

PROFESSIONAL PRACTICE AND KNOWLEDGE ETHICS

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*Everything Flows. Heraclitus.*

### ABSTRACT

Professional practice involves offering technically competent services to help solve client problems. The latter, implicitly altruistic notion of client service hints at the ethical dimensions of professional practice, namely the professional's twin obligations to '*First, Do No Harm*' in benefiting the client, trying to solve the client's problem and advise clients on their best interest in the situation, and, to this end, to eliciting and facilitating the *Client's Informed Consent* to the professional services offered. Hence the need, as Schon claims, for a reflective dimension in professional practice. A professional's twin obligations show that technical competence is not value neutral. On the contrary, client service pragmatically interconnects knowledges and values. But, as use of the plural nouns implies, professional practice is cognitively and morally complex. The main thrust of this paper is an attempt to sort out the cognitive functions and moral values involved in client service. I principally suggest that the twin obligations: *Do No Harm* and *Informed Client Consent* go a long way to reducing the bewildering multiplicity of values proposed as part of ethical professional practice. Secondly, to help sort out the cognitive complexity of professional practice I propose a twofold *Knowledge Ethic: an Instrumental* and an *Inherent Knowledge Ethic*. The instrumental knowledge ethic merely unpacks of the obvious point that professionals use their knowledges to serve their clients. The *Inherent Knowledge Ethic* lays bare the further obligation of a professional to respect knowledge itself as both central to professional practice and a core human good. Finally, I conclude with the caution that these are limited claims. My point is to highlight key, somewhat neglected, aspects of ethical professional practice, not to pretend to offer a complete, exhaustive account of professional ethics.

*Everything Flows.      Heraclitus.*

## PROFESSIONAL PRACTICE AND KNOWLEDGE ETHICS

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A profession is “an occupation whose core element is work based upon the mastery of a complex body of knowledge and skills”

Cruess, Johnston, Cruess, 2004.

Professional practice, Cruess, Johnston, Cruess suggest, is at its heart cognitively and practically complex. Donald Schon however criticizes the conventional value neutral technical competence model of professional practice, because of its positivist epistemology and scientism (31f, 39f). In contrast he proposes a psychologically richer view of professional practice as a multi-step “reflective” practice and ... conversation” with the client’s (21??). Both would agree that professionals use their technical knowledge or and practical skills or know how to help their clients, and that there is an ethical element in professional services to clients. But, neither technical competence nor reflective practice / conversations nor professional ethics, adequately illuminate and sort out the cognitive complexities of professional practice. Nor do they disclose its implicit knowledge ethic. Accordingly, after an attempt to sort out the cognitive and ethical complexities of professional practice, I will propose the view that a twofold knowledge ethic lies at the heart of professional practice, namely, an *Instrumental* and *Inherent* knowledge ethic. The result, I hope, will be to go some way to clarifying a few key moral and cognitive aspects of professional ethics.

### COGNITIVE AND MORAL COMPLEXITY

The classic professions: medicine, engineering, dentistry, law, social work, teaching, are all cognitively complex and demanding. All require a university degree as well as professional training. All are legally constituted as self-governing professions in North American and European states. While other occupations may label or present themselves as professions, such as financial counselling, real estate sales, policing, etc., their claims to professional status are problematic. First, they usually lack an extensive, tested, scientific knowledge base for the technical expertise claimed. Nor do they require a university level professional education. Secondly, they do not enjoy legally supported professional certification and self-governance powers. For such reasons clients cannot be assured that the services they offer live up to professional standards of competence and quality.

The professional ethics literature further complicates matters by proposing a variety of unconnected moral values as central to professional practice. All of which is true in many cases. But my point is that reflection and many other skills are required to identify and solve simple and complicated conventional client problems, as well as deal with uncertainties and value conflicts.

The professional ethics literature however suggests that professional practice involves multiple social and moral values. The professional ethics literature, like the conduct

codes of the medical, engineering, psychological and social work professions, however imply that a wide range of values are involved in professional practice (Camenisch, Beauchamp and Childress, Sullivan, Hellegers). Schon cites 'usefulness' Some of the values mentioned are: fidelity, responsibility, integrity, justice, respect for rights, dignity of the person, service, social justice / wellbeing, human relationships, discrimination, harassment, appropriate care, autonomy, accurate record keeping, and accountability to clients, the profession, and the public (CMA, APA, NASW; Morrison and Hughes; Emanuel; Cruess). This mix is unsystematic and confusing. It suggests that we do not know what is meant by the 'ethics' in professional ethics.

We need therefore to cut through the confusion about professional values. The multiplicity of moral values associated with good professional practice is bewildering. It can and should be reduced if at all possible, for this will make for a better understanding of professional practice and ethics.

We can however reduce the bewildering variety of moral values associated with professional practice. I would therefore like to propose that good professional practice rests mainly on two classic, fundamental moral maxims: *First Do No Harm*, as mentioned above, and *Enable Informed Client Consent*. Both maxims lie at the heart of professional practice.

This is a common concern in professional practice, captured by the great Hippocratic maxim, *First do no harm*. It is a fundamental moral maxim, sets constraining parameters on solution options professionals should propose to their clients. That is evident in the medical maxim to seek safe as well as effective treatments for patients, whether they by surgical, pharmaceutical, or in patient *laissez faire* life style. This is, one might say, the more technical of the maxims. It connects moral values, of harm avoidance and securing wellbeing, with professional knowledge of client problems and how to solve them, help the client without unacceptably high risks.

*Informed client consent* highlights the social ethic implicit in the professional / client relationship. Professionals must communicate material information about the risks and benefits of the services / recommendations to client. One must also respect client autonomy, privacy and case confidentiality (Olson). Cognitive complexity is evident in the core professions, as a few representative samples suggest:

- Dr. Klein has had a scientific university education, followed by practical clinical training in a hospital setting.
- Sarah Agnew had a university arts education in the humanities and social sciences, plus a social work degree involving courses in case management, clinical practice, and welfare law.
- Dmitri Novalchuk's education was in the human sciences, with an emphasis on testing, counselling and psycho-therapeutic techniques.
- Without the help of other unseen professionals none of this could have happened. *Engineers*, with highly mathematical scientific university education,

plus exams for professional certification designed the hospital and clinic buildings and equipment. Most of the hospital's senior management has degrees in healthcare administration.

- Lucy herself has a high school education, and a technical college diploma from a two year Food and Hotel services program.

Each profession requires specialized knowledge based on a university level education in appropriate sciences, expert techniques, supplemented by recognition by the profession as a competent practitioner (Tong, F128). Indeed the rise of the professions over the last few centuries for example was a direct product of civilization's pursuit of scientific knowledge. Engineering and medicine, psychology and social work, are the result of centuries of learning about moving bodies, living organisms, psychology, politics, economics and social systems. Each professional needs to develop that mix of knowledges required to ensure effective, safe client service. I speak of knowledges, because each profession demands a variety of cognitive skills (Ravetz; Izumi), such as the following:

CASE: Let us examine a case. Lucy Jones, a 42 year old divorced waitress with two young children, has come to see her GP, Dr. Morton Klein, about seemingly asthmatic symptoms which are beginning to affect her job. Dr. Klein runs a variety of tests and finds indications that she may have lung cancer. He advises her that she needs chemotherapy several times a week at first, at a regional hospital 50 miles distant from her home. He also writes out a prescription for some drugs. She says she would like to do the chemo, but she is not sure she can afford to take time off work, the bus fare, or pay for the drugs. So Dr. Klein arranges an appointment for Lucy with Sarah Agnew, his clinic's social worker. Sarah will find forms of social assistance that can help Lucy pay for her travel fare and drugs, and will contact her employer about getting time off work. To help her with her feelings and depression, Sarah introduces Lucy to Dmitri Novalchuk, a clinical psychologist for personal counselling, which the clinic provides free for needy cases. If Lucy lived in Canada, the healthcare and prescription drugs and related services would be free, as long as they are prescribed by her physician; but if Lucy lived in some U.S. states she might face expenses so high that she could not afford them, and would have to forego some aspects of her treatment, possibly putting her life at risk.

Lucy's story is not uncommon. It is complicated, but solvable. She sees several professionals, each with different cognitive competences, or technical expertises.

- Elementary and secondary school education / levels of literacy and numeracy
- Technical / professional expertise based on a university / college level education
- Case management and record-keeping skills
- Professional code and legal interpretation skills
- Observational / monitoring skills
- Outcome foresight skills
- Diagnostic problem identifying skills
- Reading other's body language
- Communication skills

- Social interaction skills
- Reflective psychological skills
- Logical inference, and
- Quantitative skills, notably in statistics

Professional practice clearly involves an impressive range of social, psychological and cognitive skills. Every profession calls for proficiency in many of these skills. Some cognitive competences and other skills may be more important in some professions than others, or in some client circumstances than other. One must not therefore reduce professional practice to any one knowledge, whether scientific, technical, logical-mathematical, psychological, or social. These cognitive skills require some training beyond core technical expertise, but that may not always be part of one's professional education. The actual mix of cognitive, normative and other practices depends on many factors: the profession, the client, the client's problem situation, the social and cultural contexts, available resources, etc.

Schon's two models of professional practice reinforce the claim that it is cognitively complex. "Model I" involved control, using psychological skills such as avoiding negative feelings, keeping cool, seeking to win rather than lose, and being motivated by extrinsic rewards and punishments (226f). For him it is part of the common view that professional practice involves three kinds of knowledge: an underlying discipline, an applied science or 'engineering', and a skills or attitudinal component (24f). I would also include the social, but legalistic, view of professional / client relations as a Model II 'reflective contract' (292, 302).

Model II in contrast is overtly social. It involves exchanging valid information (or communication), creating the conditions for free informed choice (see below), creating in oneself and others—presumably one's clients—an awareness of the values at stake, of one's limited capabilities, commitment to making the needed decisions, operating from "intrinsically satisfying" motives. Presumably it involves other elements of "reflection-in-action" such as "tacit recognitions, judgements and skilful performances" and the tacit cognitive skills involved in everyday behaviour (49f, 226f), and a "conversation" with the situation" (76f, 172). Model II involves empirical statements, testable in terms of observable data (without, presumably, accepting a positivist epistemology), publicly "surfacing" and testing and working to solve underlying private, otherwise hidden problems. An adaptable practical intelligence is involved in Reflective practice, Schon suggests, if it is to handle uncertain, indeterminate, variable problem situations and value conflicts (10f). Schon's allusion to operations research theory suggests a complex systems dynamic may often be at work (16). I am not sure how helpful the suggestion of reframing professional practice in artistic terms (46f) actually, or whether it merely adds one more dimension to the technical skills needed in professional practice; for artists themselves must develop expert technical skills in mastering their favoured expressive medium.

Intense inner reflection is furthermore a matter of private thinking, not of public interactive social behaviour. Such considerations reinforce the common view that some professionals are deficient in communicative and social skills or tend to treat clients paternalistically, deeming them ignorant and helpless. Psychological coolness and

inwardness tend to accompany technical expertise, academic research, and even with developed reflective powers. Reflection itself, while an improvement on technical objectivity, is too psychological and inward-oriented to enable or facilitate social interaction.

Schon's argument for reflective practical skills in addition to technical rationality does not suffice to define professional practice; for it omits the cognitive and social skills involved in professional / client relations (Bayles; Horwitz). While Schon himself frames professional practice as a social "bilateral task" or "joint operation" between the professional and client (?). Clients and patients expect professionals to use their technical expertise and other skills to help them solve their problems (Gilson; Schroeder, et al). Good communicative and interactive skills are therefore needed by professionals to inform the client and elicit their consent to the service (Mishra, et al).

Professional practice constitutes an inherently interactive form of social behaviour. It transcends the psychological, subjective focus of reflective practice, as well as objective technical competences (cf 231-mdl II). It involves an ever changing, cognitively rich and often subtle "conversation of gestures" between professionals and clients (Mead ?). Professionals must be conscious of how they interact and affect service to the client. Many technical professionals do of course respect and communicate with their clients and work at improving their social skills. Both the CMA and AMA codes for example view medical practice as an art as well as a science, and note the importance of communicating with patients (CMA; Hellegers).

Nonetheless it is well-known that many scientific, technical and legal professionals lack adequate communication and social skills. This is notably a problem for professionals whose practice rests on the life, physical and often mathematical sciences, such as physicians and engineers (Corey, et al; Tong; cf Schon, 23f).

Professionals also need to communicate and collaborate with other professionals, caregiver partners and administrators in their service teams, and work with private institutions and public agencies (Gillon; Bleakley). They must follow appropriate procedures. Physicians follow hospital and therapeutic treatment protocols; civil engineers must know the appropriate state building code, etc. Professional practice is governed by a variety of laws and legally instituted regulatory codes. Professionals are accountable to their self-governing professional college for their conduct (Stark, et al; Adams, et al). A profession's claims to the privilege of autonomous self-governance and its resistance to interference from commercial interests or government authorities, however, rest not only on technical expertise and related science, but also on the multiple cognitive and social competences involved in client service (Hensel and Dickey). Similar considerations and requirements apply in other professions.

Professionals in addition need to consider how they present themselves to their clients, to empathetically understand clients/patients, interpret their comments and body language, and sensitively but effectively interact with them. Mirroring skills are especially important in high risk situations, where professionals find themselves dealing with clients with serious health, psychological, or financial risks. Such clients may feel threatened, emotionally vulnerable, and at significant risk. In such cases professionals need to be

empathetic, to understand their client's feelings as well as thinking. One needs to combine empathy and mirroring, for reenacting what they do can help one 'see how it feels' to be in their shoes.

Solving client problems furthermore does not involve one in unsolvable dilemmas. This needs stating, given the growing but mistaken tendency to reframe problems as dilemmas, thus implying that they are unsolvable. Schon himself lapses into dilemma language at one point (). Dilemma talk is counter-productive as well as erroneous. Even when one is dealing with unsolvable problems, such as irreversibly terminal diseases, critical failure-prone, high risk technologies, or polarized value / social conflicts professional ethics requires one to expand the range of what is solvable, and mitigate the client's difficulties and risks, namely, by palliative care for terminal diseases, improving technological system functionality and reducing critical risk exposure, and persuading conflicting, polarized interests to find common ground, by agreeing on factual information, identifying shared interests, and negotiating compromises.

The cognitive complexity of professional practice not only helps us avoid the twin difficulties of overstressing technical and reflective skills. It also means that professional practice is not reducible to one single cognitive competence, theoretical, practical, psychological/ reflective, or social. On the contrary, the rich mix of cognitive competences in professional practice reflects our "multiple intelligences": bodily-kinaesthetic (that is, bioregulatory), psychological (reflective), social, linguistic, logical, mathematical, spatial and temporal, emotional, and, I would add, evaluative (Gardner, 1983). Each intelligence involves different problem solving, interpretive and communicative skills. All are involved in professional practice.

The interaction of knowledges, values and other psychological and social processes and actions constitute behaviour as intelligent in the multiple senses of the term noted above. The complexity of professional practice, so understood, makes for more flexible, adaptable and even creative client service. Which mix of intelligences are most relevant in practice, most helpful in a particular problem situation, depends on the specific profession, the individual client, and the particular problem. No single intelligence suffices to understand, or explain complex forms of action such as professional practice, moral agency, or, for that matter, everyday social behaviour.

The cognitive complexity of professional practice reflects similar complexities in the brain's own impressive social powers, namely. of facial recognition, interpreting body language, and social cognition. Social understanding is deeply emotional. In this connection the discovery of mirror neurons is especially interesting (Rizzolatti and Craighero). It suggests that people understand other's behaviour not only by intellectually interpreting the situations, but by imitating and replaying the behaviour observed in their own mind. Understanding clients not only involves mirroring their behaviour, it also requires one to test one's interpretations of the meaning of their behaviour in subsequent social interactions. Reflective practice by professionals should therefore involve critical mirroring of client behaviour. Professionals not only need to replay in one's own mind what the client is doing, and test one's view about what they may mean by their behaviour, but also rehearse before hand what they and the client may do and how each might respond to different scenarios. In

this social and even dramatic sense professional / client relations involve an ongoing conversation of gestures as well as words.

The cognitive complexity of professional practice reinforces the rejection of narrowly elitist or technocratic views of professional practice. While a profession's monopoly of specialized knowledge and expert techniques is based on years of education, entry into the professions is relatively open to individuals regardless of their social status, race, gender, etc. The modern knowledge economy demands high levels of literacy, numeracy, and knowledge in the general population. In addition, the mobility of modern democracies not only allows many from the lowest rungs of 'mass' society to attain the highest levels of scientific and professional achievement, numerous social groups can and do openly criticize authority and compete for social power. Professional practice has not bred a power elite opposed to democracy. Nor do professionals constitute a new mandarin class or a technocratic threat to democracy (Derber, et al; Author, 1993). Whatever social power professionals may enjoy, I doubt that it is equal to that of the large modern state or corporation.

### **AN INSTRUMENTAL KNOWLEDGE ETHIC**

"Professional activity" Donald Schon writes, "consists in instrumental problem solving made rigorous by the application of scientific theory and technique" (*The Reflective Practitioner*: p. 21). Like Cruess, Johnson and Cruess he goes on to say that in reality professional practice involves diverse knowledges: scientific research, which interconnect and interact with all manner of practices (164f). Similarly, his claim that "knowing is in our action" and that a variety of practices, knowledges, and one presumes, values, interact (49, 226f), is true of professional practice as well as intelligent behaviour. Schon's thesis does not therefore disclose specific properties unique to professional practice. In addition, his concept of an "action science" concerned with unique, unstable situations, and value conflicts (48f, 319), is problematic on several grounds. First, no science should be arbitrarily or a priori restricted in scope to unique and unstable phenomena. On the contrary, sciences seek common, relatively stable properties in the phenomena they study so as to formulate general explanations and laws on the basis of that data.

Professionals must care for client wellbeing and respect client autonomy (O'Neill; Rothbard). But altruistic diligence in serving clients is not enough in itself. Competent practice is also required. Competence is the partner of altruism, not its opponent. Neither is reducible to one skill or form of intelligence. On the contrary, both are connected. Professionals must therefore resist the all too common tendency to separate, even oppose, the cognitive and the moral, knowledge and values. Instead professionals need both to access the best available knowledges and to use them to work out the best achievable solution to the clients / patients problem. That is the point of the *Instrumental Knowledge Ethic*.

Accordingly, we need to revisit technical competence (but not abstract notions of 'rationality'). First, the values, and practices, involved in an instrumental knowledge ethic go well beyond what Schon terms narrow interpretations of object-related or narrowly technical "usefulness" or control (171f). Second, technical competence does not entail



Comtean positivism, scientism, nor is it merely the ‘application’ of scientific knowledge. Being a human practice it cannot be value-neutral; the real questions are which values are involved in a practice, on what bases? (One wonders in truth how any human activity can not involve values.)

Professionals are trained to *use* their special technical expertise, training and skills to help their clients. Clients come to professionals for help, and professionals are obliged to help the patient, to the fullest extent the situation allows. This is both a substantively moral and cognitively complex relationship. A professional’s ‘technical’ expertise, while objective in their semantic reference, are learned and were expressly developed in order to solve client problems. Determining what constitutes a beneficial or harmful outcome for one’s client, and predictive foresight of likely outcomes, combined with preventive actions to ensure benefits outweigh harms, all involve an dynamic complex interplay of cognitive and evaluative and other trained professional competences. It is their interaction that matters. So they should be deemed inseparable in actual practice.

Professionals that is, must use their relevant knowledges and cognitive competences to help the client / treat the patient. They are obliged to offer the best achievable level of service to the client requires professionals to bring their best cognitive expertise and related skills to bear in their practice. Instrumental knowledge is inherent to professional ethics; for you cannot knowingly help the client unless you get the information right; and getting the right information leads to knowing what to do to help the client. So an instrumental knowledge ethic lies at the heart of professional practice.

In professional practice then one’s values, feelings, and knowledges should interconnect intelligently, so that their interplay results in better outcomes for one’s client. Our emotions in fact are central to exercising executive functions like reasoning, evaluating planning and deciding, whether performed by professionals or clients (Damasio; Casebeer, 2003b). When a client’s behaviour is emotionally intense, professionals need also to control their own emotional responses (Friedrichsen, Milberg). Often people need to hold off a decision or service until they feel better and are calmer; but they cannot wait. So professionals need to help calm them, help them reflect, and improve their cognitive efficiency. Professional coolness in dealing with a potential emotional crisis however is not the same as a cold, affect-less response. To cognitively understand a client’s problem, but not respond emotionally to their feelings or values seems unprofessional.

*First Do No Harm:* Given its cognitive, psychological and value complexities, however, the exercise of technical competence is likely to result in both beneficial and harmful outcomes. Over time for instance we learn what kinds of actions in what kinds of situations have good or bad outcomes for ourselves and others. Determining what is helpful or kind or harmful and cruel involve interacting knowledges and values, Hilary Putnam claims: “The word ‘cruel’ ignores the supposed fact/value dichotomy and cheerfully allows itself to be used sometimes for a normative purposes and sometimes as a descriptive term”, and, I would add, often for both, at the same time (Putnam, 35). That there are differing opinions about specific behaviours, and the conceptual meaning of various terms, how one slices up the varieties of acceptable / unacceptable aggression, is not in doubt. We cannot sort out what kinds of aggression are socially and morally acceptables (such as measured

self-defensive aggression to protect ones life or property from threat or attack), except on the basis of learning both about the varied types of aggressive behaviour, in various typical contexts, and how our social group, and others, evaluates them. That is part of our early socialization.

Hence the need for an instrumental knowledge ethic in professional practice, namely, to determine what kinds of actions are beneficial, which harmful, which acceptable, which not. It is also necessary inasmuch as a professional is obliged to ensure that the benefits of her services outweigh the risks and that any risks are minimized to acceptably low levels. an *instrumental* knowledge ethic is inherent in professional practice, for a professional must use her multiple cognitive competences and training to help her clients. In sum, a professional's technical competence is exercised within the dynamic influence of an instrumental knowledge ethic. It is both the ethic and the technical skill that enables him to minimize client risks (do no harm) and benefit them / enhance client wellbeing.

*Elicit Informed client consent* highlights the ethical obligation of professional / client communication and highlights the social dynamics of their relationship. Professionals must not only provide competent, knowledgeable services to clients, they must also communicate the information that clients/patients need to understand if they are to intelligently consent to the service recommended. To consent intelligently to professional advice clients have to understand what they are being told and how it can help them. Professionals therefore need to communicate information effectively and ensure that clients understand their recommendations,

Professional/client communication is simultaneously cognitive, evaluative, emotional, psychological and social. One's communication skills can and do impact client outcomes. Patients for example communicate their concerns to caregivers, often simply by presenting themselves, and healthcare professionals need to communicate their analyses and treatment recommendations to patients. They first have to assess the patient's condition, and then considers the safety and efficacy of various treatment options, and then discuss one's recommended treatment with the patient, and then seek the patient's informed consent to the recommended treatment. The patient is expected to follow the recommended therapy, but they may not. How a professional communicates with a patient, timing, tone of voice, how the message is structured, are often as important as what one communicates.

Poor professional / client communication problems inhibits informed consent (Mishra, et al). Client understanding of the service, treatment, advice recommended is suffused with values, namely of the potential mix of benefits and risks involved in the service. It can be coloured by one's cultural background, especially where professionals and clients have culturally different notions of informed consent, professional authority and client autonomy. In pre-modern, feudal or tribal societies people tend to treat experts as trustworthy authority figures whose knowledge and advice should not be questioned (Matta). Despite such cultural difficulties, the need for informed client consent nonetheless remains a core ethical requirement of professional practice.

While professionals need to respect client autonomy, for example, the professional / client relationship is interactive. Autonomy moreover should not override the need for

beneficence on the part of the professional, or the patient's responsibility for their own health / wellbeing (Tauber; Sider and Clement). Professional / client relations constitute a dynamic social dyad, rather than the disconnected behaviour of two (or more) separate individuals. Professional practice therefore involves sophisticated, trained social intelligence.

To claim we cannot know values flies in the face of our longstanding understanding and classification of the varieties of aggression. Indeed it a priori precludes the possibility of any reasoned justification of general moral values, particular judgements, or actual choices. The result is to render impossible a reasoned, intelligent ethical perspective in economics, politics, and everyday life. It also undermines the very foundations of professional practice. This is an important consideration, given the continued, often uncritical, acceptance of the fact/value dichotomy in much mainstream thinking.

Since helping others is a moral good, a form of altruism, professional practice is an inherently moral activity. That a professional benefits from such practices is, in my view, as it should be. It shows that professional practice involves a mutually beneficial reciprocal exchange between professionals and clients, and therefore it constitutes a morally intelligent form of agency. It is inherently ethical.

#### **AN INHERENT KNOWLEDGE ETHIC**

The *Instrumental Knowledge Ethic* presupposes an *Inherent Knowledge Ethic*. The instrumental and inherent knowledge ethics represent flip sides of the same coin, namely the naturalistic postulate that knowledge is necessary to life. Evolution has made humans smart animals. We are endowed with diverse cognitive competences or problem solving intelligences. We have already seen that knowledge is useful in realizing good purposes or ends, such as helping others, the core value in professional practice. I now wish to suggest that knowledge has substantive value in itself, a fundamental human good; for it is a key life resource. The desire to know, the pursuit of learning, as Thomas Aquinas and Aristotle both held, are fundamental to human life (Lonergan). Therefore the acquisition of knowledges and their conservation are morally good practices. This is the core claim of the Inherent knowledge ethic.

One cannot comply with *First, Do No Harm*. without knowledge of what is, and is not, harmful, in what conditions, knowledge gained from both professional educational and professional practice. The learning, refinement and testing of our knowledge of specific harms has been a critical contributing factor in the evolution of our own and other species. Such knowledges lie at the centre of professional ethics, not only in healthcare and engineering, but also in all other professions. Medical professionals for example seek a net balance of treatment benefits over risks to patients (Welie; Cruess, Cruess, Johnson, 1999). Engineers seek to minimize system safety risks when designing buildings, roads, bridges, etc (Martin & Shinzinger).

Since professionals may not assume zero risk or certainty in service outcomes, they need to monitor outcomes, and constantly learn how to improve their practice. Professional practice therefore can be interpreted as a real world experiment; for such risks are never

zero, and complete certainty is rare. Professionals in effect not only cannot ever stop learning, they should not. The more we learn, it would seem, the better our chances of happiness, wellbeing and reproduction, and the better our practice as professionals, and the quality of service to our clients and patients.

What Aristotle termed the intellectual virtues are, I suggest, symbiotically connected with the moral virtues. Moral conduct would itself be impossible without the requisite knowledge. Without exercising our cognitive competences we could not survive, attain wellbeing, or reproduce, or probably ever emerge as a primate species. Our diverse knowledges each in their way serve the life values of survival and wellbeing. And respect for life lies at the heart of morality. We cannot survive or live well without knowledge. It is fundamentally aligned to the species interest in survival, wellbeing and reproduction (Habermas). Our cognitive competences are therefore inherently moral competences.

We value knowledges of all kinds. We prefer them to ignorance. The obverse of the advance of knowledge is the retreat of ignorance. That we make mistakes in our cognitive means that we are obliged, morally, to test our ideas. Like the rest of the human condition, the search for truth is full of pitfalls, It is another example of the fundamental limits of our condition. That knowledge is misused for bad ends furthermore does not delegitimize the inherent good of knowledge. It merely represents an abuse of that good.

Professional practice exemplifies the pragmatic synthesis of intelligence and morality. It involves a fundamental commitment to knowledge over ignorance, to competence over incompetence. Learning how best to serve clients/patients entails a respect for knowledge and learning itself. Ensuring high quality professional services therefore obliges professionals to respect the cognitive components of their practice, whether scientific knowledge, technical know how, socio-psychological knowledges, or multiple intelligences. Cognitive values are found at the core of professional ethics. Professionals should therefore respect knowledge and learning as intrinsic, natural goods. Neither knowledge nor professional practice, it follows, rest on an uncritical faith in reason, as Bacon held (Ravetz). On the contrary, human practices are full of inbuilt limited in power, outcomes often do not match intents or expectations and empirical knowledge. Because we are fallible creatures, with limited foresight, often facing unintended and unexpected outcomes, we need the inherent knowledge ethic's commitment to self-correcting learning to reduce such cognitive errors / increase our success rate, and improve our foresight. To learn from experience is an inherent duty, given our impressive innate suite of intelligences, psychological and executive powers. We need to continually monitor the outcomes of our actions, seek to improve our performance next time. Learning is in effect a self-correcting cognitive process, of monitoring behaviour for errors, correcting those errors, and improving future performance (Lonergan ).

Consequently, professional practice means continual learning. Diagnosis involves identifying the clients/patients problem; service delivery / treatment requires a prognosis of outcomes. These are fallible practices. They need vigilant monitoring (Adams et al). Case management is for example embodies the knowledge ethic in professional practice. Case histories help one to monitor cases, and identify strengths and weaknesses in different service strategies. Intelligent case management therefore is part of a professional's

commitment to learning. Accurately recording case information is necessary, for human memory is fallible, socially and psychologically interpretive, richly associative, and notably imprecise. Human memory's fallibility contrasts strongly with the high accuracy of written records and computer data storage. Memory is inaccurate exactly because it is human, and practically intelligent; for information storage and recall are influenced by the individual's original interests, the social and pragmatic contexts, along with one's current concerns (Kandel).

The cognitive, evaluative and practical complexities of professional practice, it further follows, are redolent of similar complexities in morally intelligent agency. The inherent knowledge ethic in a way reinforces the common perception, especially among the young, that immoral behaviour is, often plain dumb, or unintelligent. It is as the kids like to say, stupid; and in a sense they are right. Their insight rejects the common view that morality involves arbitrary, unproven or subjective values, or an equally unintelligent form of will power. An interesting corollary flows from this perception, namely, that morality is intelligent, in the multiple senses noted above. It is intelligent, for moral conduct is impossible without the requisite cognitive competences. It requires and presupposes, knowledge.

The self-correcting learning processes demands an unending critical vigilance in the professions, as in the sciences. Science in fact has its own *morale*, namely of research ethics or scientific integrity, eg, openness re data and methods and findings, and the use of replicable techniques. These are moral requirements of membership in a scientific knowledge community (Author, 2005; Seely Brown & Duguid). They embody the inherent knowledge ethic. the inherent knowledge ethic directs professional practice toward adopting a self-correcting learning process over and above that operative in the sciences on which it in part rests. Professionals should for example be critically reflective about their recommendations, expectations, and service / treatment outcomes (Crues; Schon). The commitment to self-corrective learning is therefore a core professional virtue, it is essential to reflectively vigilance in both professional practice and client choice (Janis and Mann).

Cognitive certainty, technological obscurantism, and complacency about one's services are therefore problematic, for they violate the principal requirement of the inherent knowledge ethic, namely to respect the demands of the self-correcting learning process. Professional claims must be open to discussion and question by anyone who can understand them, and not only by experts or specialists. Clients and patients often research their conditions, and consult the internet as well as their professional adviser or physician. Anyone with a will to learn can pursue the professional knowledges which interest them, and may pose questions about professional practices.

Professional practice must then be at home with the open sharing of information (except as limited by client confidentiality and privacy rights), and the open public discussion of professional practices and rights. Professional research, like scientific, is the common intellectual property of us all, and not the privileged private preserve of some knowledge elite (Author 2005; Ravetz).

Respect for life entails respect for knowledge as a natural social good. Nature herself is a proficient epistemologist, in the sense of producing (and genetically reproducing), the cognitive capabilities. Organisms need to survive. organisms need to receive, perceive, and interpret information about environmental opportunities and threats, so that they can respond appropriately, survive and reproduce. This is the fundamental neuro-biological knowledge ethic which humans inherit as an evolving primate species.

Finally, the inherent knowledge ethic is evident in science itself. Leading scientists, like Rachel Carson and E. O. Wilson, have all warned the public about what they as scientists see to be a historical crisis facing global civilization: planet wide pollution, species extinctions, and global warming (Carson, Wilson). Their moral concern is at one with their knowledge and arises from their equally moral commitment to knowledge itself. They are warning us about a factual condition whose understanding leads to predictions of a planet-wide catastrophe for the human species. The knowledge is both the source of their moral concern, and its substance. The inherent knowledge ethic has itself forced a fundamental moral choice on them. In communicating what their knowledge discloses, they are living up to their duty as scientists, professionals, and humans. They are practicing knowledge ethics.

### **PRAGMATISM AND PROFESSIONAL PRACTICE**

The common tendency to disconnect facts and values, knowledges and interests, reflects a positivist faith in the view that knowledge is somehow value neutral, a matter of merely technical expertise. The truth is that this represents at best a formal, abstract contention about modal logic, namely, that one may not deduce normative value statements from factual descriptive premises. Professional practice on this reading would itself be a purely technical, value neutral expert service. As long as one logically abstracts from moral or social values, practice can be reduced to “mere technics” (Tong). Thence to opposing morality and intelligence, is a short step.

The fact/value dichotomy represents a positivist assumption, Humean empiricism and Kantian moral theory, the fact/value dichotomy (Putnam, 2002, ch. 1). It is unfortunately widely, and uncritically, assumed by many scientists, academics and professionals; but it is empirically false and practically misleading (Putnam, ). For it separates, compartmentalizes, and ultimately opposes knowledge and values, even though they are constantly and intimately interconnected in real life.

Indeed the fact/value *dichotomy* has been disputed for several reasons (Putnam; Greene; Casebeer, 2003a). It transmogrifies a formal distinction between modes of expression into an epistemological and even metaphysical opposition. It presupposes, without proof, that values are not facts. Moral values are merely arbitrary preferences not based in any factual information or knowledge about how things are in the real world. They cannot be known, but are based instead on arbitrary, uninformed sentiments, attitudes, feelings or emotions. They are not matters for debate, just subjective preferences, merely matters of will, not of intelligence. Obversely, our knowledge is not affected by our values. Neither proposition would seem to be empirically true of intelligent behaviour, moral conduct, or professional practice.

True, the properties of normative evaluation are not those of descriptive knowledge, and vice versa. To assess a practice / behaviour / action as cruel or immoral is not to factually describe it. But one should not exaggerate or reify this distinction between the descriptive and normative functions of statements into an absolute dichotomy (Putnam, 2). That evaluation and cognition are different kinds of psychological and neural function, does not however mean that they do not in actuality work together. On the contrary, A difference however is not a dichotomy. Divisions of labour, psychological as well as social, are full of examples of diverse special functions working together, often synergistically, in dynamic complexes to perform more efficiently than they could as separate distinct functions. To confuse a distinction between factual and normative functions, or a theoretical view in formal logic, with an empirical hypothesis about the real life performance of intelligent agents, is not only systematically misleading, it is not scientifically or intellectually acceptable practice. It in effect results in framing moral agency as merely subjective, emotional and arbitrary, as not open to reason, a matter of sheer unreciprocated altruism, ineffective good intentions, or subjective religious faith. But not intelligent or informed. Moral agency is not inherently a matter of informed or intelligent decision making. This violates the second principle good professional practice, enabling or seeking the *informed consent* of the client.

On this disturbing reading of the fact/value dichotomy our multiple intelligences and cognitive competences are mere mechanical add-ons to our values, emotions, and feelings, or they are mere, useless, leisure pursuits; for they do not serve any biological, practical or social purpose, such as facilitating our survival, wellbeing and reproduction, or making work more productive, or technology more efficient, or, improving the quality of service to one's clients or patients.

It also presumes that values are not in reality open to critical examination or testing, which is patently false. That knowledges are cognitive competences does not however imply that they develop and function without any interaction with the interests, values, needs and drives and motives, and other value laden factors that have defined everyday life for millenia. Values too have been tested in practice by intelligent living agents for countless millennia, and those survived the tests have evolved and become part of the regular equipment of smart organisms, especially animals and humans. Moral values, as much as any other, rely on cognitive inputs. Choice and consent for example must be informed by relevant information, otherwise it is blind, and more likely to err.

Accepting the fact/value dichotomy requires one to treat evaluation, and moral reasoning, judgement and choice as primarily a matter of good will or intent. It is in consequence not cognitive or intelligent. Being uninformed by experience or knowledge, it cannot be intelligent. If morality is deemed cognitively blind, then it is also, not to put too fine a point on it, stupid. Worse still, the moralistic dumbing down of morality and intelligence can, and has, taken virulent anti-intellectual forms in the penchant for crusades, uncritical faith, an opposition to learning and education, and an intolerance of non-believers. It underlies the current willingness to use violence in support of religious faith, evinced by extreme fundamentalist religious sects, Christian and Jewish as well as Muslim (Hofstadter, Jurgensmeyer).

Altruism is deemed hard, egoism pleasant. Good intentions, being uninformed and intelligent, inevitably lead to bad places. Good will and good deeds lead to bad outcomes, for the intelligent monitoring of outcomes is not essential to moral agency. Moral duty is as a result defined as opposed to one's practical, economic, immediate interests, wellbeing, pleasure or rewards. To rephrase Kant, in professional practice normative evaluation without knowledge or observation is blind; conversely, knowledge without evaluation is inhuman, and immoral (that is, if it is possible, which I doubt). Duty is dumb as well as unpleasant. Not an attractive picture. Nor is it, I suggest, true, empirically or practically.

In addition, the fact/value dichotomy flies in the face of the evident facts of moral development both in individuals, science societies, the moral dimensions of primary socialization, the practice of innumerable judicial tribunals, millennia of human experience across widely differing cultures and periods, in extraordinarily diverse situations and habitats. It is in addition incompatible with robust findings in the evolutionary and psychological sciences (Darwin, Piaget, Gilligan, De Waal ). I prefer to work with the, to my mind, much more intelligent and cogent, not to mention supported, hypothesis that these distinctions about the varieties of aggressive behaviour and their equally articulate moral assessment, along with associated feelings and social codes, rest on millennia of self-correcting learning. Our factual knowledge and moral / social valuations of the varieties of aggression are semantically 'entangled' and dynamically interconnected, in higher primates as well as for humans (see De Waal). To

Both the pragmatist thesis and associated instrumental knowledge ethic are reinforced by neuro-biological research on the brain. The brain, Vernon Mountcastle writes, integrates "a complex of widely and reciprocally interconnected systems. The brain constitutes a powerful, richly diverse and pragmatic, control system for regulating bodily functions, and managing the even more challenging demands of environmental adaptation and social interaction, conscious, reflective practice and deliberate agency. The brain quietly and efficiently regulates the body's numerous organic processes and operations, all in aid of enhancing the organism's chances of survival, wellbeing, and reproduction. The dynamic interplay of neural activity within and between these systems is the very essence of brain function" (in Restak). The brain seamlessly connects the diverse functions involved in intelligent agency too: cognitive, emotional, evaluative, motor, linguistic, and social (Damasio; Dubin; Dowling; Casebeer, 2003b). Sensory input receptor and motor output control functions closely and seamlessly collaborate. They are supported in neighbouring regions of the cerebral cortex. The result is to facilitate and speed up motor responses to sensory inputs, whether of external environmental or internal bodily phenomena (Dubin).

The nervous system has a prime bioregulatory role in the organism (Damasio). This requires neural processes to 'pragmatically' link knowledges, feelings, memory, social cognition and wellbeing. The neural bioregulation of the body's processes and conscious behaviour has even been said to constitute the biological basis of "the construction we call ethics" (Damasio), and of ethically sound professional practice. Furthermore professional practice not only means using one's knowledges to serve others, it also involves an *Inherent Knowledge Ethic*.



It is difficult to believe that we have not learned from millennia of experience, involving knowledge of innumerable facts, what kinds of behaviour are courageous, cowardly, or rash/foolhardy (Putnam 62), or what counts as cruel or kind behaviour, fair or unfair. It implies that our distinctions between accidental death, culpable homicide, whether through unthinking negligence or deliberate intent, planned or impulsive, coldly calculated or intensely emotional are not factual or empirical or epistemically justified.

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