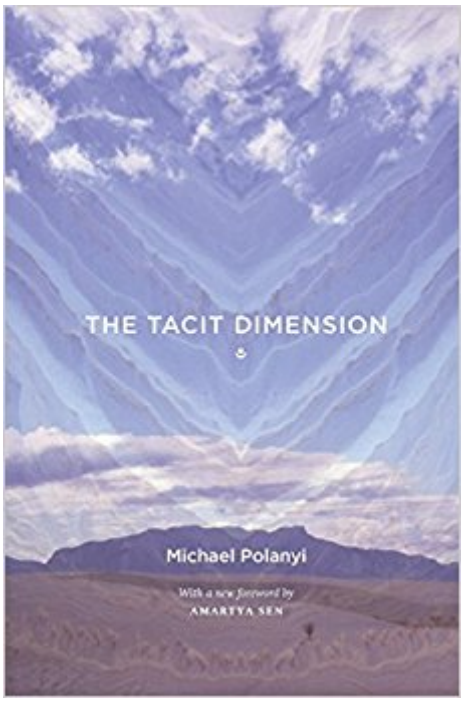
The Tacit Dimension



Synopsis

Ã¢â ¬Å“I shall reconsider human knowledge by starting from the fact that we can know more than we can tell,Ã¢â ¬Â• writes Michael Polanyi, whose work paved the way for the likes of Thomas Kuhn and Karl Popper. The Tacit Dimension argues that tacit knowledgeÃ¢â ¬â •tradition, inherited practices, implied values, and prejudgmentsÃ¢â ¬â •is a crucial part of scientific knowledge. Back in print for a new generation of students and scholars, this volume challenges the assumption that skepticism, rather than established belief, lies at the heart of scientific discovery.Ã¢â ¬Å“PolanyiÃ¢â ¬â„¢s work deserves serious attention. . . . [This is a] compact presentation of some of the essentials of his thought.Ã¢â ¬Â•Ã¢â ¬â •Review of MetaphysicsÃ¢â ¬Å“PolanyiÃ¢â ¬â„¢s work is still relevant today and a closer examination of this theory that all knowledge has personal and tacit elements . . . can be used to support and refute a variety of widely held approaches to knowledge management.Ã¢â ¬Â•Ã¢â ¬â •Electronic Journal of Knowledge"The reissuing of this remarkable book give us a new opportunity to see how far-reachingÃ¢â ¬â •and foundationalÃ¢â ¬â •Michael Polanyi's ideas are, on some of the age-old questions in philosophy."Ã¢â ¬â •Amartya Sen, from the new Foreword

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Customer Reviews

"Polanyi's work deserves serious attention, and this compact presentation of some of the essentials of his thought will serve to send more readers on to, or back to, Personal Knowledge." (Review of Metaphysics)

Michael Polanyi (1891Ã¢â ¬â œ1976) was a Hungarian-British chemist and philosopher, a Fellow of the Royal Society, and a Fellow of Merton College, Oxford. He is the author of many books, including Science, Faith and Society and Personal Knowledge: Towards a Post-Critical Philosophy, both published by the University of Chicago Press.Ã Â Amartya Sen, winner of the Nobel Prize in Economics in 1998, is the Lamont University Professor at Harvard University.

In this rather compact book, Polanyi addresses three main topics in separate sections: knowing, emergence, and human endeavors. The continuity over the sections is quite smooth, largely due to their various perspectives on tacit knowing. The third section, however, is rather more free-ranging in content as well as somewhat tentative in tone. All three sections are quite readable and plausible, though this review mainly considers just the first two topics in combination. Here the intent is to provide an indication the scope, applicability, and coherence of PolanyiÃƒÂ¢Ã â ¬Ã â„¢s seminal thinking.TACIT KNOWLEDGE, which is an integral part of all knowledge, is that which one is unable to access readily or to express precisely. It results from the structure of tacit knowing wherein knowledge items of which one is only subsidiarily aware are tacitly integrated, and then provided to focal awareness as explicit knowledge. Integration via spontaneous equilibration keys on fostering mutual coherence among the subsidiary items. Although it admits some degree of reconstitution within focal awareness, tacit knowledge refers generally to knowing that one is unable to articulate (i.e., the case of knowing more than one can tell). Ultimately though, all knowledge is either tacit or rooted in tacit knowledge.STRUCTURE OF TACIT KNOWING is a triad composed of the knower (subject), the subsidiaries (clues), and the focal content (entity). Through tacit integration, the knower causes the subsidiaries to bear on the focal entity, thereby imparting meaning to it. This is an act of sense-giving.ALTERNATIVE VIEW OF STRUCTURE involves an emphasis on the integration of particulars as a means of interiorizing them. This interiorization enables indwelling in them, and in turn, the discernment of the joint meaning of the comprehensive entity.TACIT KNOWING in the context of scientific investigations accounts for indeterminate or contingent commitments encompassing the following:1. discernment of valid and important problems and their attendant clues,2. guidance, imagination, and motivation in pursuing a promising course of solution,3. closure on a pending discovery and anticipation of its implications.COMPREHENSIVE ENTITIES exhibit a (two-level) structure for instances of tacit knowing. A comprehensive entity appears on a level above that of its subsidiaries, where the two levels correspond to distinct levels of reality. The higher level controls the marginal conditions left undetermined by the principles governing the lower level. Furthermore, the controlling principle for the higher level relies on the

operations available on the lower level, but the lower level control principles do not affect the principles of the higher level. Accordingly, each level is subject to asymmetric dual controls.EMERGENCE in a generalized evolutionary hierarchy pertains to the creation of entirely new comprehensive entities, not merely novel behavior inexplicable in terms of subsidiary elements. Such creation occurs bottom-up as novel boundary conditions capture and instantiate/integrate an ensemble of subsidiaries in a nascent comprehensive entity. Such an evolutionary step can happen in knowledge development in general, not just in the advances of scientific knowledge. Progress in terms of enhanced sophistication or capabilities results from the bottom-up sequencing of layers. Moreover, the consolidation of each comprehensive entity spawns additional yet largely unforeseen potentialities, and in turn the prospects and motivation for new knowledge discovery quests.SENTIENCE as an attribute in humans, which seen as evolved comprehensive entities, cannot therefore result from lower-level controlling principles, namely from the laws of chemistry or physics. Rather, sentience must obtain from the higher-level controlling principles around which the comprehensive entity is formed. In general, principles additional to ones manifested by inanimate matter must be involved.MACHINES similarly are comprehensive entities whose respective purposes and operating principles cannot be derived from physics or chemistry. Rather, a machineÃƒÂ¢Ã â ¬Ã â„¢s operational principles are imposed through boundary conditions on its constituent subsidiary elements, including various physical or chemical ones. In the case of an engineered machine, its organizing principles are designed by humans to fulfill particular purposes, and in turn are actualized through the selection, adaptation, and integration of appropriate subsidiary constituents. Hence the deliberate actualization of a new and more complex higher-level entity.HUMAN VERSUS MACHINE FAILURE causes basically differ in nature. Humans are subject to failure in the conduct of their activities due to breakdown susceptibilities inherent in their operational principles. This susceptibility is attributable to accrued cognitive complexity. Machine failures in general, however, can never be ascribed to their operational principles. A machineÃƒÂ¢Ã â ¬Ã â„¢s failure to function as designed can result only from elemental physical/chemical faults in its structure or constituents, as attributable to its composition solely of inanimate matter.ANIMATE VERSUS INANIMATE PROCESSES in general are distinguished according to three major contrasts. These distinctions are essential considerations in dealing with the intersection of the two domains, like the existent gaps between life sciences and physics/chemistry. Basically, an animate process pursues discovery that is latent in potentialities, and an inanimate process tends toward more stable potentialities.1. Guidance/motivation per problem attributes versus drive toward more stable states,2. Effort toward actualization of

potentialities versus catalysts or accidental events,3. Imaginative thrusts toward discovery versus probabilistic uncaused events.SUMMARY: Although this book is comparatively short, it is heavily laden with very substantive and consequential concepts. In my view, they seem compatible with if not complementary to certain ones of several other seminal thinkers in epistemology, cognitive psychology, or the philosophy of science. Here, moreover, it seems to me that PolanyiÃƒÂ¢Ã â ¬Ã â„¢s ideas are the most profound and incisive, albeit perhaps not the most encompassing ones. In all, ÃƒÂ¢Ã â ¬Ã Å“The Tacit DimensionÃƒÂ¢Ã â ¬Ã Â• is a most invaluable resource, especially for multidisciplinary thinkers and researchers.

Just finished Mr. Polanyi's little book---very well done and compelling. It has seemed that the last several books I've read were based mostly on their acceptance of Polanyi's notions of tacit and explicit knowledge. On further investigation I discovered that Polanyi's signature work, Personal Knowledge clocked in at about 500 pages---and with about two feet of books on the must read list, I was happy for the opportunity to get the gist of his thinking. Dimension does the trick. Polanyi's intellectual honesty and devotion to complete development of an idea are as refreshing as they are enlightening.There are several "money" quotes, but this one jumped off the page:"Yet it is taken for granted today among biologists that all manifestations of life can ultimately be explained by the laws governing inanimate matter. K.S. Lashley declared this at the Hixon Symposium of 1948, as the common belief of all participants, without ever consulting his distinguished colleagues. Yet this assumption is patent nonsense. The most striking feature of our own existence is our sentience. The laws of physics and chemistry include no conception of sentience, and any system wholly determined by these laws must be insentient. It may be in the interest of science to turn a blind eye on this central fact of the universe, but it is certainly not in the interest of truth. I shall prefer to follow up, on the contrary, the fact that the study of life must ultimately reveal some principles additional to those manifested by inanimate matter, and to prefigure the general outline of one such, yet unknown, principle."The "unknown" and "hidden realities" play a large part of each of three chapters and he concludes with: "Men need a purpose which bears on eternity. Truth does that; our ideals do it; and this might be enough, if we could ever be satisfied with our manifest moral shortcomings and with a society which has such shortcomings fatally involved in its workings. Perhaps this problem cannot be resolved on secular grounds alone. But its religious solution should become more feasible once religious faith is released from pressure by an absurd vision of the universe, and so there will open up instead a meaningful world which could resound to religion."Highly recommended. (I'm ordering Personal Knowledge...) Read on!

Polanyi's premise is that we know more than we can tell. Think about the face of someone you know well. Try to describe it. You probably can't. But if the police were to subject you to their technique of using photo albums to identify the different features of the face, you'd likely end up with a workable approximation. This is tacit knowledge and we rely on it more often than we admit. Scientists, he says, are not only not explicitly aware of the experiments that came before them, but they take them for granted during their own. We think of scientists as explorers of the unknown, but in reality they often have an idea of where they going even on totally new ground. They have vague notion of what they wish to discover - a tacit understanding - and able to recognize it as it is confirmed. Polayni's work was influential to Thomas Kuhn, who wrote The Structure of Scientific Revolutions. I had trouble reading Kuhn about a year ago and had to stop. After I read Polayni, I was able try again and slowly make my way through the whole thing. I feel better for having read both books and can now see their implications on a regular basis. In my recommendation to read them, I would suggest following a similar order.

Polanyi does a great job of demonstrating that we know more than we can say. He not only unifies science, psychology and philosophy on the subject of human knowing but is still ahead of the curve after 50 years. He was missing some brain science that was discovered 30 years later but this would only have made his discussion simpler but his conclusions are still useful and brilliant today.

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