties can ultimately prove themselves to be what they truly are in fact and can originally present themselves in the consummation of their fact-andtruth character. In other words, it is the field of emptiness (sūnyatā) or absolute Non-being—or what may perhaps be called the None in contrast to, and beyond, the One-which enables the manifold phenomena to attain their true Being and realize their real Truth. Of course, this field of bottomlessness, or the None, is not something which can somehow be found in front of us, as in the case of our ordinary encounter with things; rather, it is always that which makes up the back of ourselves, who are ordinarily facing "objects" in front. It is, therefore, impossible for us to get to the back of ourselves along the way of object-cognition as followed both in everyday experience and in scientific inquiry, the act of recognizing objects being essentially directed forward. Ordinary self-consciousness, in so far as it is "consciousness," is not yet the true attainment of that back of ourselves, because the self which we grasp in self-consciousness is only an idea or representation of our true self which we grasp as if it were a sort of object. This representation is only a projection of our true self, a projection in the medium of consciousness where our true self does not present itself but is only represented by an idea of itself. In the attitude of object-cognition, we always see and know the objects as they exist both in the field of our environment and, further, in the field of the so-called "objective world," which is, usually, in our experiences and in our science, taken as the world (or the universe) itself. These fields of our environment and of the objective world are assumed to be something which are in extension outside of us, whether "in front of" us or "around" us. In order for

us to get to the back of ourselves, we have no alternative but to resort to an essential turn-about of that attitude and of the mode of being of our everyday experiences and of our scientific inquiries, that is, an essential turn-about of our existence, of ourselves. This turn-about is none other than what we have previously called the Great Death. We also said that it is only through this Great Death that the field of bottomlessness, which we just called the back of ourselves, can be opened up. When opened up, however, this back of ourselves is opened up also as the front of ourselves, but now as a front more forward than the field of our environment or even of the objective world, where "objects" are always encountered in front of us. The field of bottomlessness lies beyond these fields. The field of "the beyond" constitutes the front where things and phenomena present themselves as they appear, i. e., emerge as they are in their true factuality. To get to the back of ourselves is at the same time to go beyond the universe as a world of objects. In the words of an old Zen expression, "Facing to the south I see the Great Dipper." It was in this sense that we said before that the Great Death means to accept the universe as the field of the abandoning of oneself and the throwing away of one's life. There, all phenomena of the universe are accepted on the field of bottomlessness, "being held" to use another Zen expression "in a bottomless basket." Here the red blossom "is" bottomlessly the red blossom and the green willow "is" bottomlessly the green willow.1

The world presenting itself on such a field of bottomlessness lies beyond both the mechanistically viewed world and the teleologically viewed world. It is at once neither of them and both of them. In this world, neither is any living being whatever, with or without a soul or spirit, "reduced" to a material mechanism nor is any material thing whatever regarded as "living," endowed with a "soul." This world is neither the merely "scientific" world nor the merely "mythical" world, neither the world of mere "matter" nor the world of mere "life"; in other words, neither the world merely in its aspect of death nor the world merely in its aspect of life. Although these

[&]quot;The blossom is red, the willow is green" is a popular Zen saying.

conflicting viewpoints, the one towards the positive direction and the other towards the negative, respectively partake of one side of the truth, the truth itself rather demands a single vision that can grasp both sides simultaneously. Zen Buddhists often make use of such expressions as, "A wooden man sings and a stone woman dances" and "Iron trees come into blossom in the spring beyond the kalpas." The wooden man who sings and the stone woman who dances belong neither to the world merely in its aspect of "life" and teleology nor to the world merely in its aspect of "matter" and mechanism. They belong to a world which is beyond these two world-views, to a world where they directly interpenetrate each other and are cancelled, elevated and preserved (aufgehoben in the Hegel's sense). Yet, that world is the actual world as we see it every day, the world in its truth and reality. The spring of this year with its flowers in full bloom is, just in being the spring of this year, presenting itself from beyond the universe, from beyond all kalpas and aeons. Here the cherry-trees standing in full bloom in the garden are as such the "iron trees" in full bloom. We may also say that the actual world with red flowers and green willows is as such the world in its eschatological state, the world ablaze in the kalpa fire. Such a bottomless field should not be thought of as something like mere space. This "field" is none other than the essence of the religious existence itself. This existence presents itself in its true essence only while it emerges as the bottomless field. The world in which iron trees come into blossom in the spring beyond the kalpas, i. e., in which the cherry blossoms in the garden are blooming in the spring of this year (this same fact in its ultimate real truth), is the world on the field of bottomlessness, which is none other than the essence of the religious existence. This field of bottomlessness is the Sole One expressing itself in the midst of all things, as we mentioned above. This Sole Self-exposed One is the Truth (Aletheia) itself. All things give testimony of their ultimate factuality and truth through that Sole One. In order to be complete, however, in our discussion of the essence of the religious existence, we cannot neglect an entirely different aspect of the "Self" which is at once original and ultimate, the "Sole Self-Exposed One in the

midst of all things," a Zen term which we have cited to express the essence of the religious existence. We have said that in this Solely Overt Self all "things" (or phenomena) are attested to in their really factual suchness and come to present themselves as they are in their own ultimate truth. This aspect of the essence of the religious existence cannot be separated from its other aspect which seems at first sight to be contradictorily opposite. Seen from its other aspect, the aforesaid ultimate Self constitutes the field in which all phenomena give perfect testimony to their own character of appearance -appearance in the sense of unreal and untrue representation-and in which they reveal themselves as a veil which covers their own ultimate reality and hides their own ultimate truth by presenting instead an "illusory" similarity of it. What, then, is their own ultimate "reality" which they, as appearances, cover? What is their own ultimate "truth" which they themselves hide? What is covered and hidden there? Or, what is it that does appear in and as those appearances, thereby hiding itself at the same time? It must be none other than that Sole Self-Exposed One, of which we have said that there all things (or phenomena) attain their own ultimate truth and ultimate factuality, meaning that they are therein of more "truth" and of more "fact" even than they are in themselves. The Sole Self-Exposed One is none other than what appears in and as all things (or phenomena), thereby hiding Itself as Itself; so that it makes, by hiding Itself as Itself, all things (or phenomena) Its own "appearances" with their character of unreality and untruth, and at the same time gives to the same appearances, in and as which It appears, the character of truth and reality which all things (or phenomena) have as "facts." These two aspects are essentially inseparable, they constitute one and the same essence of the religious existence. The mechanistic world-view of science, which reduces all things (or phenomena) to material processes, is effected in the direction of the latter aspect, i. e., in the negative direction. It nullifies the substantiality not only of visible things but also of life, soul, and the spirit. It robs them of all their respective "substantial forms." All things (or phenomena) become thus appearances of "matter" or of physical

processes—appearances which are unreal in themselves and irrelevant to scientific truth. Such a standpoint of science, however, is still confined to viewing the world from within the world; it is still "immanent" to the world. It needs to break through itself existentially, attain self-transcendence and become "ecstatic" through the process of appropriating itself existentially. Only when the scientific standpoint steps out of the world and thus also out of itself can it attain its own essence which is no longer scientific. This means that the negative direction, the direction in the aspect of untruth and unreal appearance, is pursued until its end and reaches its own consummation. In this ultimate point, the negative direction converges, so to speak, with the positive—with the direction in the aspect of truth and real factuality. At this point, there is opened up a field in which these two aspects and directions are revealed in their original identity, that is, in which every "thing," every phenomenon, is at once a real fact and an unreal appearance, at once truth and untruth.

Once there came to China an Indian monk who was famous because of his ability to discriminate various sounds and voices.¹ A king invited Hsüan-sha,² a great Zen master of the 9th century, to subject the Indian monk to a test. The master struck an iron kettle with a copper tong and asked the monk: "What sound is this?" The monk answered: "A sound of copper and iron." Hearing this, the master said to the king: "Oh, my king, don't be deceived by strangers."

Now, the monk's answer was entirely right; it was in fact a sound of copper and iron. Why then was it a deception? Isn't it, on the contrary, a real deception to say that a sound of iron is not a sound of iron? Whence came the master's denial of the real factuality and truth of that true fact? It came from the place where that true fact is not ultimately true and ultimately factual, where it becomes untrue and unreal. This place is, however, the place where the same fact is also ultimately true and ultimately factual, that is, the place where the sound is as it is—where the sound sounds as it sounds—originally and ultimately. It was there where Hsüan-sha stood when he

¹ 五燈會元, C. Wu-teng-hui-yüan, J. Goto-egen, Book 7.

² 玄沙. J., Gensha (831-908).

spoke. Rather, the place was none other than Hsüan-sha himself as "the Sole Overt One amidst all phenomena." And it was from there, too, that the sound came.

This is Tathata (True Suchness), as it is called in Buddhism. There, the natural phenomena of a lively man singing and a lovely woman dancing are as such none other than the natural phenomena of a wooden man and a stone woman doing their wooden and stony movements. It is in such a world as this, amidst all phenomena such as these, that the Sole Overt One, the at once original and ultimate Self, exposes Itself. This Self exposes Itself, as in the above mentioned Zen anecdote of Tai-sui, amidst the vast cosmic fire, too. There, the phenomenon called "fire" is of more truth and of more fact than in the domains of science, myth, or the traditional religions. In the anecdote of Tai-sui, the kalpa fire was the "other," following which the "immortal" spirituality of the questioning monk (his own "This One") must go off and perish. This "other" is none other than Tai-sui himself, in whom, as was just said, the fire is of more truth and of more fact—is even more so than it is in itself. There, the fire is in its True Suchness. There, the Sole Overt One is exposing Itself as the Truth Itself. This is, in this anecdote, the Self of Tai-sui which exposes Itself as the ultimate Truth-Untruth of the kalpa fire and as the "other" confronting the "immortal" spirituality of the monk. The same can be said about the Self of the other Zen master who revealed himself as the unspeakably awesome cold amidst the vast kalpa fire. Such is the "scenery" in the essence of the religious existence.

VI

Generally speaking, religions hitherto have shown too much the character of being oriented toward man. Even when "God" or "gods" have been thought about, they have been conceived in such a way that their concern has been exclusively directed to the affairs of a certain nation or of mankind at large. Conversely, man has understood his own relationship to "God" or "gods" solely in connection with his own demands and purposes. Consequently, even when man

has tried to understand himself as man in a religious way, his view-point has been oriented toward himself. This means that the teleological orientation has restricted the base on which traditional religions stand and, consequently, has narrowed their view. In this view, the world has likewise been regarded as being governed by a god who is oriented toward man—as having been given by such a god to a mankind which is oriented toward itself—and as constituting the environment for man.

The Weltanschauung entertained by these traditional religions exhibits a similar orientation. Even when, today, a religious faith pretends to be "theo-centric" and rebukes the "homo-centric" attitude of other faiths, that is, even when God is considered in terms of the "wholly other," is presumed to be utterly transcendent above man and the world, confronting man with His own claims and purposes, with His own providence and economy, instead of complying with man's wishes and purposes, the fact remains that the faith is still essentially man-oriented as long as God with His demands is concerned exclusively about man and his history. Although it is generally in the "mythical" religions that the man-orientedness in question appears in its archetypal genuineness, other forms of religion which have outgrown the stage of myth are also obliged to continue to retain the remnant of a mythical character in their make up, in so far as they are not essentially emancipated from that orientation.

The character of modern science, however, stands in sharp contrast with that of traditional religions. The horizon which is open in front of modern science knows of no limitation by any teleological perspective. The image of the universe it views is totally exempt from the character of an environment for man and is not in any sense man-oriented. As was said before, the universe of modern science is a universe in which prevail physical laws of such universality as would be encountered also by other intelligent species, if any, living on other planets and different from *homo sapiens*. No wonder that natural science has regarded the old teleological world-view as a product of the imagination, and has found in the process of getting rid of that world-view a progress from fancy to science, a movement

of enlightenment from the region of illusion to that of truth. Even the "metaphysics" which had constituted the theoretical foundation of the old world-view, i. e., the philosophical principles of the "physical" sciences, received the same treatment as mythology and mystery. It cannot be denied that, in general, the teleological understanding of the world, including metaphysics, had produced a profound clarity in regard to matters concerning man and of concern to man. As, however, this teleological world-view with its speculations in regard to the natural world was broken down by modern science and its place taken by the mechanistic world-view, its clarification of matters concerning man became, because of its being basically too man-oriented, withal questionable, so that it is now pressed by the necessity of reestablishing itself on the basis of the new image of the universe. The fact that man has become again a question mark means, after all, that traditional religions have become radically problematical.

On the other hand, however, it must be said that modern science, while bringing about brilliant results in its inquiry into the natural world, has been unable to come in contact with the essence of man and has exposed itself as an inadequate way to approach the investigation of man himself. Indeed, side by side with the natural sciences other new branches of science such as the social sciences, sociology, psychology, anthropology etc., have sprung up and have undertaken the study of the various mechanisms of society and its history as well as the mechanisms of the various phenomena of consciousness. All their inquiries, however, do not as such constitute the investigation of man himself. The latter is impossible without an existential quest of man by man himself, because this alone can cut a real way by which to come in contact with the essence of man, a way through which, also, all the results of the scientific research about man and the world can be connected with an investigation of man and can obtain a significance for that investigation. The realization of this, however, has been impeded by the very upheaval wrought by modern natural science as well as by the later establishment of the social sciences. The consequence has been that a confusion has arisen and

still prevails today, a confusion in which those sciences so often mistake man himself to be a mechanism.1 These sciences thus lead man to make the same mistake as regards himself and thus are playing their rôle to dissolve the substantial form of "man," to annihilate the essence of man. There remains, however, one basic question: what on earth is this man himself who is endowed with, among other abilities, the very capacity of inquiring in so scientific a way into the mechanisms of nature, society and human conscioussness? To this question these sciences are unable to answer. If they would answer, there would be no other way for them but to answer by way of again inquiring into the mechanism of nature, the mechanism of society, or the mechanism of consciousness. This means that the very dimension on which that question emerges is closed to those sciences, that they are even denied the access to the possibility of putting such a question. Neither in natural science, which views man as a sort of mechanism of material processes, nor in any other kind of scientific researches at large is there any passage open which can lead to the investigation of man himself. There is inherent in all of these sciences only an orientation towards reducing man finally into a material process of the world. In the last analysis, the mechanistic world-view of modern science is totally incapable of making contact with the investigation of man himself.

What has been hitherto discussed shows how complicated and difficult of solution is the problem under consideration. What is needed is the unification of the two contradictory moments: the scientific view of the universe and the investigation of man himself. What is required is, so to speak, a procedure in which the scientific

¹ Ruskin began his "Unto This Last" (1862) with the following words: "Among the delusions which at different periods have possessed themselves of the minds of large masses of the human race, perhaps the most curious—certainly the least creditable—is the modern soi-disant science of political economy, based on the idea that an advantageous code of social action may be determined irrespectively of the influence of social affection... 'the social affections,' says the economist, 'are accidental and disturbing elements in human nature; but avarice and the desire of progress are constant elements. Let us eliminate the inconstants, and, considering the human being merely as a covetous machine, examine by what laws of labour, purchase and sale, the greatest accumulative result in wealth is obtainable."

view of the universe can become directly a moment in the investigation of man himself and can, in turn, be brought, through the route of the investigation of man, to the ultimate meaning of its own truth. With regard to the former aspect, we have said in this essay that the mechanically viewed universe, into which is finally reduced every sort of mechanism whatsoever, including the mechanism of human consciousness, should be accepted existentially as the field of the Great Death of man, as a field in which "to abandon oneself and throw away one's own life." In regard to the latter aspect, we have indicated that the same universe should be taken as such in the field of "bottomlessness" (Ungrund), while being "contained in the bottomless basket," and that there every phenomenon in the universe emerges as a true fact, presenting itself in its at once original and ultimate character of truth and factuality. From another point of view, what is here required is a standpoint which is beyond the teleological as well as the mechanistic view of the world or, in other words, beyond the two world-images, one the qualitative and consisting of concrete eidos-varieties, and the other the quantitative and yielding to an indefinite analysis. There must, therefore, occur in ourselves an opening up of a new vision in which these opposite (even contradictorily opposite) ways (the positive and the negative) of viewing the world interpenetrate each other and become one selfsame way of looking at the world—a vision that can see "a wooden man sing and a stone woman dance." This is none other than the vision which is inherent in the religious existence embodying the Great Death and the Great Life. The "mental eye" of that vision belongs to "The Solely Overt Self in the midst of all things."

As in the case of science, so religion, also, should not be revelant to man alone. The contents of its teaching should be of such a character as to hold true even for any other species of intelligent beings which might perhaps be living somewhere in the universe; that is, they ought to have a cosmic universality. If other such species of living beings endowed with intelligence should actually exist, they might have environments that are entirely different in their *eidos*-varieties from "our" world, from the life environment of man. They

might also have societies and histories vastly different from those of mankind, and perhaps also a totally different sort of consciousness. (As a matter of fact, even within "our" world all other species such as insects, reptiles, birds or other mammals have, respectively, their own special kind of society and consciousness). But at any rate, the intellect of any imagined beings on other stars would also demand a unity between the teleological view of the world which comprises their environment, society, history, consciousness, etc., and the scientific view of the universe - and this demand would also not be fulfilled until a standpoint is opened up beyond both these views. In short, the basic standpont on which man's religion ought to be established must contain universality similar to that of science. When man's religion can cease to be something referring to man only, it can for the first time become something truly relevant to man. We recognize here an indication of the most essential task confronting all traditional religions. It seems to us, however, that this standpoint of a religion with the above demanded universal character has already been realized in advance, at least basically, in Buddhism, especially in Zen Buddhism, even though there are in Zen, in its traditions and actualities, various points to be amended, complemented, or perhaps radically reformed. We have tried in this essay to suggest tentatively an aspect of Zen which seems to be capable of giving an answer to the problem of "science and religion" and which thus seems to point the future direction that religions today ought to take.

(Translated by Richard DeMartino)