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Teaching Critical Thinking Beyond Philosophy

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Introduction

This article is about the practicalities of teaching critical thinking to a varied undergraduate audience. Ostensibly it is the case study of a particular course that the author has taught on and helped develop over several years, but its fundamental aim is to contribute ideas about how we might generally approach the teaching of critical thinking 'beyond philosophy'. To achieve this, the main challenges identified are, firstly, to make it accessible and engaging; secondly, to clearly demonstrate its broad relevance to everyday and professional life, and thirdly, to abet students' recognition of its rele-

vance to their other subjects, and to their development as learners (in terms of a) analytical skills, b) a learning tool, and c) substantial connections with other subject matter). The undergirding conviction is that these are all achievable and, indeed, that amongst the subdivisions of philosophy, critical thinking (or informal logic) has some of the most widespread and *immediate* benefits and applications.

The evidence that informs the claims made is mostly experiential; the result of half a dozen years teaching in this subject area; trying a variety of methods and course content; facing a wide range of compliments, constructive criticisms, and indifference from students, (and colleagues) and observing those involved undergo transformation and trauma. In the small campus setting in which the author works, informal feedback is easily elicited and, in fact, hard to avoid. In addition, as teachers we soon come to know the signs of whether a lecture or seminar is working or not, and with a combination of careful reflection, experimentation and intuition, we can, in varying degrees, fathom what is behind successes and failures. Further, non-experiential, sources of data drawn on are feedback from course evaluation forms, and formal research carried out into student learning experiences at the campus.[1]

Context

The teaching of critical thinking at the University of Glasgow's Dumfries Campus[2] primarily occurs in the level 2 (2nd year) course Argumentation-Rhetoric-Theory (A-R-T). This is termed a 'core course'[3] within the School's Liberal Arts curriculum,[4] but can be understood more straightforwardly as a critical thinking, or informal

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[1] See Hanscomb, S. 'The Critical Being of the Liberal Arts Student', *Discourse*, Vol.7, no.2, 2007; Harvey, Pattie and McFarlane-Dick, *Reflections on Employability: Current Strategies for Employability in Higher Education, Interim Report* (University of Glasgow, internal document, February 2007).

[2] Now officially referred to as the 'School of Interdisciplinary Studies'.

[3] A 'course' at the University of Glasgow is what is elsewhere called a 'module'

[4] For further details see See Franks, B., 'Philosophy and Interdisciplinarity', *Discourse*, Vol. 6, no.2, 2006; and Hanscomb, S., 'Philosophy, Interdisciplinarity and Critical Being', *Discourse*, Vol. 7, no. 1, 2007.

logic course that must appeal to students from a range of disciplines. This will be a recognizable challenge for philosophy teachers at institutions where a 'breadth' component has been integrated into some or all of their degrees,[5] as well as in places where critical thinking constitutes a subsidiary module offered by philosophy departments.

In such circumstances the three aims identified—to capture students' interest and imagination; to communicate the broad relevance of critical thinking, and to engender a recognition of its value in other disciplines and as a learning tool—become all the more urgent. I will discuss how the A-R-T course addresses each of these, and then conclude with some critical and speculative comments about the relationship between critical thinking and the wider academic context.

The basics of the course

The first half of the A-R-T course coalesces around two components: the process of 'argument reconstruction and evaluation', and the film (and play) *Twelve Angry Men*. Argument reconstruction and evaluation is adopted from Tracy Bowell and Gary Kemp's book *Critical Thinking.*[6] The method, described briefly, involves accessible and short written texts—such as passages from books, transcriptions of speeches, and columns and letters from newspapers—are unpacked and analysed with the aim of exposing the arguments they contain. They are then assessed in terms of the strengths and weaknesses of these arguments and the use of rhetorical devices.

These steps employ a significant range of skills: identifying premises and conclusions; removing extraneous material; re-ordering and formalizing arguments in terms of explicit and implicit premises,

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[5] For example Melbourne, Harvard, Aberdeen and Chichester. The Melbourne model, for instance, requires students to take 25% of their courses from subjects, potentially in other faculties, that are different from their main subject. Of particular relevance to the Dumfries Campus curriculum are their newly developed 'breadth subjects'. These deliberately focus on 'big questions' (such as climate change, health, and the Internet) and generic knowledge (such as critical thinking, logic, statistics), and most require interdisciplinary learning and teaching. See **http://www.futurestudents.unimelb. edu.au/ about/m_ model/ index.html**
[6] Now in its third edition (2009).

conclusions, and sub-conclusions (using P1, P2 … C1 etc.); identifying argument types (deductive, inductive, plausible); identifying vagueness and ambiguity; re-wording, and spotting fallacies.

In the latter case the course differs in its approach from Bowell and Kemp and sides with philosophers like Douglas Walton and Christopher Tindale[7] (themselves influenced by the Amsterdam school of argumentation (or pragma-dialectics)). According to this perspective *ad hominem*, *ad verecundiam*, *ad populum* arguments (and so on) are not necessarily regarded as fallacious, but are instead described as argument forms that *can be* fallacious, but always depending upon the context in which they appear. The upshot of this is that an extra level of uncertainty is added to the already inexact art of argument reconstruction and evaluation. Rarely will the wider context of a particular set of arguments be fully understood, and therefore a reconstruction and evaluation requires a significant amount of conditionality; of 'this could be a strong argument if …' type clauses.

This conflict is also useful for highlighting a central principle of the course, namely the importance of context for accessing the strength of arguments. Although an extremely useful method for both teaching and applying critical thinking, argument reconstruction and evaluation has its limitations. The restricted context surrounding the passages used is one of these, but in A-R-T the very exposing of these limitations is part of the course's aims. In this way the student can be primed for the more holistic and context-sensitive post-modern and feminist challenges to traditional approaches to logic and informal logic that are addressed in the 'Theory' part of the course.

The context problem is also mitigated by the other central component, *Twelve Angry Men*. Its value as a teaching resource is perhaps better known to social psychologists (as a demonstration of processes of social influence), but from the point of view of argument analysis and evaluation it is also of immense use.[8] There are several reasons for this. One is that it provides much of the necessary context needed for

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[7] Whose textbooks are the main recommended course texts (Walton, D., *Fundamentals of Critical Argumentation* (Cambridge: Cambridge University Press, 2006); Tindale, C., *Fallacies and Argument Appraisal* (Cambridge: Cambridge University Press, 2007)).

[8] The 1957 film is shown to the students during the course, and they are strongly encouraged to buy a copy of the book.

developed discussions surrounding the argument forms and fallacies exhibited. In essence it is a feature length 'persuasion dialogue' concerning the young defendant's innocence, with twelve protagonists and numerous arguments of varying complexity and quality. Another is the sheer range of argument forms and fallacies that are in evidence. These are well into double figures (and the number of individual arguments must be in three figures). There are several examples of valid and strong arguments, and multiple instances of fallacious *ad hominems*, *ad verecundiams*, *ad populums*, and slippery slopes. There are also weak analogies, straw men, false dichotomies, perfectionist fallacies and a number of others. A third reason for making this text pivotal is the clear connections the film makes between argumentation and, on the one hand, psychology, and on the other, ethics and politics.

In the 'Rhetoric' section of the course Plato's criticisms of rhetoric are explored, Aristotle's *Art of Rhetoric* and the modern psychology of persuasion are compared and contrasted, and the overarching question of whether argumentation and rhetoric can be clearly distinguished is debated. In this way the context issue remains relevant, and deeper questions can be asked concerning the relationship between reason and emotion. The 'Theory' segment, as mentioned, serves to further situate argumentation, and raises deeper questions still about the nature, status and application of reasoned thinking.

Having provided this overview of the A-R-T course, there now follows a more detailed description and discussion of how it attempts to meet the demands as a critical thinking course for non-philosophers.

Making it accessible and engaging

In this section the use of examples (including the use of humour in teaching argument forms and fallacies), and the link between fallacies and psychology are discussed.

1. The use of examples

Even a hardened anti-critical thinker is likely to both enjoy *Twelve Angry Men* and appreciate the relevance of argumentation to its plot. As well as being a helpful resource in the ways described, the film helps

to make the course more interesting and relevant. It is one thing to know that argumentation is vital to legal proceedings, another to see it in action (albeit in fiction).[9]

The judicious use of examples is of course fundamental to good teaching, but critical thinking is perhaps more reliant on them than other subject areas. It both runs the risk of being dry (and thus losing the audience's attention), and of being off-puttingly formal and abstract (and thus undermining the audience's confidence). The concentrated employment of examples is also necessary because critical thinking is as much a skill as it is a body of explicit knowledge, and so students need constant practice. A prime arena is the process of describing and explaining the many arguments forms and fallacies. Examples —perhaps a few for each of the (many) types—are of course necessary, and a useful exercise is to hand students a list of fallacious arguments prior to any other input, and to ask them to explain in everyday language what is wrong with them.

Everyday exemplars are relatively easy to come by or to concoct (although this is significantly time-consuming). The most effective are those which, according to studies in rhetoric, the modern psychology of persuasion, and common sense, the audience can best recognise and relate to, and those that are most entertaining. A recent incident at the World Cup finals, for example, provides an excellent case of a slippery-slope fallacy. As a result of Frank Lampard's overlooked goal against the Germans, Fifa's ruling against the use of goalline technology came under scrutiny. Amongst the arguments that had contributed to their decision was the following from Fifa general secretary Jérôme Valcke:

> If we start with goalline technology, then any part of the game and pitch will be a potential space where you could put in place technology to see if the ball was in or out, and then you end up with video replays. The door is closed.[10]

This is somewhat tragic, but fortunately, from a teaching perspective, argument forms and fallacies also lend themselves quite readily to

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[9] I have also used scenes from US TV drama *Boston Legal*, although more to demonstrate rhetoric than argumentation.

[10] **http://www.guardian.co.uk/football/2010/mar/06/fifa-rejects-goalline-technology**

humour. It is not hard to see why since humour thrives on the recognizable but not fully articulated errors and absurdities of everyday life. Question-begging arguments are an excellent case in point, for example:

> God exists
> How do you know?
> The Bible says so
> How do you know that what the Bible says is true?
> Because the Bible is the word of God

Or,

> I have psychic powers
> How do you know?
> My psychic aunt told me, and only a psychic can know if you're psychic.
> How do you know she's really psychic?
> Well, because I'm psychic of course.

Generalizations are, in the words of Henry Rollins, 'never right, always fun',[11] and both Charlie Brooker and Mark Steel have an excellent knack for exaggerated and absurdist analogies, such as:

> the govt admits tax avoidance in 2006 was somewhere between £97 billion and £150 billion, whereas benefit fraud amounted to less than £1 billion. So their obsession with benefit fraud makes about as much sense as if, after the Great Train Robbery, the police had said, 'We have excellent news. The robbers have got away and are a vital part of the economy. But we DID catch three passengers who didn't have a valid ticket.[12]

2. Fallacies and psychology

The majority of students might not have much immediate interest in informal logic, but many do have an interest in psychology. Plenty of

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[11] *Talk is Cheap Volume 3* (audio recording, 2004)

[12] Steel, Mark, *What's Going On* (London: Simon & Schuster, 2008) pp. 197-8

work has been carried out by cognitive psychologists on reasoning (such as the Wason selection task,[13] and the 'Linda problem'[14]), but surprisingly few critical thinking textbooks refer to such research. If we then take notice of the relationship between fallacies and emotion, and fallacies and social psychology, it is perhaps even more surprising that authors like Douglas Walton and Christopher Tindale are content to restrict references to psychology to the casual armchair variety.[15]

There seems to be three discernable ways in which the critical thinking-psychology link can be and, to varying degrees, is handled by texts that are student-friendly. The first is the highly informal ('armchair') approach just mentioned. The second is books and articles which address reasoning and, in particular, reasoning errors from a psychological perspective. The particular kind of approach I have in mind here is one which is applied, and potentially interdisciplinary. The advantage of these texts is that they do not assume any prior learning in cognitive and social psychology, and are therefore accessible to students from all sorts of backgrounds. The art, then, is to produce something which avoids superficiality and popularism; which contributes meaningfully to the student's contextualised knowledge of the significance of reasoned thinking and constructive communication, but which does not require specialist prerequisites. Two books which seem to fit this bill very well are Stuart Sutherland's *Irrationality* (1992), and Scott Plous' *The Psychology of Judgement and Decision Making* (1993). The former includes chapters on, among other things, causal mistakes, overconfidence, ignoring and distorting evidence, obedience and conformity; the latter on many of these, as well as, among others, attribution theory, availability and representativeness heuristics, cognitive dissonance, framing and anchoring.

The third species of text is one where the primary orientation is towards critical thinking in the way that is familiar to philosophers, but which incorporates robust psychological theory and evidence as well.

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[13] Wason, P. 'Reasoning', in Foss, B. M., (ed.) *New Horizons in Psychology, I* (Harmondsworth: Pengion, 1966)

[14] Tversky, A. and Kahneman, D., 'Extensional Versus Intuitive Reasoning: the Conjunction Fallacy in Probability Judgement', *Psychology Review*, 90.

[15] For example, when discussing *ad hominem* arguments Tindale says that 'they build on our natural tendency to connect what is said with the person or people saying it.' (*Fallacies and Argument Appraisal*, p.86)

A lot of interesting research has been carried out in this area in pursuit of a naturalistic theory of rationality,[16] but in terms of accessible texts to supplement broad-based courses like the one being described, I know of no such examples. What I have in mind is a work that places psychological evidence alongside the argument forms and fallacies in a way that serves to deepen understanding through the introduction of wider contexts, and through a wider and more thoroughly researched range of examples. It is, say, Walton, Sutherland and up-to-date research into naturalistic approaches to rationality, spliced together.

To use Richard Dawkins' terminology,[17] psychological evidence can provide 'proximal' explanations for the types of fallacies we are prone to, but this still leaves us with the 'but why are we this way endowed?' question; the need for 'ultimate' explanations. Evolutionary psychology has attempted to provide answers.[18] For instance, the following question could be posed: The fallacies typically discussed in critical thinking books are common errors of reasoning. Some, though, are more common than others; for example fallacious appeals to authority and to popular opinion; *ad hominem* arguments; causal fallacies, and hasty generalizations. Since the kinds of errors found in reasoning are potentially limitless (as the ever increasing number of fallacies attests to), why do these stand out? One reason could be that they are linked to hard-wired cognitive and emotional tendencies that serve particular adaptive ends.

Hank Davies[19] has written on the evolutionary origins of causal fallacies, and several other common argument forms and errors could potentially be linked with other principles of psychology.[20] For example, appeals to authority and to popular opinion correspond to obedience to authority and to conformity, which are among the central

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[16] For example, see Saunders, Clare and Over, David, 'In Two Minds about Rationality?' in Evans and Frankish (eds.) *In Two Minds: Dual Processes and Beyond*. (Oxford: OUP 2009).

[17] *The God Delusion* (London: Bantam Press, 2006)

[18] See, e.g. Tooby and Cosmides' Foreword In Baron-Cohen, S., *Mindblindness: An Essay on Autism and Theory of Mind* (Cambridge, Massachusetts: MIT Press, 1995).

[19] *Caveman Logic* (Amherst, NY: Prometheus Books, 2009).

[20] I say 'could potentially be', but I am conscious that this is research I am yet to come across. I would be interested to hear of any leads readers might have.

phenomena studied by social psychologists. Another example is the 'halo effect'; our tendency to automatically extend known positives in a person (e.g. that they are physically attractive) to a range of other, unrelated, positives (e.g. that they are kind and intelligent). This could also account for the frequency of fallacious appeals to authority (the assumption that expertise in one area implies expertise in others), and its opposite—the 'horn effect'—is easily associated with the abusive *ad hominem* arguments.

The claim, then, is that certain argument forms and fallacies feature heavily in critical thinking texts, not because of the arbitrary preferences and traditions of philosophers, or even the localised tendencies of a certain culture, but because they are symptomatic of wider bio-psycho-social forces. If this holds any water then it is hopefully both interesting and illuminating, and serves to provide a foundation (and motivation) for the study of thinking and logical errors that is more extensive than what is otherwise on offer. Moreover, such work is clearly interdisciplinary, and thus can be especially enriching of a curriculum, and aligns itself with aspects of current educational policy.[21]

The connection between fallacies and emotions is another area of critical thinking where these kinds of explanations can be illuminating, but where explicit links are thin on the ground in critical thinking textbooks. Many of these include categories of 'emotional appeals'[22]—to fear, guilt, pity, indignation etc.—and broadly speaking we are prone to commit more fallacies when in an emotional state. Some errors, however, seem more typically to result from strong emotions than others—notably false dichotomies, slippery slopes, hasty generalizations, and the perfectionist fallacy[23]—all of them might be called 'fal-

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[21] *Scotland 3-18 years Curriculum for Excellence* places a great deal of emphasis on interdisciplinarity.

[22] For instance Bowell and Kemp (op cit), Walton, *Informal Logic* (Cambridge University Press, 1989), Pirie, *How to Win Every Argument* (London: Continuum, 2006).

[23] Many of these map onto Aaron Beck's illogical thought patterns (see, e.g., *Cognitive Therapy and the Emotional Disorders* (New York: International University Press, 1976), and 'a belief in our profound inadequacy unless we are perfect in everything we do' is one of Albert Ellis' central 'irrational beliefs' (see *Reason and Emotion in Psychotherapy* (New York: Lyle Stuart, 1970).

lacies of exaggeration'.

The cognitive changes that emotional states engender are well recognised in psychology.[24] Like part of Milgram's explanation of our perverse sensitivity to authority figures, the problematic impact emotions have on clear thinking can also be explained by evolutionary pressures. When in states of fear and anxiety, for example, attention and recall become more narrow-beamed and selective as our adaptive psychology focuses us on immediate threats. With judgements and decision making, emotions can quicken the process. Perceptions and interpretations become more black and white, and short cuts are taken. Emotions, in effect, function as heuristic devices. Keith Oatley and Jennifer Jenkins concisely summarize the situation, understanding emotions as:

> structuring the cognitive system into distinct modes of organization. The effects of this structuring are to modify perception, to direct attention, to give preferential access to certain memories, and to bias thinking. … Emotions function to manage our multiple motives, switching attention from one concern to another when unforeseen events affecting these concerns occur. [25]

At this point it is worth returning a final time to *Twelve Angry Men* again so as to acknowledge how well the play illustrates the inseparability of argument and emotion. Up to a point at least, the title is the give-away. Most of the jurors are angry at one time or another, some are angry all the time (even if it's displaced), and there is a clear correlation between heightened emotion and poor argumentation (including, in this setting, frequent use of *ad baculums*). Moreover, it provides plenty of examples of cognitive dissonance and the 'magical thinking' process that Sartre discusses; of how, in bad faith, we subintentionally employ emotion to transform situations which we don't like and which are beyond our control. His discussion of the 'motionlessness' and preference for solitude associated with sadness provides a good example. In 'sorrow' he says:

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[24] See, for example, Oatley and Jenkins, *Understanding Emotions* (Oxford: Blackwell, 1996) pp. 263-77.
[25] Op cit, p. 252.

one of the accustomed conditions of our activity has vanished, yet we are still required to act in and upon the world without it. Most of the potentialities of our world (work to be done, people to see, duties of the daily round to be accomplished) remain the same. Only the means of realizing them … have changed. If, for example, I have just learned that I am [financially] ruined, I no longer dispose of the same means (a private car, etc.) to accomplish them. I shall have to substitute means new to me (talking the bus, etc.), which is precisely what I do not want to do. My melancholy is a method of suppressing the obligation to look for these new ways … I make the world into an affectively neutral reality … In other words, lacking both the ability and the will to carry out the projects I formally entertained, I behave in such a manner that the universe requires nothing more from me.[26]

Refracted through the emotion, the meaning and value of the world changes, providing some (temporary) comfort.

Also of interest in this regard is Aristotle's recognition of the power of emotions to distort our judgements. He says, for example, that 'things don't seem the same for those who love and those who hate [etc.] … but either altogether different or different in magnitude';[27] that 'we do not give judgement in the same way when aggrieved and when pleased, in sympathy and in revulsion …',[28] and, 'to the man who is enthusiastic and optimistic, if what is to come should be pleasant, it seems to be both likely to come about and likely to be good, while to the indifferent or depressed man it seems the opposite.'[29] This underlines the relative timelessness of some aspects of the psychology of argument and persuasion, and opens the door to a consideration of other enduring tendencies and principles found in Aristotle (and other ancients), and as explored by modern psychologists like Robert Cialdini and Howard Gardiner.[30] What use that can be made of these connections in the teaching of critical thinking? With the exception of the effects of emotion on cognition, in A-R-T there is currently no

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[26] *Sketch for a Theory of the Emotions* (London: Methuen, 1971) pp.68-9.

[27] *Art of Rhetoric*, p. 141.

[28] Op cit, p.75.

[29] Op cit, p. 141.

[30] Cialdini, R., *Influence* (New York: Collins, 2007); Gardiner, H., *Changing Minds* (Harvard Business School Press, 2006).

robust theoretical exploration of the psychology of reasoning errors. This is the result of the limitations of the staff's knowledge, as well as (and related to) the (apparent) absence of much relevant interdisciplinary research in this area. As should be apparent from the preceding discussion, many of the associations are, to us, only tentative. However, mention in passing is made of the kinds of things discussed here, and such speculation can serve as an interesting aside, and as a catalyst for the interesting (but inevitably speculative) question 'Why *these* fallacies?'

At the very least, reference to psychology gestures to the interdisciplinary significance of critical thinking (see further comments below under 'Recognizing its value in other disciplines'). It points also to the importance of studying argumentation in so far as it reveals potentially deep and wide-ranging things about human thought and behaviour. In many ways it serves as a convenient viewing point for surveying various academic terrains; as well as casting light on the psychology of reasoning (and vice versa), the study of argumentation can help to construct taxonomies of epistemology (authority, analogy, consequences, causes etc.), and it can help explain vital mechanisms of politics and ethics (for example the importance of reason, clarity, and rules of dialogue to a healthy democracy).

Communicating the broad relevance of critical thinking

The communication of the general relevance of critical thinking has clear ties to the business of making it accessible and engaging. If teaching this subject in a non-alienating way requires a strong emphasis on context and examples, then everyday and professional relevance will follow suit. Examples, as we have seen, are drawn from current affairs, politics, law and so on, and similarly case studies (such as *Twelve Angry Men*, but also the use of political speeches and wider persuasive practices (in politics and marketing) in the 'Rhetoric' section, and political negotiations and debates in the 'Theory' section (e.g. Michael Freeden on political conflict,[31] and Christopher Tindale on

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[31] Freeden, M. 'What should the "Political" in Political Theory Explore?', *Journal*

Shell's defence of its actions after the death of Ken Saro-Wiwa in Nigeria)).[32] In sum, students should be left with little doubt about the role of argumentation and rhetoric in the majority of communicative acts.

In terms of students' *personal* sense of the significance of these practices—a direct appreciation of how they do and can impact on their interactions with other people in all kinds of situations—a few things are important to mention. Firstly, previous research at the campus presents clear evidence that A-R-T has influenced students' argumentation and negotiation behaviours beyond the classroom.[33] Secondly, the extent and depth of this impact—which has the potential to affect a wide range of psychological, social and practical domains—must be partly up to the student. The detailed characterisations and dialogues of *Twelve Angry Men* ought to encourage reflection on how we tend to behave in various argumentation forums, especially when we are emotional, but aside from the occasional generalised comment in this direction, there are limits on how far can and *should* go in this respect.

Nevertheless, opportunities for personal development are certainly latent in critical thinking courses, and this does not have to be with regard to especially deep characteristics and tendencies. A straightforward example might be pointing out to a student that they have used (and perhaps often do use) a form of fallacious reasoning in a seminar discussion (perhaps one about fallacies (oh the irony)). Again, it would be inappropriate to force it, but perhaps the majority would be more ready to reflect on their argumentation styles when the forum in which it is exposed is focused on precisely this topic.

A similar argument can be made about the potential for these courses developing, and encouraging reflection upon, other graduate

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of Political Philosophy, Vol. 13, No. 2, 2005.

[32] *Acts of Arguing* (SUNY, 1999).

[33] See Hanscomb, S., 'The Critical Being of the Liberal Arts Student', especially pp. 106-7. Research has also indicated that in some cases students come to recognise the benefits of the course in question (Argumentation-Rhetoric-Theory) only after graduating (Harvey, Pattie and McFarlane-Dick, op cit.) This effect seems to have something in common with what psychotherapist Irvin Yalom calls 'time-delayed interventions'; certain benefits of therapy only making themselves felt months or years after the therapy took place. *The Schopenhauer Cure* (New York: Harper Perennial, 2006), p.61.

attributes such as open-mindedness, tolerance, humility, and healthy scepticism. With respect to the latter, students have often commented on how the study of both the fallacies, and the psychology of persuasion (especially the 'contrast effect'), have an immediate impact on the way they listen in everyday conversations, to political interviews and radio phone-ins, and of course to advertising and sales people.

The third point regarding the personal impact of A-R-T on students concerns the role of the formal debates, which comprise part of the formative and summative assessment of the course. The debating process is relatively familiar (although teams tend to contain at least four people), topics chosen are pertinent to the course content (so that they are congruent, and students are motivated to learn them deeply and therefore debate better), and it is expected that students demonstrate formal processes of argumentation and rhetoric. Among the challenges they face is the need to include several argument forms and/or fallacies that are prescribed for them in advance. Marks are awarded for clever usage of these devices in the context of the debate in question.

As a form of assessment, debates have some obvious benefits: they tick PDP/employability boxes regarding the development of presentation skills and performing in front of an audience; they encourage students to think on their feet, they encourage ownership of course material, they involve teamwork, and they demand forms of civility that can be hard won in tense, competitive and emotional environments. If resources like *Twelve Angry Men* should serve to encourage students to reflect on their own 'real world' behaviours, then the doing of it themselves should magnify this effect. The emotions generated by attempting to function in teams, deliver convincing arguments in front of audiences, respond to the unexpected arguments and stylistic devices of the opposition etc. are now more than product of thought and imagination.

Recognizing its value in other disciplines

1. Learning to learn

a) The broad benefits of critical thinking in terms of becoming a better learner shouldn't need spelling out in too much detail. In one sense a course like A-R-T ought to hone a student's critical abilities in a way that will have a generalised, holistic, effect on their engagement with most academic texts and tasks. They might realise this by themselves, but there is presumably no harm in letting them know it explicitly when explaining the ILOs, and then once or twice afterwards.

b) The analytical tools students learn on courses like this are clearly defined: identifying, categorizing, and evaluating arguments; sensitivity to the blurry boundaries between rhetoric and argumentation; sensitivity to contexts and audiences, and so on. Some disciplines will employ some of these more than others, but not many will make their use of these tools and perspectives as explicit as they must necessarily be on critical thinking courses. The result is insights that penetrate the 'everydayness' of academic writings; that X-ray otherwise opaque methodologies, and critical styles that are often taken for granted (or at least not fully explained) by the practitioners themselves.

c) Experience and evidence indicate that students are poorer than we might imagine at close reading and summarizing. In higher education in the UK the emphasis on critical assessment can marginalize skills in communicating accurately and succinctly the content of a text, but critical thinking courses need not exclude this skill. In A-R-T (and other core courses) students are made well aware that argument reconstruction is a form of summarizing, and is thus plainly transferable to other subjects and courses. Regardless of the result being formalized in terms of premises and conclusions, to do it well requires a close reading and careful unpacking of what is presented.

d) A technique that has been used in A-R-T tutorials requires students to reconstruct and evaluate arguments found in their own essays (usually from other courses). This helps instil the idea that essays are arguments (or series of arguments), encourages reflection and more careful scrutiny of their work, and underlines the value of this

method as a learning to learn tool.

A similar kind of angle is taken by the convenor of the introductory philosophy course at Glasgow University's main campus. Whilst spending some time offering essay advice in a lecture, he associates typical errors with fallacies recently taught in the critical thinking part of the course. For instance, avoid misrepresenting those you are writing about (straw man fallacy); avoid expressions like 'everyone knows that ...' (vagueness and *ad populum*), or 'it's always the case that …' (hasty generalization), and make sure that the reasons and sub-arguments included are all relevant to the overall conclusion.[34]

2. Substantive content

It is clear from much of what has been discussed that some of the elements of critical thinking commonly found in textbooks are variations on phenomena that are the subject matter of other disciplines, particularly psychology, media and communication. In this way, not only is critical thinking enriched by these disciplines in this substantial manner (as discussed), but these disciplines are enriched by critical thinking.

At a more formal level, learning in critical thinking can transfer to other disciplines in terms of the kinds of arguments and epistemologies they utilize. For instance, appeals to authority are always relevant (especially so in subjects like history and theology), and causal fallacies are particularly pertinent to social science. The use of academic examples from a range of disciplines is a fairly straightforward way of reinforcing this type of connection.

It should also be mentioned that critical thinking, as elucidated here, is a properly interdisciplinary subject. Argumentation and rhetoric are phenomena that can, with relative ease and significant benefit, *themselves* be illuminated via a number of disciplines. Interdisciplinarity, for good or bad, is currently receiving a lot of attention in UK higher education, and courses like this, as well as serving as exemplars of its virtues, can also be politically expedient. For example, there is no reason why contributions in terms of ideas, resources and teaching expertise can't be corralled from a number of departments (or schools)

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[34] 'Philosophy 1K', convened by Chris Lindsay.

and faculties (or colleges).

Further comments

1. A critical point to emerge from this is the importance of knowing your audience. Since multiple examples are required to teach critical thinking, then the more that these resonate with students' interests and world views, the more effective they are likely to be. With philosophy students examples from philosophy itself (like the Cartesian Circle, or slippery slope arguments in the euthanasia debate) ought to regenerate recognition and enthusiasm, but when teaching critical thinking beyond philosophy, too much of this will be alienating.

Aside from the *Twelve Angry Men* type case, the obvious fall-back is the news stories etc. that have been discussed previously. What this ideally requires, however, is not just keeping up to date with current affairs, but with the stories and cultural phenomena that are holding the interest of young adults (assuming that's the majority of our audience).[35] It's not being suggested that all our examples come from trendy blogs and *Big Brother*, but more that references restricted to things middle aged academics know and like could fail to stimulate.

2. A related issue concerns situations where certain students (especially older ones) are more familiar with the subject matter being addressed in the passage to be reconstructed and evaluated. Do they have an advantage? In one sense yes, since they can thus be more alive to the types of reasoning errors that can occur in particular topics and forums (climate change, democratic processes, health issues etc.). However, this sort of thing is a problem for the teaching of quite a few arts and social science disciplines, and shouldn't necessarily be a source of particular angst for critical thinking. Also, there is a sense in which this background knowledge (and views/opinions) can bias

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[35] This might not be as hard as we might think. Last year I was in a situation where it was relevant to ask a class of 16 year olds which comedies they watch and like. Among a mostly familiar set of answers were *Mock the Week* and *Friends*. (Apologies here to UK readers with teenage children to whom this is hardly news.) Also, a recent article in the THE on what students like in a teacher mentions 'the growing popularity among students of "infotainment" shows such as *The Daily Show* and *QI*.' (Cunnane, S., *Times Higher Education*, 15.7.10, p.7)

mature students' reading of the arguments put forward, and/or distract them from analysing what is actually in front of them.

3. There are some issues to do with the use of debates worthy of further discussion. For a critical thinking course an additional benefit of debates is that they provide a live forum for engaging in argumentation; in other words they progress, in certain respects, from the *static* discipline of argument reconstruction and evaluation. There are, however, some potential weaknesses as well:

a) One is their artificial and formal nature (including the role of the chair, and time limitations of the delivery of arguments). As such they are perhaps not the best method for exploring and practicing many of the intricacies of argumentation. On the other hand they are far more practical to manage and assess than, say, a scenario in which we observe pairs of students generating persuasion dialogues. Also, it can be said that their weaknesses are also their strengths: formality, the presence of an audience, the time restrictions etc. all have valuable extraneous benefits in terms of generic skills and personal development.

b) A number of participants over the years have commented on not just the artificiality of debates, but their combative and 'masculine' nature. One benefit of this is that when we reach the feminist/coalescent argumentation section of the course they are all the more ready for, and welcoming of it. The contrast is all the more vivid because they have had to do it, not just read about it. In debates, coalescence is not the name of the game (and nor can it be since although debates *are* a kind of game, coalescent argumentation is very much not), and there's a strong case for saying that that's just okay. Argumentation is usually competitive, so it's a taste of an important feature of everyday civilian and professional communication. Also, as indicated, the formal demands of the debating process—even if always somewhat repellent and alien for some students—foster a number of useful skills.

c) For debates to be a fair and thorough form of assessment, students need practice. Formative as well as summative debates will be necessary, and this is a time-consuming process. Rarely will it be practical to use whole-class time, so the appropriate forum is tutorials or seminars. If, say, a group of twelve is divided into teams of three, and each team needs to take part in two debates (a formative and a summative), that's four class hours devoted to debates. All the time they are

debating topics pertinent to the course this time is all the more justified. However, with assessment there is a potential staff-time issue if it is felt that the summative debates should be marked by two tutors. (Aside from the moderation/second marking factor, the reason is that it is very hard to catch everything that goes on in complex oral presentations (and indeed marking them effectively requires a lot of practice). Two sets of ears and eyes are considerably more reliable than one.) If this causes budget and other logistical problems, then, if debates are felt to be important enough, mitigation measures might include dropping, or shortening, one of the other assessments.

4. The final point to raise concerns the way and extent to which critical thinking is generic across academic disciplines, and the associated question of whether, even if this is significantly the case, it is best taught in this top-down manner rather than within the context of individual subjects. There is not the space here to do justice to these complex issues, but what can be said is that it is congruent with, and well within the remit of a course like A-R-T to discuss this issue as well. The 'top-down' question is, after all, addressed in part by the ever-present question of context, and to raise this, and the matter of broad applicability, is to extend the course's interdisciplinary range to include education as well.

To the extent that A-R-T is a success as a critical thinking course that works beyond the boundaries of philosophy, our belief is that this is due to careful attention paid to the how its content is selected and communicated, and how its ideas and techniques are contextualised in terms of their relevance beyond disciplinary boundaries and beyond educational settings. There are no doubt courses out there similar to, and better than this one, but it is hoped that some of the theory, resources and techniques that have been described and assessed here will be relatively distinctive and appealing, and be of practical use to others. As you would expect, the course continues to develop, and as part of this process the author is welcoming of suggestions and comments from other practitioners.

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