

B. Functions

To understand the process of knowing grounded in the tacit, it is best to see its active mode. Tacit knowing performs its function through the vector called ‘intellectual passions,’ which has three aspects: selective function, heuristic function and persuasive function. Polanyi distinguished these aspects for the purpose of analyzing the process of understanding and learning in the sciences. All three aspects of the function of intellectual passions in tacit knowing may be fallible, therefore, for Polanyi, tradition and the criticism of knowledgeable peers was the guide.

Selective Function	- cognitive trait: noting the regularity of events - conative trait: choosing intrinsic value (moral-aesthetic)
Heuristic Function	- cognitive trait: recognition of ethical principle - conative trait: self-modifying act of ‘living in’ the principle
Persuasive Function	- cognitive trait: demonstration of value of the principle (to convince the novice) - conative trait: attracting the will (to gain the intellectual sympathy of the novice)

Figure 2.
Functions of intellectual passion in tacit knowing with respect to ethics

All three aspects, selective, heuristic and persuasive functions have a cognitive and a conative trait. The conative trait is the ‘mover’ of the cognitive trait. The selective, heuristic and persuasive aspects are intertwined. The selective and heuristic functions are within an individual, while the persuasive function is between individuals, especially between mentor and novice.

(a) In the *selective function* the cognitive trait means that one’s awareness picks out the regularity of events with respect to some notion to which these events are relevant. The conative trait of selective function means that the event picked out has an intrinsic (not utilitarian, not trivial) value – the value is moral and has an ‘aesthetic feel.’ The conative trait springs from the personal pole of tacit knowing.

(b) In the *heuristic function*, the cognitive trait means the ethical recognition of the goal of striving or of the relevant principle. The conative trait of heuristic function means a self-transforming act of reaching near the goal and ‘living’ it.

Note that one’s commitment to a principle and one’s ability to recognize it is evoked by the heuristic function; one draws on the selective function as an aid. This is the strength of the tacit, the being and doing of the knowing self - these functions may be fallible and one will still have to check if one’s guess was right.

(c) The persuasive function is a communal one and a mentoring one: the communication of the individual processes of selection and self-transformation. The persuasive function also has a cognitive and a conative trait. The person, who had transformed himself so that he lives approaching his ethical goal, attempts to attract the novice to the ethical goal by gaining his intellectual sympathy. In his role as mentor he attempts to evoke the conative trait in the novice – that is, he attempts to tap the personal pole of tacit knowing. We may think of it as tapping the novice’s will, or better yet, cultivating his judicial attitude. The cognitive aspect of persuasive function consists of demonstrating the value of the principle which is the goal of action.

The key to understanding all three aspects of the function of tacit knowing is to take the position that the precondition for the conative trait is freedom. That is, tacit knowing is based on freedom of the will, without this, ethical choices are neither choices nor moral.

Part 2. The ethics of tacit knowing and moral mentoring

The structure of the two poles of knowing as applied to ethics would be the following:

striving to reach the goal (commitment) judicial attitude in responsible judgment principle (of justice)

In “Knowing Life” Polanyi said: “We may describe [man] as forming the personal pole of commitment of which the ideals of man form the universal pole.”⁷ Mindful of this, the sketch of ethical knowing below is based on Polanyi’s description of mentoring in the medical community. It is an application of a formalized epistemic schema of tacit knowing to ethical communities, and puts tacit knowledge ethics on a theoretical foundation. It avoids the problems of teleological ethics with utilitarian consequentialism to which Polanyi objected.

⁷ Michael Polanyi, *Personal Knowledge: Towards a Post-Critical Philosophy* (Chicago: Univ. of Chicago Press, 1958/1962), 379.

		<u>Mentor's duty to novice</u>
Novice:	elements reintegrated (subsidiaryfocal)	renewed explanation of principle, accompanied by description of example contextualized.
^	More elements connected (focalsubsidiary)	described, pointed out, counter-examples given
^	elements (focalsubsidiary)	described, pointed out (practice)
^	principle (focal)	verbal statement repeated after mentor
^	trust (subsidiary)	the conative foundation - mentor attracts will of novice

		<u>The mentor's intelligent moral existence</u>
Mentor:	elements for teaching (focal)	principles and elements in subsidiary, now attended to, become accessible
^	principle reintegration, reorganization (subsidiary)	elements reorganized if reform is needed - or elements reintegrated when renewal of principles occurs
^	elements (focal)	were in the subsidiary, now attended to to examine them
^	principles (in subsidiary)	learned from his mentor

Figure 3.
Emergence of the moral being (read as bottom up levels)

In fostering the growth of the novice, the mentor engages in the development of a moral being who is not a duplicate of his own moral self, but who is trained to make use of a scaffolding similar to his own. The mentor relies on accumulated

experience and learning, and draws on principles in his subsidiary awareness. When he is confronted with a situation, he ‘takes it in’ in a glance, then analyses it into its elements. He reassesses the situation which may require a reorganization and reintegration of elements into a new whole. This new whole is seen as falling under a principle (more or less). The principle is in focal attention during this process. At the completion of the reintegration (the reintegration being a tacit process), the principle finds its way into subsidiary awareness again, but remains accessible for future needs. In the mentoring mode, the mentor is alert to assess situations and to analyze those into elements, and at the same time ‘lives in’ the skillful practice of traversing the maps (levels) I have presented.

The novice must build the entire emerging edifice of his moral being on the initial trust in the mentor. Without trust the conative trait of the vector of tacit knowing, intellectual passions, cannot be activated. Without an activated conative trait, the cognitive trait is barren. In plain language, the mentoring relation starts with trust in order to instill principles, and only later are the principles drawn into focal awareness. Put another way, without the personal pole, the objective pole which is situated in reality, is severed from the self. The personal pole, the origin of the judicial attitude, sustains living principles. Therefore, the mentor, mindful of this grounding, guides the novice through the levels of ethical learning, of the emerging moral self.

To show how a new situation can be recognized, the mentor offers descriptions – consisting of information regarding human action as distinguished from events, information on processes and description of causes for such events. He offers explanations – for human action as intentional action (a teleological explanation) and explanations for action as falling under a certain ‘law’ or rule as distinguished from causal explanations (‘why’-s) for events which are subsumed under a ‘law.’ In the scheme of tacit knowing, teleological explanations are not reducible to consequences of behavior, as human intentions cannot be eliminated.

By mapping ‘showing and doing’ on the two poles of knowing, fact and value in moral action are connected on a continuum. This allows for validation of moral action, that is, moral action mapped on such a continuum is not subjective. (Indeed, subjective action cannot be moral action, as it is reflexive only onto the self and is not tied to objective reality). Furthermore, moral action is not derived from facts alone, but facts linked to values, that is, the objective pole of knowing linked to the personal internal pole.

Moral choices are premised on freedom of the act of choice manifested in the judicial attitude aspect of responsible judgment, and on the duty therefore for responsible action with respect to treating others *not* as means for one’s personal goals. The mentor fostered this attitude in the novice, keeping the principle of justice in sight. (The principle of justice encompasses subordinate principles) The principle of justice is the ‘content’ of the universalizability principle in ethics.

Part 3. From epistemological insight to an ethics of duty – a Neo-Polanyian ethics

With respect to the epistemology of science Polanyi said that belief in the reality of scientific value guides the inquiry and allows reform of standards with universal intent, as well as allows respect for values and encourages inquiry.⁸ Although the choices made are individual acts, the ideals and principles which guide action are universals in the sense of universalizable principles. Individual choices are commitments⁹ Polanyi called ‘universal intent.’

‘*Universal intent*’ also functions in the ethical realm — *it becomes the judicial attitude*.¹⁰

The problematic issue arises with respect to principles, ‘standards and ideals’ which in the social sphere today are much more pluralistic than it was possible to have in the scientific community in Polanyi’s time or now. Polanyi *has not* developed a normative ethics, therefore his writings give no guidance in this regard. One has to look to the principles demonstrated by his actions in his lifetime, to see what he held to be normative.¹¹ A Neo-Polanyian tacit-knowledge ethics would unfold as follows:

Pluralism is a social necessity today. The idea that pluralistic expressions of ethical rules can be subsumed under a few universal principles is a workable idea if universal principles mean universalizable ones. Pluralistic expressions of ethical rules encourage inquiry and the development of a more mature judicial attitude and capacity for judgment – the commitment is made *not* to following a rule dogmatically, *rather* it is made to universal principles as guides. Pluralism would not be possible without the freedom of choice, which is also the precondition for tacit knowing. So the duty of the mentor, and later the ‘apprentice,’ is multi-layered: to recognize which of the plural paths he has chosen or can choose, and how this path relates to the universalizability principle.

This requires multiple, overlapping (but non-contradictory) and hierarchical memberships: for example, an adult is generally a member of more than one family, a member of a larger religious group (if any), an ethnic group which partially overlaps with the former, and a civic group of a nation or pan-national union independent of the religious group but higher in the hierarchy than any ethnic group.

⁸ Polanyi, *The Tacit Dimension*, 69.

⁹ *Ibid*, 77.

¹⁰ See chapter 8, Figure 8.1 in S. R. Jha, *Reconsidering Michael Polanyi’s Philosophy* (Pittsburgh: Univ. of Pittsburgh Press, 2001).

¹¹ On Polanyi’s action-guiding principles throughout his life, see chapter 1, *ibid*.

These are not, need not be, exclusive commitments. Indeed, one can be a member of an ethnic group or a religious group and still have commitments to the civic values of a more inclusive nation or pan-national union.

The mentor's judicial attitude and capacity of judgment intelligently exercised by the guidance of a clear understanding of relation amongst principles, makes it possible for him to foster the emergence of the novice's judicial attitude and maturing capacity for judgment. In the ethical realm, normally principles and rules are in subsidiary awareness while one meets the elements of situations. The crucial mentoring task is to clarify the relationships amongst the rules to the novice, to go beyond the 'flat earth' view by directing the novice's attention back and forth between levels of elements, rules and principles. Without this skill, he will not be able to develop an understanding of the meaning of choices, and most importantly, he will not be able to tap his subsidiary awareness to reformulate standards and general maxims – he will only obey rules automatically rather than have self-determination. Self-determination is the core characteristic of free people. This does not exclude a rational acknowledgement of constraints by historical facts.

Part 4. Tacit knowledge – Neo-Polanyian ethics amongst others

It may be said that Neo-Polanyian ethics resembles a pragmatist approach, or that of a moral realist of the intuitionist sort, or perhaps a Kantian view. In certain respects, it does, yet it is none of these.

Like the pragmatists, the tacit knowledge ethics bypasses is-ought dualism, and relies on inquiry to solve moral problems when one is faced with an ambiguous situation or a plurality of rules. But it is not like the pragmatist approach, in that moral principles in tacit knowledge ethics are not hypotheses to be tested – that would lead to relativism.

Like the moral realists, a tacit knowledge ethics holds that moral principles override natural ones, but unlike them, holds that morality precedes epistemology,¹² because free will is a precondition for both choice and knowledge. Like the intuitionists among moral realists, tacit knowledge ethics holds that moral properties can be 'intuited' and that moral truth is 'non-epistemic.' However, both these terms are redefined in tacit knowledge ethics: 'intuit' means skillful guessing (tacit knowing at the personal pole), and 'non-epistemic' means that knowing is not

¹² This would reverse the order of Polanyi's architectonic, where epistemology was 'first philosophy' (i.e. came before all other branches). For recent works on ethics as first philosophy, see the writings of the phenomenologist (post-structuralist?) philosopher Emmanuel Levinas.

detached knowing, but lived knowing. In tacit knowledge epistemology, knowing at the external objective pole is grounded in the personal pole by the link of tacit inference in logic, and likewise in ethics, the claim of moral truth is grounded in truth itself by the link of judicial attitude.

Tacit knowledge ethics is like Kant's in that moral justification is *a priori* – but unlike in that experience is required for the acquisition of some of the constituent concepts, sensory and introspective; in tacit knowledge ethics, moral justification rests on principles held tacitly in subsidiary awareness. These principles are acquired by experience through the mentoring process. Kant's practical reason is like the 'judicial attitude' in that practical reason determines 'rules' for the will while the judicial attitude determines intentional action. And just as for the judicial attitude, so for practical reason, it is belief in moral principles, not dogma, that is the foundation for guiding coherent action. As in Kant, in tacit knowledge ethics, one is choosing and judging from the moral point of view *if and only if* one is willing to universalize one's maxim or rule. But this formulation works better in the negative: that which cannot be willed to be universalizable, is immoral.

For Kant, moral principles must be accessible to us for legislating for ourselves, and pure practical reason determines independently from sensibility the realm of freedom, and what ought to be. In the Neo-Polanyian ethics of tacit knowing, moral principles are accessible to us *after* training our awareness with the help of a mentor, by tapping into the subsidiary. This is so that we may make a responsible judgment with universal intent – all premised on freedom of the will. The ethics of tacit knowing is unlike Kant's in that the judicial attitude is not severed from sensibility. Is and ought, fact and value are linked rather than separated, and the empirical (fact) aspect is not relegated to a supplementary position. What is actually done is considered as a teaching tool for what ought to be done.¹³ Yet what ought to be done (the value) is more fundamental. Tacit knowledge ethics is also unlike Kant's in that Kant's approach is to go 'from top down,' from the principle to rules to cases, while this proposal starts with cases, then taps into principles and rules, moving up and down the hierarchy.¹⁴ Neo-Polanyian ethics is unlike Kant's, for a degree of pluralism must be worked out in the layer under the universal principles and taken into view when judgments are made in the hierarchy of principles under consideration.

¹³ Empirical facts are also taken into consideration in the formalization of principles.

¹⁴ It may be said that the full meaning of principles, of justice and duty, emerge as the ethical problem is worked through.

Conclusion

In conclusion, the schematized epistemology of Neo-Polanyian tacit knowing in ethics is meant to be the grounding for intelligent action. The structural and functional models delineated above provide a conceptual map for such action. The structure of tacit knowing consists of subsidiary awareness and focal awareness and the two poles of from-to knowing. Subsidiary awareness is on the internal (personal) pole, focal awareness is on the external ('objective') pole. The function of tacit knowing has three aspects: selective, heuristic and persuasive, each having a conative and cognitive mode or trait. The driving force of this model is 'intellectual passion' which in ethics is the judicial attitude keeping the principle of justice in sight. Since the epistemology of tacit knowing presupposes free will, it must choose a duty bound ethics. Neo-Polanyian Tacit Knowledge Ethics is an ethics of obligation, a deontological ethics, with some features of both act- and rule-deontology. This makes sense in light of the 'two poles of knowing' model presented in Figure 1. Particular moral judgments are implicitly general, even though each situation may be 'unique.' Specifically, the analysis of tacit knowing model presented here hones the awareness of the mentor about his own processes of knowing, doing and persuasive acts, deliberately focusing on these processes and their grounding in free will. The mentor's understanding then serves his nurturing function, the training of the novice to attain awareness of these same functions in him. The ethical aspect is the duty to pass on this knowledge to enable the novice to become intelligently autonomous, to train him to develop the judicial attitude to enable him to make responsible judgments. Thus, both the morality of traits, that is being, and the morality of principles, that is doing, are fostered. However, the key is the fostering of the will to do right, that is fostering the 'intellectual passion' grounded in the judicial attitude.

FREEDOM OF KNOWING

Introduction

Polányi's most fundamental claim is that knowledge is always the knower's personal knowledge who essentially and personally contributes to knowledge. It has been almost a truism from Kant on that the subject has a substantial effect on knowledge. However, according to Polányi, it is not an abstract general subject, but the individual person who leaves her personal fingerprints on knowledge. Granted this it seems to threaten the objectivity immediately. It has been much discussed how subjectivist this position is, whether there is any justification for the universal – or at least intersubjective – validity of such knowledge. We can approach this problem from a slightly different angle, namely, through the freedom of knowing and, this way, we link this epistemological issue to some moral problems. The problem of Polányi's epistemological subjectivism can be transformed into the question of what are the limits of our freedom in knowing, what sort of constraints are there to temper individual fantasy.

The expression 'freedom of knowing' is equivocal as a genitive structure almost always is. On the one hand, it may refer to the freedom we enjoy in determining whatever we would like to know, or whatever we would like to take knowledge of. It is the freedom *in knowing*. On the other hand, this expression may refer to freedom that is provided by or generated by knowledge. The relationship between knowledge and freedom is discussed generally in the context of this second meaning. We control our environment, social and natural, through knowledge and we enlarge the territory of our freedom by means of this control. In this paper, however, I would like to focus on the first meaning of this genitive structure. Which is – I would like to suggest – prior to and a precondition of the second one. The freedom we enjoy in determining what and how to know is the foundation of and the precondition of knowledge, and hence, the freedom we enjoy by virtue of knowing something.

Individual freedom in knowing

Freedom is often understood as a playground or an opening within which, in our case, we are free to know whatever we want, or to take knowledge as we like. This playground is circumscribed by ontological, epistemological and social factors. Here we should consider both positive and negative freedom in terms of these factors.

On the **positive** side of our freedom, we find the infinity of the reality *and* the indeterminacy and infinity of our cognitive powers. Positive freedom means *freedom for*, that is to say, we may initiate whatever we would like to do. It is the infinity of the reality that opens up a playground for us to create the knowledge of our own, to see the world in a specific personal way. This infinity of reality is closely related to the indeterminacy of the subsidiary components of understanding and the infinity of our integrating capability. Our cognitive powers are part of the reality, hence infinite. Infinitely many and indeterminate subsidiaries may help us to integrate them into infinitely many meaningful wholes knowing ever-new unpredictable aspects of the world. This is true both for the innate psychological factors and the learned elements of the tacit knowledge, like for example our language. It is not determined and not determinable for us what subsidiary signs to take into consideration when we integrate to focal meaning and how to integrate them. Thus within this playground, we are free to determine the content of our knowledge.

It is an *individual* (or truly personal) freedom, as the cognitive act is guided by *my own* bodily and psychological setup, my own learning history, skills and passions. In other words, our knowledge is not determined by the epistemological situation or circumstances. Metaphorically, we are free to see the world as we like within the open playground.

This leads us to the related issue of **negative aspects of freedom**. Negative freedom is *freedom from*, that is to say, we are free from certain influences, certain compulsions. First of all, according to Polányi, our knowing is not completely determinable by rules, including the rules of rationality. Our cognitive power – as far as the tacit component is concerned – is free from the dictatorship of the rules of rationality. More explicitly it is free from both inductive and deductive methodologies. This entails that no given premises or epistemological set-up can and may determine what the resulting knowledge should be. A person is not a rule-following machine in this respect. Furthermore our understanding in general is not fully determined by rules whatsoever, neither semantic rules nor the rules of language-use can eliminate the essential indeterminacy of meaning. Meaning is realized in understanding by the essential contribution of the personal tacit knowledge, hence the indeterminacy of meaning.

By saying that it is not determined I mean – in Polányi’s vein – that it cannot be calculated by rules whatsoever, from the inputs, and the inputs do not causally determine them. The second follows from the first since, according to Polányi, reasons can not be reduced to causes. Consequently my account of freedom is in terms of reasons and not in terms of causes.

The results above are closely related to the fact that Polányi sees knowing as an act instead of as a representation. He sees the similarity between knowing and skills or practical activities. Knowledge is not a symbolic representation rather it is our