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**WHAT IS LIFE AND HOW DO WE KNOW IT?  
THEOLOGICAL POSSIBILITIES IN  
MICHAEL POLANYI'S EPISTEMOLOGY**

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Outline

- Polanyi's biography
- His resistance to naturalism, his philosophy as close to idealism, and a possible definition of "life" based on his ideas.
- Polanyi's reaction to Pierre Laplace, and his theory of tacit knowing.
- Higher intangible levels of existence; humans as comprising numerous levels of reality.
- "Knowing Life" and its significance.
- Human personhood as deriving from "finalistic principles of evolution."
- Summary of main points from Polanyi & some "theological possibilities."

Key words: Polanyi, epistemology, idealism, reality, personhood, biology, science, scientism, life, theology.

Michael Polanyi (1891-1976) was a scientist turned philosopher. He was horrified by the perversion of scientific knowledge in Soviet Russia and Nazi Germany, and feared that materialist thinking was becoming prevalent throughout industrialized societies. Having spent the first part of his life, therefore, studying and teaching chemistry, he turned increasingly in its second half to philosophy. He inveighed against the view that life is reducible to the definitions of physics and chemistry, and believed that the prevailing view of science – that it alone provides genuine knowledge – lay at the root of much of the malaise in the Western world.

Polanyi's view of knowledge and personhood refutes the materialist views of life deriving from scientism, and suggests a view, consistent with philosophical idealism, that places mind and spirit before matter.<sup>1</sup> In Polanyi's terms, life can be seen as ultimately a product of mind, in that the "operational principles" of a machine (whether mechanical or biological) are the determinants of its nature and purpose. Physics and chemistry detail the *conditions* of the

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<sup>1</sup> For an understanding of what I mean by idealism, see Keith Ward, *More than Matter? Is There More to Life Than Molecules?* (Grand Rapids, MI. Wm B. Eerdmans, 2010), especially 182-196.

machine's operation, but they are "blind both to [its] success and failure," which can be evaluated only in terms of the machine's prior ordering principles.<sup>2</sup>

Polanyi does not attempt to define what life is in itself, but his investigation of what it means to "know life," and his insistence that such knowing can only be achieved by "human personhood,"<sup>3</sup> which itself cannot be defined in merely physical terms, lends itself to a definition of sorts: *life is a metaphysical entity that manifests itself in the emergent properties of an unfolding universe, and has a teleological character that leads inexorably to sentient and reflective beings.* Such a "definition" is rich with theological possibilities. Polanyi himself suggests such possibilities in his insistence that "*deepest reality is possessed by higher things that are least tangible,*"<sup>4</sup> and by the way in which he concludes *Personal Knowledge*, describing "the Christian... when worshipping God" as analogous to "the striving centres" of the universe, all "engaged in the same endeavor toward ultimate liberation."<sup>5</sup>

To understand Polanyi's argument that the "least tangible" things are the most real, we need to recall what he finds most disastrous in modernity: that is, scientific materialism's view that reality can be reduced to particles in motion. This mechanical view of the universe that began with Galileo led in the 18<sup>th</sup> century to the famous assertion of Pierre Laplace (1749-1827) that if a great mind could know both the laws and the motions of particles of matter, then it could calculate all events of both the past and the future.<sup>6</sup> The main problem others have seen in Laplace's assertion is that, if true, it would call into question the reality of free will. Polanyi, however, points out that such a worry overlooks "the more massive fact that a Laplacean atomic

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<sup>2</sup> Michael Polanyi, *Personal Knowledge: Towards a Post-Critical Philosophy* (University of Chicago Press, 1958, 1962), 330.

<sup>3</sup> Polanyi, *Personal Knowledge*, especially the chapter "Knowing Life," 347-380; here 402.

<sup>4</sup> Michael Polanyi, "On the Modern Mind," *Encounter* 24 (May 1965) 15.

<sup>5</sup> Polanyi, *Personal Knowledge*, 405.

<sup>6</sup> Polanyi mentions this claim numerous times in his writings: e.g. *Personal Knowledge*, 139-142, and "On the Modern Mind," 13-15.

topography would tell us virtually nothing that is of interest to us,” not even, for instance, “the definite temperature” of some region of the universe. Only “the action of our sentient self, responding to the atoms impinging upon our senses, can supply” any truly meaningful information.<sup>7</sup> Laplace makes no provision for the knowing mind, which for Polanyi is the key to everything.

Polanyi’s most fundamental insight was that all knowledge is *personal*; it involves far more than objective facts. Knowledge involves interpretation, evaluation and meaning. It is “personal,” therefore, in the sense that it encompasses both the “objective” (the facts out there) and the “subjective” (the educated, inquiring mind of the knower).<sup>8</sup> But once the knower is brought into the equation, it is obvious that higher principles are at play which cannot be accounted for by the laws of physics and chemistry. It is these higher ordering principles which Polanyi regards as possessing “deepest reality”<sup>9</sup> for it is only they that give order and meaning to the particles in motion.

His concept of tacit knowing enables us to see how he arrives at this point. Tacit knowing refers to the fact – gleaned from Gestalt psychology – that “we can know more than we can tell.”<sup>10</sup> His parade illustration of this is the way we recognize a face. If asked to describe how we do so, we cannot say. But we can see how it happens in the case of the police sketch artist who places before the observer various possible noses, chins, eyebrows and so on, and thereby enables us to reconstruct a face we have seen but cannot describe. When we look at something, we attend *from* its particulars (e.g. the details of a face) *to* the thing itself. Depending on what we are looking at, we may not be consciously aware of the particulars, but we are

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<sup>7</sup> “On the Modern Mind, 13.

<sup>8</sup> Polanyi, *Personal Knowledge*, 294-324; Mitchell, *Michael Polanyi*, 85-103.

<sup>9</sup> “On the Modern Mind,” 15.

<sup>10</sup> Michael Polanyi, *The Tacit Dimension* (University of Chicago, 1966) 4.

nevertheless guided by them to know the thing in its integrity. Recognizing a face or distinguishing, say, a hotel from a government building is something we do in an instant, but the same process is taking place when we are faced with far greater mysteries and challenges of knowing, like a doctor diagnosing illness or a philosopher contemplating knowledge.<sup>11</sup> As we attend from the particulars of what we seek to know, “it is their *meaning* to which our attention is directed.”<sup>12</sup> Knowing is about integration, bringing the parts together to make the whole.<sup>13</sup>

Polanyi liked to refer to the *Meno* in which Plato puzzled over a paradox:

To search for the solution of a problem is an absurdity; for either you know what you are looking for, and then there is no problem; or you do not know what you are looking for, and then you cannot expect to find anything.<sup>14</sup>

Polanyi’s solution to the paradox was the process of tacit knowing, by which “the particulars” of the world invite our inquiry. People have an instinct, an “intimation of something hidden, which [they] may yet discover,” and so “gradually penetrate to things that are increasingly real.”<sup>15</sup> At every stage in their evolution, humans have faced “something hidden,” and have broken through to further levels of reality, and further understandings of themselves and their universe.

Understanding in this rich sense of attaining meaning, so that “we can both know and experience the higher intangible levels of existence,”<sup>16</sup> is itself a higher comprehensive entity. But it is precisely this “cognitive faculty [that is] cast aside by a positivistic theory of knowledge, which refuses to acknowledge the existence of comprehensive entities as distinct from their

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<sup>11</sup> Polanyi, *Tacit Dimension*, 4-12, and Mitchell, *Michael Polanyi*, 70-79.

<sup>12</sup> Polanyi, *Tacit Dimension*, 12.

<sup>13</sup> For a neurological description of this phenomenon, known as “binding,” see Merlin Donald, *A Mind So Rare: The Evolution of Human Consciousness* (New York: W. W. Norton, 2001) 178-184. Polanyi, of course, is including the perception and contemplation of the “tacit dimension.”

<sup>14</sup> Polanyi, *Tacit Dimension*, 22.

<sup>15</sup> Polanyi, *Tacit Dimension*, 22-23, and *Knowing and Being*, ed. Marjorie Grene (London: Routledge & Kegan Paul, 1969) 168, the latter quoted in Mitchell, *Michael Polanyi*, 85.

<sup>16</sup> Polanyi, “On the Modern Mind,” 18.

particulars.”<sup>17</sup> In such a conception of reality, particles in motion are real enough, but humans as comprehensive and comprehending realities are absent.<sup>18</sup>

The human person is a mechanism, a hierarchy, comprising numerous levels of reality. A simple mechanism, like a watch, illustrates the point. It functions by operational principles that have nothing to do with physics and chemistry. These principles were imposed on the parts of the watch by a watchmaker, and so hard science “cannot reveal the practical principles embodied in a machine, any more than the physical chemical testing of a printed page can tell the content of its text.”<sup>19</sup> Physics and chemistry provide the *conditions* for the watch’s functioning, but if you pulverize the watch with a hammer, it is only the higher operational principles which are disturbed. That is why physics and chemistry may account for a watch’s failure, but they can never account for its success. And what is true of watches is all the more true of “the machine-like functions of living beings.” The analogy of the watch’s two levels of operation illustrates “a hierarchy in which the distinction between things essentially higher and essentially lower” becomes clear.<sup>20</sup>

The most complex entities are living things, and “knowing life”<sup>21</sup> is necessarily “contemplative, rather than analytical.” This is because “[f]acts about living things are more highly personal than the facts of the inanimate world.”<sup>22</sup> This is true both with respect to the living things which biology seeks to know, and – more importantly – with respect to the biologist who is seeking to know. The higher we ascend the evolutionary ladder, the more we encounter animals having “a centre of individuality” that strives and sometimes fails. The more complex the animal, the greater the distance between “our comprehension and the specification of our

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<sup>17</sup> Polanyi, “Faith and Reason,” 239.

<sup>18</sup> Polanyi, *Personal Knowledge*, 142 and 380.

<sup>19</sup> “On the Modern Mind,” 14.

<sup>20</sup> Ibid.

<sup>21</sup> This is the title of chapter 12 of *Personal Knowledge*.

<sup>22</sup> Polanyi, *Personal Knowledge*, 353 and 347 respectively.

comprehension”;<sup>23</sup> we know more than we can tell. Further, living things do not conform to any “single highly generalized assumption,” and thus the standards a biologist uses to appraise them are necessarily approximations to a norm that have been established by biologists themselves.<sup>24</sup> The biologist’s knowing is an acquired skill and involves knowing more than can be specified – it is tacit and personal.

This tacit character of “knowing life” is even clearer if we turn our attention to the knower and the process of knowing:

[A]s we proceed to survey the ascending stages of life, our subject matter will tend to include more and more of the very faculties on which we rely for understanding it ... Biology is life reflecting on itself ...<sup>25</sup>

Once biology rises, as it must, to the level of “a biology of [humanity] immersed in thought,” then it must also acknowledge the human “capacity for continually discovering ... a deeper understanding of reality.”<sup>26</sup> Polanyi has in mind here what he calls elsewhere “a society of explorers,” in which, by virtue of tradition, purposeful inquiry and passionate commitment to truth, human culture attains to a point where it knows itself to be called to, and responsible for, “a firmament of truth and goodness.”<sup>27</sup> This is the pinnacle of life’s achievement.

The closest Polanyi comes to providing a definition of life is the following:

I shall regard living beings as instances of morphological types and of operational principles subordinated to a centre of individuality and shall affirm at the same time that no types, no operational principles and no individualities can ever be defined in terms of physics and chemistry.<sup>28</sup>

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<sup>23</sup> Ibid, 349 and 347 respectively.

<sup>24</sup> Ibid, 348-54, here 349.

<sup>25</sup> Ibid, 347.

<sup>26</sup> Ibid, 374.

<sup>27</sup> Ibid, 380, and *Tacit Dimension*, 55-92, on “A Society of Explorers.”

<sup>28</sup> Ibid, 383.

The highest development of living beings is found in “human personhood,” which can only be accounted for by “the assumption of finalistic principles of evolution.”<sup>29</sup> Polanyi takes it as common sense that life and mind emerging from inanimate matter represent progress, a progress that has taken place by virtue of the higher ordering principles which enabled life to emerge from inanimate matter to higher and higher states of being. But where do these “higher ordering principles” come from? Do they emerge with random genetic mutations? This is impossible, he says, since,

the ordering principle which originated life is the potentiality of a stable open system; while the inanimate matter on which life feeds is merely a condition which sustains life, and the accidental configuration of matter from which life had started had merely released the operations of life.<sup>30</sup>

Life, then, cannot be attributed to the random machinations of physics and chemistry. It is a “centre” which enables the “opportunities and strivings” of “biological fields.” Life, in turn, emerges from the mysteries of “a cosmic field,” which over billions of years has been evoking “a myriad centres that have taken the risks of living and believing.”<sup>31</sup> For their part, humans are the striving centres, whose powers of tacit knowing both reflect, and strive to understand, the very processes which gave them existence.

In summary: 1. Polanyi views reality as “a series of ascending levels of existence”<sup>32</sup> which have direction and purpose; 2. the emergent character of the universe has brought about comprehensive entities; 3. these entities are dependent on the properties of the next lower level, but they cannot be defined in terms of them; 4. life, therefore, is an emergent, metaphysical entity that cannot be defined in terms of physics and chemistry; 5. Tacit knowing progressively

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<sup>29</sup> Ibid, 402.

<sup>30</sup> Ibid, 383-84.

<sup>31</sup> Ibid, 404-5.

<sup>32</sup> “Faith and Reason,” 245.



brings humans to awareness of deeper levels of reality. Though he never stepped into the realm of theology, Polanyi was aware of the theological implications of his philosophy:

I have mentioned divinity and the possibility of knowing God. These subjects lie outside my argument. But my conception of knowing opens the way to them ... natural knowing expands continuously into knowledge of the supernatural.<sup>33</sup>

By way of conclusion, let me suggest that at least the following theological possibilities, arising from Polanyi's philosophy, are worthy of further inquiry and development.

Quintessential human qualities (critical intelligence, truth-seeking, moral anguish, transcendent concerns) are reflections of, and provide clues for knowing, the sacred character of existence. Polanyi's epistemology suggests an understanding of reality in which matter is best understood in terms of the loving spirit and creative mind of God – as Mariano Artigas would say, “The Mind of the Universe.”<sup>34</sup> This is why reality, though ultimately mysterious, seems constantly to invite human inquiry, and even appears to have a natural correspondence with human minds as they reach out to discern the ground of their being. As St. Augustine says, “You, O God, have made us for yourself, and restless is our heart until it rests in you.”<sup>35</sup> Finally, Polanyi's philosophy not only suggests the reality of God, but also leads to intimations of God's character as creating through emergence, and thus being dynamically present in life and evolution, and as increasingly evoking intelligence, responsibility, thanksgiving and worship.

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<sup>33</sup> Ibid, 246.

<sup>34</sup> Mariano Artigas, *The Mind of the Universe: Understanding Science and Religion* (Philadelphia: Templeton Foundation, 2000).

<sup>35</sup> Saint Augustine, *Confessions*, 1:1.