

## Breaking Bioethics

# *The Chimes of Freedom*

## *Bob Dylan, Epigrammatic Validity, and Alternative Facts*

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**Abstract:** This essay brings together work I have done over the past 10 years: on the nature of ethics, on the purpose of ethics, and on its foundations in a way that, I hope, as E.M. Forster put it, connects “the prose and the passion.” I deploy lessons learned in this process to identify and face what I believe to be crucial challenges to science and to freedom (as defended by, among others, Cicero, Pete Seeger, Bob Dylan, Thomas Hobbes, John Stuart Mill, and Bertrand Russell). Finally I consider threats to freedom of a different sort, posed by the creation and dissemination of “alternative facts” and by what is sometimes called “super” or “full” artificial intelligence (AI).

**Keywords:** freedom; The Foundations of Morality; The Foundations of Science; artificial intelligence; alternative facts; poetry and philosophy

### Preamble

Far between sundown’s finish an’  
midnight’s broken toll  
We ducked inside the doorway, as  
thunder came crashing  
As majestic bells of boats struck shad-  
ows in the sounds  
Seeming to be the chimes of freedom  
flashing  
Flashing for the warriors whose  
strength is not to fight  
Flashing for the refugees on the  
unarmed road of flight  
An’ for each an’ ev’ry underdog sol-  
dier in the night  
An’ we gazed upon the chimes of  
freedom flashing<sup>1</sup>

This essay brings together work I have done over the past 10 years: on the nature of ethics, on the purpose of ethics, and on its foundations in a way

that, I hope, as E.M. Forster put it, connects “the prose and the passion.”<sup>2</sup> I deploy lessons learned in this process to identify and face what I believe to be crucial challenges to science and to freedom (as defended by, among others, Cicero,<sup>3</sup> Pete Seeger, Bob Dylan, Thomas Hobbes, John Stuart Mill, and Bertrand Russell). Finally I consider threats to freedom of a different sort, posed by the creation and dissemination of “alternative facts” and by what is sometimes called “super” or “full” artificial intelligence (AI).

Bob Dylan’s “Chimes of Freedom” is the “motto” or “epigram” for this essay. The reasons for using epigrams and other forms of illustrative or suggestive material from art, literature, and other non-academic (but not non-rigorous) sources, are complex. In my own case, mottos serve two functions. First, they often

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help to remind me of the larger purpose of what I am trying to do, to help me keep my “eyes on the prize.”<sup>4</sup> More importantly, as Wittgenstein famously suggested, the use of suggestive examples, comparisons, or images is part of the core business of philosophy. Wittgenstein identified this as involving the assembling of “reminders”<sup>5</sup> to facilitate perception and understanding of a bigger picture, and to prompt the dawning of particular aspects of an issue or problem.<sup>6</sup>

### Epigrammatic Validity

One of my undergraduate tutors in philosophy, Frank Cioffi, was fond of saying that a “telling phrase” or dramatic image could have “epigrammatic validity,” with the implication that this, of itself, gave valuable argumentative force. Cioffi also liked the epigram: “science is just magic that works.” Epigrammatic validity is what visual art and poetry<sup>7</sup> have always provided; by bringing together and juxtaposing disparate objects of contemplation within the same “frame,” and by assembling objects, forms, colors, landscapes, people, and ideas, art frames or stimulates our thinking in new ways, adding a “field of force” to the subject, concentrating attention and perhaps shifting focus. Wittgenstein clearly thought that these reminders not only possessed epigrammatic validity, but that they could also alter perception, changing the very nature of what we see and hear.

Pete Seeger immortalized the phrase “eyes on the prize” in the song of the same name, which he performed live at Carnegie Hall on June 8, 1963.<sup>8</sup> In his introduction to the performance, Seeger reports that he had found elements of his version of the song in October of 1962 while visiting Albany, Georgia, and singing along “in negro churches.”

He then, in the true folk song tradition, adapted what he had heard for a different audience and purpose. However it came to prominence, its point is self-explanatory. The song ends by identifying the fight for freedom as the prize:

The only thing that we did right  
Was the day we begun to fight  
Keep your eyes on the prize, hold on,  
hold on.<sup>9</sup>

For Pete Seeger, and for the singers he so admired in Albany in 1962, freedom was indeed the prize; however, it was more than physical or spiritual freedom, it was political, moral, and legal freedom. But the appeal of freedom is also aesthetic, as Seeger says in the song, “Freedom’s name is mighty sweet.” At the right time and in the right place, aesthetic appeal can trump all the others; it can herald the dawning of a new aspect.

### Why is Freedom the Prize?

Freedom from slavery is the most dramatic form of freedom, but the concept of liberty, linked as it is, with the ideas of justice and equality, lies at the heart of democracy itself and of the “social contract” that establishes the ground rules of any civilized society. And this is so whether that “contract” is a document, as in the Constitution of the United States, is a rational construct, as in John Rawls’s famous *Theory of Justice*,<sup>10</sup> or is part of an analysis of legitimate power, as in Hobbes. Such documents or theories not only set out the rights and obligations of citizens and the duties of government, but also define the protected limits within which citizens can live fully and freely.<sup>11</sup>

I tried to set out some of the basics involved in my recent book *How to be Good*.<sup>12</sup>

In *The Leviathan*, Thomas Hobbes gives this account of the obligations of “the office of the sovereign”:

The office of the sovereign, be it a monarch or an assembly, consisteth in the end for which he was trusted with the sovereign power, namely the procuration of the *safety of the people*; to which he is obliged by the law of nature, ...But by safety here, is not meant a bare preservation, but also all other contentments of life, which every man by lawful industry, without danger, or hurt to the commonwealth, shall acquire to himself. And this is intended should be done...by a general providence, contained in public instruction, both of doctrine and example; an in the making and executing of good laws, to which individual persons may apply their own cases.<sup>13</sup>

Hobbes interprets the idea of the safety of the people very widely and in an egalitarian spirit. He was famously preoccupied with personal violence and physical danger (as was Machiavelli), but when such dangers were less pressing he was prepared to reflect more widely on the concept of public safety. Later in the same chapter, Hobbes makes clear that: “the safety of the people, requireth further from him, or them that hath the sovereign power, that justice be equally administered to all degrees of people; that is, that as well the rich and mighty, as poor and obscure persons, may be righted of the injuries done them.”<sup>14</sup>

He also allows that people who are the victims of accidents should be provided for by the state: “And whereas many men, by accident inevitable, become unable to maintain themselves by their labour; they ought not to be left to the charity of private persons; but to be provided for, as far forth as the necessities of nature require, by the laws of the commonwealth.”<sup>15</sup>

Hobbes’s analysis not only sets out the basis of legitimate government, but also lays the foundations for the United Kingdom’s National Health Service. Where sovereign power is required for protection, the failure to deploy that power when it could be deployed, or a denial of its protection in ways that deny equal protection to all citizens, breaches the social contract, a breach that turns the vulnerable citizen into an outlaw and turns the sovereign into an enemy. Equally, as Hobbes was well aware, perhaps the commonest and most ubiquitous enemies, both of freedom and of security, are disease and injury.

Against this background, if it can be accepted that the state has a prima facie obligation to provide for the safety of the people, then today this obligation applies to the obligation to provide healthcare to all, to ensuring equitable access to medicines, to the social welfare measures without which mere physical security is fruitless, and, vitally, to pursuing and promoting the science and the discovery that generates many of these liberating goods.

Thomas Hobbes anticipated John Stuart Mill by some 200 years.

By sketching a safe context for human cooperation, Hobbes provided a framework of agency within which citizens could effectively cooperate peacefully, safely, and, importantly, freely. Hobbes went so far as to suggest that if the state denies a citizen “any...thing without which he cannot live; yet hath that man the liberty to disobey.”<sup>16</sup> John Stuart Mill’s famous statement of the Principle of Liberty presents the obvious corollary of Hobbes’s thought: “That the sole end for which mankind are warranted, individually or collectively, in interfering with the liberty of action of any of their number, is self protection. That the only purpose for which power can be

rightfully exercised over any member of a civilised community against his will, is to prevent harm to others."<sup>17</sup>

Compare this with the passage from Hobbes quoted previously: "But by safety here, is not meant a bare preservation, but also all other contentments of life, which every man by lawful industry, without danger, or hurt to the commonwealth, shall acquire to himself."

For Hobbes as for Mill, humans are free to pursue their own conception of "the contentments of life ... without danger, or hurt to the commonwealth;" without, in short, causing "harm to others."

### **Philosophy is Poetry with Arguments**

There is an important point about philosophical methodology, highlighted by Bob Dylan in "The Chimes of Freedom" and well understood by philosophers from Plato onward, and, of course, often better understood by poets. It concerns the power, not just of ideas, but of the words in which those ideas are expressed; in short, the power of language and of "rhetoric." In philosophy, the arguments are often more explicit, and indeed more labored, than in poetry, but the methodology is often indistinguishable. It would be a brave philosopher and a reckless poet who denied that the storytelling and poetry of Homer and of Shakespeare are two of the greatest contributions, not only to culture, but to our understanding of the human condition and of human nature.<sup>18</sup>

The assassination of United States President John F. Kennedy, on November 22, 1963 is an obvious inspiration for Dylan starting work on the song (although apparently Dylan denied this). He seems to have drafted a number of poems in 1963 following Kennedy's death:

the colors of friday were dull  
as the cathedral bells were gently  
burnin'  
strikin for the gentle  
strikin for the kind  
strikin for the crippled ones  
and strikin for the blind.

Wikipedia has suggested:

Kennedy was killed on a Friday, and the cathedral bells in the poem would have been the church bells heralding his death.... By the time Dylan wrote the first draft of "Chimes of Freedom" the following February, it contained many of the elements of this poem, except that the crippled ones and the blind were changed to "guardians and protectors of the mind." In addition, the cathedral bells had become the "chimes of freedom flashing", as seen by two lovers finding shelter in a cathedral doorway.<sup>19</sup>

Dylan's "Chimes of Freedom:" links almost every conceivable woe that human flesh is heir to with the concept of freedom. Indeed the song ends with the words:

Tolling for the aching ones whose  
wounds cannot be nursed For the  
countless confused, accused, mis-  
used, strung-out ones an' worse An'  
for every hung-up person in the  
whole wide universe An' we gazed  
upon the chimes of freedom flashing.

Despite the total disregard of Bishop Butler's famous aphorism that "everything is what it is and not another thing,"<sup>20</sup> Dylan's perhaps somewhat overenthusiastic comprehensiveness embodies an important message. There are many concepts like "freedom" (for example, "welfare," "happiness," "misery," and "suffering") that involve considerably more than seven types of ambiguity<sup>21</sup> and may wax and wane, fuelled by many radically different

freedom-maximizing or -inhibiting factors. More important for now, however, Dylan's song reminds us of the centrality of freedom in our moral thinking and of the power of the word itself: *Freedom*.

### **The Moral Imperatives for Science<sup>22</sup>**

The idea that justice delayed is justice denied continues, rightly, to have currency. It has been inconclusively attributed both to a famous Anglo-American, William Penn,<sup>23</sup> and to a legendary English prime minister of the nineteenth century, William Ewart Gladstone.<sup>24</sup>

But just as justice delayed is justice denied, so therapy delayed is therapy denied, and because illness is confining and health liberating, freedom reappears as inextricably allied to science and medicine. Likewise, "scientific freedom," freedom to do and publish scientific research, is also often advocated as a basic right.<sup>25</sup> One reason to have not *faith* in science (Heaven forbid!), but to put cautious trust in science, is that science has indeed proved to be "magic that works." It is the fact that science works, and snake oil does not that, above all, makes science trustworthy.<sup>26</sup>

Equally fruitless is the concentration on protection against real and present dangers, while neglecting preparedness for future threats. Preparedness for the future calls for science and technology and for the habits of mind, free inquiry, reliance on evidence and argument, and, above all, intellectual honesty, which characterize science broadly conceived.

It is important to remind ourselves of the moral nature of science, threatened, today more than ever, by a culture of reckless deceit, shameless denial of history and of evidence, and the profligate<sup>27</sup> invention and repetition of more convenient "alternative facts." The dishonesty

and untruths perpetrated by the culture of alternative facts are polluting every aspect of those freedoms that are worth fighting for.<sup>28</sup> I have been preoccupied with the moral character of science for a very long time, and here is why.<sup>29</sup>

We all benefit from living in a society, and, indeed, in a world in which science is respected and in which science flourishes. Science and the discovery and innovation it generates, resulting in products in the clinic and the marketplace, and the objectivity, rigorous analysis, evidence, and respect for truth it promotes, is in the interests of us all.<sup>30</sup>

### **The Other Imperative for Science (and for Philosophy)**

Although there are powerful moral reasons for practicing science and philosophy, these activities are not necessarily pursued solely (or even principally) for moral, or even for prudential reasons, powerful as these are. There is a simpler, but perhaps even more powerful, imperative at work.

We humans are curious birds;<sup>31</sup> we like to understand stuff.<sup>32</sup> We like to know why, to know what, to know how, and to know whether. We like to know how things work, what they are for, and what they are good for. We also like to know why events happen and the probability of their occurrence. This includes the question of why we exist at all. We spend a lot of time on such questions, and we do so, not because it is good for us, or because either the questioning process or the answers conduce to our welfare or well-being or make us happy, or protect our vital rights or interests or confer evolutionary advantage (although they may). We do so because of the sorts of creatures we are: curious birds who like to ask and answer questions.

True, there are myriad "rewards" for education, science, and curiosity.

The reason we pursue these, however, if one is needed, is in our will,<sup>33</sup> our free will; it is what we choose to do and how we choose to live.

But if the exercise of our curiosity is not honest and evidence based, then the exercise of our will is thwarted. We simply will not find out the why, what, how, or whether to questions that we ask. We may get “answers” but they will not be informative; they will simply deliver lies, fantasies, or “alternative facts.”

As Thomasine Kushner and James Giordano have argued recently in this journal: “It is important to recognize that sound ethical analysis begins with and proceeds from facts about the context, circumstance, agents, implements, and actions involved. These facts should not be ‘alternative’; they need to be *real*. However, this is an age of increasing misinformation.”<sup>34</sup>

I have described the sorts of creatures we are. We may be on the verge of creating new unprecedented creatures, not only with powers and capacities comparable to ours, but also perhaps with powers enhanced beyond those that humans have yet attained, or even beyond those that creatures constituted as we are, with our evolutionary history and maybe also constructed as we are—as flesh and blood creatures—can attain to. But the success of such creations will depend vitally on the nature of the creatures we create and on how that nature can develop and relate to or coexist with our own.

### AI Persons

I discuss here AI with intelligence comparable to or greater than that of humans, which I call “AI persons.”

If we create beings as smart, or smarter, than we are, how can we limit their power to act detrimentally toward us, perhaps deliberately to destroy us,

or simply to act in ways that will have this result? Martin Rees has observed that there may be scientific facts that will never be discovered by beings with brains that have evolved in the way that human brains have so far developed, and scientific theories that creatures with our evolutionary history are incapable of postulating.<sup>35</sup> One reason for creating AI persons might then be to solve problems that we humans cannot address or even imagine.

How can we ensure that such creatures, if we bring them into being, will act for the best? Some have thought that this problem can be solved by programming them (or us) to obey some version of Isaac Asimov’s so-called “laws” of robotics, particularly the first law: “a robot may not injure a human being, or, through inaction, allow a human being to come to harm.” The problem is how would the robot be able to obey such a law when ethical dilemmas often involve choosing between greater or lesser harms or evils rather than avoiding harm altogether; or by allowing or causing some to come to grief for the sake of saving others. How would they be able to keep their eyes on the protective prize?

John Milton provided one answer in 1667.<sup>36</sup> In *Paradise Lost*, Milton reports God as reminding humankind that if we want to be good, to be “just and right,” we need autonomy. “I made him (mankind) just and right, sufficient to have stood, though free to fall.” This phrase has been taken up by many subsequent thinkers, notably William Golding in his novel *Free Fall*. Milton and Golding have, like Dylan,<sup>37</sup> put the pursuit and preservation of freedom at the center of morality, something I tried to do in *How to be Good*.

The question of how to combine the capacity for good with the freedom to choose is, I believe, one of the things

that Steven Hawking had in mind when he told the BBC in 2014 that: “the primitive forms of artificial intelligence we already have, have proved very useful. But I think the development of full artificial intelligence could spell the end of the human race.”<sup>38</sup>

How might AI persons, who could determine their own destiny, as we humans do, be persuaded to choose modes of flourishing compatible with those of humans? We currently have these problems with respect to one another; but at least we have not as yet shackled our capacity to cope with these by foreclosing some options for self-defense by moral bioenhancement, or by creating AI persons, both of which may be “programmed” in ways that selectively preclude acting on the basis of genuine choices informed by evidence and argument.<sup>39</sup>

As we emerge into a post-truth fantasy world, a Trumped up world of lies and “alternative facts,” this problem becomes acute. In such a world (or even in such an administration) how can there be genuine choices informed by evidence and argument? This post-truth world raises very real questions about the possibility of our long-term survival, either as the sorts of rational moral beings that evolution has painstakingly made us, or as beings of any description at all.

### Survival

Initial scientific predictions on the survival of our planet suggested that we might have 7.6 billion years to go before the earth gives up on us. These were Steven Hawking’s calculations, but recently Hawking revised his prognosis: “I don’t think we will survive another thousand years without escaping beyond our fragile planet.”<sup>40</sup> And Martin Rees has speculated that this might be our “final century.”<sup>41</sup>

Did Hawking and Rees anticipate Trump’s election or the lies that have led the United Kingdom to Brexit?

Certainly we need to make ourselves smarter, more resilient, and more aware that honesty, truth, and objectivity are not optional and dispensable extras. And we may need to call AI persons to aid us to achieve this if we are to be able to find another planet on which to live when this one is tired of us, or even perhaps we may even need to eventually develop the technology to construct another planet. To do so, we will have to change, but not in ways that risk our freedom; that is, our capacities to choose both how to live and the sorts of lives we wish to lead, and not by creating machines that might choose to be our masters.<sup>42</sup>

### What We Are Made of

Shortly before 1985, I started to think seriously about how we, humans and AI persons, might react to one another. At that time, I explored the possibility of extraterrestrial AIs and suggested that: “[T]he question of whether or not there are people on other planets is a real one. If there are, we need not expect them to be human people (it would be bizarre if they were!), nor need we expect them to look or sound or smell (or anything else) like us. They might not even be organic, but might perhaps reproduce by mechanical construction rather than by genetic reproduction.”<sup>43</sup>

I then went on to speculate that if their technology proved to be superior to ours (perhaps the proof of superior technology would be their appearing on, or in near proximity to, the earth rather than our tracking them down in deep space), it would be of paramount importance for us to convince them that we are also persons, if not just like them, at least

enough like them to matter. In short, that we are persons whom they would rather have lunch with than have *for* lunch. They might, in short, recognize us as creatures of a moral status equivalent to theirs.

However, if AI persons (created or encountered) possess a radically different nature than ours, it may be that civilized or even peaceful coexistence would be impossible to achieve.<sup>44</sup> This might result from something as simple as moral blindness of the sort that has allowed slave owning; genocide; and racial, religious, gender, and other discrimination, among humans.

An AI person capable of thinking about its aims and purposes and adapting itself in ways not envisaged by its designers and over which they had no effective control might, to say the least, be difficult to deal with, just as we organic, ape-descended humans sometimes are. The second reason is an epistemological one. We might not realize that we have created (or encountered) an AI person. If this were to happen, we would risk not treating “her” (perhaps AIs, like ships, are conventionally female?) as morality requires, and as she would hope to be treated.

We talk naturally of “life forms” and “lives,” but an AI person, alien or machine, might not be strictly “alive” in an organic sense. What might an AI life form (or form of existence) actually require to survive and thrive? What needs might drive an artificial intelligence to act toward its fulfilment? One goal an AI person might have would be the continued existence of itself and/or its kind. To this end, some form of reproduction, be it sexual or even self-replication (as in a virus or other cellular structures) would do the trick. It is reasonable to assume that any novel form of life or AI person would follow this pattern.

### **Immortality<sup>45</sup>**

Given that we humans share this fundamental goal of survival with other beings (although we persons have the capacity to choose to ignore it in favor of other interests<sup>46</sup>), all of us are likely to pursue continued existence.

Homo sapiens, and all other known species, are (at present) “mortal;” despite any individual or collective survival goal, we cease to exist.<sup>47</sup> To achieve a somewhat artificial form of immortality, we reproduce. An AI person however, is not necessarily subject to the same weakness. It may be functionally immortal, with parts that are durable or can be easily replaced sequentially as they wear out. An AI person might not, therefore, be subject to the same drive to proliferate as we are;<sup>48</sup> that is, as long as it has not also given itself the sensual satisfactions (or their nonorganic equivalent if there is one) of the Greek immortals, to have sex and procreate with humans and with each other.

### **Human Nature: The Shylock Syndrome**

When Shylock makes his famous and controversial speech in *The Merchant of Venice* in which he answers the question “what is it to be human?” he is also reminding us that the foundations of our morality, as well as those of our humanity, are grounded to an extent of which we may be unaware, in our nature. This nature, as Shylock insists, includes our passions, our vulnerabilities, our ability to reason, and our sense of justice. We can surpass our nature (or elements of it) and sometimes suppress it, or disregard it, but we cannot completely reject it. When Shylock ends his speech saying:

If you prick us,  
do we not bleed? if you tickle us, do  
we not laugh?



if you poison us, do we not die? and  
if you wrong us, shall  
we not revenge?

he is reminding us not only of our human nature, our vulnerability, and our mortality but also of our deep sense of justice, and of the necessity of righting wrongs.

### Reciprocity

Neither Shylock, nor through him Shakespeare, are saying that the capacity to be wounded, laughter, vulnerability to toxins, or the readiness to take revenge are essential components of human nature. What they are both<sup>49</sup> saying is something taken up by many moral theorists:<sup>50</sup> that one very handy tool in moral argument (an appeal found to work, which is to be persuasive across cultures and epochs), is the appeal to reciprocity. This appeal is sometimes expressed in a version of the principle of reciprocity called the Golden Rule: "do unto others as you would have them do unto you." Although associated with the Christian Prophet, this idea is not original to Jesus of Nazareth, but is to be found in many pre-Christian sources and sources independent of Christianity.

We understand very well what good and bad circumstances are and indeed generally how to avoid them for ourselves, and others. If we didn't we couldn't be prudent, we couldn't take care of ourselves, nor look out for others. And there is a huge (although not of course total) consensus about what is good and bad for us; and again the existence of this consensus means that we know how to interpret the precautionary principle (with all its limitations) because we know what it is to obey the oft expressed exhortation "be safe!".<sup>51</sup>

What is radically uncertain is what we would know of an AI person or what it would know of us, for all that might appear to be the case from the next room during a Turing test. This is the question as to whether creatures like us could have moral understanding and moral relations with an AI and vice versa. We must hope that we could, but we also need to "be safe."<sup>52</sup>

Ludwig Wittgenstein is famous for a very sophic and epigrammatic remark: "If a lion could speak, we could not understand him." As with Wittgenstein's lion,<sup>53</sup> we would need to know from an AI much more about its way of life, and he, she, or it about ours, before we could talk of understanding at all, let alone mutual understanding, and hence possibly of mutual (or even unidirectional) concern and respect.

Perhaps it was to acquire this sort of understanding that the Greek, Hindu, Hebrew, Christian, and other Gods interfered, in person, so often in human affairs, to the extent of having sex, or its equivalent (and indeed breeding) with humans.

The reciprocity presupposed by social and political institutions, as well as by moral relations and ethical understanding, takes place in the context of a shared nature and a shared evolutionary, as well as social and political, history, among all people and peoples of which we are currently aware. Some elements of these may be common to all evolved organic creatures, whether originating on Planet Earth or elsewhere. How much commonality may be required is difficult to say without consideration of actual examples. Immortality, either of Gods, humans, or machines, may be one imponderable, along with the capacity for genuinely reciprocal understanding. What further imponderables and indeed what other persons, not simply morally significant others, but others of moral significance

and moral capacity comparable to persons, there may be or have been, we may be on the threshold of discovering.

### **A Universe of Alternate Facts is Not Sustainable**

The desire to better ourselves and make ourselves better is part of the curiosity and need that drives science, one of the oldest and most valuable of the things that characterizes persons.<sup>54</sup> The most urgent and worrying ethical problems surrounding the uses of new technology, including AI, are not the dangers of pursuing such research and the innovation that may result. The dangers that have been consistently underestimated are the dangers of not pursuing such research.

As a new era of reckless disregard for science, truth, and honesty dawns, we humans are at a point at which our future survival and that of our planet is in doubt. We must pursue research, including AI research, to the point at which we can realistically assess its potential for both good and ill. This is to tread a moral and scientific tightrope, but the alternative to scientific optimism is bleak indeed.

### **Connecting The Prose and the Passion**

In 1961, at the conclusion of his book *Has Man a Future*, a great polemic for peace and against the threat, then and to this day, posed by nuclear weapons, Bertrand Russell sets out his hopes for the future and for “a freer and happier world”. He begins his final chapter by noting: “I am writing at a dark moment (July 1961), and it is impossible to know whether the human race will last long enough for what I write to be published, or, if published, to be read. But as yet hope is possible, and while hope is possible, despair is a coward’s part.”<sup>55</sup>

We are now, more than 50 years later, in another dark moment, and it is worth reminding ourselves of Russell’s hopes for a freer, happier world:

Man has .... potentialities of greatness and splendour, realised, as yet very partially, but showing what life might be in a freer and happier world. If man will allow himself to grow to his full stature, what he may achieve is beyond our present capacity to imagine. Poverty illness and loneliness could become rare misfortunes...And with the progress of evolution, what is now the shining genius of an eminent few might become a common possession of the many. All this is possible, indeed probable, in the thousands of centuries that lie before us.<sup>56</sup>

In Shakespeare’s *Richard III*, Richard Plantagenet asks the Lady Anne, whom he is wooing and who scorns him, (she later succumbs): “But shall I live in hope?” He receives the somewhat cold, but germane and philosophical, reply: “All men, I hope live so.”<sup>57</sup> Russell believed that intelligence and science could give us all hope for the future and could help humankind achieve, not only freedom and safety, but also, in Thomas Hobbes’s phrase, “all other contentments of life.” Now more than ever we need to work for, as well as hope to achieve, “what life might be in a freer and happier world.”

Alternative facts are designed to make the world (appear to) conform to a political program and are as much exercises in self-deception as they are attempts to deceive others. The mind responds (inter alia) to how it perceives the world. The determinants of that perception include the ways in which “facts” that are consistent with demonstrable science, but also “value laden,” are formulated and presented. This is why science and philosophy need to

communicate in the prose and with the passion that not only conveys the facts, but that also convinces the mind, and this is why honesty is as important as objectivity.

If we have our “eyes on the prize,” we may hope, with the help of science, to secure our future. And if we have flashing in our minds the “Chimes of Freedom,” connecting as these ideas and images do, the prose and the passion or, equally alliteratively, the poetry and the passion, we may find the courage to fight for truth and honesty in politics, in science, and, indeed, “in the whole wide universe,” and, as Bob Dylan and Bertrand Russell insist, find reason for, and the will to have, hope for the world and for our future.

## Notes

1. Dylan B. Copyright © 1964 by Warner Bros. Inc.; renewed 1992 by Special Rider Music; lyrics available at <http://bobdylan.com/songs/chimes-freedom/> (last accessed 9 Oct 2016). I have, as Dylan himself did, used the lyrics from several different performed versions of this song.
2. Forster EM. *Howards End*. London: Hodder and Stoughton; 2010, Chapter 22.
3. I do not discuss Cicero in this essay, but see my *How to be Good*. Oxford: Oxford University Press; 2016, at 91,148–9, and 159–60. The others named are referenced in turn as they appear in this article.
4. This phrase, penned or at least made famous, by Pete Seeger, is from a song that appears on two of his albums dating from 1963. *A Link In The Chain* (1963) and *We Shall Overcome* (1963). I have borrowed and used this expressive phrase from Seeger and from its earlier Black or African American poets for many years. (Seeger uses the term “negro” for “black American” or “African American”; a neutral term in 1963); lyrics available at [http://lyrics.wikia.com/wiki/Pete\\_Seeger:Keep\\_Your\\_Eyes\\_On\\_The\\_Prize](http://lyrics.wikia.com/wiki/Pete_Seeger:Keep_Your_Eyes_On_The_Prize) (last accessed 7 Feb 2017). The Pete Seeger version can be heard at <https://www.youtube.com/watch?v=6xLD4bVZZIc> (last accessed 14 May 2017). The Bruce Springsteen version can be heard at <https://www.youtube.com/watch?v=IUF8hrJuzHA> (last accessed 14 May 2017).
5. Wittgenstein L (trans. Anscombe GEM). *Philosophical Investigations*. Oxford: Basil Blackwell; 1967, at para 127.
6. Here, Wittgenstein’s famous duck-rabbit is perhaps the most famous example of the dawning of an aspect. See note 5, Wittgenstein 1967, at 194.
7. I use the term “poetry” loosely here. I am not thinking simply of verse or meter. Bob Dylan of course was a poet and his Nobel Prize for literature was fully justified.
8. Seeger P. *Keep Your Eyes on the Prize* as performed live at Carnegie Hall, June 8 1963; available at <https://www.youtube.com/watch?v=6xLD4bVZZIc> (last accessed 7 Feb 2017).
9. Words taken from the recorded version; see note 8, Seeger 1963.
10. Rawls J. *A Theory of Justice*. Cambridge, MA: Belknap Press of Harvard University Press; 1971.
11. I am grateful here to Giulia Cavaliere for insights into “free space.”
12. The discussion follows and amplifies thoughts expressed in Harris, 2016, at Chapter 11 (see note 3).
13. Hobbes T (ed. Oakeshot M) *Leviathan*. Oxford: Basil Blackwell; 1960, Part 2, Chapter 30, at 219. *Leviathan* was first published in 1651 while Hobbes was living in Paris.
14. See note 13, Hobbes 1960.
15. See note 13, Hobbes 1960.
16. See note 13, Hobbes 1960, at 142.
17. Mill JS. *On Liberty* (Chapter 1). In: Warnock M, ed. *Utilitarianism*. London: Collins Fontana; 1962, at 135.
18. I am not unaware that my selection of literary sources, both here and elsewhere, is painfully “Western.” This is perhaps because I use the sources that come “unbidden” to mind, rather than searching for them.
19. Heylin C. *Revolution in the Air*. Chicago: Chicago Review Press; 2009:176–81.
20. Butler J. *Fifteen Sermons Preached at the Rolls Chapel*. Cambridge: Hilliard and Brown; Boston: Hilliard, Gray, Little, and Wilkins; 1827. Preface, at para. 39.
21. Empson W. *Seven Types of Ambiguity*. London: Chatto and Windus; 1970 (first published 1930).
22. I outlined this imperative, inter alia, in Harris J. *Enhancing Evolution*. Princeton and London: Princeton University Press; 2007, Chapter 11, on which I draw here.
23. Penn W. *Some Fruits of Solitude*. New York: Headley; 1905 (originally published 1693), at 86.
24. Platt S, ed. Entry 954, William Ewart Gladstone (1809–98). In: *Respectfully Quoted*:

- A Dictionary of Quotations Requested from the Congressional Research Service. Washington, DC: Library of Congress; 1989. (Attributed to William E. Gladstone, in: Peter LJ. *Peter's Quotations*, 1977 at 276, unverified.) <http://www.worldcat.org/title/peters-quotations-ideas-for-our-time/oclc/2836999>. Accessed 2nd July 2017.
25. Giordano S, Coggon J, Cappato M, eds. *Scientific Freedom: An Anthology on Freedom of Scientific Research*. London: GB, Bloomsbury Academic; 2012. Edsall JT. *Scientific Freedom and Responsibility: A Report of the AAAS Committee on Scientific Freedom and Responsibility*. Washington DC, 1975; available at <http://www.aaas.org/sites/default/files/SRHRL/PDF/1975-ScientificFreedomResponsibility.pdf>. (last accessed 7 Mar 2017).
  26. Other reasons are its openness, its publication of results for further scrutiny, its rigorous peer review process, and the fact that good science can only be pursued in free societies. I do not of course have room here to justify these claims.
  27. Abramson J. Sorry, Kellyanne Conway. 'Alternative facts' are just lies. *The Guardian*, January 24, 2017; available at <https://www.theguardian.com/commentisfree/2017/jan/23/kellyanne-conway-alternative-facts-lies> (last accessed 14 May 2017). Berrien H. Lyin' Donald: 101 of Trump's Greatest Lies. *Daily Wire*, 2016; available at <http://www.dailywire.com/news/4834/trumps-101-lies-hank-berrien#exit-modal> (last accessed 14 May 2017). There are many more apparent examples of Trump's alternative facts listed at the following sites, but I should warn fellow scientists that I have not myself personally checked any of these, either for accuracy or coherence. Garver R. Donald Trump's 8 (Most Recent) Blatant Lies. *The Fiscal Times*, November 24, 2015; available at <http://www.thefiscaltimes.com/2015/11/24/Donald-Trump-s-8-Most-Recent-Blatant-Lies> (last accessed 14 May 2017) and [https://video.search.yahoo.com/yhs/search?fr=yhs-adk-adk\\_sbnt&hsimp=yhs-adk\\_sbnt&hspart=adk&p=Donald+Trump+Lies#id=8&vid=2abf45f7778c07d](https://video.search.yahoo.com/yhs/search?fr=yhs-adk-adk_sbnt&hsimp=yhs-adk_sbnt&hspart=adk&p=Donald+Trump+Lies#id=8&vid=2abf45f7778c07d) (all last accessed 1 Mar 2017).
  28. I am grateful to Tomi Kushner for a stimulating correspondence on the subject of alternative facts.
  29. Harris J. *The Value of Life*. London: Routledge; 1985, especially Chapters 3, 5, and 6. Harris J, Sulston J. Genetic equity. *Nature Reviews Genetics* 2004;5(10):796–800. Harris J. Scientific research is a moral duty. *Journal of Medical Ethics* 2005;31(4):242–8. Chan S, Sulston J, Harris J. Science and the social contract: On the purposes, uses and abuses of science. In: Billotte J, Cockell M, eds. *Rising to the Challenge of Transdisciplinarity: Tools and Methodologies for a World Knowledge Dialogue*. 2010:45–61. Chan S, Harris J. Free riders and pious sons: Why science research remains obligatory. *Bioethics* 2009;23(3):161–71. Harris J. In search of blue skies: science, ethics and advances in technology. *Medical Law Review* 2013;21:131–45.
  30. See note 29, Harris 2005. Harris J. The ethics of clinical research with cognitively impaired subjects. *The Italian Journal of Neurological Sciences*. 1997;18:9–15. Zee YK, Chan S, Harris J, Jayson GC. The ethical and scientific case for phase 2C clinical trials. *The Lancet Oncology*. 2010;11:410–1.
  31. For a recent "take" on curiosity see: Kahan DM, Landrum AR, Carpenter K, Helft L, Jamieson KH. Science curiosity and political information processing. *Advances in Political Psychology*, 2016, forthcoming; Yale Law & Economics Research Paper No. 561. Available at <https://ssrn.com/abstract=2816803>. (last accessed 21 Aug 2017).
  32. "We are such stuff as dreams are made on" Shakespeare *The Tempest*, Act IV Scene I. In: Proudfoot R, Thompson A, Kastan DS, eds. *The Arden Shakespeare*. Walton-On-Thames: Thomas Nelson and Sons Ltd.; 1998. For a fascinating account both of the mechanisms and history of Alternative Facts, and also of the importance of human curiosity as an antidote, see Harford T. The problem with facts. *Financial Times*, London, March 9, 2017; available at <https://www.ft.com/content/eef2e2f8-0383-11e7-ace0-1ce02ef0def9> (last accessed 24 Apr 2017).
  33. Julius Caesar, in Shakespeare's play of that name, justifies his decision (which he later reverses) not to attend the Senate on the Ides of March, thus: "The cause is in my will: I will not come." *Julius Caesar* Act 2, Scene, 2, 344. In: Proudfoot R, Thompson A, Kastan DS, eds. *The Arden Shakespeare*. Walton-On-Thames: Thomas Nelson and Sons Ltd.; 1998.
  34. Kushner T, Giordano J. Neuroethics: Cashing the reality check. *Cambridge Quarterly of Healthcare Ethics* 2017;26(4):524–5, at 524.
  35. *The Sunday Times*, London, June 13, 2010.
  36. Milton J (ed. Leonard J). *Paradise Lost*. London: Penguin Books; 2000. Milton first published *Paradise Lost* in 1667.
  37. Perhaps not coincidentally, both Golding and Dylan were awarded the Nobel Prize for their

- writing, as was Bertrand Russell with whom this article ends.
38. Cellan-Jones R. Stephen Hawking—Will AI Kill or Save Humankind? *BBC News*, October 20, 2016; available at: <http://www.bbc.co.uk/news/technology-37713629>. (last accessed 21 Aug 2017).
  39. Harris J. Moral enhancement and freedom. *Bioethics* 2011;25(2):102–11. Harris J. How narrow the strait: The God machine and the spirit of liberty. *Cambridge Quarterly of Healthcare Ethics* 2014;23(3):247–60. Harris J. Taking liberties with free fall. *Journal of Medical Ethics* 2014;40(6):371–4.
  40. See note 38, Cellan-Jones 2016.
  41. Rees M. *Our Final Century*. London: Arrow Books; 2003.
  42. In the following paragraphs I draw on work published with my colleagues in Lawrence DR, Palacios-González C, Harris J. Artificial intelligence: The Shylock syndrome. *Cambridge Quarterly of Healthcare Ethics* 2016;25(2):250–61.
  43. See note 29, Harris 1985, at 9–10.
  44. I am indebted here to conversations with David Lawrence.
  45. I have discussed the ethics of immortality in a number of places. See Harris J. Intimations of immortality. *Science* 2000;288(5463):59 and see note 22, Harris 2007, Chapter 3.
  46. For example, the choice to opt for suicide or to not have children directly contravenes the survival instinct of the individual or the germline, but is likely to fulfill other motivations that the chooser considers of a higher importance.
  47. See note 45, Harris 2000. Harris J. Intimations of immortality—The ethics and justice of life extending therapies. In: Michael F, ed. *Current Legal Problems*. Oxford: Oxford University Press; 2002:65–97.
  48. I gratefully acknowledge the influence of David Lawrence at this point.
  49. I treat fictional beings as real enough for the purposes of this locution.
  50. Although Hare misapplies this tool in the case of abortion. Hare RM. Abortion and the Golden Rule. *Philosophy & Public Affairs* 1975;4(3):201–22.
  51. See note 3, Harris 2016, at 18.
  52. “The gentleness of all the Gods go with thee,” as William Shakespeare puts this exhortation in *Twelfth Night*, Act 2. Scene I. See note 33, Proudfoot et al. 1998, at 1197.
  53. Wittgenstein L (trans. Anscombe GEM). *Philosophical Investigations*. Oxford: Basil Blackwell; 1958, at Part II. xi, 223. “If a lion could speak, we would not understand him.”
  54. I am indebted to John Sulston for many conversations on this issue.
  55. Russell B. *Has Man a Future?* Harmondsworth: Penguin Books; 1961, at 120.
  56. See Russell 1961, at 121. As I write this end note, (hoping that it will not be an end note), I am reading aloud Russell’s lines from a yellowing paperback copy of his book that I had purchased in 1961 as soon as it was published (price 2s 6d!—“half a crown”). I was 16 years old and I had been on the Aldermarston March that set off on April 3, 1961, and on which tens of thousands of people marched from the Atomic Weapons Research Establishment at Aldermarston in Berkshire to Trafalgar Square in London, where Russell spoke. I “remember” him speaking in Trafalgar Square in 1961, but it may have been at a later rally that was held in Trafalgar Square on August 6, 1961 at which I was also present. Campaign for Nuclear Disarmament, August 1959; available at <http://www.humanities.mcmaster.ca/~bertrand/cnd.html> (last accessed 2 Jul 2017).
  57. Shakespeare W. *King Richard III*, Act 1. Scene 2. See note 33, Proudfoot et al. 1998, at 704.