IS KNOWLEDGE INSERTION DESIRABLE?[[1]](#footnote-1)

INTRODUCTION

In this paper I discuss the conditions under which what I will call ‘Knowledge Insertion’ would be desirable *for the one who has knowledge inserted*.[[2]](#footnote-2) To understand what is meant by ‘Knowledge Insertion’, consider the following case taken from the science-fiction film, *The Matrix*.[[3]](#footnote-3)

*Matrix Case*. Via a computer cable plugged into a socket in his skull, Kung Fu novice Neo has a data package transmitted into his mind (perhaps via nanorobotically reconfigured neurophysiology), allowing him to ‘learn’ Kung Fu to a high standard in just a few seconds.

In receiving the data package, Neo ‘skips ahead’ to an end state which would otherwise have required thousands of hours of guidance, study and effortful practice over several years. The time Neo would have had to spend acquiring skills of this standard has become time that he can spend making use of them instead.[[4]](#footnote-4) What might Neo have lost through the Kung-Fu Knowledge Insertion and could the trade-off have been worth it? More generally, under what conditions (if any) would Knowledge Insertion be desirable *for the one who has knowledge inserted*? I argue that making use of Knowledge Insertion would not be cost free; in particular, it would come at the price of relationship goods realised by teacher-learner relationships, and of the *achievement* of learning, at least for the knowledge inserted. However, it would *most often* be desirable since the losses could usually be more than compensated for or would matter little so long as one realizes the good to a satisfactory level at some point in one’s life.[[5]](#footnote-5)

There are two reasons for raising the question of whether Knowledge Insertion is desirable for the one who has knowledge inserted: First, insofar as technology develops apace, it is wise to start thinking about how we would use it before its uses are available to us, lest we should unreflectively abuse it. Second, while having knowledge inserted might turn out to be physically impossible, its metaphysical possibility would still make reflecting on its desirability fruitful, since evaluating this will help us to better understand what it is that we value about education and learning. For instance, we might think that what we value about education is its capacity to empower us or particular elements of the means by which we come to have it.

Two things should be clarified at the outset. First, it is the value of *Insertion*, rather than the value of *knowledge* that is the primary object of inquiry here, with the question of its desirability turning on the relative merits of coming to knowledge *via its Insertion* as against coming to it knowledge some other way, such as through perception or testimony. Having an account of the value of knowledge (both independent and instrumental) will help us to grasp relative value of insertion, and so I articulate one in Section 2. However, we might equally have considered valuable states other than knowledge that one might come to by Insertion, or otherwise, and ask about the relative value of those routes. For instance, we might have asked about the value of Virtue, Attitude, or Disposition Insertion. Equally, we might have asked about the value of Inserting capacities thought of as more physical such as speed and strength. Second, it is the good that Knowledge Insertion represents *for the one who has knowledge* inserted that will concern us, rather than what a *just* distribution of the good would look like, when it might prove *impersonally best*, or whether it would be *morally required* to avail of it. That said, I provide a broad overview of these matters as well as the *moral permissibility of knowledge insertion* in Section 9 and build on them in Section 10 by discussing the relationship of wrongdoing and wellbeing.

Our argument starts with an analysis of the value of knowledge (Section 2). Next, a case is made for the *pro tanto* desirability of Knowledge Insertion on the ground of efficiency (Section 3). Next, through an analogy with mountain climbing, we offer an analysis of the states and activities which that can confer value on our lives (Section 4), before considering whether different roots by which we come to valuable states can affect their value (Section 5). We then explore the kinds of costs that Knowledge Insertion could have (Section 6) and discuss whether sometimes attempts at learning lack value (Section 7). We then consider whether Knowledge Insertion might constitute a threat to our identity and survival, and how we might meet that threat (Section 8). Before concluding, we consider a range of moral considerations that would bear on whether Knowledge Insertion is morally permissible, required or prohibited (Section 9) and consider whether one’s wellbeing is undermined by one’s doing wrong. First though, I want to briefly discuss the scope and conceivability for the question.

1. SCOPE AND CONCIEVABILITY

Some might contend that what counts as Knowledge Insertion is too vague to know what is being asked in querying its desirability, others might deny that The *Matrix Case* is coherently conceivable.[[6]](#footnote-6) Regarding the matter of vagueness, I do not propose to offer a definition of knowledge, or of Knowledge Insertion. I propose to proceed by taking the *Matrix Case* as a paradigm example of Knowledge Insertion, contrasting it with cases of acquiring knowledge through study and practice, which is typically time consuming and effortful. We can supplement these examples with Focquaert and Schermer’s useful distinction between *direct* and *indirect* interventions. For them “indirect interventions aim to change thought patterns and behavior and thus rewire an individual’s brain structure and functioning, whereas direct interventions aim to change brain structure and function and thereby an individual’s thought patterns and behaviour.”[[7]](#footnote-7) Knowledge Insertion, such as Matrix cases, is a species of direct intervention, whereas transferring knowledge through teaching, study and practice are species of indirect intervention.

While some philosophers make a distinction of kind between what they call ‘knowledge how’ and ‘knowledge that’, such a distinction is not relevant for our purposes. This is because I regard both as desirably insertable for the one who has it inserted and for the same reasons.[[8]](#footnote-8) For further specification, I can only say that while ‘justified, true belief’ is at first sight an attractive analysis of propositional knowledge, it famously falls foul of Gettier’s counterexamples and no revision has yet proved satisfactory. Instead, regarding the concept as conceptually primitive and indispensable is a promising response.[[9]](#footnote-9) ‘Knowledge how’ is to be distinguished from ‘ability to’ since, to borrow examples from Stanley and Williamson, one is able to digest their food, but perhaps does not know how to and a pianist who has tragically lost the use of their hand may still know how to play the piano, while not being able to.[[10]](#footnote-10) It too may not be capable of clear analysis although some have argued that it is reducible to propositional knowledge, even if it is unlikely that it could ever be exhaustively articulated through propositions, and even if that is a secondary means of expressing such knowledge.[[11]](#footnote-11) It may help readers to bear in mind, as should be clear from the use of Focquaert and Schermer above, that I regard being in a state of knowledge as having a physical substrate, at least in the case of humans, such that there can be no change to one’s knowledge without a change to the human body, or some parts of it.[[12]](#footnote-12) Finally, some readers may also find it helpful to know that I broadly position myself within the enlightenment tradition.[[13]](#footnote-13)

Regarding the conceivability of Knowledge Insertion, I cannot defend this at length here as I have done elsewhere.[[14]](#footnote-14) However, we should regard the fact that questions about the desirability of Knowledge Insertion are so compelling, as I hope this paper will demonstrate, as adding significant weight to the claim that they are about something coherently conceivable. The burden is on those sceptical about the coherence of Knowledge Insertion to explain what goes wrong in debates about its desirability. Indeed, as a word of warning to those developing a dual pronged attack on my view that Knowledge Insertion is both conceivable and often desirable: it is most peculiar to contend that Knowledge Insertion is an incoherent idea on the one hand, and that, if it were coherent, it would be undesirable. Making sense of the last accusation would require rejecting the first accusation, and most of us cannot resist forming views about the question of Knowledge Insertion’s desirability.

1. THE VALUE OF KNOWLEDGE

Knowledge, as such, is regarded by many as having a degree of non-instrumental value.[[15]](#footnote-15) This might be outweighed in some circumstances by any number of instrumental considerations: perhaps it is better that we do not know some things because we are liable to abuse that knowledge, because others will hurt us to get it or prevent our sharing it, because it causes us distress, or because it is disproportionately burdensome for us to acquire. Whether knowledge is always, often or usually non-instrumentally valuable and whether that value varies across instances (perhaps explanatory information is more non-instrumentally valuable than non-explanatory items of trivia), a full account of its value should factor in that which it derives from its affordances. For instance, if we are to comply with morality and not merely conform to it (i.e. if we are to give to others what we owe them, because we owe it to them), then we will have to have sufficient degree of moral knowledge to enable this (as well as other knowledge, e.g. about matters on which moral decisions turn). Additionally, true beliefs seem required for *informed* consent, and, thereby, for achieving the good of autonomously lived lives. To further appreciate just how much instrumental value can accrue to knowledge over and above any non-instrumental value, consider the value of knowing how to drive. One does not usually learn to drive *just* for the sake of knowing how to drive. What makes the sacrifice worthwhile for most people is the affordances it generates.

Why should anyone want to be able to drive? For many, knowing how to drive has a profound instrumental value. Let us begin to uncover the range of its instrumental value. Often one value is an increased freedom of travel, of being able get to get from A to B in a more satisfactory way, all things considered, than alternatives. Another value might be the availability of a non-derivatively rewarding activity. For instance, some people find it fun to drive even if, like Chuck Berry, they have no particular place to go. They might find it a good way to kill time, to give themselves space to think, to relax, or to get a thrill.[[16]](#footnote-16)

Additionally, one might become more competent, thereby improving one’s grounds for self-worth, and also their social group’s grounds for conferring respect. One might become useful to others, and able to help others. One might cease being dependent on others, and thereby become less susceptible to abuse and neglect by them. One might become able to access group activities, such as car racing. All of these, including the intrinsic good knowing, are ‘outcome goods’. The point is not that for all individuals in all circumstance driving will achieve these goods – it would not do much good if there were no cars to drive or if driving somehow undermined these valuable ends, by destroying the environment, for instance. The point is rather to expose the range of value that we may find in knowledge through discussion of a familiar example.

1. IN FAVOUR OF KNOWLEDGE INSERTION

According to the Driver and Vehicle Standards Agency in Britain, for most people, learning to drive takes forty-five hours of lessons and an additional twenty-two hours of practicing.[[17]](#footnote-17) Sixty-seven hours represents a significant opportunity cost. Knowing how to drive is a state which is burdensome to enter. Many would surely choose to avail of Knowledge Insertion as an alternative route to entering that state were it available (further points are required to temper this claim, and they will be introduced as the paper unfolds). Many other examples of valuable skills and knowledge are also time-consuming to acquire. Sometimes the activities involved in their acquisition take a toll on the learner such that post-activity recovery is needed. In this way, time spent observing, experiencing, practicing, reflecting on and preparing to encounter the learning-target are not the only time penalties involved in learning. Indeed, often valuable skills and knowledge require not just time to acquire, but focused attention, energy, sacrifice and perseverance in the face of defeat.[[18]](#footnote-18)

Yet stronger reasons speak in favour of the desirability of *therapeutic* Knowledge Insertion. In their normal development, children make various cognitive gains such as understanding object permanence, understanding symbols, realising the conservation of matter, developing a theory of mind (e.g. being able to pass a false belief test), and understanding and making use of counterfactuals in prospective and retrospective reasoning about hypothetical scenarios. It is properly regarded as tragic if, in the normal course of things, some children are unable to make these gains due to deficiencies in the structure of their brains. The reason being that their purposive engagement with the world and other people will be extremely limited, and while what purposive engagement they have will be precious, gains in the kinds and degrees of their capacities would be good for them.[[19]](#footnote-19) The good Knowledge Insertion represents to the one who has knowledge inserted is not limited to therapeutic uses (although some might argue that considerations of justice or morality require that it is, as we shall see in Section 9).

Consider some initial reflections on the desirability of Knowledge Insertion for the purposes of enhancement rather than therapy. Consider the case of surgeons learning to perform life-saving surgery. It might seem that Knowledge Insertion, if more efficient than regular learning processes, would constitute a desirable alternative to them in this case. Why, one might wonder, would anyone wish or expect others to take a traditional learning route when it seems that their good (namely that of knowing) could be achieved more immediately, and more efficiently? We may be inclined to think that any veterans of regular learning processes who objected to their juniors taking advantage of the new possibility would be motivated by envy: I had to go through this, and sure as hell you ought to as well. Alternatively, they might instead be motivated by a status quo bias. Indeed, we may wonder whether ‘earning’ the knowledge is the chief good, or whether having the knowledge *and* having it to utilize is what matters more.

1. THE GROUNDS OF VALUE: AN ANOLOGY WITH MOUNTAIN CLIMBING

In this section we develop a general schematic analysis of the states and activities that can confer value on our lives. Consider the climbing of a mountain as an analogy for the acquisition of knowledge. It seems that there are at least three distinct goods that can be realized through climbing a mountain, each of which climbers may warrant admiration or respect for, find grounds for self-respect in and each of which they may find worthwhile. Firstly, whether or not climbers reach the top, they will have *tried* to climb the mountain, they will have made a concerted, effortful attempt to do so. Call this Effort Value. Secondly, supposing that they make it to the top, they will have succeeded in actually *having* climbed the mountain. Call this Accomplishment Value. Thirdly, and quite *differently*, when they get to the top, they will *be at the top*. Call this State Value. As we saw in our discussion of the value of knowledge, States can be independently valuable, or derive value from affordances they generate. In either case, State Value can be an absolute or positional, varying relative to the holdings of others. Call these Competence Value at the lower end, and Prowess Value at the upper end. Prowess involves the capacity to do things which are difficult for others. To the extent that one has prowess in some activity, that activity is relatively easy for one. *Prowess value*, as I use the term, refers to the significant degree to which one’s skills in a domain – together with one’s accurate confidence in them – exceeds that of others (i.e. it is a relative concept). Ordinarily one would have to have that relative excellence of skill with some temporal stability and cross-situationally. Prowess need not depend on hardship, it just requires significant skills and an accurate confidence in them, wherever these attributes come from (e.g. a natural prodigious flair, trial and error, instruction, or Knowledge Insertion). While prowess is valuable, competence is more secure and universally available in that everyone can have it and it won’t be reduced as soon as someone else exceeds one’s holdings.

The respect of others, if misplaced, is potentially of negative, and at least sub-optimal, value. It may, if the others in question are wise, serve as evidence that we are worthy of respect. Some may think that the well-placed respect of others adds some further value to merely being worthy of respect or indicating worthiness of respect. For instance, robust findings in educational psychology attest to the importance of some level of respect from others. Self-determination theory suggests that our ability to manage our own lives, and our wellbeing hinges on our sense of competence, autonomy, and relatedness. ‘In the classroom, relatedness is deeply associated with a student feeling that the teacher genuinely likes, respects, and values him or her.’[[20]](#footnote-20) Effort, Accomplishment and State Value can each give our lives value and can warrant the respect of others as well as – in a way which is not dependent on the respect of others – warrant our own respect for ourselves.

There is value in effort and it seems we are sometimes worthy of respect, self-respect as well as that of others, for our perseverance, whether or not we ever make it to the top (although I will come back to this example shortly). This is expressed in familiar statements such as, ‘at least you tried’, ‘you gave it your all’ and ‘you can only do your best’. Furthermore, there is value in success, and we are sometimes worthy of respect for our success, but we will have to have made it to the top for this to be so. A combination of these two grounds for respect is possible: someone who makes it to the top with a great deal of effort will be worthy of respect for both their effort and their accomplishment. Indeed, Gwen Bradford regards non-accidental *effortful success* as constitutive of *achievement*, which she regards as partly constitutive of the good life, remarking that “if running a marathon and writing a novel were easy, we wouldn’t be inclined to call them achievements”.[[21]](#footnote-21) Equally, however, as we shall explore in more depth later, it is also possible that someone might easily succeed at a task which for others would be very difficult. This too may be valuable, but it is an inherently comparative value. In such cases what is valued is an individual’s prowess and the effortlessness of their success. Finally, however, we may value the very being at the top (irrespective of the effort in getting there, the ability required to get there, or indeed having climbed to get there at all). For instance, someone was dropped at the top by a helicopter or born there would at least satisfy the good of being at the top. Being at the top here constitutes the end state which one might more or less effortfully try for, (i.e. having some desirable property such as being knowledgeable or virtuous). In the next section we consider how roots to competency, to knowledge, to being at the top of the mountain, effect the ground for respect it confers.

1. THE ROOTS TO COMPETENCE AND GROUND FOR RESPECT

As we have said, sometimes acquiring skills requires not just time, but focused attention, perseverance and sacrifice. It looks like what we miss out in advancing straight to a state of knowing is effort, accomplishment and, their combination, achievement value: it seems that earning knowledge is a good in and of itself. In order to better understand how different roots to knowledge effect the ground for respect it confers, let us introduce Fung Fu master, Anthony. Both Neo and Anthony are equally good at Kung Fu, in the sense that, competitive conditions being equally favourable, they both beat the other half of the time, and are both always able to beat the other where the other is given some material handicap. They are, among other relevant equal things, equally strong, fast, resilient, and good at imagining promising lines of attack. The only difference is that Anthony has acquired his skills by traditional learning processes, whereas Neo has had them inserted. The question now is: are Neo and Anthony’s masteries of Kung Fu equally valuable? We could not grade their State Value differently. However, one might speak of desert: one Kung Fu master has ‘earned’ his abilities through patient work; the other has ‘cheated’ by simply acquiring them at the touch of a button. The difference between the masters would be Effort Value, and Success Value, not Prowess/ Competence Value. This could mean that Neo loses ground for self-respect.

There may well be something to this, but we should not think that the lack of effort and success value rob Neo of all grounds for self-respect, by comparison with his pre-enhanced self rather than by comparison with Anthony. Consider how a similar contrast to that between two further Kung Fu masters is already quite familiar: between one who acquired their mastery with comparative ease and speed, and another who acquired it more slowly, with greater devotion, perseverance and so on. There exist dramatic ability differentials that derive from the happenstances of birth that are genetic and social lotteries. Consider what J. Adam Carter calls Prodigy Cases:

*Prodigy cases*. When the young Mozart sits down to the piano and effortlessly plays a beautiful piano piece through what might be best described as natural or innate skill, there is no substantial level of effort on display at any point in the process of Mozart’s playing the piece. And nor, in such prodigy cases, is any effort retroindicated as it often is when an effortless performance is predicated upon effortful practice.[[22]](#footnote-22)

In Prodigy Cases, the prodigies’ prowess seems unearned. Even still, as Michael Sandel emphasizes, it is natural to admire ‘gifted’ natural ability, even though it has nothing to do with moral desert.[[23]](#footnote-23) For instance, we are less impressed by a dedicated sprinter achieving a personal best in an Olympic final, than we are by a less dedicated, but more talented super sprinter achieving merely a season’s best and winning by a clear margin. That is shown in the fact that we give prizes to winners and not to those who tried hardest.[[24]](#footnote-24) In sum, we ought to value the insertee’s prowess as much as the prodigy’s: it is as much ground for respect and of as much value to the one that had the State Inserted. We will return to this topic in section 9, but for now we proceed to consider the potential costs of knowledge insertion.

1. THE COSTS OF KNOWLEDGE INSERTION

The most obvious, but least satisfying way to claim that Neo misses out on something important in the *Matrix Case* is to claim that in the course of acquiring knowledge without Insertion, one makes valuable collateral gains. For instance, in learning to play the flute, one might incidentally develop perseverance strategies. However, if the collateral gains can be specified in advance, then to the extent that they are desired they are not truly collateral and should be included in the knowledge packet that one hopes to Insert. To the extent that they cannot be specified in advance, this can hardly motivate fixing our sights on alternative objects of learning (like knowing how to play the flute) and hoping to make the unspecified gains by traditional means; for we will have no reason to think that we will so acquire them.

It seems that in having his Kung Fu knowledge Inserted, what Neo loses out on is the intrinsic good of persistent, effortful engagement, the good of succeeding in his attempts and the good of having had persistent, effortful engagement payoff in way attributable to one’s effortful attempts (of what Bradford calls achievement). However, this is a loss Neo can recover in making use of his skills: he can for instance try, and sometimes manage, to defeat Anthony at Kung Fu: an uncertain task that will require all his effort and a possibility previously unavailable to him. What Neo will not have lost out on is State Value, on being there at the top. In some cases, it makes sense to skip to this end state and not worry about the value lost in the journey getting there. For instance, if one wants to cure diseases, it makes more sense to skip ahead to the state in which one is in a position to do this, than to invest unnecessary time in becoming able to cure diseases. In this section, I want to develop an account of the goods of the journey.

*Process versus Outcomes*. In *Lectures and Conversations*, Wittgenstein gives critical consideration to a teleological understanding of art: ‘There is a tendency to talk about the “effect of a work of art” – feelings, images etc.’[[25]](#footnote-25) ‘Does that mean that if you gave a person the effects and removed the picture it would be all right? Surely (the) first thing is, you see the picture … Would a syringe that produces these effects on you do just as well as the picture?’[[26]](#footnote-26) If education were entirely of extrinsic value, we should save ourselves the time and simply Insert knowledge. But is education entirely of extrinsic value? It might prove just as jarring to think of education as being about the achievement of certain ends as it is to think that aesthetics is about stimulation of certain feelings, provoking another negative answer to Wittgenstein’s question ‘Would a syringe that produces these effects on you do just as well?’

To respond to this challenge, it is important to distinguish between processes and outcomes, since we may ask whether the attainment of certain outcomes is what is important, or the undergoing of certain processes. In the case of watching Shakespeare’s *Romeo and Juliet*, the watching is *at least* as important as any outcomes that may obtain, and those outcomes may diverge much more significantly, they may not be identifiable in advance. Indeed, the purpose may be to see what one makes of it and not to derive any particular knowledge packet from it. All the same, the fact that watching *Romeo and Juliet* can fairly reliably produce *some suite or other* of valuable educational end states is hardly incidental to the educational value of watching it. Even still, watching the play seems preferable to making use of a *random* *suite* of *valuable educational end states* generator. In the case of driving licenses, some outcome which is identifiable in advance is to be achieved, and the teaching and learning processes are usually employed merely to achieve the outcome. One can think of special circumstances in which one wants to learn how to drive from a particular instructor in a particular way, perhaps from one’s father, perhaps because his father had taught him. However, such marginal exceptions prove the rule.[[27]](#footnote-27) Let us consider three threats that knowledge insertion might pose: to the ground projects we might have for our lives, to certain relationship goods and to certain childhood goods.

*Meaning annihilation*. Borrowing from Bernard Williams, we may contend that life is made tolerable or desirable by “ground projects” which provide one with “a reason for living”.[[28]](#footnote-28) These can take many forms: loving relationships, the pursuit of social justice, educating others, and many others besides. Life without any such projects and without hope of such projects emerging would hold no interest for us. New technologies can render some ground projects redundant, and in that sense, would not be desirable: suppose we all became immune to illness, the good of caring for the sick would no longer be available as a ground project. (Leave to one side the prospect of immortality being impossibly tedious, and overpopulation reducing wellbeing.) So too the prospect of Knowledge Insertion might take away the projects of diligent, attentive learning, and also of teaching, with the specific form it gives to moral goods of care; e.g. imaginative planning and spontaneous interaction that makes responsible uses of knowledge of another in the service of growth. It would deprive students of the *hard earned* ‘penny dropping moment.’ These should surely count as losses.

Let’s take this line of reasoning to its extreme. Let’s suppose that advances in technology rendered human effort unnecessary for securing individual survival or species preservation, what would we then do with our time? Human beings have certain limitations by virtue of their evolved, situated natures: they need to drink, eat, socialize, exercise, and sleep in order to survive. They also need to procreate in order to survive as a species. Indeed, eating, socializing, sleeping, having sex and raising children are all seen to be intrinsically valuable, so that people eat when they are not hungry, drink when they are not thirsty, and also have sex when they do not want to procreate. Where these are done for those reasons, they are often done in ways which maximize their value in other dimensions than their survival or procreative function. If living is worthwhile at all, we will not want to skip it all out entirely. Traditional learning procedures (traditional schooling, for instance – a relatively recent tradition, though it is) might be conceived as an intrinsically valuable initiation procedure. When one thinks of rewarding and intrinsically valuable activities that one wants to engage in because they are worth engaging in, one may begin to appreciate that it is worth bearing with the struggles of our limitations, and persevering with them in order to gain skill and knowledge. Some may well choose to improve using traditional methods (e.g. schooling) and be content with or proud of their lesser skill sets, and the lesser products of their activities because they have not taken any shortcuts. However, it is entirely possible that exercising excellent skills well is more worthwhile than painfully and fitfully gaining them or exercising more modest skills so gained. Knowledge Insertion may provide a wealth of further goods which could serve as ground projects which provide our lives with meaning and purpose.

*Relationship threat*. Some might worry that traditional educational processes might be good in themselves, for instance when they constitute an irreplaceable, valuable form of social relatedness. To elaborate on the particular subclass of valuable forms of social relatedness, consider whether teacher-student relationships may plausibly be considered non-instrumentally valuable in a similar way to parent-child relationships. Perhaps the former should no more be valued as an efficient means to producing ‘educational goods’,[[29]](#footnote-29) say, than the latter should be valued merely as an efficient means to independence. Similarly, friendship is not valued only for the goods it provides, such as reliable emotional support, but as an inherently valuable form of social relatedness. There may be an inherent value in guiding and being guided towards knowledge rather than merely having or stumbling across it. Just as Brighouse and Swift explore familial relationship goods – goods distinctively enjoyed by parents, as parents, and by their children, as their children – so too perhaps can we think of distinctive pedagogical relationship goods.[[30]](#footnote-30) Indeed, educational researchers have emphasized the intrinsic value of the emotional, intuitive, imaginative, engaged, attentive, and responsible aspects of the pedagogical relationship. [[31]](#footnote-31) Not only may it be good for teachers, but also for children. Being cared for, attended to, and coming to maturity through a history of having one’s attention directed and redirected in relation with others could be good for one. Such a relationship good might be a real loss, but it might be easily recouped. Collaborative discovery and creativity as equal partners seem to be forms of social relatedness in which the outcomes loom large, but whose goodness cannot be reduced to outcomes alone. Such projects become more open to those who have sufficient mental resources to undertake creative enterprises and plausibly are more valuable than learning processes. For instance, it would seem more valuable for both John Lennon and Paul McCartney to write songs together than for Paul McCartney to teach a novice John Lennon how to play the guitar.[[32]](#footnote-32) Given these considerations then, it seems likely that any loss would be more than adequately compensated for by the affordances of Knowledge Insertion.

*Childhood threat*. Another threat that knowledge insertion might be thought to pose is one to our childhoods. Suppose that Knowledge Insertion were available to be used. We may ask what use we ought or ought not to make of it on children or make available to children. Ought we always to withhold insertion where they ask for it, or ever force it on them? We ought to differentiate questions about content from questions about content Insertion. There is perhaps content that children are better off without, content that we are all entitled some period of being innocent of: knowledge of the horrors of the world are good candidates. Giving a satisfying account responding to these questions would require much more space, but one point should be made clear. Acknowledging that the Insertion of valuable content is often desirable for the one who has the content Inserted does not entail that we ought to force Insertion on others, or imply the disvalue of childhood.

1. WHEN THE JOURNEY HAS NO VALUE

It seems that, as we have said, effortful striving, even without success, can confer value. The point is eloquently stated by Dworkin:

Having a bad life does not always mean not having lived well […] Someone may have a bad life in spite of living well … because he dared greatly and failed.[[33]](#footnote-33)

While this point has considerable force, it does not render the value effort confers non-dependent. To see this point, consider another class of climbers who, by their very constitution, never had any chance of getting to the top. Being built the way that they are, without some sort of artificial enhancement, there is no possible world in which luck or effortful engagement will bring them to the top, even given an infinite amount of time – just as a stone will never learn English.[[34]](#footnote-34) This class of climbers can be credited with effortful engagement, but their case seems more tragic than value-conferring. For them it seems, if they could be brought to the top of the mountain by helicopter, they will at least satisfy the good of being at the top, and they will have lost out on nothing with respect to the value conferred by trying.[[35]](#footnote-35) In connection with this point, we should be mindful that for many students educational failure is a common and demoralizing experience. For such students, Knowledge Insertion would represent a tremendous relief.[[36]](#footnote-36) On the other hand, while we are considering the cases of body modification, we might consider that such a person would have reason to ask to be modified in such a way that they can, with effort, and perseverance, get to the top, and then undertake to do so.

1. IDENTITY THREAT AND DEATH

We may assume that individual persons have diachronic identity conditions (i.e. features in virtue of which they are identical with, at most, one individual from an earlier time). An individual person might undergo a deep and comprehensive transformation, while satisfying the persistence conditions of this diachronic identity. We should identify two broad threats that Knowledge Insertion might pose to the identity of the person, say Neo, who has knowledge Inserted. First, a worry as to whether he might become the kind of person that he would not want to become. Call this ‘Unwelcome Becoming’. Second, a worry as to whether the Knowledge Insertion might breach the persistence conditions of his diachronic identity, ‘becoming someone else altogether’ or, more precisely, dying and being supplanted by a distinct individual person.[[37]](#footnote-37) Call this ‘Death Threat’. The worry about Death Threat can take two different forms. The first, Death Threat A, concerns what kinds and quantities of change Neo could undergo in what kind of timeframe without breaching his persistence conditions. The second, Death Threat B, concerns what changes and person could sustain while satisfying their diachronic identity conditions *tout court*.

Unwelcome Becoming. Focquaert and Schermer distinguish usefully between active and passive interventions, where passive interventions are liable to “bring about changes without any psychological involvement or effort on behalf of the individual” undergoing the change.[[38]](#footnote-38) Focquaert and Schermer worry that passive interventions will “compromise an individual’s identity by causing drastic, abrupt and/or concealed narrative identity changes.”[[39]](#footnote-39) For instance, they worry that by “directly altering an individual’s brain functioning, subsequent changes to one’s identity cannot be deliberated on in the same gradual manner [as more active, indirect interventions] and [so these changes] cannot be selectively endorsed or rejected.”[[40]](#footnote-40) How could one know what one was getting oneself into? Could one really consent to it? The solution that Focquaert and Schermer suggest is that people consider carefully in advance what changes they want to undergo, and what changes their Knowledge Insertion(s) are likely to bring about, and perhaps undergo few, small, and carefully targeted direct interventions. Focquaert and Schermer express one concern that large, abrupt changes of kind might be undesirably disorientating for the one experiencing them. In the case of Knowledge Insertion, however, it seems that one could insert orientating information to avoid such a problem, so that rather than waking up wondering where they are and how they got where they are, where they are and how they got there is part of what they wake up knowing.

*Death Threat A*. Turning to the second pair of concerns, let us follow EJ Lowe in allowing that “a person is a self-aware, rational agent and subject of thought and experience.”[[41]](#footnote-41) We can ask what gradual changes a person could survive without becoming a different person, or, again, more accurately, being supplanted by an altogether different person. We should distinguish between individual persons and kinds of persons, and it seems that individuals can survive changes of kind. Some kinds are mutually exclusive: solids, liquids and gasses, but perhaps the same individual collection of H2O particles could survive transition between these kinds. Individuals can be transformed, and transformation can be desirable. Education is itself transformative, and often desirably so. But for transformation of any given kind, and degree we can ask how gradual it must be for diachronic identity to be retained (i.e. for death to be escaped). It is again sensible to think carefully about how much and what one uploads: to a first approximation, it would be unwise to upload such comprehensive and fundamental a set of changes to what one believes, values, desires, and remembers so abruptly that it would be hard to regard an individual as having survived the process of Knowledge Insertion. More likely it looks like a case of creating a new individual in the host body of a previous individual.

*Death Threat B*. Some might regard the reactive attitudes as being essential to human beings; others might regard heuristic epistemic devices as essential to humankind. They then might suggest that any change that precludes them from the category of human being is thereby the cause of their death. However, it is not clear that one’s humanity is essential to one’s existence. Theoretically, one might survive gradually being replaced by robot parts, while one’s biological humanity would not:

It seems plausible that I could in principle survive the gradual replacement of every part of my biological body (even the neurons in my brain) by some non-biological substitute. At the end of that process, my current biological body would no longer exist, but I would still exist, and that implies that I am not identical with my current biological body. [[42]](#footnote-42)

Indeed, human beings fit within more general categories than ‘human being’: e.g. ‘rational being’ and ‘sentient being’. Qua their good as members of these families (e.g. one’s good qua rational agent), their good qua humans may not be as important. True, they are more particular members of these groups, and may have more particular welfare profiles qua human beings (i.e. sets of interests), but it is not clear that individuals would not do better leaving their humanity behind and seeking goods outside of the goods peculiar to or distinctive of human beings.

1. PERMISSIBILITY

This paper’s *primary focus* has been the good that Knowledge Insertion represents for the one who has knowledge inserted, rather than what a *just* distribution of the good would look like, whether it could ever be morally required of us, or when it might be morally prohibited. These questions open up a much wider array of considerations concerning political morality and distributive justice. It may be helpful to the reader to have something of an overview of the range of considerations that bear on such matters, and an indication of how they have been treated in the literature. From this brief survey, it will be clear that doing justice to any of these issues would require much more space and each will have to be reserved for another occasion. Fortunately, most of this is not required for the modest claims made in this paper. However, as we shall see in Section 10, on some views, in order for an option to be desirable for the one availing of it, it must be permissible. To satisfy those of this opinion I will discuss bare permissibility towards the end of this section as well as in the next.

*Required Insertion*. Let’s start by considering whether we might be morally obliged to seek or submit to the insertion of moral knowledge. Persson and Savulescu have advocated for research into moral enhancement over cognitive enhancement, due to their worry that increased cognitive ability without increased moral restraint and direction would lead to increased capacity for wrongdoing. Indeed, they worry more generally that human beings are not morally equipped for the world they have come to inhabit and argue that without ‘moral enhancement’, humanity risks existential disaster in the form of climate chaos or nuclear war.[[43]](#footnote-43) Carter and Gordon object that cognitive flourishing and moral flourishing go hand in hand and so neither can be researched nor enhanced without the other.[[44]](#footnote-44) Even still, without moral knowledge and motivation to constrain and direct it, greater cognitive prowess is apt for abuse in the form of more efficient and damaging, less detectable and resistible wrongdoing. This is so irrespective of whether it might properly be called ‘cognitive flourishing’. Like Focquaert & Schermer, many are likely to insist on an important, perhaps inviolable, role for the principle of informed consent in any procedures for enhancement, including moral enhancement.[[45]](#footnote-45) See also Maslen et al for whom, in the case of minors, where decisions about whether a procedure would, all-things-considered, count as an enhancement or an impairment are controversial, such decisions should wait until the child in question has reached an age of majority and be made by them then.[[46]](#footnote-46)

In contrast to all but Maslen et al, Clayton and Moles have marshalled a spirited defence of an in-principle enforceable duty for adults and children to submit to moral ‘neuro-enhancement’ (i.e. interventions that would increase moral knowledge and motivation). Their argument turns on the boundedness of autonomy’s value, together with the claim that we are subject to enforceable duties to comply, rather than merely conform, with morality (i.e. do the right thing for the right reason) that trump our interest in living autonomous lives. For instance, my preference for murder does not trump your interest in living.[[47]](#footnote-47) Claims that we might have a duty to prefer knowledge insertion, or artificial forms of enhancement more generally, are at their strongest when they involve regard for the weighty interests of others and deprive us of comparatively little. For instance, surgeons might *more* reasonably be regarded as having a duty to update their skill sets through Knowledge Insertion, over traditional learning methods, in order to save lives *than skateboarders* are in order to perform some new trick, even if that causes many people great pleasure to watch.

We might more readily admit that, whether or not a surgeon *is morally required* to avail of Knowledge Insertion in order to better save lives, regard her as being at least *permitted* to avail of it. This is not true of all forms of knowledge insertion and enhancement. That seems more objectionable in other cases, especially cases concerning safety and unfair competitive advantage. Consideration of political morality that seem likely to restrict the range of permissible Knowledge Insertion include concerns of liberal neutrality and distributive justice.

*Liberal neutrality*. Etieyibo (2012) argues against state subsidized enhancement on the grounds that it violates the principle of liberal neutrality by endorsing – and enforcing public support for – procedures that would only be regarded as beneficial on some reasonable comprehensive conceptions of the good. He allows, however, that Government may promote or require other procedures which avoid negative public consequences in line with public reason.[[48]](#footnote-48) Some Rawlsians, such as Clayton, are likely to go further and argue that, this would plausibly entail duties to subsidize, at least to a threshold of adequacy, capacities that we have an interest in developing as free and equal persons (i.e. “the capacity to understand and comply with norms of justice, and the capacity to form, revise, and rationally to pursue a conception of the good life”).[[49]](#footnote-49)

*Distributive Justice*. Libertarians are likely to object to coercive redistribution for the purpose of improving the lot of others, arguing that, morally, our resources may not be coercively used by others in so far as they we obtained them justly.[[50]](#footnote-50) Of course, this argument is weakened given actual histories of oppression, slavery and theft that have led to the current distribution of resources. Furthermore, liberals have ample scope to object that a) insofar as our activities damage the interests of others, we have a reason not to pursue those activities and others have an interest preventing them, and that b) since our talents aid us in competition with each other for zero sum, positional goods, we do harm to others insofar as we have unfair access to them.[[51]](#footnote-51) Such externalities may create strict limits on the permissible range of knowledge insertions. Some, including Fritz Allhoff, have observed that while access to enhancement determined by Socio Economic Status is liable to seem unjust from the point of view of exacerbating sufficientarian, prioritarian and egalitarian principles of distribution, differential access to subsidized enhancement could equally reduce existing unfair disadvantages otherwise determined by genetic and social lotteries.[[52]](#footnote-52) A nearby thought is that, for many, the distinction between enhancement and treatment will seem morally important for whether or not we may permissibly avail of technology which improves our situation. For instance, Juengst and Moseley remark that “when ankle-strengthening surgery is used to improve a bicyclist’s competitive edge, it might raise enhancement concerns, but as a treatment for a bicyclist’s ankle injury, it does not”.[[53]](#footnote-53) It is clear then, that just because something is desirable for one does not mean that one is morally permitted to avail of it, and further consideration is needed of the conditions for permissibility and impermissibility. Furthermore, some Disabilities Studies scholars are likely object to ideas of perceived normalcy and adequacy in body types. They are apt to urge that adequate valuable functioning, judged as such from the point of view of the subject concerned, be enabled by reasonable adjustments of the environment rather than of the individual.

*Impermissible hubris*. Michael Sandel has argued that we should prefer gifted prowess over ‘artificial’ prowess. Sandel sees artificial prowess as in some sense hubristic, where we should be humble. For him, enhancement “threatens to banish our appreciation of life [and talents] as a gift, and to leave us with nothing to affirm or behold outside our own will”.[[54]](#footnote-54) The first point to make in response to Sandel’s thesis is that in our admiration of relatively effortless sporting success, it might be that all we *do*, and at any rate *should* admire is prowess itself. In admiring prowess, we need not care for how it came about. One might think that we can find reason to doubt that we do value equal prowess equally regardless of its origins in the case of perceived drugs cheat Justin Gatlin’s being booed when he beat Usain Bolt over 100m in 2017.

*The Bolt and Gatlin case*. At the London 2017 World Athletics Championships, Usain Bolt lost over 100m to Justin Gatlin. Bolt, whose personal best over 100m is 9.58 seconds, was renowned for his great natural gift for sprinting. Unlike Bolt, Gatlin, also an immensely gifted runner, whose personal best over 100m is 9.74 seconds, is enshrouded in controversy for twice testing positive for banned substances. When Bolt lost to Gatlin in London, fans booed.[[55]](#footnote-55)

However, it seems artificial to insist that gifted prowess is more admirable than taken prowess. In so far as we ought to regard, say, Usain Bolt as worthy of applause and Justin Gatlin as unworthy, it is not in virtue of Bolt’s gifted prowess and Gatlin’s taken prowess. It could well be because Gatlin cheated by the artificial rules of the sport. The second point to make is that affirming the desirability of (e.g.) Knowledge Insertion does nothing to imply that there is “nothing to affirm or behold outside our own will”, as Sandel claims. After all, Knowledge Insertion implies that knowledge, rather than mere preferred belief, is desirable. The third point to make is that prowess is only a positional good; one can only be admired in respect of one’s prowess if others are less competent. To illustrate this, consider the progression of world records in the Men’s Long Course 100M freestyle event. In 1905, Zoltán Halmay clocked 1:05.8. In 2009, César Cielo Brazil clocked 46.91, a saving of more than thirty percent. Today, competence of Halmay’s (absolute) level would occasion little admiration. Prowess admiration seems contingent on an injustice if we refuse to allow people access to means which are available for achieving similar levels of competence. What drops out of the picture when these means are made available is the (relative) good of prowess, but what enters the picture is the absolute improvement of people’s lot with respect to being more competent; being less burdensome to others (in outrunning harm); being less reliant on the good will of others (in outrunning harm); being better able to access some shared activities (such as running with the pack); being able to access intrinsically rewarding activities.

1. LIVING WELL AND DOING WRONG

The purpose of this paper has been to argue that ‘Knowledge Insertion’ would often be desirable *for the one who has knowledge inserted*. More particularly, we have addressed what might be lost out on through insertion, while holding the desirability of learning’s product steady. On one view, the content of first-personal desirability (as opposed to impersonal desirability, i.e. the state of affairs that would be best overall) is constrained by what that person may permissibly do. On this account, it would have to often be permissible for one to insert knowledge in order for it to be desirable that one has knowledge inserted. The view’s classic statement, and most stringent version, is found in Plato’s *Gorgias*; a more recent version can be found in Victor Tadros.[[56]](#footnote-56) Famously, Plato’s Socrates argues that no greater harm can befall a person than to act unjustly.

“If it were necessary either to do wrong or to suffer it, I should choose to suffer rather than do it.”[[57]](#footnote-57)

Here is a reconstruction of the argument for this conclusion that Socrates puts to Polus in *Gorgias* [474c – 475e].

Premise 1: To do wrong is a greater disgrace than to suffer wrong.

Premise 2: If doing wrong is more disgraceful than suffering it, this must be because it is more painful or more harmful to one.

Premise 3: Doing wrong is often less painful than doing suffering wrong.

Conclusion: doing wrong is more harmful to one than suffering it.

Victor Tadros defends a weaker version of the claim, namely that serious wrongdoing tends to undermine one’s wellbeing. He poses the following hypothetical question, to which he anticipates the reader will answer, ‘the victim’:

Suppose that you discover that your child was involved in serious wrongdoing. You don’t know, yet, whether she was the wrong­doer or the victim. […] Thinking just about her, does her life go better if she is the criminal or the victim?[[58]](#footnote-58)

Both of these arguments are controversial (Plato’s argument is valid, but the first premise seems question-begging and second premise seems ad hoc; Tadros’ argument requires further elaboration), but weak versions of the position are not implausible. If it were sound, it would restrict the range of desirable Insertions, but I do not think that it would restrict Knowledge Insertion beyond presumptive permissibility and desirability.

For instance, the insertion of knowledge which can be used in perfectly innocent ways, such as knowledge of rocket science, is permissible, so long as one does not intend and is not likely to decide to, or be forced to use it in impermissible ways. For instance, Wernher von Braun’s expert knowledge of rocket systems was transferred from building V2 rockets to bomb London to building the rockets that took mankind to the moon. The fact that insertion can be used impermissibly does not entail that it cannot be used permissibly or is not generally permissible as such. Insertion could surely be used wrongfully in other ways: it would surely be *pro tanto* wrong, and almost always *all-things-considered* wrong, to insert vices, prejudices, false beliefs. This fact turns on the disvalue of the content, not of Insertion as such. Another way in which we might do wrong is by denying others fair opportunity to secure scarce goods. On this view, if Knowledge Insertion is scarce, we may have to ensure fair opportunity to secure it, or else ensure that some great good will be done that trumps this concern. If Knowledge Insertion is not scarce, the potential we have to do wrong in this way will be much narrower, in either case Knowledge Insertion would be presumptively desirable for the one who has access to the scarce good of Knowledge Insertion, so long as they access it fairly. Consider, by way of analogy, Victor Tadros’ discussion of going to the shops:

Suppose that I ask whether it is permissible for me to go to the shops. You say that it is: there is no morally decisive reason against doing that. It is an option for those who respond appropriately to the normative reasons that apply to them. Now suppose that, following your advice, I go to the shops, but in doing so I walk all over your flowerbed. Going to the shops that way, you will then say, is wrong. For going that way has a wrong-making feature. The fact that I could have gone to the shops without trampling all over your flowerbed is sufficient to render my going to the shops permissible. But that does not imply that any way of going to the shops is permitted.[[59]](#footnote-59)

CONCLUSION

To return to answering our guiding question. What one would miss out on by having ‘knowledge inserted’ are the intrinsic goods of the persistent, effortful pursuit of learning, of its achievement, and intrinsically valuable forms of social relatedness which characterize learning from teaching. Weighty though these considerations are, they can usually be more than compensated for by the increased competence to achieve a variety of valuable ends that we stand to gain from Knowledge Insertion. Indeed, such effort, achievement, and social relatedness opportunity costs as we incur are plausibly more than compensated by new effort, achievement and social relatedness opportunity affordances that Knowledge Insertion would open up, or would not matter so long as we had realized those good to a satisfactory level across our lives, or in some part of it.[[60]](#footnote-60) While I have indicated lines of discussion and disagreement, fuller consideration of whether what kinds of Knowledge Insertion would be *just*, or morally permissible or required will have to wait for another occasion. For now, I conclude that Knowledge Insertion, as illustrated in *The Matrix Case*, would indeed often be more desirable for the one who has knowledge inserted than its effortful acquisition.

1. I would like to thank Alex Carruth, J. Adam Carter, Tom Douglas, Hwa Kim, Guy Longworth, Christopher Mills, Matthew J. Reeves and David Rowthorn commenting on drafts as well as Lyndsay Jordan, Meira Levinson, Simon Palmer, Jeff Standley, Ruth Wareham and Bryan Warnick for helpful conversations. Nick Burbules and two anonymous reviewers are also to thank for constructive suggestions, criticisms and queries as are audiences at the annual meetings of the PESGB and NAAPE. I would like to acknowledge the wit and self-control of Dave Aldridge whose first reaction was: it depends where it’s inserted, and who managed to refrain from asking any questions in my PESGB presentation on the principled grounds that he thinks the very idea of Knowledge Insertion in incoherent. [↑](#footnote-ref-1)
2. Knowledge Insertion is to be distinguished from Cognitive Outsourcing, which requires someone or something else that knows on one’s behalf. In cases of cognitive outsourcing one does not know, and is unskilled, but may have equal power to a knower or skilled person. Examples of outsourcing knowledge might include keeping a diary or consulting a database. [↑](#footnote-ref-2)
3. The Wachowski Siblings, *The Matrix* (1999, Warner Bros).   [↑](#footnote-ref-3)
4. The end state in question is not only one in which Neo able to do Kung Fu, but one in which he confidently expects that he can do Kung Fu, is reliably able to do it when he tries to and one which he factors into future deliberations about what to do. [↑](#footnote-ref-4)
5. Similarly, formal education can already represent an improvement on cruder, less organized and refined, more inefficient and less effective forms of informal learning where knowledge is the good we are seeking. [↑](#footnote-ref-5)
6. See David Aldridge, ‘Cheating Education and the Insertion of Knowledge’, *Educational Theory* 68, (6) *Special Issue: Symposium: Cheating Education* (2018): 609-624. [↑](#footnote-ref-6)
7. Farah Focquaert & Maartje Schermer, ‘Moral Enhancement: Do Means Matter Morally?’ *Neuroethics* (2015) 8:139–151, p. 144 [↑](#footnote-ref-7)
8. For an extended discussion of the relations between these concepts, see Jeremy Fantl (2017) ‘Knowledge How’ in Edward N. Zalta (ed.) *The Stanford Encyclopedia of Philosophy* https://plato.stanford.edu/archives/fall2017/entries/knowledge-how/ Retrieved 15 March 2019. [↑](#footnote-ref-8)
9. Jonathan Jenkins Ichikawa and Matthias Setup (Summer 2018 Edition) ‘The Analysis of Knowledge’, in Edward N. Zalta (ed.) *The Stanford Encyclopedia of Philosophy*, available at https://plato.stanford.edu/archives/sum2018/entries/knowledge-analysis/ Retrieved 15 March 2019. [↑](#footnote-ref-9)
10. Equally, in our Matrix Case, Neo’s *ability* to do Kung Fu might be limited by his physical capacities (e.g. his speed, strength and stamina) rather than any lack of knowledge. Indeed, if he knows these capacities well, he will be able to use them more optimally than before the Knowledge Insertion event. If he had additional, speed, strength and stamina Inserted, he would be able to make greater use of his knowledge (i.e. be able to do what he knows how to do). [↑](#footnote-ref-10)
11. Jason Stanley and Timothy Williamson, ‘Knowing How’, *The Journal of Philosophy* (2001) 98 (8): 411-444. [↑](#footnote-ref-11)
12. The identification of this substrate is controversial even among physicalists because some philosophers accept the Extended Mind Hypothesis, according to which our knowledge can depend on our access to stored information in our wider environment. On this view, our knowledge can be destroyed when, for instance, a diary is destroyed. The *locus classicus* is Andy Clark and David J Chalmers, ‘The extended mind’, *Analysis* 58 (1) (1998): 7–19. Even still, those subscribing to this hypothesis can accept that there can be no change in our state of knowledge without a change to either our bodies, our environment or some parts(s) of them. They can regard changes to (some of) these as an essential feature of Knowledge Insertion events. [↑](#footnote-ref-12)
13. Other contemporary educational epistemologists and texts within this tradition include Alvin Goldman in *Knowledge in a Social World*. (Oxford University Press: Oxford, 1999), and Harvey Siegel in, among other works, *Education's Epistemology: Rationality, Diversity, and Critical Thinking* (Oxford University Press: Oxford, 2017). [↑](#footnote-ref-13)
14. John Tillson, ‘Might Knowledge be Insertable?’ *Educational Theory* 68, (6) *Special Issue: Symposium: Cheating Education* (2018): 595-607. [↑](#footnote-ref-14)
15. Discussions of the value of knowledge usually contrast knowledge with *mere* true belief ask why knowledge is better. If we accept that true beliefs are valuable, we will want them, but ensuring we come to them more or less means ensuring that we know, e.g. involves seeking out reasons that rule out or reduce the chances that our beliefs are false. I may believe truly that the cat is in on the matt now, but short of magic, my beliefs will struggle to keep up with the cat should it decide to move without making reliable use of perception and inference. [↑](#footnote-ref-15)
16. In these cases, the outcomes might be intrinsic to the driving: it may be important to them that driving is the relaxing thing, rather than merely that they become relaxed. It would be as odd to separate the terror of seeing a tiger running at you from seeing a tiger running at you. Alternatively, the driving may be constitutively useful way to satisfy some desire: one wants to relax, doesn’t mind (other things equal) whether it is of the driving of bathing kind, and seeks to work out whether bathing or driving is more convenient, say. [↑](#footnote-ref-16)
17. ‘How long does it take to learn to drive?’ <<https://www.directline.com/car-cover/how-long-does-it-take-to-learn-to-drive>> Retrieved 15 march 2019 [↑](#footnote-ref-17)
18. We could imagine Knowledge Insertion being an impressive thing to undergo, I will bracket out this sort of case and focusing on Knowledge Insertion as quick and effortless. I am grateful to Lyndsay Jordan for bringing this possibility to my attention. Suppose that the process was excruciatingly painful; that it meant one was tired for a day afterwards; that one significantly risked life and limb in acquiring it; that one had to exercise some considerable skill in gaining it. It is interesting to ask what might be lost under this condition, or whether it would be just as good as more traditional forms of Knowledge Insertion. This is another condition of Knowledge Insertion needed to tease out what we find valuable about knowledge and learning as a means of acquiring it. [↑](#footnote-ref-18)
19. Some might object, observing first that we could always have additional and enhanced capacities (e.g. we could be able to see through walls) and second that we often do not regard their absence of these as a bad for us. I do. However, their lack are perhaps bad for us only to the extent that we have them in nearby possible worlds, or that others have them in the actual world. However, it seems that this claim must be tempered. First, if we could always have some capacity to a greater degree, having a capacity to any degree means having a capacity which could have been greater. Second, plausibly we must have some suite of incapacities in order to have a suite of capacities and so must have some incapacities if we are to have any capacities at all. Considerations of this kind receive further treatment towards the end of Section 8. [↑](#footnote-ref-19)
20. Christopher P. Niemiec and Richard M. Ryan, ‘Autonomy, competence, and relatedness in the classroom: Applying self-determination theory to educational practice’, *Theory and Research in Education* 7(2) (2009): 133–144, p. 139. [↑](#footnote-ref-20)
21. Gwen Bradford, ‘The value of achievements’, *Pacific Philosophical Quarterly* 94 (2) (2013): 204-224, p. 205. [↑](#footnote-ref-21)
22. J. Adam Carter 'Autonomy, Cognitive Offloading, and Education', *Educational Theory* 68, (6) *Special Issue: Symposium: Cheating Education* (2018): 657-673, p. 667. [↑](#footnote-ref-22)
23. I use scare quotes here because the ‘gifted’ property need not have been intentionally provided to its ‘recipient’ by an agent. [↑](#footnote-ref-23)
24. Many schools grade students for absolute attainment and for effort, from A for the highest attainment, down through successive letters to indicate lower attainments, and from 1 for the highest degree of effort, down through successive numbers to indicate lower degrees of effort. A1 is often thought to be the highest grade, but it seems that A4 is since one achieved the maximal level of attainment with the minimal exertion of effort. Arguably, the valence of this consideration is that setting an attainment roof is undesirable, or that any student who can achieve an A4 simply isn’t being sufficiently challenged.   [↑](#footnote-ref-24)
25. Ludwig Wittgenstein, *Lectures and Conversations on Aesthetics, Psychology and* *Religious Belief* (Oxford: Blackwell, 1963), p. 29. Wittgenstein can be read in two ways here: first as making a point about what to be valued, and second as making a point of what is conceivable: see the point made earlier that it would seem inconceivable to separate the terror of seeing a tiger running at you from seeing a tiger running at you. [↑](#footnote-ref-25)
26. *Ibid*, p. 29, fn 3. [↑](#footnote-ref-26)
27. However, the valence of this example should be tempered. There may be a limit to the extent to, or the occasions on, which we should extract ourselves from the achievement of desired ends to more fully serve their satisfaction. We sometimes want to be involved in bringing about outcomes rather simply in having them come about (e.g. the vengeful Inigo Montoya wants, personally, to kill his father’s murderer, and may regret his dying before he can). However, the good this represents should not be allowed to perversely diminish the good outcomes it is, in part, supposed to achieve. For instance, it may be better that an ageing parent suffering from dementia is, on some occasion, fed by their child rather than fed a bit better by an unrelated other, but it is not better if that means their being fed badly or barely. [↑](#footnote-ref-27)
28. Bernard Williams, ‘Persons, Character and Morality,’ in *Moral Luck*, (Cambridge: Cambridge University Press, 1981), p. 13. [↑](#footnote-ref-28)
29. Harry Brighouse, Helen F. Ladd, Susanna Loeb, and Adam Swift, *Educational Goods: Values, Evidence, and Decision-Making* (Chicago: Chicago University Press, 2018). [↑](#footnote-ref-29)
30. Harry Brighouse and Adam Swift, *Family Values: The Ethics of Parent-Child Relationships*. (Princeton: Princeton University Press, 2014). [↑](#footnote-ref-30)
31. Greene, M. (1995). Releasing the imagination. Essays on education, the arts, and social change. San Francisco: Jossey‐Bass. Kelchtermans, G. (2005). Professional commitment beyond contract. Teachers' self‐ understanding, vulnerability and reflection. Keynote address presented at the bi‐annual meeting of the International Study Association on Teachers and Teaching (SATT), Sydney (Australia), 2‐6. Korthagen, F.A.J. (2001). Linking theory and practice. The pedagogy of realistic teacher education. Mahwah, NJ: Lawrence Erlbaum Associates. Van Manen, M. (1991) *The tact of teaching: The meaning of pedagogical thoughtfulness*. London, ON: Althouse Press. Van Manen, M. (1995) ‘On the epistemology of reflective practice’. Teachers and Teaching: Theory and Practice, 1 (1), 33‐50. Van Manen, M. (2002) *The tone of teaching*. London, ON: Althouse Press. Zembylas, M. (2005). Beyond teacher cognition and teacher beliefs: the value of the ethnography of emotions in teaching. International Journal of Qualitative Studies in Education, 18 (4), 465‐487. [↑](#footnote-ref-31)
32. I am grateful to Hwa Kim for discussion on this point. [↑](#footnote-ref-32)
33. Ronald Dworkin, *Justice for Hedgehogs* (Cambridge, MA: Harvard University Press, 2011), p. 200. [↑](#footnote-ref-33)
34. Colin McGinn is an example of a philosopher who thinks that this is true of all human beings with respect to the matter of understanding how it is that consciousness relates to physical matter: *Problems in Philosophy: the Limits of Inquiry* (Blackwell: Oxford, 1993). If we want to understand that, for McGinn, we will have to change in our very constitution. That would seem to render the effort to do so non-value conferring on my account. Assuming the truth of McGinn’s thesis, from an absolute perspective, that is correct. However, if McGinn’s view were to be proven true, would that render, say, René Descartes’ efforts worthless? Descartes would have been labouring under an illusion, but one that it was reasonable to labour under given the state of knowledge. This example suggests that the value conferring element of effort can be sensitive to reasonable belief, rather than accurate belief. [↑](#footnote-ref-34)
35. It may be that one never knows whether one could get to the top, and the very effort undertaken in light of uncertainty is worthy of honour. In this case I am considering someone who it obvious to all observers that they cannot get to the top. [↑](#footnote-ref-35)
36. I am grateful to Nick Burbules for bringing this point to my attention. [↑](#footnote-ref-36)
37. I am grateful to Jeff Standley for drawing my attention to this point. [↑](#footnote-ref-37)
38. Focquaert & Schermer, p. 141, fn. 2. [↑](#footnote-ref-38)
39. Focquaert & Schermer, p. 141. [↑](#footnote-ref-39)
40. Focquaert & Schermer, p. 141. [↑](#footnote-ref-40)
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50. Robert Nozick (1974) *Anarchy, State and Utopia*. Oxford: Blackwell. [↑](#footnote-ref-50)
51. Adam Swift (2004) makes this argument for the abolition of elite private schools in ‘The morality of school choice’ *Theory and Research in Education* 2(1) 7–21. [↑](#footnote-ref-51)
52. Fritz Allhoff (2008) ‘Germ-Line Genetic Enhancement and Rawlsian Primary Goods’ *Journal of Evolution and Technology* 18 (1), 10-26. [↑](#footnote-ref-52)
53. Eric Juengst and Daniel Moseley (2016) ‘Human Enhancement’ in Edward N. Zalta (ed.) *The Stanford Encyclopedia of Philosophy* <https://plato.stanford.edu/archives/spr2016/entries/enhancement/> Retrieved 15 March 2019. [↑](#footnote-ref-53)
54. Michael J. Sandel (2004) ‘The Case Against Perfection’ in *The Atlantic*

<https://www.theatlantic.com/magazine/archive/2004/04/the-case-against-perfection/302927/> Retrieved 15 March 2019. [↑](#footnote-ref-54)
55. I am grateful to Ruth Wareham for drawing my attention to this case. [↑](#footnote-ref-55)
56. Dworkin offers a less stringent variation of the doctrine in *Justice for Hedgehogs* on which life is understood as performance within constraints, and value consists in the quality of the performance within acceptable constraints. To the extent that one exceeds those constraints, one diminishes the quality of one’s performance. [↑](#footnote-ref-56)
57. Plato. Gorgias. Plato in Twelve Volumes, Vol. 3 translated by W.R.M. Lamb. (Cambridge, MA: Harvard University Press, 1967), 469b [↑](#footnote-ref-57)
58. Victor Tadros, Wrongs and Crimes (Oxford: Oxford UP, 2016), p.1. [↑](#footnote-ref-58)
59. Victor Tadros, (2011) *The Ends of Harm: The Moral Foundations of Criminal Law* (Oxford: Oxford University Press). [↑](#footnote-ref-59)
60. Similarly, formal education can already represent an improvement on cruder, less organized and refined, more inefficient and less effective forms of informal learning where knowledge is the good we are seeking. [↑](#footnote-ref-60)