

序:キリスト教思想と自然の問い

Hans-Peter Dürr(hrsg.), Physik und Transzendenz, Scherz 1989

1. Einstein

Science and Religion (I-1939; II-1940), in: Albert Einstein, *Out of my later years*,
The citadel press 1956
pp.21-30

1. During the last century, and part of the one before, it was widely held that there was unreconcilable conflict between knowledge and belief. The opinion prevailed among advanced minds that it was time that belief should be replaced increasingly by knowledge; belief that did not itself rest on knowledge was superstition, and as such had to be opposed.

One will probably find out rarely, if at all, the rationalistic standpoint expressed in such crass form; for any sensible man would see at once how one-sided is such a statement of the position.

those convictions which are necessary and determinant for our conduct and judgements, cannot be found solely along this solid scientific way. (21)

For the scientific method can teach us nothing else beyond how facts are related to, and conditioned by, each other.... it is equally clear that knowledge of what *is* does not open the door directly to what *should be*. ... Objective knowledge provides us with powerful instrument for the achievements of certain ends, but the ultimate goal itself and the longing to reach it must come from another source. Here we face the limits of the purely rational conception of our existence. (21-22)

2. mere thinking cannot give us a sense of the ultimate and fundamental ends. To make clear these fundamental ends and valuations, and to set them fast in the emotional life of the individual, seems to me precisely the most important function which religion has to perform in the social life of man. And if one asks whence derives the authority of such fundamental ends, since they cannot be stated and justified merely by reason, one can only answer: they exist in a healthy society as powerful traditions, which act upon the conduct and aspirations and judgments of the individuals; they are there, that is, as something living, without its being necessary to find justification for their existence. They come into being not through demonstration but through revelation, through the medium of powerful personalities.... The highest principles for our aspirations and judgments are given to us in the Jewish-Christian religious tradition. It is a very high goal which, with our weak powers, we can reach only very inadequately, but which gives a sure foundation to our aspirations and valuations. (22-23)

There is no room in this for the divinization of a nation, of a class, let alone of an

individual. Are we not all children of one father, as it is said in religious language? Indeed, even the divinization of humanity, as an abstract totality, would be in the spirit of that ideal. (23)

3. what we understand by science. Science is the century-old endeavor to bring together by means of systematic thought the perceptible phenomena of this world into as thorough-going an association as possible. To put it boldly, it is the attempt at the posterior reconstruction of existence by the process of conceptualization.

4. the aspirations of a person who gives me the impression of being religious:

to be one who has, to the best of his ability, liberated himself from the fetters of his selfish desires and is preoccupied with thoughts, feelings, and aspirations to which he clings because of their super-personal value. It seems to me that what is important is the force of this super-personal content and the depth of the conviction concerning its overpowering meaningfulness, ... a religious person is devout in the sense that he has no doubt of the significance and loftiness of those super-personal objects and goals which neither require nor are capable of rational foundation. They exist with the same necessity and matter-of-factness as he himself. In this sense religion is the age-old endeavor of mankind to become clearly and completely conscious of these values and goals and constantly to strengthen and extend their effect. (24-25)

5. If one conceives of religion and science according to these definitions then a conflict between them appears impossible. (25)

Now, even though the realms of religion and science in themselves are clearly marked off from each other, nevertheless there exist between the two strong reciprocal relationship and dependencies. Though religion may be that which determines the goal, it has, nevertheless, learned from science, in the broadest sense, what means will contribute to the attainment of the goals it has set up. But science can only be created by those who are thoroughly imbued with the aspiration towards truth and understanding. This source of feeling, however, springs from the sphere of religion. To this there also belongs the faith in the possibility that the regulations valid for the world of existence are rational, that is, comprehensible to reason. I cannot conceive of a genuine scientist without that profound faith. The situation may be expressed by an image: Science without religion is lame, religion without science is blind. (26)

6. During the youthful period of mankind's spiritual evolution human fantasy created gods in man's own images, who, by the operations of their will were supposed to determine, or at any rate to influence the phenomenal world. (26)

Nobody will deny that the idea of the existence of an omnipotent, just and omnibeneficent personal God is able to accord man solace, help, and guidance. (26-27)

The main source of the present-day conflicts between the spheres of religion and of science lies in this concept of a personal God. (27)

To be sure, the doctrine of a personal God interfering with natural events could never be *refuted*, in the real sense, by science, for this doctrine can always take refuge in those domains in which scientific knowledge has not yet been able to set foot. But I am persuaded that such behavior on the part of the representatives of religion would not only be unworthy but also fatal. (28)

7. In their struggle for the ethical good, teachers of religion must have the stature to give up the doctrine of a personal God, that is, give up that source of fear and hope which in the past placed such vast power in the hands of priests. In their labors they will have to avail themselves of those forces which are capable of cultivating the Good, the True, and the Beautiful in humanity itself.

refining process

true religion has been ennobled and made more profound by scientific knowledge. (28-29)

8. If it is one of the goals of religion to liberate mankind as far as possible from the bondage of egocentric cravings, desires, and fears, scientific reasoning can aid religion in yet another sense.... Whoever has undergone the intense experience of successful advances made in this domain, is moved by profound reverence for the rationality made manifest in existence. By way of the understanding he achieves a far-reaching emancipation from the shackles of personal hopes and desires, and thereby attains that humble attitude of mind towards the grandeur of reason incarnate in existence, and which, in its profoundest depths, is inaccessible to man. This attitude, however, appears to me to be religious, in the highest sense of the word. And so it seems to me that science not only purifies the religious impulse of the dross of its anthropomorphism but also contributes to a religious spiritualization of our understanding of life.

The further the spiritual evolution of mankind advances, the more certain it seems to me that the path to genuine religiosity does not lie through the fear of life, and the fear of death, and blind faith, but through striving after rational knowledge. (29-30)

2 .Max Jammer, *Einstein and Religion. Physics and Theology*, Princeton University Press 1999

young Albert's religious enthusiasm (16)
the pure joy of Nature, music

Music, Nature, and God became intermingled in him in a complex of feeling, a moral unity, the trace of which never vanished, although later the religious factor became extended to a general ethical outlook on the world. (18)

"I came --- despite the fact that I was the son of entirely irreligious (Jewish)

parents --- to a deep religiosity." (19)

He learned to respect sincere religious convictions of whatever denomination, (22)

"No one can read the Gospels without feeling the actual presence of Jesus. His personality pulsates in every word. No myth is filled with such life." (22)

"Through the reading of popular scientific books I soon reached the conviction that much in the stories of the Bible could not be true. it was a crushing impression. Suspicion against every kind of authority grew out of this experience, a skeptical attitude towards the conviction which were alive in any specific social environment. " (25)

In the late 1940s, reminiscing about his juvenile religious fervor, Einstein offered a philosophical explanation of his estrangement from traditional religion. (28)

"a first attempt to free myself from the chains of the "merely personal," from an existence which is dominated by wishes, hopes, and primitive feelings." (28)

Such a conclusion seems to support the thesis that science and religion are irreconcilable antagonists. But Einstein never conceived of the relation between science and religion as an antithesis. On the contrary, he regarded science and religion as complementary to each other or rather as mutually depending on each other, a relation that he described by the metaphor quoted above, "science without religion is lame, religion without science is blind." (31)

" I am of the opinion that all the finer speculations in the realm of science spring from a deep religious feeling, and that without such feeling they would not be fruitful." (32)

"There is no logical way leading to the establishment of a theory but only groping constructive attempts by careful considerations of factual knowledge." (38)

He acknowledged repeatedly that the empiricism of Hume and Mach had deeply influenced his early work on relativity. (40)

he had studied Hume's Treatise of Human Nature "with fervor and admiration shortly before the discovery of the theory of relativity.

a teenage Einstein had studied Immanuel Kant's Critique of Pure Reason.

Einstein said that " the eternal mystery of the world is its comprehensibility." He declared, "It is one of the great realizations of Immanuel Kant that the setting up of a real external world would be senseless without this comprehensibility." (42)

Rejecting the traditional theistic concept of God, Spinoza denied the existence of a cosmic purpose on the grounds that all events in nature occur according to immutable laws of cause and effect. The universe is governed by a mechanical or mathematical order and not according to purposeful or moral intentions. Though he employed the notion of "God," Spinoza applied it only to the structure of the impersonal cosmic order and declared that "neither intellect nor will appertain to God's nature." He therefore denied the Judeo-Christian conception of a personal God. (43-44)

What is commonly called "God's will" is identical with the laws of nature. (44)

"Spinoza was the first to apply with strict consistency the idea of an all-pervasive

determinism to human thought, feeling, and action." (45)

God as an abstract entity in accordance with the biblical "Thou shalt not make unto thee a graven image, or any likeness of any thing" (Exodus 20:4) and in accordance with Maimonides' Third Principle of Faith, "I firmly believe that ... no bodily accidents apply to Him, and that there exists nothing whatever [that] resembles Him." (47)

I am fascinated by Spinoza's pantheism, but admire even more his contribution to modern thought because he is the first philosopher to deal with the soul and body as one, and not two separate things. (48)

"I believe in Spinoza's God who reveals himself in the orderly harmony of what exists, not in a God who concerns himself with fates and actions of human beings." (49)

Einstein always made a sharp distinction between his disbelief in a personal God and atheism. (50)

the term "cosmic religious feeling" to describe the emotional state that one experiences when one recognizes the "futility of human desires and the sublimity and marvelous order which reveals itself both in nature and in the world of thought." (52)

This Spinozistic tenet underlies Einstein's epistemological realism, his belief that a rational explanation of the universe is possible, his belief in the "mysterious comprehensibility of the world." (52)

Einstein's persistent objection to the new quantum mechanics, on the grounds that "God does not play at dice," was, at least to some extent, religiously motivated. (58)

the so-called "cosmological constant," in order to obtain a static unchanging universe...In accordance with Spinoza, Einstein interpreted the term "endure" in the verse "the Heavens endure from everlasting to everlasting" in the sense of an immutable existence. (63)

Einstein's religion was based on a firm belief in determinism and in an uncompromising denial of any anthropomorphism and anthropopathism in the notion of God. Einstein could have regarded his radical anti-anthropomorphism as a logical consequence of the biblical anti-iconic Second Commandment of the Decalogue. He greatly respected Maimonides (Moses ben Maimon), the foremost Jewish philosopher of the Middle Ages. (74)

Einstein's concept of God, not unlike Spinoza's concept of a triangle, does not admit any mental image; God can be conceived only through the "rationality or intelligibility of the world which lies behind all scientific work of a higher order." (75)

"What a deep conviction of the rationality of the universe [the Spinozistic-Einsteinian expression for religiosity] ... Kepler and Newton must have had to enable them to spend years of solitary labor in disentangling the principles of celestial mechanics!" (55)

Einstein never said that his religious feelings strengthened his capability to work, unless we interpret his dictum "Science without religion is lame" in that way. (55-56)

Einstein calls this first stage of the development of religion "the religion of fear."

the human mind created imaginary beings

The second stage in the development of religion is "the social or moral conception of God," which arises from the "desire for guidance, love, and support." It is the God who rewards and punishes.... The Old and New Testaments are for Einstein an admirable illustration of the transition from the religion of fear to the gradual predominance of the religion of morality, which still adheres to an anthropomorphic conception of God. (77)

The third stage of religious experience, which Einstein calls "the cosmic religious feeling," is "very difficult to elucidate.... to anyone who is entirely without it, especially as there is no anthropomorphic conception of God corresponding to it." (78)

the sublimity and marvelous order which reveals themselves both in nature and in the world of thought.

he wants to experience the universe as a single significant whole. (79)
cosmic religious feeling

Was Einstein a mystic ?

"The mystical trend of our present time, showing itself especially in the exuberant growth of the so-called Theosophy and Spiritualism is for me only a symptom of weakness and confusion." (126)

feeling of awe / a feeling of humility

"humility" has nothing to do with mysticism. (126)

Some similarity between Schleiermacher's and Einstein's philosophy of religion is to be expected because, like Einstein, Schleiermacher was greatly influenced by Spinoza. (129)

He consequently lost faith in the Bible and renounced his erstwhile religiosity as naive. We can therefore safely conclude that Einstein's more mature thinking about religion began with an intense aversion to anthropomorphism. (141)

Moses Maimonides

the three fundamental truths of religion are the existence, unity, and incorporeality of God. (142)

To sum up, Einstein, like Maimonides and Spinoza, categorically rejected any anthropomorphism in religious thought. Like Spinoza, Einstein regarded the idea of a personal God as an anthropomorphism. Unlike Spinoza, who saw the only logical consequence of the denial of a personal God in an identification of God with nature [deus sive natura], Einstein maintained that God manifests himself "in the laws of the Universe as a spirit vastly superior to that of man, and one in the face of which we with our modest powers must feel humble." Einstein agreed with Spinoza that he who knows Nature knows God, but not because Nature is God but because the pursuit of science in studying Nature leads to religion. In the terminology of theology, Einstein's religion may therefore be called a naturalistic theology according to which knowledge of God can be obtained by observing the visible processes of nature, but with the proviso that the

manifestation of the divine in the universe is only partially comprehensible to the human intellect. (148-149)

3 . Tillich

Science and Theology: A Discussion with Einstein (1940), in: Paul Tillich, *Theology of Culture*, Oxford University Press 1959, pp.127-132

1. Einstein attacked the idea of a Personal God from four angles: The idea is not essential for religion. It is the creation of primitive superstition. It is self-contradictory. It contradicts the scientific world view. (127)

(1)

(2) in order to be abused it first must have been used. Its abuse does not tell anything about its genesis. ... Mythological phantasy can create stories about gods, but it cannot create the idea of God itself, because the idea transcends all the elements of experience which constitute mythology. (128)

(3) This criticism presupposes a concept of omnipotence which identifies omnipotence with omni-activity in terms of physical causality. But it is an old, and always emphasized, theological doctrine that God acts in all beings according to their special nature; ... The symbol of omnipotence expresses the religious experience that no structure of reality and no event in nature and history has the power of removing us from community with the infinite and inexhaustible ground of meaning and being... If the idea of omnipotence is taken out of this context and transformed into the description of a special form of causality, it becomes not only self-contradicting -- as Einstein rightly states -- but also abused and irreligious. (128-129)

(4) Methodological remarks:

Theology must leave to science the description of the whole of objects and their interdependence in nature and history, in man and his world. And beyond this, theology must leave to philosophy the description of the structures and categories of being itself and of the logos in which being becomes manifest. Any interference of theology with these tasks of philosophy and science is destructive for theology itself.

we must ask every critic of theology to deal with theology with the same fairness which demanded from everyone deals, for instance, with physics..... (129)

2. The concept of a "Personal God," interfering with natural events, or being "an independent cause of natural events," makes God a natural object beside others, an object among objects, a being among beings, maybe the highest, but nevertheless a being. This, indeed, is the destruction, not only of the physical system, but even more the destruction of any meaningful idea of God. (130)

3. The manifestation of this ground and abyss of being and meaning create what modern theology calls "the experience of the numinous." Such an experience can occur in connection with the intuition of the "grandeur of reason incarnate in existence"; it can

occur in connection with the belief in "the significance and loftiness of those suprapersonal objects and goals which neither require nor are capable of rational foundation," as Einstein says.... In such experience religion lives and tries to maintain the presence of, and community with, this divine depth of our existence. But since it is "inaccessible" to any objectifying concept it must be expressed in symbols.

One of these symbols is Personal God.

the predicate "personal" can be said of the Divine only symbolically or by analogy or if affirmed and negated at the same time. It is obvious that in the daily life of religion the symbolic character of the idea of the Personal God is not always realized. This is dangerous only if distorting theoretical or practical consequences are derived from the failure to realize it. Then attacks from outside and criticism from inside follow and must follow. They are demanded by religion itself. Without an element of "atheism" no "theism" can be maintained. (130-131)

4. why must the symbol of the personal be used at all ?

The depth of being cannot be symbolized by objects taken from a realm which is lower than the personal, from the realm of things or sub-personal living beings. The supra-personal is not an "It," or more exactly, it is a "He" as much as it is an "It," and it is above of them.

such a neutral subpersonal cannot grasp the center of our personality; it can satisfy our aesthetic feeling or our intellectual needs, but it cannot convert our will, it cannot overcome our loneliness, anxiety, and despair. For as the philosopher Schelling says: "Only a person can heal a person." This is the reason that the symbol of the Personal God is indispensable for living religion. (131-132)

4 . Schleiermacher Über die Religion, 1799 (PhB)

Ihre Wesen ist weder Denken noch Handeln, sondern Anschauung und Gefühl.

Anschauen will sie das Universum.(29)

Alle Begebenheiten in der Welt als Handlungen eines Gottes vorstellen, das ist Religion.(32)

Alles was ist, ist für sie notwendig, und alles was sein kann, ist ihr ein wahres unentbehrliche Bild des Unendlichen.(37)

jede Anschauung ihrer Natur nach mit einem Gefühl verbunden ist.(37)

Doch dies mögen nur unvollständige Begriffe von Gott sein, laßt uns gleich zu dem höchsten gehen, zu dem von einem höchsten Wesen, von einem Geist des Universums, der es mit Freiheit und Verstand regiert, so ist doch auch von dieser Idee die Religion nicht abhängig. Religion aben, heißt das Universum anschauen, und auf der Art, wie Ihr es anschuet, auf dem Prinzip, welches Ihr in seinen Handlungen findet, beruht der Wert Eurer Religion. Wenn Ihr nun nicht leugnen könnt, daß sich die Idee von Gott zu jeder

Anschauung des Universums bequem, so müßt Ihr auch zugeben, daß eine Religion ohne Gott besser sein kann, als ein andre mit Gott. (70)

ob er zu seiner Anschauung einen Gott hat, das hängt ab von der Richtung seiner Phantasie. ... so wird sie (Phantasie) den Geist des Universums personifizieren und Ihr werdet einen Gott haben; (71)

Gott ist nicht Alles in der Religion sondern Eins, und das Universum ist mehr. (73f.)

5. 分析

宗教と科学

人格神・神人同形論批判

人格神・神人同形論批判の真理契機と宗教的象徴論

人格概念再考: 関係概念としての人格性