

TEACHING ETHICS (AND METAPHYSICS) IN AN AGE OF RAPID TECHNOLOGICAL CONVERGENCE

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INTRODUCTION

There is nothing new about the teaching of ethics. It's been going on for years. And technological convergence has been with us since the very earliest primitive technologies came into being. What is different now is the rate of change and the capacity for uncontrolled reactions.

Technological convergence is when technologies combine to create a new phenomenon or when technologies are combined to perform functions not envisaged for the original technologies. The impact of technological convergence and the concomitant emergence of new technologies can readily be seen in the history of the mass media. The convergence of developments in paper-making technology with the development of printing presses, for example, set up the possibility of the first mass media. The convergence of sound recording technology with picture recording technology led to the rise of motion pictures and the social and cultural phenomenon of the world-wide film industry. When sound recording technology converged with wireless transmission technologies the radio industry emerged. Likewise, with the convergence of sound, picture and transmission technologies came the emergence of television. What we have now, with the advent of the ubiquitous personal computer, the availability of satellites and enormous increases in bandwidth, fibre optics, the huge growth in software development and the explosion of the World Wide Web and e-commerce, is the accelerating convergence of all media-related technologies.

It is the sheer speed with which convergence is proceeding that presents one of the biggest challenges for us and I suggest that teaching ethics (and some metaphysics) is one of the ways in which we can, collectively, garner some measure of control over the pace of change and mitigate the unwelcome effects of that change. Ethics can influence the road rules on the information highway and can act as a speed-limiting

“governor” that can help prevent drivers from losing control of their technologies.

SOME PHILOSOPHICAL PARAMETERS FACING ETHICS EDUCATION

I’ll come back to ethics, but before I do, I want to describe some of what I see as the philosophical parameters facing ethics education. I will do this with the idea that if we have a picture of the sort of questioning that might be appropriate, then we can build programs that ensure our students — or our colleagues or employees — are adequately equipped to participate effectively in the rapidly-changing world of technology and information transfer.

I suggest that one part of an appropriate response to the changing information landscape is to provide a philosophical basis from which to work. Now I stress that this is one part of an appropriate response that needs to include other elements and particular content designed for specific industries, institutions and situations. But it is an important — I would say essential — part of any response.

One philosophical approach is to begin by asking two questions. First, to ask not what technology can do, but to ask what technology *is*. And second, to ask what are the forms of reason underpinning our creation and use of technology. When we ask these questions there is a necessary flow-on to the sorts of ethical questions we pose and to the ethical tools we employ to dismantle and understand complex ethical questions related to our use of technology.

To ask what technology is can be considered to be asking a question almost without an answer, but that does not mean that it is a question that shouldn’t be asked. It is a question almost without an answer because the being of technology, what it is, is intimately tied to what it is to be human. I should be clear here that I am talking about technology itself, and not about this or that particular technology. Technology itself is a necessary element of what it is to be human: we could not be what we are without technology. Technology is part of the human project.¹ We are what we are in a very significant sense because we, as a species, are creators and users of technologies. And in this sense, we should see ourselves not only as *homo sapiens* — “man” the wise — we are also necessarily *homo faber* — “man” the maker of things/man the fabricator.²

This notion of *homo faber* is important, but simply making things is not enough. We also have to think about what it is we do: we have to see our products in cultural and political terms, to be sure, but we also have

to think philosophically about what it is we do. Part of that philosophical thinking centers on asking questions about what sorts of things exist and how we can deal with these, part of it involves asking questions about what sort of reasoning we are using and part of it involves ethics.

I'll now deal with each of these and why I think they are important before offering some suggestions to approach teaching them.

What There Is

Let's come back to *homo faber*, man the maker. Before we can decide to make anything we must conceive of it existing. Conceiving of something existing is the first necessary step in bringing some technological artefact, or new technology, into existence. This is true even if we find a use for an artifact after that artifact is brought into being. But what if our ways of conceiving are artificially narrowed? Do we, for example, see the basic unit of existence as something like an individual - like a you and me, like a tree, like an amoeba or any other apparently unitary thing? Or do we conceive of what there is in terms of, say, processes? What happens to our creations, the "things" we make when we reconceive of them in terms of the processes by which they are held together and in terms of the processes in which they engage? What happens to our businesses, our families, our social groups when we reconceive of them in terms of the internal relationships by which they are kept together rather than, say, by their outward appearances?

Let's take a video film for example. Is it the arrangement and magnetic storage of sound and picture data? It is this, but it is not only this. Isn't a video also the arrangement and interrelation of processes: the process of visualizing the end result which gets the whole thing moving, the process of visualizing how to get to the end, the process of recording sound and picture data, the process of editing that data, the process of showing the edited data to an audience, the process by which the audience makes meaning by interacting with the data. Conceived of as a set of processes, what we make takes on a whole new identity. This reconception, incidentally, also helps us to tackle the ethics of production. Because ethics itself is a process it can run in tandem with the other processes necessary for production. But in doing this we need to remember that we don't always get to a satisfactory conclusion with our ethical considerations. Often there is no right answer. As the Australian ethicist Simon Longstaff says, there is "only a right process. That is, weighing up one's own principles and everyone else's well-being, and then making an informed decision."³ Doing this as part of the production process, hav-

ing ethical considerations thoroughly implicated into all aspects of the production process, will help ensure that good decisions are made. And, of course, the way to bring ethical considerations into decision-making is through the decision-makers.

But that is getting ahead a little, so, back to the question of technology. Technology in the sense I am referring to is not this or that apparatus. Technology itself is not a motor car or a jet plane or a hydroelectric power station or a nuclear bomb or a solar panel or a shifting spanner. These are all *technologies*, instantiations of technology. Technology itself is central to the human project and at the heart of this project, and of technology, is the process of visualizing change and of bringing that change into being. In this sense technology is teleological. But it is not so much about visualizing an end point, as it is visualizing a process that is yet to be realized, as visualizing a set of relations that is yet to find a material form. Technology is one of the pathways through which humans call into existence that which does not yet exist. Once we see technology in this formal sense that I am talking about, we may be able to resist the general perception that there is a sort of inevitability about the march of technological progress. Technology will always be at the centre of whatever the human project is, but if we can reconceptualize that project then there is hope. We can, as Fritz Schumacher⁴ urged, move to employ appropriate technologies, technologies appropriate to a reconceived human project. This, of course, is an area of concern to environmentalists world-wide.

But as well as looking *forward* to call the new into existence, we also need to look *back* so we don't commit the same mistakes over and again. One of the lessons from history that is both seriously frightening and seriously encouraging for the human project is that what we envision will be brought into existence. So, let us also think about the vision of the future: this, too, is part of ethics. We may, like Karl-Otto Apel, envision an ethics of discourse as a utopia of "domination-free" communication.⁵ It might be utopian, but I, like Apel, do not consider "utopian" to be an adjective with a necessarily pejorative flavour.

Asking questions about what sorts of things exist and what can be brought into existence is, I think, seriously important, especially as concepts such as virtual reality become part of our everyday lives and not just something that is an interesting toy in someone's laboratory. If what I am looking at is *virtual* reality, what is real in the first place? Is there a reality out there to which we somehow get some sort of access? Do we make our own realities, and if we do make our own realities through the pro-

cess of reading and ordering sense data, does that give virtual reality the same status as any other reality? And what of the virtual reality that is now in the laboratories, a virtual reality through which people can not only see, but actually *feel* virtual objects? What is the existential status of a virtual object that one can see and feel but is not made of what we would normally call matter? I will not explore this any further here. I use it merely as an example, because, of course, asking questions about what sorts of things exist should not be limited to a problematizing of virtual reality. We need also to question some of the presumptions about the nature of reality and the forms of reason through which we attempt to understand what there is in the world.

Our views of technology are conditioned by our presumptions about the nature of reality and about ways of reasoning. Almost in defiance of the advances of 20th-century physics and philosophy of science, most of us still see the world in terms of a Newtonian mechanics and Cartesian dualism in which events are explicable in terms of a narrow definition of cause and effect and where there is a distinction between mind and body, and between human and nature. These influences on our view of the world determine to a large extent the ways in which we will understand the moral complexities associated with modern technologies. Likewise, if we move to change our understanding of nature in the broadest senses of the word, if we move to change our understanding of nature, our understanding of being, we will also begin to understand moral complexity differently.

As part of our understanding of ethics we need to ask metaphysical questions — questions, for example, about what there is, what are the objects of everyday experience, what are aggregates of things (like constellations and galaxies), what are abstracts like “number,” what are “kinds” of things, what status do fictional or imaginary things have?⁶ Take the claim that begins Australian moral philosopher John Mackie’s book *Ethics: Inventing Right and Wrong*. Mackie says “there are no objective moral values.”⁷ This is an ontological claim about the nature of values. But, if Mackie is right, is it also valid to claim that there are no objective values at all? Are there no values in the absence of valuers? What then of such things as natural values? I won’t pursue this line here, either, but mention it simply to indicate that even to talk about some of the basic elements of ethics, we need to raise questions of metaphysics.

That we need to raise questions of metaphysics to be able to understand ethics even in a so-called “post-modern” world is a point made by that wonderful philosopher Iris Murdoch. For her, this post-structuralist,

deconstructionist, Derridean, postmodern worldview “summarizes a mood of scepticism and demythologisation.” Postmodern approaches, not all of which are as new as they claim, and not all of which acknowledge their historical antecedents, pull the rug equally on the old idealist and the old essentialist metaphysics. As a result, says Murdoch, metaphysical problems “now reach the popular consciousness in the form of a sense of loss, of being returned to a confused pluralistic world from which something ‘deep’ has been removed.”⁸

But, instead of radically removing metaphysics altogether as is sometimes claimed, a postmodern worldview often inserts a new linguistically-based metaphysics or, in some cases, inserts a process metaphysic. In this linguistic metaphysics there are still objects (of a sort), and there are processes, and in a process metaphysics it is still possible for there to be relations between self-maintaining autonomous entities — some of which we might call “selves.” Under a process metaphysics, selves may not be identical with *ego* selves, but, as Freya Mathews⁹ argues, for example, they are still entities deserving of moral consideration. This widening of the notion of what a “self” is takes on considerable importance in deep ecology views of environmental ethics and will eventually trickle down to popular understanding as the media and other professions recognize that the scope of what is morally considerable goes beyond humans and self-interest. That is, in the “I-thou” relation fundamental to ethics, what can come to count as a “thou” will be radically reconsidered.

Ways of Reasoning

One of the catchcries of postmodernity has been that the self is no longer centered and unitary but is somehow diffuse and decentered. One of the consequences of this is that if there is no centered self there may be no autonomous agent capable of making ethical decisions. And if there is no autonomous agent capable of making decisions then some of our common conceptions about the efficacy of ethics begin to break down.

There is a useful way to deal with this that begins with Kant. If we pick up on Kant’s distinction between pure reason, practical reason and judgment, we can identify three different worldviews and a form of reason appropriate to each. These worldviews can be seen to refer, respectively, to the *objective* world, the *social* world and the *subjective* world. For Habermas, these world perspectives — corresponding to what he terms the cognitive, the moral-practical and the aesthetic-practical — offer three options that can be taken up by a competent speaker. A competent

speaker can choose between a *cognitive*, an *interactive*, and an *expressive* mode of language use. To these modes correspond three different classes of speech acts: the *constative*, the *regulative*, and the *representative* that allow the speaker to concentrate on issues of, respectively, *truth*, *justice* and *taste*.¹⁰ Participants in communication must have the competence to adopt perspectives relevant to and relative to the three world views. They must be able to adopt, when necessary, an *objectivating attitude* to a given situation, a *norm-conformative* attitude to interpersonal relations and an *expressive attitude* to their own experience.¹¹

The objectivating attitude fostered by an ideology of scientific detachment has become the dominant mode of reasoning in contemporary society, and has led to the partial effacement of the others. To at least the extent that journalism and other non-fictional narrative forms adopt the objectivating, observing stance of a disinterested third person, along the lines of the classical scientist, they contribute to the public effacement of important and morally-significant forms of reason. To the extent that we rely on stories in the third person, we are stuck in the first of the three possible world perspectives, the world of cognitive certainties and truth claims.

As part of ethical training, we need to go beyond the instrumental logics of scientific reason, the sorts of reason that are goal-oriented, the sorts of reason that say “if you want to maximize profit or circulation or whatever, then do this,” and include also analysis and discussion of communicative rationality, that is, reason oriented simply to understanding. This communicative rationality is what underpins this essay: I simply want my readers collectively, to begin to understand. This form of rationality, as distinct from instrumental rationality, aims at understanding. It begins with a relationship between you and me — although really it is between *I and thou*, between that which is expressed in the first person singular and that which is expressed in the second person singular. (Unfortunately in modern English we have lost the second person singular in ordinary speech, although Australians have overcome the problem in the vernacular by making the distinction between “you” – singular, and “youse” – plural). We communicate with the intention of getting someone to understand a problem, not to tell him or her what the solution is or that a certain solution is needed. A lot of us do this when we teach, but we need to be more deliberate in the ways in which we model this. It may not be enough to have communication from teacher to (individual) student. There is also a need for students within a class to communicate with each other as they attempt to understand the issues at hand: there is

a need to establish a community of inquirers, not simply an environment where discussion is channelled through the teacher.

Understanding forms of rationality gives us some power, if we choose, to resist the relentless onslaught of what is sometimes called scientific reason, and the technological imperatives that come with it. We get a better chance to use the technology creatively and a better chance to control it more than we do now.

Communicating for understanding is central to the making of appropriate judgments, appropriate decisions. But what does it mean to make a judgment?

At this point it is useful to note the distinction Kant makes in his third critique¹² between a determining judgment and a reflecting judgment. A determining judgment has the principles for judgment determined in advance: we follow a principle that is already determined. The principles of the determining judgment make claims to being objectively valid and the person making the judgment can be right or wrong. Judgments at law are often like this, as are some of the judgments of science. Technical reason cannot create its own rule. Its rules are supplied by an ideology of the domination of nature and are laid down before the “scientific method” can be applied.

Ethics

A reflecting judgment on the other hand sets up its own principles or maxims for judgment. We make these judgments when we decide, for example, that something is beautiful or ugly. These judgments are subjectively valid and because they are subjectively valid, they are neither right nor wrong. The person doing the judging establishes the principle on which judgment is to be made. This is a subjectively valid maxim. We employ the reflective judgment with our aesthetic and our ethical faculties. In a Kantian ethic the subjectively valid maxim should also be one that is capable of being universalized, that is, capable of being a valid maxim for all moral agents faced with the same or similar situations.

In an age of rapid social and technological change there is a serious need for the examination and teaching of ethics. The information and technological revolution in which we now find ourselves allows small mistakes rapidly to become large mistakes with enormous global consequences (for example, stock market crashes are precipitated by computer-initiated “sell” commands when stock prices hit a certain level).

Many mistakes in this technological age are mistakes by operators who instruct machines to perform functions without thinking through all

the ramifications — or, possibly, without being *able* to think through all the ramifications. They may also be the result of uncritical acceptance of a cognitive-instrumental reason and the objectivating “scientific” worldview that goes with it. In the case of Chernobyl, the world’s worst nuclear accident came about on 26 April 1986, apparently, because built-in safeguards were purposefully overridden during a test designed to assess the reactor’s safety margin in a particular set of circumstances. The evidence suggests that the engineers running the test should have aborted the test at a number of distinct points, but instead they pressed ahead — in pursuit of scientific data — and overrode all the safety systems until the reactor broke down. There are many factors involved in the Chernobyl accident including: to conduct the test, the emergency cooling system was disabled; the reactor was to be powered down gradually but a request from the city of Kiev to maintain power meant this process was interrupted; and control rods were removed from the reactor in contravention of standing orders. Each of these factors in itself was sufficient to call the test off, but it appears that pursuit of scientific data, of scientific truths, of some non-ethical imperative, overrode concerns about the possible consequences.

In the case of Barings Bank, Nick Leeson, the former general manager of Barings Futures (Singapore) had developed his own trading system that relied heavily on computer buying and selling. As one of the many commentaries on the Barings case notes: “in the old days, speculators were protected by the twin devils of fear and greed — the gambler’s emotions. Computers do not know fear or greed; they do not have any common sense, either. Anyone trading off a screen soon loses touch with reality and commonsense.”¹³

The sorts of markets Leeson was trading in “were driven by technologically sophisticated speculators — millions of them — who knew or cared little of fundamental reality. The markets had become global. Those who had the right tools — telecommunications, computers and fast technical software — were skinning [the others] alive...”¹⁴ Electronic trading statistics for hundreds of contracts over dozens of exchanges worldwide were being fed into computers and the computers bought and sold in a split second along the lines decided by systems such as those Leeson had developed.

There is a need for ethics because ethical training has the capacity to act as a sort of “governor” on the mistakes seen at Chernobyl and in the Barings incident — that is, it tends to lessen their frequency and dampen the magnitude of their effects. This is because ethical training encourages

people to ask “why should I do this?” instead of “how can I do this?” In the case of Chernobyl, the effects of the disaster could at least have been minimized if the engineers in control had stopped to consider even the engineering consequences. In the case of Barings, the directors should have asked the ethical questions before it became possible to risk more money than the bank had on a high-risk speculative computer-driven buying and selling program. They should have asked the ethical questions and then put the safeguards in place to prevent happening what eventually did happen.

But let’s take a closer look at ethical training. A common approach is to make use of a moral “tool box” – a set of concepts and techniques that can be applied to a range of situations. As a metaphor, the tool box is appropriate. The question becomes not whether to use a moral tool box, but what sorts of things should be included in it?

Not long ago my tool box would have consisted of a set of moral principles, relevant cases, a good dose of historical background in moral philosophy, philosophical discussion of meta-ethical matters plus some exposure in detail to some of the more common normative approaches. These are elements of a professional ethics course that travelled well over a number of years.

Now, however, while not disputing that the above elements are relevant, I would begin with the recognition that graduates will have to make decisions on moral matters in a context of rapid social, technological, and hence professional, change. They will also be entering a world in which our basic metaphysical assumptions as to the nature of reality and personal identity will increasingly be challenged. Thinking about teaching ethics needs to change: to empower graduates to make decisions in an uncertain environment, to think about the outcomes that can be achieved, and to give graduates tools that first allow them to define the problem. To this end, my tool box would begin with ways to encourage students to become metacognitively aware. That is, they first need tools that will help them to ask *how* they learn, *how* they prefer to resolve problems and what their dominant intelligences are so they can assemble their own personalised toolboxes for problem resolution. Being aware of our own metacognitive processes is empowering in itself because we can recognise our thinking prejudices and consciously adopt a range of strategies that can explore problems more fully and robustly – strategies that include choosing others to work with, based on their thinking preferences.

Students will also need tools for collaborative endeavour because, increasingly, workplaces are highly-complex environments in which no single person can understand the nature of the problems, let alone make decisions on those problems.

METACOGNITIVE TOOLS: TAKING ACCOUNT OF DIFFERENT LEARNING PREFERENCES

Ozar¹⁵ suggests that Bloom's taxonomy of cognitive processes (Knowledge, Comprehension, Application, Analysis, Synthesis, Evaluation) is a good place to begin constructing a program that focuses on concrete outcomes for students. Bloom's taxonomy, particularly in its new verb-based form (Remember, Comprehend, Apply, Analyse, Evaluate, Create) is useful, but may not be sufficient. At the very least it needs to be supplemented with a range of thinking tools – which I will discuss below.

One of the ways in which Bloom may be supplemented is by helping students to reflect on how they learn. And there are many ways to do this. Glagola,¹⁶ for example, has his engineering ethics students take the 126 item Myers-Briggs Type Indicator test so they may better understand their own thinking preferences and also get a sense that there may be more than one way of thinking. He notes, however, (personal communication, 2002) that because of the process of selecting engineering students (self-selection included) the Myers-Briggs tests are taken by relatively homogeneous groups and classes seldom represent a wide variety of thinking preferences. Also, the MBTI can be costly to administer and may not be justified if teaching strategies appropriate to the mix of learning preferences are not employed.¹⁷

There are other ways in which students may be encouraged to reflect on how they learn and hence be helped to learn more effectively. And there is the positive spin-off that they may take into the workplace: an awareness, and sense of the value, of different thinking and problem resolving preferences. It is certainly worthwhile getting students to become aware of their preferred perceptual modality – the way in which they prefer to process data from their world. This can be addressed in a simple form by determining whether students have a preference for Visual, Auditory or Kinesthetic learning (VAK). Although it is likely that the process by which university entry is most often determined (examination results) will tend to privilege some learning preferences over others and so skew the results, teachers at tertiary levels should take into

account the different learning preferences that are likely to be represented in their student cohorts.

Howard Gardner¹⁸ suggests there are at least seven distinct perceptual modalities that teachers should take account of when developing teaching and learning strategies. Gardner's theory of multiple intelligences is increasingly being taken into account in the pre-tertiary environment and needs now also to be considered for tertiary teaching. When teaching and learning is conscious of multiple intelligences, there is an empowerment of those who have been disempowered by more traditional talk and chalk approaches. Not to take into account the multiple intelligences is becoming an issue of education equity.

Gardner suggests humans' perceptual modalities can be classified as: (1) verbal-linguistic, (2) musical, (3) logical-mathematical, (4) spatial, (5) bodily-kinesthetic, (6) interpersonal, or (7) intrapersonal. Most people will have a combination of some of the above, but usually will have one as the dominant preference. The way we make meaning from the world is determined in part by our preferred perceptual modalities, and teaching strategies that take account of these preferences will be more effective for more students than strategies that simply reflect the teacher's own learning preferences. In a world of rapid technological change and convergence our metaphysical presumptions are increasingly challenged, but the good news is that with convergence comes a greater opportunity to use a variety of teaching strategies.

Perhaps the simplest cognitive strategies in the classroom build on psychologist Roger Sperry's work on the left and right brain. Sperry won a Nobel Prize for medicine in 1981 for his discoveries concerning the functional specialization of the cerebral hemispheres. In almost any classroom in almost any institution there will be students who are left-brain dominant alongside students who are right-brain dominant. Left-brain dominant people generally have a good verbal intelligence, like quantifiable knowledge, deal well with mathematical calculation, are literal, are analytical and have a preference for logical expression. Right-brain dominant people take a holistic view, prefer gestalt expressions, recognise patterns, synthesise information, make use of metaphor, have a practical intelligence and acquire knowledge experientially. Simply employing a mix of strategies that take account of both right and left-brain learning preferences will make learning more effective for more students. Getting a working understanding of left and right preferences can be as simple as asking who has a messy bedroom or a messy desk (right brainers) and who has a tidy bedroom and tidy desk (left brainers). Putting students

into mixed modality groups (left and right brain together), presenting them with problems to be solved and giving them a range of problem-solving tools will facilitate a “whole-brain” approach to resolving problems – an approach that can readily be replicated in a workplace if that workplace values teamwork.

Determining whether students have a left or right-brain preference in their thinking is a useful first step in getting them to reflect on how they process data, how they make meaning from the world around them. An elegant variation on this by Ned Herrmann is even more useful.

Herrmann classifies thinking preferences into four quadrants: the rational; the experimental; the emotional and the safekeeping. To these he assigns colours. The rational thinker likes analysing and deals well with numbers. Engineers are well represented in this quadrant. Their colour is blue. The experimental thinker sees the big picture and synthesises information. Artists and inventors are well represented here. Their color is yellow. Those with a thinking preference in the emotional quadrant communicate well, like dealing with people and facilitate groups well. Their color is red. Those whose thinking fits mostly in the safekeeping quadrant like organizing things, are fussy about details and require a structured environment. Accountants are well represented in this quadrant. Their color is green. The Herrmann model¹⁹ is very useful and the color-coding of the quadrants gives users a ready-made shortcut to their dominant thinking preferences. “I am a yellow thinker,” “I am a blue thinker” etc. There are quick game-based activities available that enable participants to get a functional understanding of their thinking preferences – functional enough in any case to participate in “whole-brain” group activities.

Each of us has a unique thinking mode made up of a mix of the Herrmann quadrants. A point to emphasise in teaching is that these are *preferences* and that we can learn to function in those quadrants that do not come to us as easily as others. To make this point, get the students to fold their arms, then have them fold their arms the other way. We each have a preference for folding our arms one way (left over right, or right over left) but are capable, if we think about it, of doing it the other way.²⁰ Likewise with our learning preferences.

Once students are aware of their thinking preferences, classroom strategies can be developed based on “whole-brain” groups, that is, groups comprising representatives from all quadrants. Students can thus learn from their peers that there is more than one way to perceive problems and more than one way to resolve them. For example, the rational

thinker may learn from the emotional thinker that interpersonal relations are important, whereas the safekeeping thinker, while concerned with details, can learn something of the big picture from the experimental thinker, and so on.

Helping students to appreciate their own thinking preferences and those of others can lead to more creative group resolution of problems. There is a focus on the *process* of resolution and built-in regard for the value of difference. Decisions are made after group members first collaborate to *understand* the problem. Collaboration for understanding, when linked with something like Vincent Ruggiero's²¹ model for case analysis, can lead to fruitful (and inclusive) decision-making.

OUTCOMES FOCUS

In teaching ethics we need first to ask the question: what is it that we are teaching? Are we teaching and thence testing for knowledge *of* ethics, or are we in some way intending to help our students to become better moral decision-makers? When teaching ethics across the curriculum, I opt for the latter. My aim is to help students think through moral/ethical questions so that they can, in their own way and on their own terms, come to be better people. This is an outcome that largely resists measurement and even if it is realized, may not be so until well after the students graduate. Although this outcome may not be measurable, there are other worthwhile outcomes that may be.

Ozar,²² making use of the work of developmental psychologist James Rest, says there are four areas of the moral life in which ethics educators can work for growth in moral learners. These areas are:

- awareness or sensitivity to what is morally/ethically at stake;
- reasoning and other reflective skills leading to judgments about what ought to be done in a situation;
- motivation/conviction – the person's conscious affirmation of a life lived according to certain values, principles and ideals;
- implementation – the practical and emotional ability to carry out a course of action once it has been judged as something that ought to be done.

Courses of study can certainly be developed that allow students to demonstrate outcomes in the first two categories, as Lisa Newton²³ confirms. The second two are more problematic, but students can demonstrate at least that they have thought about them.

PRUDENT COLLABORATION

In a world of rapidly changing technologies where our metaphysical presumptions are increasingly called into question and where, ontologically, *relation* increasingly replaces *object*, it would seem prudent to encourage our students to work collaboratively on the resolution of moral problems rather than attempt the problems alone. Collaborative approaches to problem resolution that self-consciously use students in whole-brain groups are likely to be able to re-envision the problems and so find creative ways to resolve them. I use the term “resolve” rather than “solve” intentionally because, while moral problems are such that there may be no single best solution, there are always likely to be ways to resolve the problem that suit some stakeholders better than others. And decisions always need to be made – as even making no decision is itself a decision.

Converging media technologies are already changing the way young people communicate, and, as anyone who has sat in on a teenage chat line can attest, the technology is changing the nature of their moral communities. Teaching needs to come to terms with these changes.

CLASSROOM TOOLS

Much tertiary teaching emphasises course content over the processes by which the content is learnt. I believe that emphasis should change. This is not to say that content is not important, it clearly is. But in applied ethics it may be that the most important thing is to teach the processes of moral decision-making and provide students with a range of tools by which to assess moral questions and come to a considered judgment. There are many tools available and this is not the place to elaborate on them, but a brief sketch may be useful.

Teachers can encourage collaborative and cooperative problem solving through such techniques as role play, think-pair-share, placemat or any of the many collaborative games familiar to primary school teachers. That they are useful in primary school does not mean they cannot also be useful in other areas. Role play in particular is very useful with adults. Think-pair-share is a way of gradually involving more people in collaborative decision-making. A problem is set and individuals think about it before sharing their ideas with another person. The pairs then form groups of four and share their ideas, ending with a group discussion. Another version of it is called “snowball.”

Teachers can encourage critical and creative thinking with tools such as the de Bono CoRT thinking tools (Plus Minus Interesting, Consider All Factors, Other Person's Viewpoint, etc.) or his Six Thinking Hats. Or, they may also use techniques of Socratic Dialogue alongside the tools of logical analysis in ordinary language.

Reflection on moral matters can be encouraged with tools such as the Potter Box developed by Ralph Potter of the Harvard Divinity School, the case study techniques of Ryan Vincent Ruggiero, or any of the number of ethical decision-making plans – such as David Ozar's.²⁴

The fundamental importance is to build a community of inquirers and this can be done effectively for all ages using the open question techniques developed for children by Mathew Lipman and the Philosophy for Children movement he began with Ann Sharp. These also promote the use of communicative reason.

Using a tool box of collaborative, whole-brain teaching techniques does not mean that no content is taught or that concepts are not investigated. There is a necessary place for concepts such as: the is/ought question, moral and legal rights, responsibility, duty, values, virtue, intention consequences and care. Using a tool box that promotes metacognitive awareness allows individuals to conduct a more finely tuned analysis of their own and to value the contribution of others to the understanding and resolution of moral/ethical issues. In an age of technological convergence there is a need to understand how we understand the world so that we can make better sense of it and make better decisions about our relations to it.

NOTES

¹ On this, see for example, Jurgen Habermas, "Technology and Science as 'Ideology'" in Habermas, *Toward a Rational Society*, London:Heinemann, 1979; Herbert Marcuse, *One Dimensional Man*, London: Routledge, 1964.

² The notion of *Homo faber* can be found in Ivan Illich, *Tools for Conviviality*, London: Fontana, 1975 and in Habermas, *ibid.*

³ Simon Longstaff, quoted in Julie Macken, "The New Ethics...or how to feel warm and fuzzy and still kick butt", *The Australian Financial Review Weekend*: September 6-7, 1997, The Fin section, p.3.

⁴ E.F. Schumacher, *Small is Beautiful*, London: Sphere/Abacus, 1974.

⁵ Karl-Otto Apel, "Ethics, Utopia, and the Critique of Utopia." Seyla Benhabib and Fred Dallmayr eds. *The Communicative Ethics Controversy*. Cambridge, Mass.: MIT Press. 1990. pp 23-59.

⁶ Bruce Aune, *Metaphysics: the Elements*, Oxford: Basil Blackwell, 1986.

⁷ Mackie, J.L., *Ethics: Inventing Right and Wrong*, Harmondsworth: Penguin, 1976.

⁸ Iris Murdoch, *Metaphysics as a Guide to Morals*, Harmondsworth: Penguin, 1993. p.7.

⁹ Freya Mathews, *The Ecological Self*, London: Routledge, 1991.

¹⁰ Jurgen Habermas, *Moral Consciousness and Communicative Action*, trans. Christian Lenhardt and Shierry Weber Nicholsen, Cambridge: Polity, 1992, p.137.

¹¹ *Ibid.*, pp. 138-139.

¹² Immanuel Kant, *Critique of Judgment*, trans. Werner Pluhar, Indianapolis: Hackett, 1987.

¹³ P. Koupparis, "Barings: a random walk to self-destruction", *Scandals in Justice*, 13 April, 1995, <http://www.scandals.org/articles/>

¹⁴ *Ibid.*

¹⁵ David Ozar, "Learning Outcomes for Ethics Across the Curriculum Programs, *Teaching Ethics*, Vol. 2. No. 1, Fall 2001.

¹⁶ Charles R. Glagola, "Use of Objective Problem-Solving Techniques in Addressing Issues in Engineering Ethics". Paper presented to the Society for Ethics Across the Curriculum international conference, Gainesville, Florida, 2002.

¹⁷ For some useful background on the MBTI and some teaching strategies to be used in conjunction with it, see Harvey J. Brightman's Master Teaching Program on the Georgia State University Website.

¹⁸ Howard Gardner, *Frames of Mind: The theory of multiple intelligences*. New York: Basic Books, 1993.

¹⁹ See HBDI.com

²⁰ This example comes from Australian education consultant Julia Atkin.

²¹ Vincent Ryan Ruggiero *Thinking Critically About Ethical Issues*, 5th ed. NY: McGraw-Hill, 2001.

²² Ozar, *Ibid.*

²³ Lisa Newton, "Outcomes Assessment of an Ethics Program", *Teaching Ethics*, Vol.2. No. 1, Fall 2001.

²⁴ Ozar, *Ibid.*

