Contents

Everyday Criticality and Thinking Well

> ## Chapter overview
>
> This chapter will:
>
> - Survey some of the main theories of critical thinking throughout history, so as to arrive at a working definition
> - Focus on select critical thinking theories and practice
> - Consider ways to develop critical strength and, conversely, to ruin it
> - Provide exercises towards enhancing critical skills.

There is no fixed definition of critical thinking. There are scholars who dislike the idea of attempting to find a generic 'definition' at all. Yet some embrace it and also suggest attributes that a critical thinker exhibits; some will stress traits that another authority on the subject might understate – the emphases vary. There are respected proponents of critical thinking in universities who present it simply as a means of sorting what is true from what is false – looking at it as 'the art of being right'. This is a definition that I see as problematic. While critical thinking is a truth-seeking activity, to describe it this way evokes a level of competitiveness at odds with the spirit of enquiry. It also seems to oversimplify it, implying that criticality begins and ends with analytical work, when it also involves reflection (including self-reflection) and needs to be applicable to the workaday world. This book sees criticality as a mental attitude that can be used to guide both specialised and everyday thinking – far more than a utilitarian argumentation tool or a simple skill set. While the ability to think critically will certainly improve academic results, that's just the tip of the iceberg.

This first chapter locates what we now think of as critical thinking within its historical context. I've chosen notables from a range of disciplines and backgrounds, but the possible list is vast and this one little chapter is no 'catalogue of critical thinkers throughout history'. It simply includes an outline, or survey, that highlights some of those that this writer considers important, and whose work contributes to how we understand and practice critical thinking. Most of the exemplars included possess particular cognitive traits other than critical ability – creativity, imagination, and intellectual sympathy for instance – making these people truly original thinkers. As I briefly mentioned in the introduction to this book, a point that is sometimes overlooked in texts on critical thinking is that it is but one aspect of thinking *well*.

This chapter also considers what is involved in improving critical skills in a very practical sense, specifically in today's world, and provides exercises or intellectual games that clarify notions of critical thinking and strengthen critical acumen.

Please note, before you continue reading, I suggest that you arm yourself with a pencil, because as you read it will be useful for you to take note of any particular details that you think might go towards your own working concept of critical thinking. As some readers may not have a great deal of background in the concept, below are some ideas that will help. Some emphasise its scholarly aspects, others its emancipatory possibilities or social relevance. There are also more definitions and conceptions on page 11. The notes you make now will help you in an exercise suggested towards the end of the chapter.

Author	Critical thinking
John Dewey (1933, p. 118)	'Active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusions to which it tends.'
Peter Facione (cited in 'Critical Thinking on the Web' 2007, n.p.)	'The ability to properly construct and evaluate arguments.'
The Critical Thinking Community, criticalthinking.org	'Critical thinking is that mode of thinking – about any subject, content, or problem – in which the thinker improves the quality of his or her thinking by skillfully analyzing, assessing, and reconstructing it … It entails effective communication and problem-solving abilities, as well as a commitment to overcome our native egocentrism and sociocentrism.'
Sarah Benesch (1993, p. 546)	'A search for the social, historical, and political roots of conventional knowledge and an orientation to transform learning and society.'
Simon Gieve (1998, p. 126)	'For students to think critically, they must be able to "examine the reasons for their actions, their beliefs, and their knowledge claims, requiring them to defend themselves and question themselves, their peers, their teachers, experts, and authoritative texts".'
John McPeck (cited in Seigel and Carey 1989, n.p.)	'Critical thinking requires the judicious use of skepticism, tempered by experience, such that it is productive of a more satisfactory solution to, or insight into, the problem at hand.'

A necessarily (very) brief survey of critical exemplars

Classical Greece

One of the earliest and most compelling, but little known, figures in 5th-century Greek philosophical dialogue was Aspasia of Miletus. We only know of Aspasia through secondary sources, yet her distinction as a philosopher and as an orator is cited in Plato, Xenophon, Cicero, Athenaeus, and Plutarch (Glenn 1994). Although, like Socrates, she recorded none of her thoughts for posterity, there is evidence that not only was she Pericles' political adviser, but also a teacher of Socrates himself (Henry 1995). Socrates is recognised as an exemplar of rationality, critiquing ideas, drawing distinctions, and encouraging others to do the same. Socratic questioning is a critical thinking tool, and also a teaching

method used as a device in classrooms to discourage adherence to unfounded or misconceived ideas, and to encourage students' reasoning faculties. A Socratic dialogue as categorised by Richard Paul could include:

1. questions geared to clarify (achieved by asking why or how)
2. interrogating assumptions
3. evidentiary enquiries (e.g. asking for examples or analogies)
4. questions that require consideration of alternative views or perspectives
5. invitations to examine implications and/or consequences of particular assumptions.

Below is an example of an exchange between 'Anna' and 'Bella' that attempts to use Socratic techniques to complexify a statement that Anna uncritically accepts as true. So as to encourage 'Anna' to engage more carefully with the ideas and possibly even rethink her proposition, 'Bella' tries to focus the discussion by asking questions that will invite consideration of the broader implications of Anna's original and very large claim, and to summarise the discussion at intervals for the sake of clarity.

"Anna (states her position): Man-made objects are inferior to the products of nature."

"Bella (expresses curiosity with a question): Why do you say that?"

"Anna (now needs to explain why she thinks natural goods are better than synthetic goods): Because nature has an elemental wisdom that seeks balance. Humans have selfish desires that throw us off balance. So we can't create things that are perfectly balanced, like nature can. That is why nature, and its works, are essentially superior to humans, and our works."

"Bella (focuses on a detail – an important one – so that A has to start examining her assumptions): That's an interesting proposition. I'd never thought of nature having 'wisdom'."

"A (has probably never doubted this claim, and expresses her certainty): It is self-evident."

"B (asks for that evidence): Can you give me some examples of the wisdom of nature?"

"A (supplies what she considers evidence of nature's wisdom): The tides are guided by the moon. The seasons follow a cycle of life. You know the sun will rise each morning."

"B (questions A's terms of reference, inviting her to reconsider her claim): Is this actually wisdom, or patterns of natural cycles?"

"A (backs up her position, yet arguably fails to demonstrate how nature is 'wise'): These natural cycles enable the existence of life on the planet."

"B (concedes a point so as not to be arrogant or to cause A to become overly defensive, then asks a question geared to clarify how this can be considered 'wisdom'): It is true that natural cycles enable life on Earth. But I'm still not convinced that that is the same as wisdom. Wisdom is often considered to be a human attribute, based on thought rather than instinct. Can you say more about what wisdom is, and why nature has it but people do not?"

"A (is quite articulate in addressing B's question, yet her reasoning may still be flawed): When I say 'wisdom', I am speaking figuratively. I mean that what is natural

is not affected by the pettiness of humanity. In nature, there is no desire to win, to control, to overcome a perceived enemy. Nature just *is*. And therefore the products of nature are superior."

"B (makes a further evidentiary enquiry): For example?"

"A attempts to defend her position with a rhetorical question): Vegetation, animals, rivers … how can these be faulted?"

"B (now requires A to consider alternative views or perspectives): I cannot fault them. But there is also a lot to be said for unnatural objects produced by human agency, like medicine for curing natural diseases, or knives for pruning natural fruit trees to help them thrive, or human impulses like the love a mother feels for her child that drives her to protect him."

"A: There is virtue in these things, but they can also be used for evil purposes."

"B (asks another question geared to clarify): Can you be more specific?"

"A: Poison instead of remedy, killing rather than pruning, taking advantage of love through bribery and blackmail. Nature doesn't do that. As I said, once a human comes into the equation, corruption follows. It is what we *do*. Look, there's crime, there's war, there's betrayal, there's …"

"B (attempts to summarise the ideas explored so far for the sake of clarity): Just a minute. Slow down. Let me just try and organise the ideas we've covered: Nature is (figuratively) wise. Humans are essentially corrupt – or at least corruptible. Therefore the products of humans will be inferior to natural ones. But while it's probably fair to say that human actions can be, and often are, tainted by selfish desires – I do agree with that statement – does it follow that humans will inevitably corrupt goodness?"

"A: It is inevitable, because of human nature."

"B (now leads A into territory where she'll have to question certain assumptions she's made): Are you saying that humans, too, are natural?"

"A: I thought you might say something like that. But it is natural for human beings to intend to hurt for selfish reasons. Nature – beyond humans – does not set out to cause pain or damage."

"B (now asks A to consider alternative perspectives): I take your point. Yet, if you attribute 'nature' to humans, then surely our actions, even our bad intentions or 'corruptions' too, might be conceived of as part of the natural order of things?"

"A: Yes, but human nature is profoundly flawed."

"B (persists by continuing to question, never laying down the law, but 'leading'): Still, within nature? That is, humans too are part of the natural world."

"A: I see what you're trying to do. You're trying to demonstrate that nature too is capable of corruption, and is therefore imperfect."

"B (requires Anna to acknowledge complexities she has previously overlooked): Partly. I'm suggesting that rather than an either/or argument …"

"A: … Nature is capable of corruption, and humans are capable of goodness …"

You may have noticed that 'Bella' has tried to voice the thoughts that 'Anna's' inner critic might well be asking her.

Exercise 1.1 Socratic dialogue

Experiment with this form of questioning either alone or with a colleague. I've suggested an opening statement and follow-up, dealing with similar subject matter but starting from a different position. However, you might like to choose an argument from your own discipline with which you're already familiar.

Clive: The products of nature must necessarily be imperfect.

Derek: That's a very large claim.

C: I don't think so. It is self-evident that nature is a blind force, without reason; therefore man-made objects will always have greater utility and grace, because of the human intention that drives their creation.

D: …

Although Socrates is held up as one of the greatest models of rationality and we still use his pedagogic techniques today, there is evidence that he was also irrational. He embraced poetry, myths, and dreams, and James Hans (cited in Miller 2008, pp. 299–303) insists that 'these irrational voices help acquaint Socrates with patterns, rhythms, and contexts that escape rational scrutiny'. Hans points out that before Socrates would begin to analyse an event or an idea critically, he would allow himself an intuitive reaction; only after this would he attempt an interpretation. (This sort of intellectual sympathy is explored in Chapter 4 as a means of getting at the truth of any given situation.) Socrates accorded respect to aesthetic responses, hunches, and instances of sudden insightfulness as well as purely intellectual ones. These cannot be termed 'critical', as they defy logic, but they contribute to understanding ideas and phenomena so that it becomes possible to arrive at truths that might escape purely rational analysis.

Medieval era

Hildegard of Bingen, 12th-century philosopher, natural scientist, and theologian, is thought to be 'the first Western thinker to articulate a philosophical theory that woman is not a deficient form of man but … a distinct type of human being' (Dragseth 2016, p. 4). Truly a groundbreaking analysis for its time! She often referred to herself as uneducated, although this comment is now thought to be an expression of modesty, as her writings demonstrate knowledge of Augustine's ideas as well as those of other accredited and invariably male thinkers. The extraordinary breadth of her writing skills, which ranged from music to drama, to scientific texts on the classification of stones and herbs, to theological speculation, to language games, to the philosophy of psychology, reveals a genius unparalleled by a woman and matched by very few men up to the 12th century (Allen 1997).

A little later, Thomas Aquinas (1225–1274), though arguably less radical in his analyses, emphasised the centrality of reason, insisted upon systematically cultivated reasoning, and endeavoured to address any questioning of his ideas regarding this process as 'a necessary stage in developing [those ideas]' (Paul et al. 1997, n.p.). This attitude of responsiveness is an essential critical attribute that acknowledges the potential power of reason in progressing ideas, rather than allowing oneself to be hindered by closed-mindedness or dogmatism.

In 1997 – post-medieval certainly, but bear with me – Charles Mills (cited in Weiss 2009, p. 30) introduced the notion of an 'epistemology of ignorance' (which he related to racism, but may be transferred to multiple contexts). He claimed that this ignorance comes into being through 'structured blindnesses and opacities, misunderstanding, misrepresentation, evasion, and self-deception'. Conversely, critical thinkers need to challenge assumptions, query opaque statements, and insist upon explanations and evidentiary backup for any claims made. An extremely early historical example of this kind of thinking is exemplified by Christine de Pizan (1364–1430). In her *Book of the City of Ladies*, Pizan challenges the pervasive acceptance of female inferiority in an entirely systematic fashion. Firstly, the ignorance

of the questioner (herself) is humbly established. A personified voice of reason points out that she has stunted her intellect even to the point where, after 'thinking deeply [and] … judg[ing] impartially and in good conscience' she has then cowered in the face of authority. 'Lady Reason' insists that it is in fact possible for her, and therefore women generally, to respond to this fallaciousness by contradicting and ridiculing it. Remedies which sound very much like contemporary critical thinking strategies are proposed, including 'self knowledge, enhanced interpretive skills and … skepticism' with regard to authority (Weiss 2009, p. 34).

Renaissance

Four examples of writers and philosophers of this time of burgeoning creative and critical thinking are Tullia d'Aragona, Michel de Montaigne, Francis Bacon, and Niccolo Machiavelli. D'Aragona's 'Dialogue on the Infinity of Love' moves from a discussion of the nature of love, to speculations about communication, to an analysis of the processes and techniques of philosophic discourse itself. In the dialogue, she critiques the essentialist assumption of woman's mental deficiencies, including her perceived inability to engage in speculative reason (now understood to be a hallmark of critical thinking). The dialogic struggle between the two participants is a discourse on a discourse, effectively representing the critically reflective process of 'thinking about your thinking while you are thinking in order to make your thinking better' (Paul et al. 1997, n.p.).

Michel de Montaigne's personal and philosophical essays and, in particular, his scepticism had a profound effect upon the work of later philosophers, such as Descartes – to whom I'll refer again in a moment. Montaigne shocked his readers in several of his essays by pointing out the contingent nature of cultural belief systems. For example, he wondered why one would consider it a mark of cultural superiority for men to pee standing up? Or why is it socially acceptable to condescend to those who do not embrace the practice of burying one's dead, but believe that other ways of disposing of the dead are more respectful – like cannibalism? Montaigne was witty and playful as well as critical, and his criticality was highly reflective.

Championing empirical study of the world, Francis Bacon was concerned that people tend to be misled by what he termed 'idols', or habitual ways of thinking that prevent us from observing the truth of phenomena. His *The Advancement of Learning* 'could be considered one of the earliest texts in critical thinking', according to Paul, Elder, and Bartell of the Foundation for Critical Thinking.

> For myself, I found that I was fitted for nothing so well as for the study of Truth; as having a mind **nimble and versatile** enough to catch the resemblances of things … and at the same time steady enough to fix and **distinguish their subtler differences**; as being gifted by nature with **desire to seek, patience to doubt, fondness to meditate, slowness to assert, readiness to consider, carefulness to dispose and set in order**; and as being a man that neither affects what is new nor admires what is old, and that **hates every kind of imposture**. (Bacon 2011, p. 85, emphases mine)

Note the similarities between the emboldened and italicised attributes Bacon claims, and terms from relatively recent consideration of critical traits in Peter Facione's (2013) 'Critical thinking: What it is and why it counts'.

Critical thinking: past and present	
1603 traits	**2013 traits**
nimble and versatile	flexible
distinguish … subtler differences	distinguishing a main idea from subordinate ideas
desire to seek	habitually inquisitive
slowness to assert	prudent in making judgements
readiness to consider	willing to reconsider; fair-minded in evaluation
carefulness to dispose and set in order	clear about issues; orderly in complex matters; diligent in seeking relevant information; focused in inquiry
hates every kind of imposture	[which requires] honesty in facing one's own biases, prejudices, stereotypes, or egocentric tendencies

Two other aspects mentioned by Bacon, but less remarked upon by Facione, are:

- 'Patience to doubt.' This is a prerequisite for the critical thinker as explored by Jennifer Hecht (2003) in her *Doubt: A History.* She traces a line from Classical Greek to Cartesian scepticism to modern scientific empiricism, with doubt featuring as the departure point for the critically minded enquirer on their path to understanding. Nicholas Burbules (2000) embraces the possibilities of doubt as an opportunity to learn. The process of arriving at reasoned judgements is initiated by a question, a dispute, a contestable notion – or by doubt. Peter Elbow (2008, p. 1) describes critical thinking as 'the disciplined practice of trying to be as skeptical and analytical as possible with every idea we encounter. By trying hard to doubt ideas, we can discover hidden contradictions, bad reasoning, or other weaknesses in them – especially in the case of ideas that seem true or attractive.'
- 'Fondness to meditate' might be translated into contemporary English with the phrase, 'pleasure in reflection', an aspect I'll say more about in due course.

In case any readers are now equating critical traits with virtue, which sometimes happens, I'd like to point out that critical thinking is 'not synonymous with good thinking' (Facione 2013, p. 26), nor is it necessarily meritorious; it may not always lead to socially beneficial actions. Criticality needs reflection, and to take on board ethical considerations. When restricted to purely objective exploration and analysis of concepts it can become highly problematic when translated into action. Scholars with redoubtable reputations for critical skill have certainly been known to acquiesce in or even take on active roles within totalitarian and corrupt regimes.

An example of a thinker of exemplary critical skill and one of the most influential of the Renaissance writers was Niccolo Machiavelli, now thought of as a paragon of political manipulation. His *The Prince* is a guide on how to take and keep control of nations. Machiavelli exhibited an entirely cynical view of humanity. Here is a sample from *The Prince*: 'a prudent ruler cannot, and must not, honour his word when it places him at a disadvantage.' Compassion and kindness will ruin you, according to Machiavelli; a ruler must learn to be duplicitous, deceitful, ruthless, in order to maintain power. Machiavelli critiqued the commonly held notion of the time that political leaders needed to legitimise their power base by exhibiting moral sense, and argued that the ability to acquire, exercise, and maintain control required the use of coercive force, advocating a kind of realpolitik wherein whoever has the power, regardless of their moral fibre, has the right to authority. This may be why some scholars read *The Prince* as satire, proposing that Machiavelli was attempting to reveal the calculation, corruption, and hypocrisy of those in political control in Italy, the Medici family. The book is certainly a bitter and sardonic tract. Other readings insist that he was trying to curry favour with the Medicis by showing that their iniquitous intrigues were justified and that they were doing an excellent job.

17th and 18th centuries

During these centuries an extraordinary number of intellectual innovators were produced. Rene Descartes' (1596–1650) method was to doubt perceived truths derived from the apparent evidence of the senses and from culturally accepted assumptions, and even the process of reasoning itself. He took the position of scepticism to the greatest of extremes, even raising the possibility of a deceptive god – a potentially life-threatening tack to take in his day. Notably, Descartes also allowed intuition to come into his process – as Socrates is purported to have done and, later, Plato, who insisted that intuition was a superior human faculty. Descartes' famous *cogito ergo sum* (I think, therefore I am) 'is not merely an inference from the activity of thinking to the existence of an agent which performs that activity' (Philosophy Britannica). For him, first-person experience too has its own logic.

Thomas Hobbes (1588–1679) and John Locke (1632–1704) made enormous steps in social contract theory; Isaac Newton (1643–1727) radically changed people's understanding of the reality we inhabit so that today critical thinkers hold that the world can only be understood by means of careful, evidence-based reasoning (Paul et al. 1997). The formidable but rarely cited political thinker, writer, and rhetorician Mary Astell (1666–1731) was working on, among other tracts, *A Serious Proposal to the Ladies, for the Advancement of their True and Greater Interest.* This book included suggestions such as the possibility of women's career options being extended beyond motherhood or religious service. Not only this, in recent times she has been described as '"a forerunner of [philosopher] David Hume" … [who] … provided "not only the first but perhaps the most sustained contemporary critique of … Locke's *Two Treatises*" and that she "combined Christian faith with a sophisticated rationalist construction in a system that paralleled [Rene] Descartes's 'Discourse on Method'"'

(Duran, 2000, Springborg, 1995, and Smith 1982, cited in Weiss 2009, pp. 140–141).

Voltaire (1694–1778), poet, author of neo-classical drama, historian, and philosopher, who is best remembered for his works of social engagement, wrote satirical critiques of religion and advocated the separation of church and state. Voltaire's success is attributed to a great extent to the fact that he addressed his tracts against authority to the people. ('God is not on the side of the heavy battalions, but of the best shots') and because of this, some propose that he actually invented the concept of popular opinion. Armed with irony and sardonicism (among other rhetorical techniques to be discussed in Chapters 7 and 8) and supported by careful critical reason and scepticism, he addressed the citizenry rather than the rulers. John Ralston Saul's *Voltaire's Bastards* (1993) refers to ways in which Voltaire questioned the seemingly impregnable logic of the ancient regime and held up to the public gaze the inconsistencies and egoistic hypocrisies of monarchy and the clergy. However – and this is a *big* however – Saul concludes making his case with a sting: 'So a new sceptical logic was born, liberated from the weight of historical precedent and therefore *even more self-serving than the logic which had gone before*' (emphasis mine).

Taking a moment to reflect

According to Saul, Voltaire heralded an era where different controllers of knowledge became the new elite: those who manage the organisation and distribution of information. 'Rationally organised expertise' (1993, p. 8), in Saul's view, became the new ideology. He wrote this twenty-five years ago, and the situation has intensified since then in our 'information society', and thus is well worth mentioning here. Today, profit-oriented global platform companies dominate the market, and through it, cultural and social life worldwide, enjoying ubiquitous regulatory powers able 'to connect, portray the world around us, express our political allegiances and even forge our visions for the future' (Couldry and Rodriguez 2016). Our 'knowledge culture' is controlled not by royalty or religious leaders, but by technocrats guided by expedience and pragmatism, or what is thought of as reason – at the expense of other essential attributes like intuition, intellectual sympathy, and reflectiveness.

The sort of critical thinking we use in analytical work provides an intellectual structure that helps us to arrange our thoughts and to argue with clarity and coherence. I hope that reading this book will help you to hone your critical reasoning and to use it confidently, but it is also essential to recognise that it is not a replacement for other faculties. Well-rounded criticality which goes beyond instrumental reasoning embraces reflectivity; it cultivates the ability to recognise our habitual thought patterns and prejudices. Strategies for self-reflection are dealt with in detail in the next chapter, but for now I want to stress that reflection in general is part of the critical process whereby we transform mere data to knowledge through understanding it, and recognising ways in which it is or might be translated into actions of benefit to others and to ourselves.

Reflections on critical reflection

Robert Ennis (2015, p. 31) includes reflection in his 'conception' of critical thinking as 'reasonable, reflective thinking that is focused on deciding what to believe or what to do', as does McPeck (1981, p. 8): 'The propensity and skill to engage in an activity with *reflective skepticism*'; Paul (1989, p. 213): 'the art of *thinking about your thinking while you're thinking* in order to make your thinking more clear, precise, accurate, relevant, consistent, and fair'; Elkins (1999) – while expressing a certain ambivalence regarding the use of the term 'critical thinking' – nevertheless claims that: 'The critical thinking oriented teacher tries to focus on what it means to think well, to think in the most productive, careful, disciplined, and *reflective* way possible' (emphases mine).

Reflection, finally, is a way of addressing the gap between rationalism and more humanistic approaches to criticality.

Hindrances to critical thinking

It is actually incredibly difficult to let go of accustomed ways of seeing the world and to appraise phenomena with fresh, uncluttered vision, which is why refining critical skills is a lifelong project requiring a good deal of active intellectual exercise. What follows is a consideration of some of the traps to avoid. After this comes an exercise in disengaging from habitual ways of using one of the most fundamental parts of the English language: the verb 'to be'. We'll then look briefly at Richard Paul's 'imperfections' of thought, with particular emphasis on the implications for the 21st-century networked learning environment.

Confirmation bias

Ignoring conflicting points of view leads to narrowing rather than broadening the mind and to bad scholarship, yet probably one of the commonest hindrances to critical thinking is that of confirmation bias, also referred to as 'myside bias', or the tendency to accept ideas and information that agree with our pre-existing beliefs, prejudices, and viewpoints. Evidence that agrees with our position and that shows we are 'right' is very seductive. It is also increasingly hard to avoid, when website algorithms predict our preferences based on our search histories and show us what it seems we would like to see, effectively alienating us from disagreeable news or ideas and isolating us in our own individual ideological 'bubbles'. Confirmation bias is a cousin of another hindrance to critical thinking:

Overestimation of our own intellectual skills and powers of fair judgement

This is a trap for many, but particularly for those of us who are accustomed to being proven right or to attracting the respect of others. In other words, it can be the pitfall of the powerful.

Being unwilling to query authoritative sources

This sort of problem arises for people who are unsure of their own capabilities, or who are accustomed to following the guidance of others. But while inexperienced students, for instance, are unlikely to be in a position to challenge an expert, they might still raise questions in the spirit of enquiry! This sort of inquisitive stance is perfectly appropriate for a learner.

The question of to be (or not to be)

The premise here is that changing accustomed ways of expressing ourselves can have the effect of changing habitual perceptions, and conduct us towards more original thinking. Following Korzybski's 'E-prime' system (of English without the verb, 'to be'), David Bourland (2004) presents an unusual perspective for dealing with problems in critical thinking that can arise when this particular verb is overused – which is common. Bourland suggests semantic exercises in reconfiguring sentences that depend on 'to be'. At this point, however, you may well be asking: What on earth could possibly be wrong with 'I am' (he is, you are, etc.)?

Critical thinking theorists have pointed out that it conveys a sense of permanence and certainty that can lead us to make premature or simplistic judgements. This is best explained through examples, so here is a fundamental 'for instance': You might introduce yourself by saying, 'I am a researcher'. But this doesn't really say much about you or what you do. It abstracts your profession and simplifies you; you've been abridged, abbreviated, truncated!

Exercise 1.2 'What do you do?'

Try to respond to the question, 'What do you do', without using the verb 'to be'. You might come up with a range of formulations, all of which lead your interlocutor to have a better understanding of you and of how you spend your time. Each should be no more than one sentence in length.

After you've had a go, look at my suggested responses – but *do* try it yourself first.

(And the same instruction applies to the exercise following this one.)

Possible answers:

- I read a lot and write essays.
- I'm really interested in […] and spend most of my time studying it.
- After quitting my job as a […] I enrolled in a postgraduate research degree.
- As a child, my mum introduced me to books and reading and I found I loved both, so that's what I do: research.

Do you see what happened when you avoided 'to be'? Where the 'I am' form fixed you in time and bound you to a static state of existence, the other versions did not. And most importantly, in order to rewrite the simple sentence, you had to click yourself out of automatic, taken-for-granted ways of describing yourself, and click into 'critical mode'. Axing 'to be' required you to be inventive – to think in a slightly different way about a simple question – and also to communicate a fact with greater precision and clarity. Such a strategy is likely to improve the quality of conversation all round!

Bourland further notes the impact of 'to be' on writing and talking about people, things, concepts, and beliefs:

Exercise 1.3 From the grammatical to the philosophical – further experiments in absenting 'to be'

Reformulate the following questions or assertions without 'to be'. You'll find when you do this that the psychological or ethical implications will change; your statements may also become more reasonable or humane by means of this little 'critical turn' than when using the abstract versions that use 'to be'. Again, suggestions follow, but try on your own first.

- What is woman, and what is man?

(Implication: Absolute definitions of sex and gender exist, and you can articulate them.)

- I am a failure.

(Implication: And therefore I will remain so. It is my nature.)

- He is a do-gooder.

(Implications: He's unrealistic and/or a bleeding heart, and/or can't make the necessary tough decisions … and others, none of them good.)

- I am just doing my job.

(Implication: I can't be blamed – my actions are not my responsibility.)

- What you are saying is unclear.

(Implication: You're at fault, or your idea is at fault.)

Possible reformulations:

- What attributes absolutely characterise woman and man?

(This version allows for nuance that the 'to be' version lacks.)

- I have not succeeded.

(This allows for the possibility that I may succeed another time. The horrible 'internal instruction' – the sort that can ruin a life – becomes redundant. Avoiding the certainty of 'I am' exempts the failure condition from implications of permanence. 'Is' sets things in concrete; without 'is', you can move on.)

- He tries to do good.

(The meaning has become quite different now. A do-gooder becomes someone who attempts to live a moral life.)

- I don't feel able to break the rules/I consider myself obliged to do what I'm asked.

(The speaker now has agency and must take responsibility for the decision rather than relying on an abstract notion to exempt them.)

- I don't understand.

(Blame is removed, and the conversation opens up. The speaker admits to requiring further elucidation.)

Another interesting feature of 'E-prime' is that it makes it more difficult to use the passive voice. As will be discussed in later chapters, while the passive in academic writing is meant to encourage objectivity, it can also be misused to obfuscate, to evade the responsibility of making contentious claims, or to veer away from concluding an essay with a judgement – when judgement, after all, is the end result of the critical process.

Exercise 1.4 Maybe 'more research needs to be done', but in the meantime be brave enough to state your intelligent, research-based conclusion, however provisional …

Think of an alternative to the rather escapist phrase, 'more research needs to be done', as if you're writing a conclusion to an essay. Base your response on some problematic issue that you're familiar with in your own field, so that you *are* in fact in a position to make an informed judgement. For instance, here's one from mine: *There is no absolute definition of critical thinking and therefore no simple formula to follow in order to cultivate it. Developing criticality is not a simple industrial 'competency' – not a problem with a ready solution – but an ongoing process of disciplined reasoning and reflective scepticism.*
    Now, your turn:

'Imperfections of thought'

A director of the Center for Critical Thinking at Sonoma State University, California, Richard Paul (1990) identifies what he refers to as 'imperfections of thought', all of which stand in the way of critical thought. Below is a list of some of these, plus others of my own.

Exercise 1.5 Imperfections and perfections

Firstly, decide what the opposite of each condition might be. That's the easy bit. Then, list some authors in your field who you think exemplify most of the 'perfections', and why.

Imperfections and impediments	Perfections to aspire to	Who exemplifies such perfections and why?
Vagueness		
Illogicality		
Superficiality		
Triviality		
Bias		
Unexamined assumptions		
Inconsistency		
Ignorance		
A closed mind		

Paul was writing in 1990, and since then the world has changed dramatically, and so has higher education. It is global, massified, often conducted at a distance from the university, and enhanced (or debilitated, depending on your point of view) by new

technologies. We now inhabit an informational environment of ceaseless data flows that has largely obliterated geographical distance, vastly accelerated the pace of history, and is changing the very nature of human relationships. The tides of data are unremitting and many people are constantly immersed in this oceanic inundation – I have students who acknowledge that they are *never* offline while awake. To disconnect would cause distressing levels of FOMO. While much of the information is important, fascinating, and some of it is reliable, plenty is superficial and trivial. Checking each opinion, claim, fact, or factoid as it breaks upon our consciousness is impossible. The academic research environment is very much a part of a networked culture, at the heart of the virtual economy of ideas.

However, while you – like me – might conduct much of your research online, use social media, rely heavily on email correspondence, and if you are a teacher, run 'blended learning' courses that combine face-to-face and online teaching and learning practices and so forth, we have to remind ourselves that these resources are only tools, whether devices or repositories of data. We may purchase mind-mapping and critical thinking software ('Reason!Able', or 'Rationale', for instance – probably being superseded as I write) which claim to assist in organising arguments and assist in complex reasoning. We may subscribe to CorporateTrainingMaterials.com, which provides 'fully customizable course kits for trainers' of critical thinkers – and there will be many more updates and new programmes by the time of publication of this book. Recent research, however, indicates that overly enthusiastic use of electronic devices can kill both critical and creative ability in students from elementary through to higher tertiary levels.

Even such a simple process as note-taking on a keyboard, according to Mueller and Openheimer (2014), tends to impede rather than enhance comprehension and retention of information. Taking notes by hand can be slower – and that's the point. The slower pace assists learning and encourages analytical depth. It takes longer, but you'll be retaining more. Keying becomes a sort of false way of economising on time. Also, memory of textual content is improved by physically turning the pages of a book; in fact, tests have shown that students who used e-readers received examination scores that were significantly lower than those who read three-dimensional books. Using screens tends to result in fewer annotations and less rereading, both of which are essential if one is to attempt a critical appraisal of a text. My point is: if you want to increase active, engaged reading, electronic devices – regardless of their convenience – are not necessarily superior and can in fact be counterproductive.

We have to attend to our social media habits. As Alex Soojung-Kim Pang, a researcher at a Silicon Valley think tank, puts it, 'connection is inevitable, but distraction is a choice'. Overly enthusiastic online activity can disturb and fragment our attention, and it takes up time and attention that could be spent in reflection or in rest, both of which we need to do to sustain healthy neurological functioning. Chapter 6 provides advice on how to use rest as fallow time where ideas are allowed to gestate, but in the meantime, if you are reading this book because you want to improve your critical skills – and given the title, you probably are – then it is important also to cultivate an approach to information technologies that enhances, rather than debilitates, your attention and ability to focus.

Digital communication, with its speediness, expedience, and immediacy gives the impression that we have knowledge at out fingertips, available 24/7. All we need to do is click. This is quite untrue. What we have at our fingertips is information. Data. In order for information and data to become knowledge, we need to understand it; understanding is the real meaning of knowledge.

Exercise 1.6 Post Enlightenment to contemporary critical thinkers

In (relatively) recent history the world has undergone radical shifts in political philosophy, some of which you will be familiar with, some not. In this field, Mary Wollstonecraft (1759–1797) is an exemplar; in economic theory the paradigmatic figure is of course Karl Marx (1818–1883); in science and philosophy, Charles Darwin (1809–1882); psychology and educational reform, John Dewey 1859–1952); political theory, Hannah Arendt (1906–1975); social theory, Simone de Beauvoir (1908–1986). In order for each of these thinkers to have made such revolutionary changes within their fields and in the world, it was necessary for them to question tenets which at the time were accepted as unquestionable.

Choose three writers or thinkers you admire from your area of study. Briefly outline their contributions in terms of what you consider to be specifically *critical* practice – based on what you already know and what has been outlined so far in this chapter and the introduction of this book.

Thinker 1:

Thinker 2:

Thinker 3:

Conclusion

This chapter presented critical thinking as a central component of thinking well, supported by discussion of a range of concepts and methods available to assist us in developing a critical attitude of mind. We considered critical thinking as a means of working towards understanding information and ideas, and linked criticality to ethical principles that might be used to guide critical action in the everyday, as well as in an academic context. A very brief survey of attitudes towards critical thought and practice was provided, starting with 5th-century Greece. The suggested critical thinking exercises were generic in nature; those in the following chapters will be more directed. If you take nothing else away with you from this chapter, let it be these five central points. Critical thinking is:

- something that needs to be learned formally, which progresses through ongoing practice
- essential for thinking well, but there are limits to the critical paradigm
- a practice that demands time to reflect
- *not* served well by fragmented attention
- *not* just a theoretical concept or a way of getting better marks, but a way of approaching Socrates' goal of finding out not only how to think well, but how to live well.

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