

AN EXPLOSION OF DAZZLING FLASHES: TEILHARD'S UNITY OF FAITH AND SCIENCE

by *Thomas M. King*

Abstract. Science and revelation have been presented as two books with the same "author," their reconciliation being called "concordism." Teilhard opposed concordism, insisting that supposed "revelations" be treated as scientific hypotheses to be verified or not in experience. Applying his criterion for truth (Does it bring "coherence and fecundity" to the phenomena?) to Christian revelation, he told of finding "an explosion of dazzling flashes." So Teilhard spoke of the hypothesis as the supreme spiritual act wherein the dust of experience takes on form and is kindled at the fire of knowledge.

Keywords: Archimedes; concordism; Galileo; Pierre Teilhard de Chardin.

Teilhard has told of proposing to his director of novices that he give up science to confine himself to purely religious concerns. He was instructed to continue both interests. So, he recalled, he walked out of the director's door firmly holding both ends of string: earthly science was in one hand and heavenly revelation was in the other, and he was pulled in both directions. Later, he would speak of these attractions as the two foci of his soul, or as two stars, or of two attractions drawing himself and others in opposing directions. He would often pick up the image of two hands holding seemingly opposing values (see DM, 52; HE, 159; AE, 279).¹ "On the one hand, the risen Christ of the Gospel. . . . On the other hand . . . evolution." This image of the two hands, here one holding to the Revealed Word and the other holding the Experimental World, will be used abundantly in the following essay.

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Teilhard also told of a reconciliation; he called it the great event of his life (AE, 381). He wrote about it in striking language: the Revealed Word united with experience in “an explosion of dazzling flashes,” produced “a global conflagration” (HM, 50). The two had “a truly implosive meeting,” wherein the energy released produced “a world that kindles into fire” (AE, 381, 280); he was affected “emotionally as a blaze of fire.” The mission of his life was to show this fiery unity to others.

In what follows, I hope to show why Teilhard wrote of the reconciliation of revelation and science in the vivid language of fire and explosion. In doing so, I will argue that Teilhard wanted revelation to be taken as a scientific hypothesis. For Teilhard, this was not to demean revelation, for Teilhard considered a hypothesis to be “the supreme spiritual act.” That is, a hypothesis is “the supreme spiritual act by which the dust cloud of experience takes on form and is kindled at the fire of knowledge” (AE, 9; VP, 205).

One basic image to reconcile revelation with the world of experience was bequeathed to Western thought by Saint Augustine: the image of two books. One book was the Word of God and the other was the Natural World, and, since both books had the same author, Augustine argued, they could not contradict. The Augustinian image left the scholar holding a book in each hand, and the two books were said to agree. Again, the image of two hands and a reconciliation, but now both hands are holding books. The scholarship of the Middle Ages was not experimental; it was highly bookish. One contemporary scholar of the medieval period contrasts medieval learning with the present: “In our society most knowledge depends, in the last resort, on observation. But the Middle Ages depended predominantly on books” (Lewis 1964, 11). This scholar claims that books were given such authority that people of the Middle Ages were reluctant to say anything an ancient author wrote was simply false. Therefore, the learned people of the time would bend the obvious sense of ancient texts (biblical texts, Latin and Greek texts) until they all appeared to agree. Today, bending texts to achieve a reconciliation is called concordism; Teilhard did not like concordism and claimed he was doing something different. But can revelation be reconciled with science only by adjusting their corresponding texts?

The concordist scholar of the Middle Ages could be seen as holding a different book in each hand and trying to reconcile their conflicting claims. Scholars of the time regularly spoke of the natural world as a book. As the Age of Discovery began, experimenters justified their work by saying they were reading “the Book of Nature,” or working in “the great Library of the Universe,” and so forth. A book was

not valued because it reflected experience, but experience was valued as it reflected a book!

We know that Church authorities objected when Galileo claimed the earth was not at the center of the universe. Galileo complained that his opponents were not looking at nature at all, but at the book of Aristotle. Galileo saw them acting “as if the great book of the universe was written for only Aristotle to read.” Today, some scholars argue that the only reason Galileo did not like Aristotle was because he preferred a different ancient book, that of Archimedes.

At one point, Church authorities told Galileo he was free to hold heliocentrism as a hypothesis to better explain the phenomena, but he was not to claim “that the sun, *in very truth*, is at the center of the universe.” A striking distinction! Something called “very truth” is set in a world apart, while hypotheses are used to explain the phenomena. “Very truth” is held in one hand, while hypotheses contradicting the very truth are held in the other. All is fine; truth exists apart from the practical rules by which one deals with experience. At least the faith is secure and there is no need for concordism. There are simply two independent regions: on the one hand, there are absolutes, the revealed truths of religion, and on the other hand the relatives, hypotheses to explain the phenomena. But no reconciliation.

Such a claim continually recurs. Teilhard believed his Jesuit friend, Auguste Valensin, was holding to such a dualism. He wrote to Valensin that Valensin was making “une ‘cassette close’” out of truths of the faith. He warned his friend that, “If Christianity offers us nothing but *certain ‘cassettes close,*’ then people will soon throw both Christianity and the cassettes overboard” (LI, 363), and this is precisely what he saw happening. Thus, he did not want Christian revelation to be a *cassette close* that was held apart from experience. He wanted neither concordism, nor that the two hands remain separate.

The oldest scientific society would seem to be a group to which Galileo belonged, and the second oldest would be the British Royal Society. But, unlike Galileo’s group, the Royal Society did not want to hold any book. Its members took as their motto: “*In verbo nullius.*” That is, take the word of no one; they were empiricists. They accepted no authority but experience and plunged into it with both hands. They called for a concentration on experiment—without word and without book. (Sir Isaac Newton was head of the Royal Society, though he did not agree with this claim.) British and American philosophy owes much to the ideals of the Royal Society. Restricting knowledge to what could be proven empirically was forcefully presented by Francis Bacon and later by David Hume.

It took the genius of Immanuel Kant to restore what was missing. Kant objected to Hume saying, "Observations made in obedience to no previously thought-out plan can never be made to yield a necessary law." That is, experiment by itself is not enough. He presented his own variation of the two-hand image:

Reason, holding in one hand its principles, according to which alone concordant appearances can be admitted as equivalent to laws, and in the other hand the experiment which it has devised in conformity with these principles, must approach nature in order to be taught by it. It must not, however, do so in the character of a pupil who listens to everything that the teacher chooses to say, but of an appointed judge who compels the witnesses to answer questions which he himself has formulated. (Kant [1787] 1963, 20)

One hand is holding to experiment, while the other is holding to "principles" developed by reason. These principles guide the other hand in its experiments. That is, the one hand is holding a word—something like a book. This guides the other hand. For Kant, if one does not begin by holding to some principle or word, one will simply find the chaos of experience and no science will develop. We might know that Kant regarded *revealed* religion as something of a *cassette close*; he knew some of his friends wanted it, but he did not. Yet he did not care if his friends were Christians, for as a closed world it made no practical difference in his. Nonetheless, the two-hand image of Kant opposed the motto of the Royal society (*In verbo nullius*). For Kant—as for Teilhard—science occurs where principle meets the experienced world.

Teilhard was a research scientist. Helmut de Terra, who worked with Teilhard in excavations in India, Java, and Burma, learned fieldwork from Teilhard and said as Teilhard worked he seemed to be holding to "a mental reflex which placed facts in a wider context and seemed to associate them with Platonic 'ideas'" (de Terra 1964, 67). These so-called platonic ideas resemble the principles Kant saw the scientist holding in one hand; they guided his research. Each of these principles or platonic ideas would be internally consistent and intelligible. But does that mean they are true? There are many such principles—as there are many claims of revelation. How does the scientist determine which of them is true?

We could begin by considering Teilhard's noted ability to discern a primitive tool among the broken rocks of a gravel bed. Cuenot's biography of Teilhard tells how quickly he could spot the tool, while others saw only a broken rock (Cuenot 1965, 156). We might think of Teilhard holding in one hand a "word," a principle, that is, a nuanced understanding of early toolmaking. While doing so, he saw certain rocks in a gravel bed take on a sharpness of meaning.

The scratches and chips would light up with “implications” concerning those who formed them, and in the process, the principles of human evolution would be further nuanced. Many eyes had seen these chipped stones before Teilhard looked at them, and they saw nothing but broken rocks. Teilhard saw more—only because he was holding in one hand an understanding of early toolmaking in Asia, while the other hand experienced the rocks. By holding the theory, certain rocks lit up with meaning. The unity of the theory brought out the differentiations of the rock; and the details of the rock nuanced the unity of the theory. That is, “union differentiates”—a phrase used abundantly by Teilhard (for example, see PM, 262; HE, 63, 67, 83, 144, 152). The tool fit together with a unified understanding of toolmaking, and the details of the chipped rock lit up with a sharpness of meaning. It was not simply theory *or* experience; the theory was seen in the rock and the rock lit up with meaning.

A set of tests from Teilhard could clarify the matter. Central to *The Phenomenon of Man* is the claim that evolution has a direction, the direction being the development of mind. How is this verified? On page 146, he argues that when one holds a particular hypothesis (here the hypothesis that evolution is centered on the elaboration of the nervous system), one finds the vast array of species falls naturally into order. None of the data seems forced to fit; it all falls easily into place. In Teilhard’s words, by holding this particular hypothesis, “one confers on the tree of life a sharpness of feature, an impetus, which is incontestably the hallmark of truth. Such coherence—and let me add such ease, inexhaustible fidelity and evocative power in this coherence—could not be the result of chance” (PM, 146). A hypothesis is true, if by holding it, experience has “a sharpness of feature” and a “coherence”: that is, a differentiation (sharpness of feature) and a unity (coherence), and these are the hallmarks of truth. When the hypothesis is right, the phenomena are sharply differentiated, so Teilhard writes, “the landscape lights up and yields its secrets”; while a false hypothesis blurs the details it claims to unite. Consider another example: Teilhard believed education to be of fundamental importance to evolution. He tells how this claim is verified: “The idea that education is not merely a ‘sub-phenomenon,’ but an integral part of biological heredity, derives unquestionable verification from the very coherence which it brings to the whole landscape, and the relief into which it throws it” (FM, 32). Again, the theory is validated by its ability to differentiate the phenomenon, the sharp relief that it brings to experience, and the coherence it confers on the educational landscape.

A number of philosophers of science, from Albert Einstein and Paul Dirac (1939) to Paul Davies, have spoken of the “beauty” of a scientific theory—without further explanation. Perhaps Teilhard explained this beauty when he spoke of a valid theory making the data cohere and light up, while a false theory blurs and distorts the data. The true theory makes the data cohere (unify) and light up (differentiate); thus, beauty is the union which differentiates.

In the above passage from *The Phenomenon of Man*, Teilhard told of the “hallmark of truth,” including an impetus, that is, a forward thrust. Teilhard often claimed there are two criteria for truth. “Coherence and fecundity [are] the two criteria of truth” (FM, 189; VP, 206, 227). The fecundity is the forward thrust. A truth in science is part of an ongoing process. Truth is fruitful; it leads beyond itself. If with the passing of time a hypothesis is not developed and does not lead to further discoveries, then it is dead and probably of no account. The astronomy of Ptolemy was never proved to be false; it simply was no longer a practical way to understand planetary movement. It led to no new insights.

Teilhard wrote to Lucile Swan: “Ideas are living beings, are they not?” (LTS, 63). That scientific ideas are alive is known by everyone *who works in research*, and—note well—it is not known by others. Thus, a scientific claim is one thing for those who work in the field and something else for those who do not. Teilhard stressed this on the opening page of *The Phenomenon of Man*, where he apologized for writing of nuclear physics without working in that field; he told of lacking “that direct and familiar contact . . . which comes from experiment and not from reading and makes all the difference.” The difference is that the experimenter sees the theory in objects—the reader does not. The difference between experimenter and reader is fundamental for the argument here.

To understand the difference, consider an example: We probably have heard of Einstein’s claim that $E = mc^2$. But most of us do not work with it. Yet we could explain that E measures energy, m refers to mass, and c refers to the speed of light. We probably stop there, yet we accept the formula on faith—faith in the general authority by which we regard the scientific community. Thus, “relativity” constitutes a revelation of sorts about the universe, but, if we do not work with it, the theory of relativity is a “cassette close.” Accordingly, though we accept it, *it does not unify our experience*, and by it we do not see some details sharply stand forth. It adds no beauty to what we see, for it makes none of our experience cohere. If tomorrow distinguished scientists announced that $E = mc^3$, we would dutifully

replace the old “*cassette*” with a new one. It would be another revelation, a “very truth,” coming from a higher authority, but it would not enable us to *see* in a new way. That is, if we do not work in a related field of science, the change would add no unity (coherence) to what we see, and it would sharpen no detail. It would have no fecundity, as it would lead us to no further insight. In short, Teilhard’s criteria for truth, *coherence and fecundity*, applies only to those who work in the field. For most of us, relativity or its replacement is not a living truth; it is a “*cassette close*.” Some have taken the Bible this way; they accept it on the authority of a community they trust. They may carry their Bible with them in one hand and memorize and recite its passages, but does it give coherence to their lives? Do its texts light up their world?

In 1934, Teilhard wrote to Henri de Lubac that there are two types of knowledge. There is an abstract, geometrical, pseudo-absolute knowledge that is apart from time; it concerns the world of ideas and principles, and for such knowledge he told of feeling an instinctive mistrust. But there is a second knowledge that he favored, a “real” knowledge that he associated with science. Having noted the two kinds of knowledge, Teilhard explained the first would lead to geometry and theology, while the second would lead to physics and mysticism. Teilhard went on to dismiss the abstract knowledge of geometry and theology and exalt the knowledge of physics and mysticism. The difference between geometry and physics can help elucidate the difference Teilhard saw between a theology of principles he did not trust and a mysticism that he did.

Both geometry and theology can form “*cassettes close*,” but physics cannot. Just as one can logically develop the axioms of geometry into elaborate structures, so one can develop the phrases of revelation into elaborate structures. Such was the scholastic theology of the Middle Ages. Today we find ourselves in a more confusing world: today there are many geometries—not only Euclid’s—and many “revelations”—not only Christianity. Each of these geometries and each of these revelations might be consistent in and of itself, but this would leave one at a loss as to which one should prefer. Considered abstractly, there is no reason to prefer one geometry to another, nor any reason to prefer one revelation to another. In itself, each is consistent; each is what Teilhard called a pseudo-absolute. The sensible thing would be to mistrust all of them and get on with one’s life.

But scientists have found a way out of the dilemma. In proceeding from geometry to physics, they made Euclid’s work into a hypothesis. That way the *cassette close* could be verified: does it work? For

centuries, the Euclidean hypotheses worked wonders, but, today, physicists have moved beyond Euclid to speak of the universe obeying non-Euclidean geometries. They had been holding Euclid in one hand while asking questions of experience; eventually they started finding experiences that did not cohere with the principles of Euclid. They passed beyond him.

The geometry of Euclid no longer lit up details of the celestial landscape and another geometry did. To go back to the Kantian image: the scientist was holding Euclid in one hand and holding experience in the other. The hypothesis should be the place where the two come together. When the Euclidean hypotheses did not fit experience, that is, did not add beauty to the stellar landscape, physicists adopted a geometry that did. Such is the living reality of modern physics. Teilhard claimed that science is not a fixed framework of truth, but a succession of hypotheses that leave “a cluster of axial lines of progression” (TF, 165). Thought itself, much like the evolution of life, leaves behind a cluster of axial lines.

Teilhard regarded the hypothesis as “the supreme spiritual act by which the dust-cloud of experience takes on form and is kindled at the fire of knowledge” (AE, 9; VP, 205). The kindling into fire takes place where the heavenly truth in one hand meets the dust-cloud of earthly experience in the other. The abstract truth (geometry or theology) dwells in a heavenly realm apart from earthly dust, and that is what Teilhard instinctively mistrusted. But when the abstract truth dirties itself with experience, fire is kindled. If Galileo liked Archimedes, it is because Archimedes pulled the geometry of Euclid out of the sky. Stories tell of Archimedes stepping into the bathtub, when suddenly the abstract geometry he studied was seen before him in the bathwater. At that point he shouted, “Eureka!”

Teilhard did much the same: he pulled Christian theology out of the sky and shouted with excitement. I believe this to be his extraordinary appeal. He found that even the horror of war can light up with meaning—if we believe in the final Christ. The essays he wrote in World War I are difficult to follow, but, if one has looked at them at all, one knows there is one thing Teilhard is saying: “Eureka!” Eureka, for theology had become his experience. The ugly dust of war lit up. But maybe we read him without shouting Eureka. Then we have taken his texts as one more set of heavenly teachings, another revelation of sorts, another *cassette close*.

As Archimedes did with geometry, so Teilhard is asking us to do with theology: make it a working hypothesis. He claim Christian theology will give our life coherence and fecundity. It will sharpen the details. As geometry descends from heaven to experience and

becomes physics, so theology descends from heaven to experience and becomes Teilhard's mysticism. Archimedes shouted in excitement at the point where his landscape lit up; Teilhard is shouting at the same point: where the heavenly phrases of Scripture are seen in experience. The two hands have come together. So Teilhard claimed that the physicists, not the geometricians, are the mystics. That is, Archimedes, not Euclid, is shouting eureka. It is a mysticism of the hypothesis, a mysticism in which the heavenly Word is seen in the experienced Earth. The Word has become flesh, and Word is seen in the flesh, for the flesh has become luminous. In Teilhard's "Mass on the World," the words of consecration are said over the things of earth; only then does one find that flame has "lit up the whole world from within."

But in taking the claims of revelation to be hypotheses, are we demeaning the Word of God? Our only alternative is to take it as a "cassette close." This is what Teilhard saw theologians doing—and all the while the modern world was throwing Christianity overboard.

Teilhard tried to discover what it would mean if the claims of Christian revelation were put to the test. Would the phrases that tell of Divine Providence give coherence and fecundity to experience? Teilhard chose a significant biblical phrase: *Credenti omnia convertuntur in bonum* (To the believer all things are transformed into good). It is a great line, but only a *cassette close* if we have not tried it out.

Teilhard's wartime essay, "Operative Faith," concerns trying out this phrase. Operative faith, that is, faith as a hypothesis that works. With one hand holding the claim that God lovingly gathers all things into his goodness, the other hand found the landscape of war lighting up with meaning. So Teilhard concludes that by the action of faith "the elements cohere in a rigorously differentiated individual nature," and "everything remains the same so far as phenomena are concerned, but at the same time everything becomes luminous" (WTW, 240, 244, 246). That is, the landscape of war coheres and lights up. The essay ends with a warning; if someone claims to understand him "without putting one's hand to the plough, that person is deluding one's self" (WTW, 247). The plow is the world of experience and one hand must be put there to know what he is saying; otherwise, we have simply added "the theology of Teilhard" to our collection of theological *cassettes*. "Teilhard" has become a theology we can explain, not a mysticism we can live. Our world has not lit up. The texts of Teilhard have become only a set of propositions closed off from the hand that each one must put to the plow of life.

But Teilhard also modified the revelation. It became, "*Credenti*,

omnia convertuntur in Christum (*To the believer, all things become Christ*).” This is the trans-Christ of which he spoke. The Christ ever-greater. Perhaps we know the vivid phrases by which Teilhard told of knowing Christ: “Like other real objects, Christ is experienced”; or, we discover “the world . . . takes on Christ in its inner substance”; or, “One feels in things the touch of Christ’s hand,” or, “What prevents you from enfolding Christ in your arms? Only your inability to see” (WTW, 246, 258; DM, 46). Theology has become mysticism. Christ has become the world for us and the world has become Christ. But these are only words—unless they are verified by the hand that holds the plow. Teilhard in looking at the rocks could spot a tool when others did not, so Teilhard in looking at the universe could spot Christ—when others do not.

When religious superiors sent Teilhard from Paris to China, he continued to believe in Providence. He explained that if he ceased to believe the world would disintegrate into powder. Only such faith could make his world cohere and give his life fecundity. Only when holding to a faith in Providence could his other hand continue holding to the plow. But Teilhard believed humanity itself was reaching a crisis of vision, a crisis of nausea and disgust that would result in strikes in the Noosphere. That is, unless humanity would hold faith in the divine goal of the universe, it would not continue to hold to the plow. He wrote that without such a vision “the paralyzing poison of death eats irresistably into everything” (AE, 400); but, on the contrary, by holding to a divine term to the universe we find “the poison of universal death has vanished from the heart of things” (AE, 401). Teilhard was doing fieldwork in Christianity. We regard *The Divine Milieu* as a devotional work, but Teilhard tells us he wrote it “as a naturalist or a physicist” (FM, 85).

In the first part of the present century, there was a striking and unique American writer, Helen Keller. When she was only several months old, she lost both her sight and hearing. Eventually, her family brought a tutor into their home to work with their wildly misbehaving child. The tutor, Miss Annie Sullivan, could communicate with Helen only by touch. The instruction sessions soon became wrestling matches as she taught Helen the rules of behavior. Then Miss Sullivan spent months spelling out words on the palm of one of Helen’s hands and holding her other hand against an object. She repeated the process endlessly but seemed to get nowhere. Yet once, as Miss Sullivan held one of Helen’s hands under flowing water and spelled W A T E R on the other, Helen’s face lit up with amazement and she let out a primal scream of pure joy. Why? She was at the point where the word revealed on one hand illuminated the

experience of the other. There was an explosion of dazzling flashes; she had become a Teilhardian mystic. She soon began screaming and laughing in wild abandon. Then, running around the house and pulling Miss Sullivan after her, Helen touched object after object while holding out the other hand for Miss Sullivan to spell its name. Helen Keller regarded that moment with one hand in the water and the other with the word as the great event of her life, for word and experience were together. Is it not similar to the great event in the life of Teilhard?

I think all of us live in a world something like that of the young Helen Keller. We are immersed in a dust of incoherent experience. Maybe we just say, "That's life." Or maybe we grace our ignorance by calling it a mysticism of unknowing. Within ourselves we endure great events but hardly speak of them for we have no adequate word. Teilhard tells us the words that made his life and death light up with meaning: the risen Christ as the goal of universal becoming. Can these words bring coherence to the data of our life? or to the dust of our death? Teilhard claims they kindled his world into fire. Geometricians, theologians, and others concerned with pseudo-absolutes will not understand this, but physicists and certain mystics will.

NOTE

1. Initials refer to abbreviations used throughout this issue of *Zygon*, as shown in the key on pp. 7-8.

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Works by Pierre Teilhard de Chardin are indicated by abbreviations of the titles. For a list of these abbreviations, see pp. 7-8.

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