

## Critical Thinking for a Global Society: A Holistic Approach

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100 years ago, Walter Lippmann wrote *Public Opinion*. In it, he observed the universal human tendency to oversimplify, or ‘stereotype.’ His various observations were later given names in psychology: the Dunning Kruger effect; confirmation bias and cognitive dissonance, to name but a few.<sup>1</sup> Lippmann argued that the pervasiveness of this tendency to oversimplify, coupled with the increasing complexity of modern life, meant that the democratic model could not work: no person, however intelligent, could ever know enough about every matter of governance that concerned them. It was therefore not practical for any person to make important decisions regarding government and policy: democracy as it was, he felt, could not work.

He proposed that instead, vast amounts of ‘data’ be collected about populations, and this data be used by experts in their fields to make decisions regarding policy that were in the interest of society, which the population would then be encouraged to agree to. This he called ‘manufactured consent.’ He also suggested that the sociological understanding achieved through this ‘big data’ could be used to improve the education of the citizens of tomorrow – ultimately making them better managers of their own and their societies’ destinies through a greater depth of understanding of the human condition.

Lippmann’s book and its proposals for benign technocracy unsurprisingly generated controversy. Two contemporary works that drew on Lippmann’s are of interest: Bernays’ *Crystallizing Public Opinion* (1923)<sup>2</sup> and Dewey’s *The Public and its Problems* (1927).<sup>3</sup> Bernays felt that this oversimplification, and the consequent vulnerability to manipulation it implied, provided exciting profit-making and propagandist potential and was ripe for exploitation. He argued, in this and other works, for the ‘engineering’ of consent, the use of mass psychology for manipulative and controlling purposes.<sup>4</sup>

Dewey called *Public Opinion* the ‘greatest indictment of democracy ever penned’, and felt Lippmann’s insights were brilliant but his proposals unnecessary.<sup>5</sup> He argued that instead of giving up on democracy, populations must be provided with better education – an education that would provide them with greater awareness of, investment in, and control over their own thinking. Education, for Dewey, was inextricable from the democratic ideal, inextricable from the achievement of social progress. Education could preserve, strengthen

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1 Walter Lippmann, *Public Opinion* (London: Allen and Unwin, 1922) p153.

2 New York: Boni and Liveright.

3 New York: Henry Holt and Company.

4 See also, particularly, *Propaganda* (New York: H Liveright, 1928) and *The Engineering of Consent* (Oklahoma: University Press, 1955).

5 John Dewey, quoted in Leonard S Newman, ‘Was Walter Lippmann Interested in Stereotyping?’ *History of Psychology* (Vol 12.1, 2009) p15. Available online: [https://www.researchgate.net/publication/26649438\\_Was\\_Walter\\_Lippmann\\_interested\\_in\\_stereotyping\\_Public\\_Opinion\\_and\\_cognitive\\_social\\_psychology](https://www.researchgate.net/publication/26649438_Was_Walter_Lippmann_interested_in_stereotyping_Public_Opinion_and_cognitive_social_psychology) retrieved on: 10/11/2022.

and even improve the democratic model.<sup>6</sup>

Bertrand Russell made similar arguments, often focusing on the dangers he perceived in the ‘cultural lag’<sup>7</sup> – the problem that technological progress was unmatched by humanity’s ability to adapt to it.<sup>8</sup> Russell often argued that a greater general awareness of psychology was necessary for the modern world. Like Dewey, Russell felt that education and better thinking were the keys to keeping humanity afloat.<sup>9</sup>

Both felt that education was too focused on what was past rather than providing a better foundation in thinking for the inevitably changed world of the continuous tomorrow.<sup>10</sup> Both even tried to run schools based on their ideas.<sup>11</sup>

Unfortunately, it is Bernays’ ideas that have more powerfully shaped today’s world. But it was not until this century that the greatest progress was made in the world of profit-driven manipulation. In 2000, Google launched AdWords, their monetisation model. This would fundamentally change the face of advertising, and, inadvertently, contribute to changing the world itself.

Today, Bernays’ vision has been achieved through what Zuboff terms ‘surveillance capitalism’.<sup>12</sup> This phenomenon now not only controls what, how and when we are advertised, but has also contributed to a problematic change in the way we consume information. Today, massive amounts of data are collected about human behaviour, but not as Lippmann envisaged, *en masse*, to help society; rather individually and specifically, to keep us engaged, scrolling, consuming.

The problem with this is that it makes use of, and exacerbates, all those problems that Lippmann observed (and many more besides) – those universal cognitive and psychological ‘fallibilities’, that he felt created too great an obstacle in our ability to make sound decisions. We are provided with ‘pseudo-environments’<sup>13</sup>, or echo chambers – individualised versions of reality, tailored to our prejudices, biases and beliefs, entrenching and reshaping how we perceive the world, our place in it, and other people. These create a sense of false consensus, providing the ‘social support’ Festinger described as a useful mitigator of

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6 This is the main thread of the argument in *The Public and its Problems*, but also related to his arguments in many other works, particularly *Democracy and Education* (New York: Macmillan, 1916), *Education Today* (London: Allen and Unwin, 1941), among others.

7 Discussed in J Britt Holbrook, ‘Russell, Bertrand’ in *Ethics, Science, Technology and Engineering: A Global Resource* (Volume 3, 2nd edition, 2015) available online: <https://go.gale.com/ps/i.do?p=GVRL&u=rdg&id=GALE|CX3727600662&v=2.1&it=r&sid=summon> retrieved on: 20/08/2021.

8 See also *Icarus, or the Future of Science* (London: Keegan Paul, 1924).

9 See for example his Nobel Lecture, 1950. Available online: <https://www.nobelprize.org/prizes/literature/1950/russell/lecture/> retrieved on: 10/11/2022. See also *Common Sense and Nuclear Warfare* (London: Allen and Unwin, 1959).

10 Dewey wrote, in *Education Today*, ‘it is impossible to foretell definitely just what civilization will be’ in proceeding decades, it is therefore ‘impossible to prepare a child for any precise set of conditions.’ P5.

11 Russell’s Beacon Hill School and Dewey’s Laboratory School.

12 Various. She defines it in *The Age of Surveillance Capitalism: The Fight for the Future at the New Frontier of Power* (London: Profile Books, 2019) p8.

13 ‘Pseudo-environment’ is Lippmann’s term, describing an individual’s subjective representation of the world. *Public Opinion*, various.

cognitive dissonance.<sup>14</sup> They entrench our confirmation biases and make us vulnerable to radicalisation, as Sunstein demonstrates.<sup>15</sup> More troublingly, this phenomenon allows for powerful worldview manipulation, both deliberate and incidental, and creates a system whereby disinformation can be targeted at exactly those most likely to believe it.

You have probably heard of Cambridge Analytica. But were you aware that they sought to ‘fundamentally change society’, by ‘breaking it’ first? That they sought to ‘pit people against one another’?<sup>16</sup> A government report on the Leave.EU campaign found that they ‘used the strategy CA had given them’, that emulated ‘Nazi propaganda techniques’ through the ‘leveraging’ of ‘an artificial enemy’ –i.e., immigrants.<sup>17</sup> This is just one example of outgroup bias being manipulated for the purpose of achieving political goals.<sup>18</sup> Activities such as this have sought – and managed – to fracture societies, undermine the democratic process, sow division and generate chaos. The GDPR is not equipped to prevent such dangers. Indeed, strategic targeting isn’t even necessary, because the way we are fed information creates a personalised petri dish for the propagation of false, damaging, and divisive beliefs.

To add to this, young people increasingly access their news from social media, in particular TikTok<sup>19</sup> – an app whose algorithm is both highly effective and highly opaque, and whose operation has already garnered concerns surrounding extremist thinking.<sup>20</sup> Because of the psychometric profile model, those young people will only be fed news that chimes with their worldview, or the worldview of popular figures who they admire. There have already been widespread reports on the increase in extremist ideology and terrorist intentions among minors.<sup>21</sup>

Alongside all this, the Edelman Trust Barometer found that, in the UK, there is

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14 See Leon Festinger, *A Theory of Cognitive Dissonance* (Stanford: University Press, 1957).

15 Cass Sunstein, *Going to Extremes: How Like Minds Unite and Divide* (Oxford: University Press, 2009).

16 See interview with Christopher Wylie, available on YouTube: <https://www.youtube.com/watch?v=FX-dYSQ6nu-M> retrieved on: 10/11/2022. See also Commons Library, ‘Research on Leave.EU and Cambridge Analytica Published’, available online: <https://committees.parliament.uk/committee/378/digital-culture-media-and-sport-committee/news/103479/research-on-leaveeu-and-cambridge-analytica-strategy-published/> retrieved on: 10/11/2022.

17 See Commons Library document (above).

18 I refer to Tajfel’s model, Social Identity Theory. See Tajfel et al, ‘Social categorisation and intergroup behaviour’, *European Journal of Social Psychology* (Vol 1.2, June 1971) available online: <https://onlinelibrary.wiley.com/doi/abs/10.1002/ejsp.2420010202> retrieved on: 10/11/2022.

19 Ofcom report on news consumption: <https://www.ofcom.org.uk/news-centre/2021/young-people-turn-away-from-tv-news> retrieved on: 14/11/2022.

20 For example, Gabriel Weiman and Natalie Masri, ‘Research Note: Spreading Hate on TikTok’, *Studies in Conflict and Terrorism* (June 2020). Available online: <https://www.tandfonline.com/doi/abs/10.1080/1057610X.2020.1780027?journalCode=uter20> retrieved on: 08/11/2022. See also Vincent Boucher’s thesis ‘Down the TikTok Rabbit Hole: Testing the TikTok Algorithm’s Contribution To Right Wing Extremist Radicalization’. Available online: <https://www.proquest.com/docview/2723856317?accountid=13460&pq-origsite=summon> retrieved on: 08/11/2022.

21 For example, Katerina Vitozzi, ‘Sharp rise in children investigated over far-right links - including youngsters under 10’ *Sky News* 24/11/2020. Available online: <https://news.sky.com/story/sharp-rise-in-children-investigated-over-far-right-links-including-youngsters-under-10-12131565> retrieved on: 08/11/2022. See also Michael Holden, ‘UK Police Warn Younger Children Involved in Far-Right Terrorism’, *Reuters* (17/03/2022). Available online: <https://www.reuters.com/world/uk/uk-police-warn-younger-children-involved-far-right-terrorism-2022-03-17/> retrieved on: 08/11/2022. Not exhaustive.

incredibly low trust in traditional news media. This year's survey found that only 22% of UK respondents trusted the mainstream media.<sup>22</sup> Many felt that traditional media outlets prioritised ideology over veracity, with 69% feeling the media was insufficiently objective.<sup>23</sup> Furthermore, with around  $\frac{3}{4}$  of the read national news sources being owned by only 6 companies, that excessive ideological bias is repeated and magnified.<sup>24</sup> This means that ever-more people are turning to alternative – and even less trustworthy – sources of information, sources that can spread complete falsehoods with total impunity.

So a nightmarish version of Lippmann's world is now our reality. Ironically, Lippmann's imagined world sought to 'fix' democracy, but our alternative version is only breaking it.<sup>25</sup> Academics from a wide range of disciplines are concerned by the side-effects of this new world with its malleable reality, this post-truth world<sup>26</sup> with its increasing levels of populism<sup>27</sup> and dying faith in the democratic ideal.<sup>28</sup>

And let us not forget the continued pervasiveness of climate change denial, and rejection of environmental policy. Both denialism and false beliefs concerning 'green' policy can, at least in part, be attributed to the way we interact with information. Even if we were to discount all other issues, this alone would necessitate action. The greater the levels of doubt, the less support there is for change, the more excuse governments have to ignore the issue and continue as normal.

Once a person's beliefs have become part of their identity, they achieve 'high self-relevance', and become inextricable from their sense of self and reality.<sup>29</sup> You cannot achieve anything by attacking a person's worldview.<sup>30</sup> You can, however, teach them to question it for themselves. And while it might sound simplistic, that really is part of the answer. We

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22 2022 UK Edelman Trust Barometer. Available online: [https://www.edelman.co.uk/sites/g/files/aatuss301/files/2022-01/2022%20Edelman%20Trust%20Barometer\\_UK.pdf?utm\\_campaign=UK%20Trust%20Barometer%202022&utm\\_source=UK%20website%20&utm\\_content=UK%20Report](https://www.edelman.co.uk/sites/g/files/aatuss301/files/2022-01/2022%20Edelman%20Trust%20Barometer_UK.pdf?utm_campaign=UK%20Trust%20Barometer%202022&utm_source=UK%20website%20&utm_content=UK%20Report) retrieved on: 08/11/2022.

23 2022 UK Edelman Trust Barometer Media Deck, p36. Available online: <https://www.edelman.co.uk/sites/g/files/aatuss301/files/2021-02/2021%20Edelman%20Trust%20Barometer%20-%20UK%20Media%20Deck.pdf> retrieved on: 08/11/2022.

24 See the Media Reform Coalition's 2021 report: Tom Chivers, 'Who Owns the UK Media?'. Available online: [https://www.mediareform.org.uk/wp-content/uploads/2021/03/Who-Owns-the-UK-Media\\_final2.pdf](https://www.mediareform.org.uk/wp-content/uploads/2021/03/Who-Owns-the-UK-Media_final2.pdf) retrieved on: 10/11/2022.

25 This is a concern shared by a number of scholars, most notably, Zuboff. See also, for example, David Block, *Post-Truth and Political Discourse* (Switzerland: Palgrave Macmillan, 2019).

26 Matthew D'Ancona, *Post-Truth: The New War on Truth and How to Fight Back* (London: Ebury Press, 2017).

27 See Roger Eatwell's *National Populism: The Revolt Against Liberal Democracy* (London: Pelican, 2018)

28 See, for example, the Institute for Public Policy Research's report by Parth Patel and Harry Quilter-Pinner, 'Road to Renewal: Elections, Parties and the Case for Renewing Democracy. Available online: <https://www.ippr.org/files/2022-04/road-to-renewal-april22.pdf> retrieved on: 10/11/2022.

29 'high self-relevance' makes an issue much more vulnerable to confirmation bias. See Bettina Casad, 'Confirmation Bias', *Britannica Academic* [online]. Available from: <https://academic-eb-com.eu1.proxy.openathens.net/levels/collegiate/article/confirmation-bias/627535> retrieved on: 10/11/2022.

30 See Lisa Oswald and Jonathan Bright, 'How do climate change sceptics engage with opposing views?' University of Oxford, 2022. Available online [preprint copy]: <https://arxiv.org/pdf/2102.06516.pdf> retrieved on: 22/09/2022.

must begin to integrate critical thinking, and the understanding of thinking itself, into the process of learning. Only through a cultural shift towards greater self-awareness, greater 'reflectiveness', can we address the problems I have outlined.<sup>31</sup>

My proposal is practical, relatively simple, and backed by research. It is a long game, but we must think long-term. We must protect the next generation of voters and workers and academics and politicians from being pulled down rabbit-holes, from believing in artificial enemies, from misunderstanding the value of democracy – or we will lose it, and a great many other things with which we associate the modern era and social progress.

If so many of our problems can be associated with problematic thinking, then we must begin to familiarise ourselves with the means by which our thinking can be compromised. We should, as Dewey and Russell asserted, teach people to think about their thinking. There are important differences between more traditional models of critical thinking and this one. It is no longer enough to be able to deconstruct statements and recognise logical fallacies. We must learn to understand how thinking works, so that we can identify the unique elements of our unique subjective experience that make us vulnerable to exploitation. We must be able to interrogate our thought processes so that we are able to identify faults in them.

Does it not seem odd that we don't already have a curricular subject dedicated to the study of thinking? We all have a brain. Why is it that we learn so little about it? Thinking about thinking needn't be done through abstract, philosophical musings. Today we have easily communicated concepts, neuroscientific knowledge, simple models. It is not necessary to read the great philosophers to get a handle on some of the universals in human cognition.

Diane Halpern has found that explicitness is more effective than implicitness when teaching critical thinking skills. She also asserts the importance of trans-contextual relevance – as you are probably aware, it can be difficult for people to take, for example, the analytical skills they have learnt and applied in a subject and apply them in real-life contexts or in other subjects.<sup>32</sup> The greater the number of more personally appropriate and meaningful applications, the greater the likelihood of effective trans-contextual transfer. What Halpern's work indicates is that it is not enough to simply teach a short course in logic as part of a citizenship or PSHE curriculum. It must be explicit, repetitive, and relevant.

What I propose is that, in the context of the here and now, we begin integrating our knowledge about thinking into everyday lessons. We must teach young people to understand, for example, what confirmation bias and cognitive dissonance are, how these things can go awry, how they can be leveraged in us without our awareness.

Metacognition, or thinking about one's thinking, is where it begins. Metacognition is

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31 'Reflective thinking' is a phrase coined by John Dewey, and is considered by some the forerunner to the modern sense of 'critical thinking', and is comparable to 'metacognition'. Dewey discusses this in detail in *How We Think* (Massachusetts: DC Heath and Co, 1910).

32 See, for example, Lisa M Marin and Diane Halpern, 'Pedagogy for developing critical thinking in adolescents: Explicit instruction produces greatest gains', *Thinking Skills and Creativity* (Vol 6.1, April 2011). Available online: <https://doi.org/10.1016/j.tsc.2010.08.002> retrieved on: 10/11/2022. See also Diane Halpern, 'Teaching Critical Thinking for Transfer Across Domains: Dispositions, Skills, Structure Training, and Metacognitive Monitoring', *American Psychologist* (Vol 53.4, April 1998). Available online: <https://oce.ovid.com/article/00000487-199804000-00031/HTML> retrieved on: 10/11/2022.

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an area that has received increasing neuroscientific interest in recent years. The fact that it can be taught, learnt, and improved – using a variety of methods – implies that we should consider it more akin to a skill than an innate ability or a correlate of academic intelligence.<sup>33</sup> Certainly, different levels of capacity might be available to different people, in the same way as different levels of proficiency in maths might be achievable to different people. But most people can learn a useful level of numeracy. It seems to me that we can assume that most people can learn a useful level of self-awareness in their thinking. Furthermore, research has demonstrated the intuitive findings that more biased<sup>34</sup> and more extreme thinkers<sup>35</sup> are less metacognitively capable. Coupled with the evidence of improvement through programmes of training this seems to indicate that we can reduce biased thinking and mitigate against radicalisation by prioritising metacognitive improvement in our teaching.

Metacognition is often divided into awareness and regulation.<sup>36</sup> Thus, when I have given public talks about this model, I ask attendees to think of the concepts I introduce them to as providing them with awareness. It is then their job to go away and practice regulation.

There are many ways of teaching people to practice metacognition, and many methods with which to incidentally introduce it in existing subjects. In primary school, P4C activities and Socratic dialogues can help young people begin to observe and explore their thinking processes, and some teachers already use these techniques. However, rather than being a fun extra for a lucky few, this needs to be standard practice.

In my workbook, the chapter on metacognition will outline different approaches that might be taken to teaching students about metacognition in different subjects. For example, in maths, we often ask students to show their working – it would be neither difficult nor time consuming to connect this with the concept of metacognition. It is already implicitly part of English, certainly at GCSE level – we constantly ask students to ‘explain’ their points, to explore their thinking, to justify their arguments with evidence. We just need to be a little more explicit about it, observe and practice it a little more closely, make using that process a little more relevant to the students and their lives.

Of course, metacognition on its own is not enough. We need things to be ‘aware’ of,

33 For example, using perceptual discrimination tasks, see Carpenter, Sherman et al. ‘Domain-General Enhancements of Metacognitive Ability Through Adaptive Training’, *Journal of Experimental Psychology* (Vol 148.1, 2019) pp51-64. Available online: <https://static1.squarespace.com/static/5616b377e4b0670f148ff742/t/5d0f80760ff3ce00011762f1/1561297019002/CarpenterJEPG2019.pdf> retrieved on: 27/01/2021. See also the use of meditation: Benjamin Baird, Michael Mrazek et al, ‘Domain-Specific Enhancement of Metacognitive Ability Following Meditation Training’ *Journal of Experimental Psychology* (Vol 143.5, May 2014). Available online: [https://www.researchgate.net/publication/262265281\\_Domain-Specific\\_Enhancement\\_of\\_Metacognitive\\_Ability\\_Following\\_Meditation\\_Training](https://www.researchgate.net/publication/262265281_Domain-Specific_Enhancement_of_Metacognitive_Ability_Following_Meditation_Training) retrieved on: 10/11/2022.

34 Toplak, West and Stanovich, ‘The Cognitive Reflection Test as a predictor of performance on heuristics- and biases tasks’, *Memory and Cognition* (Vol 39, 2011). Available online: <https://link.springer.com/article/10.3758/s13421-011-0104-1> retrieved on: 10/11/2022.

35 Max Rollwage, Raymond J. Dolan and Stephen M. Fleming, ‘Metacognitive Failure as a Feature of Those Holding Radical Beliefs’ *Current Biology* (Vol 28.24, December 2018) available online: <https://www.sciencedirect-com.dblibweb.rdg.ac.uk/science/article/pii/S0960982218314209> retrieved on: 10/11/2022.

36 For a useful exploration of this understanding, see ‘Getting Started with Metacognition’, Cambridge International Education Teaching and Learning. Available online: <https://cambridge-community.org.uk/professional-development/gswmeta/index.html> retrieved on: 10/11/2022.

to ‘regulate’. So, we teach young people about how thinking works. We look at thinking from as many angles as possible – so that there is more opportunity to capture different people’s attention, so that thinking about thinking becomes less abstract, and, importantly, less scary. In order to do this in as holistic a way as possible, it is necessary to relax our disciplinary boundaries. We need to think of the brain as an organ, as a system; but we also need to think of our interpretation of the world as a product of our experiences, as a collection of beliefs and associations, a place where our emotions and our understanding of the world are simultaneously housed. We need to view ourselves as individuals and as participants in society. We need to view the world of humans as a collective of individuals and as a vast amalgam.

For school-age teaching, it seems to me that it is necessary to integrate concepts about human thought and interaction into as much of the educational experience as possible: the addition of a little about the speed of the emotional response and its effect when learning about the brain’s physiology; the addition of Bayesian reasoning to core maths to understand the importance of taking into account that which is not contextually obvious; a little extra exploration of cultural conditioning and social identity theory added to the study of historical figures. There is a wealth of convincing evidence that structured interventions are effective in promoting critical thinking skills and dispositions in learners.<sup>37</sup> In Singapore, critical thinking has already been successfully integrated into the curriculum.<sup>38</sup> Beginning to do the same in this country would very simple to do, and would require very little extra work by already overworked teachers.

Of course this is only a temporary and partial solution in the context of a world currently ravaged by economic crises, a country preparing itself for further austerity, an education system already caving under economic strain. The real answer, which we cannot wait too long to implement, is to give thinking its own space, its own, dedicated airtime in the school process – in addition to its integration across the curriculum. Ideally, I would propose that we teach the subject of ‘thinking’ as a journey, from the most internal and personal to the most external and shared. In the courses I have delivered to adults, this means following a journey that begins with neuroscientific understanding of emotional responses and meaning-making; to a cognitive science view of rationality; outward to biases and heuristics, simplifications and stereotyping; outward further to social identity and finally reaching the broad, far-reaching world of cultural conditioning. By exploring our own minds in this way, it is possible to develop a layered understanding of thinking, to begin to really feel empowered to understand the processes of our own minds. A syllabus

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<sup>37</sup> See, for example, Philip C Abrami et al, ‘Strategies for teaching students to think critically: a meta-analysis’, *Review of Educational Research* (Vol 85.2, June 2015), pp275-314. See also Abrami et al, ‘Instructional interventions affecting critical thinking skills and dispositions: a stage one meta-analysis’, *Review of Educational Research* (Vol 78.4, December 2008) pp1102-1134.

<sup>38</sup> Charlene Tan writes about teacher experience of this country-wide initiative. See ‘The enactment of the policy initiative for critical thinking in Singapore schools’, *Journal of Education Policy* (Vol 32.5, 2017) pp588-603. Available online: <https://www.tandfonline.com/doi/pdf/10.1080/02680939.2017.1305452> retrieved on: 14/11/2022.

for a school subject would follow a similar trajectory, and then go back in reverse. There is so much interplay between the different ways of looking at thinking, that every 'layer' benefits every one before it and every one that follows.

In 2013, the critical thinking A Level was scrapped, and many GCSEs became exam-only. Before and particularly since, increasing numbers of institutions, businesses and commentators have remarked on the importance of developing better thinking skills as part of the educational process. Other countries have acted on this, and this country must also – but at all levels. Today, there is great emphasis on the development of critical thinking skills at university level, and critical thinking is integrated into extra-curricular work young people can choose to do, for example the EPQ and The Brilliant Club's projects.<sup>39</sup> However, these interventions and extras are only available to a small number of our students. We should not leave the learning of these important skills to only the gifted or already engaged in our education system. As Tony Blair remarked this year, the system is no longer fit for purpose: while rote learning to pass exams might have been sufficient in a previous reality, today, as processes are increasingly automated, it seems obvious that we must provide young people with skills more suited to the modern world.<sup>40</sup> Not only for their ability to contribute to the economy, but so that they can lead happier lives, in tolerant communities, in democratic states. We must not allow the incredible progress humanity has made to be its downfall.

I am not alone in my sense that with a better understanding of individual cognition there is some hope for a move away from the post-truth paradigm and all that it entails. Perhaps most famously, Daniel Kahneman's *Thinking Fast and Slow* provides a manual of biases and strategies with which to achieve greater clarity of thought.<sup>41</sup> Kahneman's 'system two' thinking is akin to critical thinking – slower, more effortful processing of information. It is not only Kahneman, indeed, there has been a surge in psychology orientated popular books with similar intentions. What differs about my proposals is their educational application for young people and their more holistic character. The benefits of the latter are numerous. By exploring a variety of aspects of thinking, and ways of looking at thinking from a number of disciplines, there is greater likelihood of piquing different students' interests. Second, while understanding and being able to identify biases is extremely useful, it is more difficult with less depth of understanding of oneself – the definition of a bias does not clearly explain to an individual how it might apply to them. Finally, we must help young people develop a sense not only of themselves but of their place in their communities, their society, and our shared world. Not only does this give them a better foundation for understanding the

39 For more information regarding the EPQ, see the UCAS information page (which refers to critical thinking): <https://qips.ucas.com/qip/extended-project-qualification-epq> retrieved on: 14/11/2022. The Brilliant Club prioritise the enhancement of critical thinking skills in their programmes, and assess outcomes based on improvement in those skills. See TBC's 'Cambridge External Evaluation Technical Note', available from: <https://thebrilliantclub.org/wp-content/uploads/2020/11/Cambridge-external-evaluation-Technical-note.pdf> retrieved on: 14/11/2022.

40 Tony Blair, 'It's time to scrap GCSEs and A-levels', *The Telegraph* (23/08/2022). Available online: <https://www.telegraph.co.uk/news/2022/08/23/time-scrap-gcses-a-levels/> retrieved on: 10/11/2022.

41 Daniel Kahneman, *Thinking, Fast and Slow* (New York: Farrer, Straus and Girouz, 2011).



complexity of the global society in which we find ourselves, but it should also lead to greater social consciousness – an attribute that Dewey felt was deeply important in the nurturing and maintenance of a healthy democracy.

So – let us not allow that cultural lag to pull us backwards any further. Let us not allow that dream of the democratic ideal to die after so many fought for it. Let us follow the unheeded advice of those two great philosophers and begin to educate ourselves, about ourselves. Let us begin to think about thinking, and ‘take back control’ – not of our borders, but of our own minds.

For our society, for democracy itself, and without exaggeration, for the future of our species and our planet, we must change the focus of our education systems. It is no longer excusable to just teach children what they have to know to pass their exams. We must teach them to think about what they learn, to interrogate new ideas, and – crucially – their own ideas, their own thinking. We must make this part of the education system’s design, so that no child is left out, so that every lesson is an opportunity, so that that crucial reinforcement and practice is achievable. Education should teach us how to make the best of our unique and incredible brains, our fascinating, powerful minds.

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