

Tacit Knowing, Moral Development and Pluralism: Thoughts on mentoring, judgment and reform

LA EPISTEMOLOGÍA DEL CONOCIMIENTO TÁCITO ES BÁSICA PARA UNA ACCIÓN INTELIGENTE EN LA ÉTICA DEL ASESORAMIENTO PERSONAL. LOS MODELOS ESTRUCTURALES Y FUNCIONALES PRESENTADOS EN ESTE ARTÍCULO PROPORCIONAN UN MAPA CONCEPTUAL PARA TAL ACCIÓN. LA ESTRUCTURA DEL CONOCIMIENTO TÁCITO ESTÁ FORMADA POR UNA CONCIENCIA SUBSIDIARIA (“SUBSIDIARY AWARENESS”), UNA CONCIENCIA FOCAL (“FOCAL AWARENESS”) Y LOS DOS POLOS DEL CONOCIMIENTO: LA CONCIENCIA SUBSIDIARIA ESTÁ EN EL POLO PERSONAL (INTERNO) Y LA CONCIENCIA FOCAL ESTÁ EN EL POLO (OBJETIVO) EXTERNO. LA FUNCIÓN DEL CONOCIMIENTO TÁCITO TIENE TRES ASPECTOS: SELECTIVO, HEURÍSTICO Y PERSUASIVO, Y CADA UNO DE ELLOS TIENE UN MODO O RASGO CONATIVO Y COGNITIVO. LA FUERZA MOTRIZ DE ESTE MODELO ES LA “PASIÓN INTELLECTUAL”, QUE EN ÉTICA CORRESPONDE A LA POSICIÓN APTA PARA EMITIR UN JUICIO, SIEMPRE A LA LUZ DEL PRINCIPIO DE JUSTICIA. COMO LA EPISTEMOLOGÍA DEL CONOCIMIENTO TÁCITO PRESUPONE LA LIBRE VOLUNTAD, HA DE ELEGIRSE UNA ÉTICA DEL DEBER¹. EN CONCRETO, EL ANÁLISIS DEL MODELO DEL CONOCIMIENTO TÁCITO QUE AQUÍ SE PRESENTA PROMUEVE EL DESARROLLO Y LA MEJORA DE LA CONCIENCIA DEL ADULTO ACERCA DE SUS PROPIOS PROCESOS DE CONOCER, HACER Y PERSUADIR, PRESTANDO DELIBERADAMENTE ATENCIÓN A ESTOS PROCESOS Y A SU FUNDAMENTACIÓN EN LA LIBRE VOLUNTAD. DE ESTA FORMA, LA COMPRESIÓN DEL ADULTO FAVORECE SU TAREA DE APOYAR, DE AYUDAR AL JOVEN, A TOMAR CONCIENCIA DE ESAS MISMAS FUNCIONES EN SÍ MISMO. EL ASPECTO ÉTICO ESTRIBA EN EL DEBER DE TRANSMITIR ESTE CONOCIMIENTO AL

Nf004

Stefania Jha

Philosophy of Education
Research Center.
Harvard University
srjha@aol.com
stefania_jha@harvard.edu

¹ El conocimiento tácito es una ética de la obligación, una ética deontológica que tiene unos rasgos distintivos, tanto en las acciones como en las normas deontológicas. Este planteamiento tiene sentido desde la perspectiva del modelo de “los dos polos del conocimiento” señalada en la Figura 2. Los juicios morales particulares son implícitamente generales, aunque cada situación sea “única”.

EDUCANDO, PARA QUE PUEDA LLEGAR A SER AUTÓNOMO DE FORMA INTELIGENTE, ENTRENÁNDOLE EN EL DESARROLLO DE ESA ACTITUD. DE ESTA MANERA, SE PROMOVERÁN TANTO LA MORALIDAD DE LOS RASGOS, EL SER, COMO LA MORALIDAD DE LOS PRINCIPIOS, EL HACER. SIN EMBARGO, LA CLAVE RADICA EN FAVORECER QUE LA VOLUNTAD HAGA LO CORRECTO, ESTO ES, EN ENCAMINAR LA “PASIÓN INTELLECTUAL” HACIA LA POSICIÓN APTA PARA EL JUICIO.

PALABRAS CLAVE: CONOCIMIENTO TÁCITO, INTENCIONALIDAD, COMPRENSIÓN, JUZGAR.

THE EPISTEMOLOGY OF TACIT KNOWING IN THE ETHICS OF MENTORING IS MEANT TO BE 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 ETHICS². SPECIFICALLY, THE ANALYSIS OF TACIT KNOWING MODEL PRESENTED HERE HONES THE AWARENESS OF THE ADULT ABOUT HIS OWN PROCESSES OF KNOWING, DOING AND PERSUASIVE ACTS, DELIBERATELY FOCUSING ON THESE PROCESSES AND THEIR GROUNDING IN FREE WILL. THE ADULT’S UNDERSTANDING THEN SERVES HIS NURTURING FUNCTION, THE TRAINING OF THE YOUNG TO ATTAIN AWARENESS OF THESE SAME FUNCTIONS IN HIM. THE ETHICAL ASPECT IS THE DUTY TO PASS ON THIS KNOWLEDGE TO ENABLE THE CHILD TO BECOME INTELLIGENTLY AUTONOMOUS, TO TRAIN HIM TO DEVELOP THE JUDICIAL ATTITUDE. 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.

KEYWORDS: TACIT-KNOWING, INTENTIONALITY, UNDERSTANDING, JUDGING.

² 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 2. Particular moral judgements are implicitly general, even though each situation may be “unique”.

I. TACIT KNOWING IN PROBLEM SITUATIONS

The modern version of the concept of tacit knowing was put into currency by Michael Polanyi's sayings, such as "we know more than we can tell" (Polanyi, 1966, p. 4), and "the aim of skillful performance is achieved by the observance of a set of rules which are not known as such to the person following them" (Polanyi 1958/1962, p. 49). Or "all understanding is achieved by indwelling" (Grene, 1969, p. 160). Indwelling is assimilating to ourselves things outside to gain access to new meaning.

I will untangle these epistemological sayings by offering schemas onto which I build my Neo-Polanyian proposal applied to moral development. Michael Polanyi's epistemology of Tacit Knowing takes into consideration the knower and the known. He called it "from-to-knowing". Although his epistemology was innovative, his ethics remained underdeveloped. However, he suggested a connection between his epistemology and ethics (Polanyi 1966, p. 17): to view the internalization of moral teachings as making them the "proximal term" for application in practice. The proximal term means "indwelling", not observing. I wanted to see if the modified form of his epistemology could underpin a sketch for an ethics of skillful mentoring in a global society. Why an epistemology of the ethics of mentoring? One wants one's moral actions to be guided by an insight into how one comes to principles and by the analysis of new situations. One needs to develop skills in recognizing a new situation and of reassessing relations of situations to principles. One needs to know more than efficient and convenient application of a moral idea, an approach which may have sufficed in traditional societies. It is necessary now to accommodate new particulars, or even to reorganize and modify a network of principles in a pluralistic society.

My plan is to define my terms, present theoretical structural and functional models followed by a practical model of levels of action in the mentoring process.

The key ideas to be discussed here are: tacit knowing, judicial attitude and universalizability.

Tacit knowing is not unconscious. It is of various levels of consciousness. It is a continuum with two poles in which attention is directed from the features or clues of the situation or thing, to the whole (Polanyi 1966, p. 87). A shorthand form of this conception of tacit knowing is *from-to knowing* (p. 10). We may be unable to specify the clues, these internal processes on which we rely, but these clues support our recognition of the whole, the situation or thing. The "whole" is the meaning of the act of recognition; we attend to the whole, the subject of which can be specified.

The term "*judicial attitude*" comes from Polanyi's explanation of the duties of public intellectuals to truth (Polanyi Papers). Here it is used with two meanings: epistemological and ethical, the epistemological underlies the ethical.

1) Epistemologically, it is the commitment, readiness and ability to choose, to assess and to integrate disparate clues into a judgement guided by

NOTAS

TACIT KNOWING, MORAL DEVELOPMENT AND PLURALISM: THOUGHTS ON MENTORING, JUDGMENT AND REFORM

a principle. It is a regulative idea. Freedom is a precondition for exercising the judicial attitude.

2) In the ethical context, judicial attitude means to strive for the actualization of *universalizable* principles. In its more familiar form, in the public sphere, the judicial attitude is a commitment to the principles of justice (the meaning of “justice” not completely formalized and fixed).

In Polanyian terms, *Universalizability* means not an established universality, but universal intent, a claim that the statement ought to be accepted by all (Polanyi, 1966, p. 78). Universalizability is a means to introduce new standards (p. 69) with conviction, while respecting established values.

All knowing, practical or theoretical, is grounded in tacit, non-explicit, knowing. We rely on it when we attend to solving a problem, performing a task or making a judgment. We may say, we have clues in our subsidiary awareness while attending to what is in focal awareness.

Figure 1.a

From-to knowing: direction of awareness
From elements in subsidiary ⇔ (vector of) integration ⇔ to whole
in focal awareness

As music teachers have known for centuries, the key to unlearning and relearning something in an improved form, such as a piece for musical performance (or diction, or writing, for that matter) is to shift focus from what was in focal awareness, i.e., the task as it was –the completion of the piece– and refocus on what was in subsidiary awareness –the position of fingers, or lips, or the nuance of expression–.

Similarly, the key to dealing with a malfunctioning system is to refocus on the clues to which the malfunction points, to the elements or particulars of the whole, and to see how to reorganize these into a new coherent whole. As Polanyi said with regard to conflicts of scientific frameworks, to change the form of outcome, one must reassess and reorganize elements, go back to the premises of the tacit inference (Grene, 1969, p. 213). This destroys the old inference, giving space for reorganization. In other words, a form of analysis-and-synthesis.

Figure 1.b

Learning: Oscillation between analysis and synthesis
Attention refocused on elements in subsidiaries ⇔ elements examined,
adjusted and re-arrange ⇔ synthesis of new whole ⇔ focus redirected to
new whole
(The process can be repeated as needed)

The difficulty is to find criteria for a judgment of “coherence”. Sometimes those inside a system consider the problem only an anomaly and someone not so immersed must point out that the problem constitutes a malfunction. In any case, one has to refocus not only on the troubling particulars or elements, but on those particulars which are related to it in the system. Since one can have only one focus at a time, focus will oscillate between the particular and the whole until a re-organization, a reintegration, is achieved. To be understood, the new reorganized integrated whole has to be assimilated, interiorized (internalized). The assimilated whole becomes part of subsidiary awareness, the background of knowing, the skill. We are aware of these particulars now as they bear on the task at hand, but not in themselves. These particulars force themselves into focus when an error, a mis-fit, occurs in the process or performance.

All this seems simple enough, and part of common sense experience. Polanyi put it this way:

Non-explicit *practical* knowing is “understanding by doing”.

“Our subsidiary awareness of tools and probes can be regarded now as the act of making the form a part of our own body. We pour ourselves out into them and assimilate them existentially by dwelling in them” (Polanyi, 1958/1962, p. 59). *Theoretical* knowledge is an abstract probe. “The structure of knowing, revealed by the limits of specificity, thus fuses our subsidiary awareness of the particulars belonging to our subject matter with the background of our knowing. To this extent our knowing is an indwelling” (Greene, 1969, p. 134).

The paradox is, that while we focus on the particulars, let us say in diction, as we repeat the word or phrase out of its context, it seems to lose its meaning. We regain the meaning as the particulars are re-contextualized. In moral knowledge, when our previous set of tacit moral knowledge no longer applies in practice, when past moral teachings no longer seem to make sense, and what was held to be an ethically integrated society begins to disintegrate upon introduction of new particulars, it is time to refocus on the particulars with an eye toward re-organization. The question is of-course, what standards, frameworks or guidelines do we use.

Before we were aware of a breakdown, we applied standards and frameworks passed down through tradition. We were attending to new situations in the light of principles learned and “dwelled-in”. To know is to know how and when to use something. Strange as it may seem to draw a parallel between connoisseurship in art or science and moral judgment, it is enlightening to do so. One can “construct” a new theory of art, or for that matter a new theory in one of the sciences, only after immersion in the tradition, a prior tacit knowing, that is having the old theory in subsidiary awareness. From this we attend to the new situation, with its new elements and strained connections on which the old theory no longer bears fully, thus we recognize an anomaly, something that “does not fit” and needs to be dealt with. In other words, we have a problem.

NOTAS

TACIT KNOWING, MORAL DEVELOPMENT AND PLURALISM: THOUGHTS ON MENTORING, JUDGMENT AND REFORM

All search starts with a problem. We can deal with a problem by ignoring it, accommodating to it, or if the stress of accommodation is too great on our framework, by reorganizing our framework, by finding new guidelines. In extreme cases, we may consider discarding our framework altogether, in which case we find that in constructing a new one we do so in reference to the old one, positive or negative. More than that, we rely on what we know from the old framework, on a sense of when something “works”. Re-construction/reorganization always has a large tacit element. We have an “inkling” of a coherence, of what makes sense. Reorganization is only partly explicit. “Reorganization” does not mean collecting all elements and deliberately putting them together into a new construct with connections defined.

To illustrate: Think of an old, comfortable, functional relationship such as the parent-child one in an immigrant family. Put stress on it by introducing several new, powerful elements from the outside such as geographical, social or cultural relocation, and the framework may crack open, the “comfort” links fall out, new peer influences batter the “functional” aspect. What to do? Draw up a list of rules for parenting? Neither inductive nor deductive approaches work.

As history bears out, societies and moral communities constructed by applying explicitly laid out detailed rules unconnected to previous experience and traditions, proved to be not viable. The soviet social system and Cambodia’s “cultural Revolution” come to mind. Neither is it a viable option to try every imaginable version until we hit on a workable one, i.e., error elimination. Just as a scientist, immersed in his background knowledge makes the effort to be acquainted with the new elements, now has the ability to anticipate a workable solution, has hunches which guide him toward a sensible course of action on which he embarks as a responsible choice, so the moral thinker, relying on his background knowledge, on his framework as a reference and his deliberate reach toward new elements, has the ability to approach an ethical problem however unfamiliar it may be. In both cases, the “problem situation” involves new elements introduced which necessitates *finding the new multiple relationships* which these elements can sustain in a new configuration. The “finding” is a guess, but an intelligent guess. It is an insight reached by what C.S. Peirce called “abduction”.

Polanyi’s analogy for solving unfamiliar problems with an indeterminate outcome at the time of approaching the problem, was the putting together of a puzzle as a group effort. Each individual has one piece (the one he knows best) and all have one goal-completion. Each looks over the whole situation, and by a system of spontaneous coordination, an insight, the puzzle pieces are fitted together into a new picture. The tacit elements are: the attitude toward the goal and the insight. Calling this process “puzzle-solving” is not to trivialize the issue, neither is this by way of mystification. Each person makes a judgment while committed to the goal: in the case of scientists, to find out the truth about a part of reality; in the case of the

moral thinker, to find a just solution to a moral or social problem. Let's say, a pluralistic cooperative group comes to a "vision" of the "big picture", a new ethical ideal, toward which it can work. Polanyi called it "mutual adjustment". Competing self-interest, though acknowledged and examined (that is the premises need to be found), these competing self-interests needs to be supervised for the common good. The analogy to science is that competing theories are not necessarily incommensurable, i.e., it is not the case that one has to "win"; or that they are mutually untranslatable. This situation can be resolved by finding a higher-order theory which encompasses both.

Polanyi never specified "steps" to arrive at solutions, indeed he said there are no recipes and no certain ends. However, drawing from his descriptions of scientific insight, we may say the following. When we are looking for a "vision", the "big picture", we are engaged in the following activities, for which the precondition is freedom from dogma:

We examine the elements under "magnification" (Polanyi, 1966, p. 18); this destroys the existing pattern, the connection between the elements; we "rearrange" the connections between elements, that is, come to an insight into a new pattern –this is not by hit-and-miss–, but by anticipation, a hunch (p. 76); as far as possible, we explicitly state the new relations between the elements, as well as note which elements no longer participate and which new ones do; we recover the meaning of the pattern by internalizing it, i.e., tacit integration (p. 19). Steered by responsibility, a social constraint (p. 77), for advancing towards the new goal, we now find the emergence of a new ideal taking shape.

Just as the physical world is not entirely of our making, neither is the social world, yet, in our dealing with it, especially in changing it, we have an obligation when we make claims, to make these claims universalizable. Relativism and special pleading have no place in our choices. The knower and claim-maker, even though he shapes his own knowledge and anticipated goals, he is in the setting of an impersonal world. Another way to think about it is that the tacit and the explicit are connected and freedom and obligation to principles are connected. There is a new awareness of principles by which one lived in the social sphere, of a need to re-examine these carefully. There is a new awareness of the anomaly or the particulars which caused the "break". These have to be examined to see their intrinsic value and their function in a re-organized whole. This is the explicit aspect. The tacit aspects are the process of insight into how everything fits together and the process of interiorizing (internalizing) the new frame by living in it. There is no explicit "to do" list to follow, although there is a process of evaluation of elements and their connections. When do we know if we found a workable solution? We *recognize* a well functioning system as one where each part contributes as well as draws on the whole, i.e., when it is an integrated whole. The "recognition" is a tacit process.

Now, by way of demystifying the above comments, I offer some technical

NOTAS

TACIT KNOWING, MORAL DEVELOPMENT AND PLURALISM: THOUGHTS ON MENTORING, JUDGMENT AND REFORM

details on a schema to guide us in thinking through the problem. We will be surveying the nature and function of tacit knowing, and exploring its possible role in dealing with a “problem situation”.

2. THE STRUCTURE OF TACIT KNOWING

The epistemology of Polanyi’s tacit knowing was to bridge the fact/value dichotomy prevalent a few decades ago when logical positivism reigned and a strict empiricism dominated the conception of the sciences. According to Polanyi, severing fact from value discounts the knower’s active participation in all knowing, i.e., knowing becomes a collection of disembodied ideas. Bridging the gap, he insisted, does not mean collapsing fact into value, or denying objectivity. Collapsing fact into value and denying objectivity would be to commit the opposite error, subjectivism. However, because fact and value are connected, concepts such as truth and objectivity need to be redefined, as will become clear in the following sketch.

Tacit knowing is a continuum between two poles of knowing, the internal (personal) pole and the external (objective) pole. The poles are connected by intentionality. The personal pole supports the external pole, and without it the external pole is adrift.

Figure 2.

The structure of two poles of knowing

From	⇔ Vector of intentionality* ⇔	To (In general terms)
Internal (personal) pole	⇔ “intellectual passions”	⇔ External (objective) pole
1. Subsidiary awareness	integrated into	Focal awareness
2. Tacit assertion	tacit inference	Content of assertion
3. Guessing	integration	Guessing right (validated)** by test of experience
4. Claim of truth	responsible judgement	Truth itself
4a. Striving to reach the goal	judicial attitude	Reaching the goal (the principle)

*Vectors spring from the internal pole and are forms of will

**In Ethics: validation; in natural sciences: verification

Earlier I said that a shorthand way of thinking of tacit knowing is *from-to knowing*. *From* is the internal pole, *to* is the external pole. To round out our conception of tacit knowing, the following pairs of poles and their connecting vectors should be considered; all pairs are aspects of knowing and each pair highlights an important characteristic of tacit knowing.

1) The first pair is to explain the structure of understanding by a brief sketch: Subsidiary awareness of clues or elements are “linked” to focal awareness of the whole by the act of integration. For example, we have a background awareness of features (the elements) of a face but we are focusing on the face (the whole), our tacit knowing integrated the features into a coherent whole. If we focus on the mouth of a speaker, for example, we lose sight of the face. It will recede into the background, into subsidiary awareness. Or, another example: When we read a sentence, we are focusing on the meaning of it, to understand it as an instance of communication. However, if the sentence is written either in a foreign language in which we have slight proficiency, or if it is written in a jargon unfamiliar to us, we will be focusing on the words. Only after we think we understand most of the words (elements) can we try to make sense of the string of words as a sentence. If our mind has made the proper integrations by the use of grammar, we understand the meaning of the sentence. If not, then not only the elements, but the linkages also need to be clarified by focusing on them individually and in relation to the whole. Examples of this can be found in the incomprehensibility of jargon to the uninitiated and their gradual proficiency in its use in the process of learning. The point is that the mind tacitly integrates elements into a whole, unless the elements are mostly unfamiliar.

2) Another pair of poles highlights the structure of the “logic of tacit knowing”. Tacit assertion at the internal pole and the content of what is asserted at the external pole. When I make a statement such as “Smith is a liar”, the statement consists of the assertion, rather tacit assertion, meaning “I believe it is true that Smith is a liar” and the content of the statement “Smith is a liar”. The tacit assertion is linked to the content of the statement by intentionality. If I check the content of the statement and in experience it does not turn out to be the case that Smith is a liar, the content is false and I cannot reassert the sentence because my intention was to make a true statement –or so it is expected–.

3) The third pair of poles highlights understanding. When we size up a new situation at a glance, initially we are making an intelligent guess as to its meaning, e.g., “Jones murdered the cat”. This initial guess can be said to be at the internal pole of knowing. We make a tacit inference *from* the elements of the situation, Jones with a weapon, the dead cat, *to* the whole which is its meaning “Jones murdered the cat”. We must subject this guess to the test of experience, analyze the elements of the situation and make an inference to the objective situation. If Jones actually murdered the cat, we may speak of “guessing right”. Guessing right is at the external pole, as the guess had to pass the test of agreeing with objective reality.

NOTAS

TACIT KNOWING, MORAL
DEVELOPMENT AND
PLURALISM: THOUGHTS ON
MENTORING, JUDGMENT
AND REFORM

4) The fourth pair of poles highlights values embedded in tacit knowing. If I make a statement as a claim of truth, “Jones has done me wrong”, I must make this statement with responsible judgement. Responsible judgement originates at the internal pole of knowing. Truth itself is at the external pole. Responsible judgement springs from the *judicial attitude*, which is, as I said above, a commitment and ability to choose and to integrate disparate elements into a judgement guided by a principle. If the claim of truth is made without responsible judgement, the link to truth is severed, and in the public realm the principle of justice is lost. The claim to truth without a connection to the principle of universalizability is invalid, i.e., there are no relative truths; relative truths are privileged rules for special cases to make an exception. Ideally, only if everyone tells the truth can claims be believed. Note that claims to truth unconnected to external reality are subjective. Both in the case of relativism and of subjectivism, principles are lost. The claim to truth without responsible judgement is to be distinguished from error, which was illustrated in the example “Smith is a liar”. In the case of error, the principle is not lost. Another attempt can be made at a statement and checked by experience. The intention to reach truth has not been compromised.

To summarize: the link between the two poles of knowing carry various names depending on the aspects of knowing they connect: inference, intentionality, responsible judgement, integration, judicial attitude. The general term for all these versions of the link between the poles is “intellectual passion”. This is the vector. Inference connects tacit assertion to content, intentionality connects subsidiary awareness to focal awareness, responsible judgement connects claim of truth to truth, integration connects clues to the whole formed out of the clues, judicial attitude connects striving to reach the goal to reaching the goal which is the principle. *The term “intellectual passion” indicates the joining of cognitive and conative forces in knowing, and is the technical term for the vector between the poles.*

The structure of the two poles of knowing as applied to ethics is the following, as shown in Figure 2.4:

Figura 2.4

Striving to reach the goal (commitment) ⇔ judicial attitude in
responsible judgment ⇔ reaching the goal, principle
(of justice for example)

3. THE FUNCTIONS IN TACIT KNOWING

To understand the process of knowing grounded in the tacit, we will have to look at it in 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. Without examining his use of these notions here, we will see if a version may be useful for our purposes in understanding, teaching and learning moral subjects.

Figure 3.

Functions of intellectual passions in tacit knowing

Selective function	-cognitive trait: noting the regularity of events -conative trait: choosing intrinsic value (moral-aesthetic)
Heuristic function	-cognitive trait: recognition of the 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)

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 three aspects –selective, heuristic and persuasive– are intertwined, and the first two (selective and heuristic) are functions within an individual, while the third (persuasive function) is between individuals, especially between mentor and novice.

a) The cognitive trait of *selective function* 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.

To illustrate with an example when there is an existing principle:

Smith is a mentor, grounded in ethical principles which are normally in his subsidiary awareness, that is the ethical principles are normally part of his tacit knowledge. In everyday speech, they are “second nature to him”. The bipolar structure of tacit knowledge makes it possible to direct attention onto something that is normally in the subsidiary and bring it to focal awareness while it is being examined, in this case, to bring the principle to focal attention (Figure 2). Looking at the first two functions

(selective and heuristic) of the vector “intellectual passions”, we see the following (Figure 3).

Notice the *selective functions* operating: Smith comes upon a situation at work where coworker Harrington copied an unmarked file, which Smith forgot to pick up from the secretary’s desk. Smith saw the copy and his immediate response was “Harrington stole my file”. Harrington often picks things up that interest him from the secretary’s desk without asking anyone. It is relevant that he seldom asks whether these things are for the taking or if they are someone’s property. Therefore Smith had been watching Harrington. The selective function of Smith’s tacit knowing has become active. The cognitive trait of selective function picked out the above-described events as regularities. The conative trait of the selective function picked out these events as non-trivial ones, whose (negative) moral value had a meaning (a negative aesthetic feel). This is the first function at work.

b) Now the second, *heuristic function*: The cognitive trait of heuristic function means the ethical recognition of the goal of striving. The conative trait of heuristic function means a self-transforming act of reaching near the goal and “living” it.

Continuing the above example: We may say that in the process of Smith’s tacit knowing, the cognitive aspect of his heuristic function recognized the moral principle which applied to the situation with Harrington. This recognition, was a (negative) moral-aesthetic response in this case. The conative aspect of his heuristic function renewed the self-transforming act of striving toward the moral principle of honesty: Smith “lives in” the principle. *His commitment to the principle and his ability to recognize it was evoked by the heuristic function; he drew on the selective function as an aid. This is the strength of the tacit, the being and doing of the knowing self which, in the delineation of the structure of tacit knowing was identified by the name “judicial attitude”.* As I said above, these functions may be fallible: Smith will still have to check if his guess was right and Harrington copying the file in fact constituted stealing.

c) The third, 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, he attempts to tap the personal pole of tacit knowing. We may think of it as tapping the novice’s will. 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.

An example, when we are searching for a principle in a pluralistic situation:

In a practical ethical situation, a pluralist community deals with competing “accepted ways of doing things”. Our task is to search out the premises on which the acceptance is based, in order to find the function of it. For example, such behavior by a child as smoking or drinking alcohol or roaming without supervision is not condoned by adults in many western industrial societies. This attitude assumes that childhood is a protected status for a vulnerable stage of life.

A child’s smoking, drinking, etc., is condoned in some societies where childhood is not considered a separate status in these terms, where children participate in adult activities, i.e., imitate what adults do. There may be other specified non-accepted behaviors, such as using speech-patterns in-appropriate in relation to elders in general, or calling a person by his given name, etc.

In another community, a child’s behavior of smoking, drinking, etc. may not be condoned officially, i.e., he should not do it in front of elders because this behavior is (a minor) taboo in the community, and breaking these taboos shows disrespect to the elders and social norms in general. However, he can do these actions in private with his friends, which the elders will pretend not to notice unless he makes a public scene and “brings shame” on the extended family. The child, although cared for, may not have a separate status by custom in the community, even though he may have one legally.

Here are three versions of what is condoned behavior. In a pluralist situation, such as a school, how does one make a reasonable and just rule? Is there a supervening principle under which the three cases may fall? To find such a principle, we have to find the premises underlying the three versions and see how they may be related. *Tacit knowledge epistemology’s process is to go back to the premises to be able to reorganize into a new whole.* What can these premises be? Our conceptions of how children fit into the communal order? Whether they must be molded to an accepted pattern or they grow in a (divinely or naturally) preordained way? Whether there is such a stage as childhood? What is the conception of “good life”? *The premises must be found. In scientific fields, this is done by those steeped in the scientific tradition, yet open to the possibility and necessity of new discoveries, of change, of emerging new knowledge.* In the practical ethical situation the same task can be performed by a similar group of open-minded culturally knowledgeable people committed to an emerging better society.

To aid the search for premises, we will perform the analysis, again aided by the description of tacit knowing above.

3.1. Selective function

The cognitive trait of the selective function is to pick out the regularity of events. This assumes some kind of hypothesis or framework or “guess”

NOTAS

TACIT KNOWING, MORAL DEVELOPMENT AND PLURALISM: THOUGHTS ON MENTORING, JUDGMENT AND REFORM

which allows one to recognize regularities. The conative trait of selective function means to choose an intrinsic moral value. This act also assumes having some sort of hypothesis or “guess” in mind. The difficulty is that the insight, the “aha” experience of forming a hypothesis/guess seems to require the having of a guess. A circularity? How to get out of this bind? By noting, that the mind uses multiple overlapping analogies to find regularities and similarities when confronted by disparate objects, events and customs or by a complex phenomenon/situation.

For example, multiple analogies to understand the phenomenon of insight would work like this: Let’s say we could use four analogies to highlight various aspects of insight, keeping in mind that each analogy captures a feature, as well as misses others. (The following analogies are adaptation of Polanyi’s examples).

- 1) When we recognize a face in a crowd, we can’t tell exactly how we do it;
- 2) When we recognize the topography of an object/place, it is recognized as a “whole” containing significant relationships between the parts. When we focus on the parts, we can describe them, but the relationships cannot be described exhaustively and exactly;
- 3) Observing problem-solving (in chimps, for example): we observe their behavior –they seem to look around, attend to and assess the environment before attempting a solution–;
- 4) In recognizing living shapes, although we can describe some of their characteristics as opposed to characteristics of non-living shapes, we cannot definitively define them. Sorting out these analogies, we get the following picture of “insight”.

Table.

Table of Multiple analogies of insight

Analogy	feature captured	feature missing	misleading feature
pick out a face	recognize whole, suddenly know but cannot tell	don’t know clues new integration	not intentional recognition
recognize topography	recognize whole (old integration) recognize relations	new integration	recognition of previously known whole
problem-solving	strategy, building on old bits of knowledge	introspection	explaining insight with “insight”
recognizing living shapes	introspection new integration		“recognition”
etc.			

Multiple overlapping analogies are richer and less hazardous than simple analogies. Simple analogies often carry inappropriate properties along with the selected one into the new domain, and tend to focus on surface descriptive aspects. In multiple integrated analogies each analogy is to explain a particular feature. If our analysis is to be fruitful, we must note for each analogy which features are captured/missing/misleading. When the analogies are superimposed, they can yield the dominant aspect one is looking for. Multiple analogies are used by the mind as composites, and they are recoverable (Vosniadou and Andrew, 1989).

NOTAS

TACIT KNOWING, MORAL DEVELOPMENT AND PLURALISM: THOUGHTS ON MENTORING, JUDGMENT AND REFORM

3.2. Heuristic function

My suggestion is that we cannot proceed until we take into consideration the *heuristic function* along with the selective function. These functions are not sequential, they are separated for analysis. For this reason: The cognitive aspect of heuristic function is the recognition of a principle, i.e., the insight. The conative aspect of heuristic function is a transformative one, “living in” the principle. This principle at this stage is only a “guess”, a “vision”, a guide to find the way to an emerging better society. The operational principles will have to be found deliberately. A suggestion to that was offered above, “finding the vision”.

To go back to our analysis: The cognitive trait of heuristic function, is the recognition of the principle applicable in the problem situation. Many situations are ambiguous (not well-formed problems), therefore “picking out” both the regularity of events, and the intrinsic value of events is difficult. One cannot rely on subsidiary awareness or tacit knowing only. One needs to focus one’s awareness explicitly on as many of the clues as possible, one by one, then on their interconnections, to see how these could be re-integrated into a meaningful whole. This can be done because awareness is directed, there are two poles of knowing. The resulting “whole” will have both tacit and explicit aspects.

A familiar example is learning to play a musical instrument as described earlier: it is a process of oscillation between analysis and synthesis, in an upward spiral until the goal is achieved –a technically good, yet expressive performance–.

The above description of selective and heuristic functions were shown, together, to deal with the ambiguous situation, when the choice of applicable principle is not clear. Principles can never be applied dogmatically. They are only ideals. Maxims which fall under them are only guides, not fixed rules. So one’s “sense” or tacit knowing is always called upon in judgment.

3.3. Persuasive function

The *persuasive function* in practice means that one has to demonstrate in a dispute how the principle applies, how one examines the elements of the situation, regroup and reassess these elements and check the facts. This is the

cognitive trait. We must keep in mind that the resulting assertions are fallible. Factual knowledge and clarity are vital when weighing an ethical situation, relativist notions notwithstanding. The conative trait consists of gaining the intellectual sympathy of the hearer, so he will be receptive to the demonstration.

It is the mentor's task to nurture the judicial attitude, to show the novice in practice how to recognize good choices, make decisions, and on what bases commitments to principles are made. It is also the mentor's task to show that commitment can be an intelligent choice.

Training in moral knowing and doing is by fostering the formation of moral traits and moral being of the young, it is the fostering of judicial attitude. This process moves between the tacit and the explicit, up and down the hierarchy of layers of elements, maxims and ideals. The overarching principle is the universalizability principle.

4. THE ONTOLOGICAL MAP-MENTOR AND NOVICE

The "maps" of structure and function of tacit knowing and its vector presented above were meant to illuminate how the morality of principles are activated, i.e., the "doing" of moral action. The following ontological "map" of the structure and formation of the morality of traits, is meant to illuminate the emergence of the moral being. It is not to be taken as a "construction" of morality (Figure 4).

The mentor in fostering the growth of the young, engages in the development of a moral being which is not a duplicate of his own moral self, but which is trained to make use of a scaffolding similar to his own. The mentor relies on accumulated experience and learning, 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 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 I have presented.

The novice or child must shape 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

Figure 4.

Emergence of the Moral Being (to be read from bottom of figure upward)

Mentor:		Mentor's intelligent moral existence:
	elements for teaching (focal)	principles and elements in subsidiary, now attended to, become accessible
	principle, reintegration or reorganization (subsidiary)	elements reorganized if reform is needed-or elements reintegrated when renewal of principles occurs
	elements (subsidiary ↔ focal)	were in the subsidiary, now attention to, to examine them
	principles (in subsidiary)	learned from his mentor
Novice:		Mentor's duty to novice:
	elements reintegrated (subsidiary ↔ focal)	renewed explanation of principle accompanied by description of example contextualized
	more elements connected (focal ↔ subsidiary)	described, pointed out, counter-examples given
	elements (focal ↔ subsidiary)	described, pointed out (practice)
	principle (focal)	verbal statement repeated after mentor
	trust (subsidiary)	the conative foundation-mentor attracts will of novice

NOTAS

TACIT KNOWING, MORAL DEVELOPMENT AND PLURALISM: THOUGHTS ON MENTORING, JUDGMENT AND REFORM

judicial attitude, sustains living principles. Therefore, the mentor, mindful of this grounding, guides the novice through the spiral 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 explanation for human action as intentional action (a teleological explanation) and explanation 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.

5. CONNECTING STRUCTURAL, FUNCTIONAL AND ONTOLOGICAL "MAPS"

By mapping showing and doing onto the two poles of knowing, fact and value in moral action were connected on a continuum. This allowed 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.

The mentor understands that his moral choices are premised on freedom of the act of responsible choice manifested in his judicial attitude. He fosters this attitude in the young, keeping the relevant principles in sight, noting that the universalizability principle overarches all others.

6. FROM EPISTEMOLOGY TO 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. (Polanyi, 1966, p. 69) 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 commitments (p. 77) Polanyi called “universal intent”.

In the ethical realm “universal intent” becomes the “judicial attitude”. The problematic issue arises with respect to principles, “standards and ideals” which in the social sphere today are much more pluralistic than it is possible to have in the scientific community. Pluralism is a social necessity. 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. 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 union of nations independent of the religious group but higher in the hierarchy than any ethnic group. These are not, need not be, exclusive commitments. Indeed, one can be a member of an ethnic group and still have commitments to the civic values of a more inclusive nation or union of nations. The mentor’s judicial attitude 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.

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 relationship 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 obey rules automatically rather than have self-determination. Self-determination is the core characteristic of free people. This does not exclude a rational acknowledgment of constraints by historical facts.

NOTAS

TACIT KNOWING, MORAL DEVELOPMENT AND PLURALISM: THOUGHTS ON MENTORING, JUDGMENT AND REFORM

7. TACIT KNOWLEDGE ETHICS AMONGST OTHERS

It may be said that the above sketch 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 and 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, 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 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; in ethics, the claim of moral truth is linked to truth itself at the external (objective) pole by the judicial attitude. Knowing and moral action are grounded in the tacit and linked to the explicit, that is, there is objective knowledge and objective truth.

Tacit knowledge ethics is like Kant’s in that moral justification is a priori. Nevertheless 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. 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, for practical reason belief in moral principles, not dogma,

is the foundation for guiding coherent action³. 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 ethics of tacit knowing, moral principles are accessible to us *after* training our awareness (with the help of a mentor) to tap into the subsidiary. This will enable us to make a responsible judgement with universal intent. These are 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 done⁴. 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 hierarchy⁵. This proposal 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 judgements are made in the hierarchy of principles under consideration. ■

³ 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.

⁴ Empirical facts are also taken into consideration in the formalization of principles.

⁵ It may be said, that the full meaning of principles, of justice and duty, emerge as the ethical problem is worked through.

BIBLIOGRAFÍA

- Grene, M. (Ed.) (1969). *Knowing and Being. Essays by Michael Polanyi*. Chicago: University of Chicago Press.
- Polanyi, M. (1958/1962). *Personal Knowledge. Towards a Post-Critical Philosophy*. Chicago: University of Chicago Press.
- Polanyi, M. (1966). *The Tacit Dimension*. Garden City, NY.: Doubleday Co.
- Polanyi *Papers. Special Collections*, Regenstein Library, University of Chicago, Chicago Ill. Letter to Passfield 18/3/1937, pp. 3-8.
- Vosniadou, S. and Andrew O. (Eds.) (1989). *Similarity and Analogical Reasoning*. Cambridge, UK.: Cambridge University Press.

NOTAS

TACIT KNOWING, MORAL
DEVELOPMENT AND
PLURALISM: THOUGHTS ON
MENTORING, JUDGMENT
AND REFORM