

Tacit Knowing, Truthful Knowing:  
The Life and Thought of Michael Polanyi  
A Mars Hill Audio Report

Introduction:

- The nature of modernism: detached analytical objective reason and science
- But what if scientists actually know the world the way poets and priests do, relying more on tradition, intuition and faith than has been commonly recognized?
- Michael Polanyi, physical chemist turned philosopher, challenged these modern ways of knowing.
- Two world wars, the holocaust, modern tyranny: why?
- These things spring from a current epistemology that is deeply and tragically flawed.
- "Why did we destroy Europe?"
- The problem of distinguishing trustworthy scientific facts and personal values. MP worked to rebut this separation, making room for faith and values without falling into the morass of subjectivism.

I. The Life of Michael Polanyi

- Born 1891
- Mother's deep intellectual interests
- Father's successful engineering firm, later into bankruptcy
- Enrolled in Minta Gymnasium, Budapest (and received an excellent liberal arts education)
- Interest in science born at age 16 when he wrote a scientific paper
- To University of Budapest at age 17 in 1908 in context of optimism about the future based on science and technology
- Galileo Circle (to discuss use of unbiased science on all aspects of life; MP becomes disaffected from this group)
- During university years, becomes fascinated with physics and physical chemistry
- Einstein notes MP's ability in a letter
- At 22 completes MD from University of Budapest
- World war I begins: why did we destroy Europe?
- More than 9 million soldiers and 5 million civilians die: the war changed the map and destiny of Europe, seared its skin and scarred its soul.
- Serves as military doctor; gets diphtheria and lays ground for his interest in science
- Noted for his theory of absorption between gases and solids
- Ph.D. received in July 1919 and in dissertation, arrives at correct conclusions but with fallacious methods. How? MP says that often the proper methods come only after a correct conclusion has already been reached; hence, the role of intuition and imagination in the scientific process.
- To Karls Rule Hochschule in German: marries Magda Kemedly (?) and together for 55 years: Sons George and John now at UT, Ontario.
- Kaiser Wilhelm Institute in Berlin--studies x-ray analysis of crystals; and also reaction kinetics. Put difficult things in simple way.
- Gracious and humble in character; Stanford sophomore critiques MP and he takes notes.
- Berlin in 1920s a thriving intellectual center, and attends Wednesday meetings along with Plank, Einstein, Schroedinger pointing to concept of conviviality: community in the inquiry process
- Also shows interests in other humanities disciplines and slowly moves to other things

- Germany about to explode, fascism, bolshevism and the rise of Hitler
- To the University of Manchester in 1933 in clandestine fashion
- At Manchester, better than they thought it would be. Speak English and learn to drive; chair of physical chemistry department. Happy with new situation.
- 1935 to Moscow and visits N. I. Bucharin (?) who believes in comprehensive planning of all science, esp. by the government. MP adamantly opposed to this notion as a threat to scientific inquiry and creativity, and this marks the beginning toward a new theory of knowledge. This event sets in motion MP's transition to philosophy.
- How science works? No answer to this question. What philosophy of science is available to pit against this planning philosophy?
- Back at Manchester, he focuses on philosophy of science, economics, etc. Lectures and writes on these and other humanistic themes
- 1939 World War II begins and MP writes an intellectual defense of liberty. Even in Britain, there was a movement to have all science planned by the government for social purposes. MP organizes a counter society called Society for the Freedom of Science with four views:
  1. Scientific knowledge is valuable in and of itself
  2. The benefits of science to society come in the form of pure science
  3. Scientists should have the freedom to pursue own research subjects
  4. Researchers should decide for themselves when to work individually and when in a team.
- Involvement in this society made a big influence in his turn to philosophy
- Riddell Lectures on Science, Faith and Society (same lecture series as Lewis's *The Abolition of Man*)
- At age 55, turns fully to philosophy from chemistry. Yet as a chemist he had written 200 papers and was a fellow of the Royal Society
- The pursuit of a new philosophy to meet need of the age: becomes a research professor in social thought at UM, free of teaching duties.
- May 1947 invited to give world famous Gifford Lectures and to define his ideas about science and knowledge. Writes lectures in 1948-1950.
- To University of Chicago to give lectures in 1950 (Science, Faith, and Society) and meets Marjorie Green who becomes his counselor and colleague who helps him write his Gifford Lectures.
- Gifford Lectures delivered in May 1951 and November 1952 and then rewrote lectures in book form: *Personal Knowledge: A Post Critical Philosophy*.
- His true calling emerges: a critique and reevaluation of Western philosophical thought: terrors of fascism, distortions of communism, the threats posed by scientific planning and the quest for a well ordered economic life
- 1968 receives appointment at Merton College at Oxford, an intellectual culture which he didn't understand, especially seen in his presentation at the Socratic Society which he thought of as a disaster which it apparently wasn't by typical Oxford standards.
- Lectured frequently in the US later in life at major universities. His later years were marred by declining health. Yet for him life was an astounding miracle.
- Died Feb. 22, 1976 at age of 84.

## II. The Thought of Michael Polanyi

- The character of contemporary scientism: detached, presuppositionless, objective, quantified, testable measurable, numerical results = logical positivism according to A. J. Ayer (and the Vienna Circle)
- Implications of this view of philosophy and science: intangibles such as truth, goodness and beauty, and the importance of applying knowledge rejected. Theology and all other non scientific forms of knowledge are out.

- Best scientists, MP thought, are deeply engaged and passionately involved in their work-personal beliefs and backgrounds always involved in genuine science, including the choice of scientific topics for investigation; no one looks at the university in pure objectivity, but rather from a deeply human perspective.
- “Methodological doubt” of Descartes, tossing aside all faith and traditions, and only what was logically ascertained was acceptable, and certain.
- MP thought the Cartesian project had failed, since all thought is rooted in a worldview, presuppositions about human nature, the world and our ability to know the world
- Belief precedes and undergirds knowledge and hence he called his work “**post critical**” (you had to believe something and could not do without any beliefs) and “**fiduciary**” or based on faith. So church fathers and Augustine: “unless you believe, you will not understand.” You begin with unprovable beliefs and use philosophy or reason or science to improve your beliefs (Faith seeking understanding).
- All this contrary to Descartes’ attempt to arrive at truth on purely rational grounds without being mistaken:
  1. I think, therefore I am
  2. If I exist, God exists (ontologically)
  3. If a non-deceiving God exists, the world must exist.
- Illustration of how beliefs influence science: letter in journal *Nature* that average gestation period in animals was an integer multiple of the number pi. This published as a joke only because of the editors’ belief that pi could have nothing to do with the pregnancy of animals.
- The task of the scientist is to believe wisely in accordance with nature and dictates of conscience and with universal intent, that is, true for all. Knowledge of personal foundation of responsible beliefs based on evidence and yet recognizing the fallibility of all beliefs.
- In *Personal Knowledge*, MP points out how Einstein’s discovery of relativity influence by intuition, belief, and imagination, not in a positivistic sense; intuition and intellectual love drive the scientific enterprise!
- Hence, the battle lines were drawn between POSITIVIST science emphasizing detached observation and neutral description and POLANYIAN science founded on belief, commitment, guess work, imagination, etc.
- **Discovery** is the Achilles heal of objective science because it frequently occurs apart from the scientific method. If the scientific method is used all the time, science would not progress very far. Instead, it is often a flash of insight, a hunch, an intuition, creative imagination via memory, traditions, symbols, practices, etc. Can’t say how or describe the rules of a discovery, yet discoveries happen. Ex: benzene ring discovered in a dream where serpent chases tail as in Greek mythology
- Some of the best scientists have a **poetic ability and mode of apprehension**. Is the best scientist one totally dedicated to science or one who reads poetry, goes to concerts, reads novels, with a broader cultural life or liberal education that stimulates the imagination in doing frontier science? The latter according to Harvard scientist Dudley Herschbach who says you understand something in science that cannot be put into words and explained, or what MP called ‘**tacit knowledge**,’ that is, all knowledge is silent, unspeakable knowledge or rooted in such knowledge. Science is a work of persons who make commitments and believe things they can’t prove.
- Yet modern scientists reject this approach and cling deeply to objectivist science, approaching all things in a mechanistic way.
- **Tacit knowing** is MP’s most important contribution according to Marjorie Green: true knowledge entails personal involvement in knowing, the link between knowing and responsibility, the nature of reality and how humans apprehend it. It is the foundation for a harmonious view of thought and existence rooted in the universe. At the bottom of all human activity are things that are known, but cannot be put into words (like how to ride a bike or to swim or to make a diagnosis). People “know more

than they can tell.” Craftsmen, musicians, etc. all function on the basis of tacit knowledge.

- So MP interviewed cotton choosers, tanners, wine connoisseurs to learn how they learned their connoisseurship with respect to their fields.
- Example: Violin, cello, viola-makers **Peter and Wendy Moose**
- If the knowledge of an art is tacit in nature, how can it be transmitted? How is education to proceed if these things are true?
- Answer: close, **mentoring relationships**, by example from master to apprentice. To learn by example is to submit to authority, to stand under (= understand), you follow the master when you trust in his way of doing things and emulating him in the presence of his example. There must be a submission to tradition, esp. if it is to be handed down to others. Tyson calls it “elbow knowledge!” Science itself relies on tacit knowledge and tacitly held skills.
- MP makes this distinction between **focal knowledge and subsidiary knowledge**, an awareness from and awareness to. Illustration in hammering a nail--subsidiary awareness of the hammer in palm of hand, focal awareness of driving the nail, attending from the pressure in our hands to attending to the head of the hammer hitting the nail. So too a musician playing the piano and a surgeon using a probe and a person reading a letter.
- **Indwelling**: the only truly way to know the world! Indwelling by the surgeon, carpenter, speakers of language, and scientists in the scientific tradition. Only by indwelling can we hope to apprehend reality.
- Yet all this runs counter to modern epistemology and its positivistic orientation and detachment. The chief ailment of the modern mind was its detachment. If all knowledge is formalized and systematized, then science fails to realize that the greatest findings of science grow out of skills, beliefs, intuitions, hunches, associations, and images that can't be put in words. They have the facts, but not their deeper meanings. Yet if knowledge is tacit and requires indwelling and is personal, then exact science is misleading and fallacious and dangerous.

### III. Reception and Influence of Polanyi's Thought

- Logical positivism and analytic philosophy in vogue at mid century to MP were flawed and he was isolated and unconventional in nature. For MP, thinking is kinesthetic, out of the body, not in a detached manner.
- MP's frequent crossing of disciplinary boundaries made others mad, even though he made very fruitful remarks and insights. And yet people did not appreciate his work in their areas and he was not a welcome guest. MP did not understand this rejection, esp. in the area of philosophy.
- In theology, MP's thought received well, esp. by J. H. Oldham. JHO aware of need intellectuals as persons of faith and convened a group called The Moot, including Eliot, Bayle, McKinnon, etc. Happy that MP recognized the role of faith in intellectual enterprises and in a scientific culture.
- Thomas F. Torrance, Univ. of Edinburgh, was greatly impacted by MP. Especially interested in science and the philosophy of science which he defined as follows: understanding and giving expression to the inherent rationality of nature. Man is the mediator of nature, and a true scientist is a priest of creation, bringing the rationality of creation to expression as an act of highest praise. This sacred understanding of scientist out of favor for years; the loss of the sacramental perspective! Yet it carries you away from the truth. Science tunes in to the ultimate rationality of nature. Tuning in or indwelling finds its source in John 15 in abiding in Christ. Even a child's mind is rightly oriented to the universe and inhabits it but it is this we become disaffected from. We need to recover this child-like indwelling. A reality that exists independently of us, but which we can understand. A true science is concerned with knowledge of and obedience to the reality of nature. Develops belief and commitment to the reality

of things which has scientific and moral implications:  $2 + 2 = 4$ , not 5; but if you affirm the latter, then you are wrong scientifically and epistemically.

#### IV. Polanyi and Education (Steve Garber)

- MP has taken the measure of our century and sees into its meaning truthfully. There is a profound relationship between epistemology, ethics, and education, knowing and doing, belief and behavior with personal, cultural and political consequences. MP pushes at relationship between knowledge and responsibility.
- MP argues there must be a critique of enlightenment assumptions, the ways we talk about what we know, esp. the disjunction between theory and practice. This has had horrible consequences in the 20th century: the divorce from knowledge and morality. How can we be so educated and treat others so badly? The fact/value dichotomy. There must be a deeper, truer kind of knowing over against the enlightenment view of knowledge.
- MP argues for a way of knowing that connects knowing and doing. All humans invest themselves in their knowing, personal judgment accompanied by a moral responsibility. There has to be, therefore, a critique of enlightenment epistemology which is false and inadequate to the way people know. A more truthful knowledge involves indwelling: must understand convictions by indwelling them, stepping into them, immersing self in their truthfulness.
- Implications for Christian discipleship as well. Ask: how will this truth be lived out? To teach and not do violates genuine education. You can get all A's and still flunk life.
- Yet doesn't postmodernism make everything value? How does MP's view of personal knowledge relate to radical subjectivism and relativism? He affirms the givenness of reality, of a world that is really there. He embraces truth and reality and meaning, a world that has genuine boundaries. Once known, truth about the world is to be obeyed.

**Conclusion:** Polanyi's description of knowledge and reasonableness tells us that it does not involve the rejection of tradition, community, authority, or imagination. Reality is to be known poetically as well as analytically and we know the world as persons, and only a rich account of personhood can do justice to the nature of our knowledge.