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OUGHT WE TO ENHANCE OUR COGNITIVE CAPACITIES?¹

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ABSTRACT

Ought we to improve our cognitive capacities beyond the normal human range? It might be a good idea to level out differences between peoples cognitive capacities; and some people's reaching beyond normal capacities may have some good side-effects on society at large (but also bad side-effects, of course). But is there any direct gain to be made from having ones cognitive capacities enhanced? Would this as such make our lives go better? No, I argue; or at least there doesn't seem to be any evidence suggesting that it would. And it doesn't matter whether we consider the question from a narrow hedonistic perspective, from a more refined hedonistic perspective, from a desire-satisfaction view, or from some reasonable objective list view of what makes a life go well. Only an extremely perfectionist – and implausible – view of what makes our lives go well could support any direct value in cognitive enhancement. Finally, our sense of identity gives us no good reasons to enhance even our capacity to remember. So, cognitive enhancement as such would not improve our lives.

1. INTRODUCTION

Suppose we could enhance our cognitive capacities to a considerable extent. Suppose we could acquire better memory, become more focused when solving a problem, get our IQ enhanced, and acquire new senses and new means of communication, such as an interface between our brain and a computer . . . what would this avail us? Here I will discuss a narrow aspect of this question. I will not go into speculation about the social implication of such a change, if it were universally applied, widespread, or confined only to a narrow part of the population. Here

I will focus exclusively on the individual. Moreover, in my discussion about the likely effects on the individual, I will focus on direct effects, not on effects to do with possible social changes, either for the individual or for society at large. For example, it may be the case that a person who is below the average on an IQ test is disadvantaged in our society, merely because this person is less intelligent than people on average. This could also be the case when everyone has had his IQ increased by 10. It is of interest to know, however, and this is something I will discuss, whether having one's IQ raised in some *direct* manner makes one's life go better. Moreover, if some human beings were given more brainpower than anyone has at present, then this might mean that someone would soon find a quick solution to the problem of global warming. On the other hand, if we had had less brainpower, then perhaps there would not have been any

¹ This article was written in connection with the EU research project Enhance and was finalized during a stay as research fellow at the Swedish Collegium for Advanced Study at Uppsala University.

global warming in the first place. So perhaps more brain-power would not be such a good thing after all. It is extremely difficult to settle these matters, and I will not enter into them in the present context.² Here I make no policy recommendation whatever. And still, if I am right in my insistence that the lives of those who are enhanced would not go better, it shifts the landscape of the debate. Given that cognitive enhancement is controversial, my finding that it doesn't in any direct way lead to better lives means that the pro-enhancement position must shoulder a greater argumentative burden than generally thought. It is not sufficient to rebut arguments to the effect that enhancement is wrong in principle. Even if these arguments are poor, their conclusion may be true. Hence it is also necessary to provide a positive rationale in defence of undertaking cognitive enhancement, and this must be a rationale referring to the possible broad positive *social* effects of such a measure.

What I am interested in is cognitive *enhancement*, in a strong sense of the word, where 'enhancement' means that individuals are taken *beyond the species-normal range of cognitive capacity*; not a cure of mental disabilities, or even improved function within the normal range.³

In my characterization of *cognitive enhancement*, in contradistinction to enhancement of other things such as physical strength, mood, longevity, and so forth, I rely on examples exclusively: intelligence, memory, linguistic skill, capacity to focus on intellectual tasks, and sense perception. I exclude, for example, a capacity to take pleasure in a certain kind of experience, while I include a capacity to remember such pleasures.

In order to find out if cognitive enhancement provides the individual with a better life, we have to examine different ideas about what it means to lead a good life. I will discuss several such views. I will start by discussing a simple hedonistic view, according to which the level of subjectively felt wellbeing is the only thing that matters to us. The more subjectively felt wellbeing, the better. I then move on to a version of this view famously developed by J.S. Mill, where 'higher' satisfactions are held to matter more than 'lower' ones. After that I discuss a

desire-satisfaction view (preferentialism). I then discuss an objective list view, according to which some things are of value to our lives, irrespective of whether we desire them or enjoy them. I then consider a perfectionist ideal, which does provide a rationale for cognitive enhancement if it is plausible, but which I reject as not only very extreme and special but also highly implausible and morally repugnant. Finally, I discuss the idea that things that constitute our personal identity, in particular our memories, are important to us in the sense that, the more we can retain them during the course of our lives, the better our lives go.

2. NARROW HEDONISM

I assume that, at any given moment, for each sentient being, there is such a thing as a level of well-being at which the individual is. There is a true answer to the question of how I feel right now. Do I feel more or less pleased than I did a few minutes ago? I may be mistaken when I report how I feel, but there is a truth in the matter. When it would have been better not to experience what I now experience, we may want to speak of displeasure rather than pleasure, but this does not mean that we encounter different dimensions. We plot moments of displeasure on the same scale as moments of pleasure. I assume that in principle we can measure felt wellbeing on a cardinal scale. But the level of wellbeing is only part of what matters when we want to answer the question of how well my life has gone. Time is also important. The answer to the question of how valuable my life has been, up to now, is given by the sum total of pleasure experienced by me up to now.

Does intelligence matter to well-being? There may be indirect effects, of course. People with relatively low intelligence have more difficulties on the labour market than people with relatively high intelligence. But this does not show that intelligence is a hedonistic asset as such. As was indicated above, if we raise the average, it is highly likely that those who are less intelligent, relatively speaking, will still have difficulties on the labour market.

Bertrand Russell has said, or at least I believe he has said, that 'it is nice to know things'.⁴ If he is right, it might be tempting to argue: If we become more intelligent, we would be able to know more things. And this would make us happier. But the idea that it is nice to know things is not plausible. Knowledge implies not only belief but truth and justification as well. It might be the case that it

² Lars Bergström, 1994, has argued that we would all have been happier, had there been no science. Notes on the Value of Science. In *Logic, Methodology and Philosophy of Science*. D. Prawitz, B. Skyrms & D. Westerstahl, eds. Amsterdam: Elsevier. I defend the opposite view in: T. Tännsjö, 1994. In *Defence of Science*. Ibid. But in my defence of science and our high brainpower I do not rely on any idea that people today lead better lives than hunter-gatherers who walked the savannah. My point is that *more* people live now, and that *more* is better. In the present context this kind of speculation is left to one side.

³ See: T. Tännsjö. 1993. Should We Change the Human Genome? *Theoretical Medicine*, 14: 231–247 for a discussion of the notion of enhancement.

⁴ I have not been able to find any reference here but I believe I remember having read this in some of his books.

is nice to hold beliefs, but, irrespective of whether they are true or false, they feel the same. This puzzled Plato, who claimed that knowledge is more valuable than mere true belief (*Meno*). How is this possible? Well, it is possible if justification can somehow be felt. If we conceive of justification in externalist terms, justification cannot be felt, and we cannot account for the putative fact that knowledge is better than mere true belief. This has been considered a problem for a reliabilist understanding of justification. Ward Jones writes, for example:

In short, given the reliabilist's framework, there is no reason why we should care what the method was which brought about a true belief, as long as it is true. We value the better method, because we value truth, but that does not tell us why we value the true beliefs brought about by that method over true beliefs brought about by other less reliable ones.⁵

And Richard Swinburne has made a similar point:

Now clearly it is a good thing that our beliefs satisfy the reliabilist requirement, for the fact that they do means that . . . they will probably be true. But, if a given belief of mine is true, I cannot see that it is any more worth having for satisfying the reliabilist requirement. So long as the belief is true, the fact that the process which produced it usually produces true belief does not seem to make that belief any more worth having.⁶

But could it not be nice not only to hold beliefs but also to know that one is justified in holding them? And would not this be possible on an internalist understanding of justification, in terms of coherence?

If justification means coherence, then it is possible that I can know that I am justified in holding a certain belief. Let us suppose that this is nice. However, even if this is nice, there is no guarantee that intelligence prepares the way for (subjective) justification. The opposite may very well be the case. If you are stupid, you are subjectively justified in your beliefs. They cohere well together (by your own poor lights) and you may very well feel that there is no possible evidence that might make them go away. An intelligent person may have difficulties in

arriving at this kind of subjective state. Remember that Socrates believed that he did not know anything at all (*Apology*). He must have meant, not that he held no beliefs, nor that no beliefs held by him were true but, rather, that he did not feel justified in holding any one in particular among them. If we become as clever as, and even cleverer than Socrates, we may well end up in his predicament: the only thing we know is that we know nothing at all.

Some may want to argue that *this* is nice. If it is, we may turn Russell's argument upside down. It is nice, not to know things, but to know that one doesn't know anything. Or, if that is too dogmatic, it is nice not to hold any (strong) opinions whatever and never to feel justified in any one of them in particular. Enhancing our intelligence may have the effect, then, that we become sceptics of Pyrrho's variety; the most plausible version of this view is not that we do not hold any opinions at all (which is insane), nor that we do not revise them in the light of new evidence (which is tantamount to not holding them), but that we hold them without any belief that we are *justified* in so doing. According to the sceptics, this would mean that we ended up in a state of unperturbedness (*ataraxia*). And this has been claimed to be a very pleasant state.

I find this argument more convincing than the idea that it is nice to know things. There might be some truth in it. However, even if there is, there must be more direct roads to scepticism. If scepticism is an attitude rather than an intellectual achievement, as Pyrrho indicated, then I suppose we should be able to find techniques allowing us to become sceptics, irrespective of whether we are extremely intelligent, highly intelligent, or just average.

Now, all this is speculation. In the old days, there was no other way to approach the problem of the value of knowledge but to speculate. Now, however, we have empirical happiness studies, which should be able to inform us better about the matter. What do they tell us? Does high IQ correlate positively with happiness?

Here a methodological caveat is in place. On the face of it, it may seem as though many happiness studies, or studies of *subjective well-being* (in contrast to studies measuring life *satisfaction*), measure happiness or hedonic status as here defined. Appearances may be deceptive, however. I must caution the reader that I find much of the research in this field problematic. The problem of a hedonistic unit, a theme in the philosophy of the classical hedonistic utilitarians Bentham and Edgeworth, is not taken seriously by modern happiness studies. It is difficult to understand how these modern scholars can be so certain that it is possible to compare intervals of happiness between people, in the way they presuppose that they do. This kind of comparison seems to be difficult to

⁵ W.E. Jones. 1997. Why Do We Value Knowledge? *Am Philos Q* 1997; 34: 426.

⁶ R. Swinburne. 1999. *Providence and the Problem of Evil*. Oxford: Oxford University Press: 58. For an overview of the ancient and recent discussion, see: D. Prichard. 2007. The Value of Knowledge. *Stanford Encyclopedia of Philosophy*. Available at <http://plato.stanford.edu/entries/knowledge-value/>. [Accessed 17 September 2008] I thank Erik Olsson for drawing my attention to the relevance of this discussion in the present context.

achieve even with simple assessments of pain. I happen to have had an illness (Ileus), which brought me to the point where I lost consciousness because of intense pain. Since then I know where my upper limit is. I can hence place more mundane pains on a scale from 0 to 10 where 0 is no noticeable pain at all, and 10 is the point where I faint. It is an open question, however, whether my upper limit is (feels) the same as the upper limit of other people.

Furthermore, even if I can say at some time that my feeling of pain should rate at 5, this does not give much information about my hedonic state. A person who is giving birth to a wanted child, and suffers pain at 5, may be extremely happy. Another person, suffering from a terminal disease, giving rise to pain at 5, may be way below the line where life is worth experiencing. I know of no scholar in the field of happiness studies, who has taken this problem seriously.⁷

Does all this mean that we know nothing at all about the relation between intelligence and happiness? Well, it means that the result of these studies must be regarded with caution and that only further research can settle the questions more definitely. For the time being, we have to use the results of existing studies as our point of departure for our argument and be prepared to revise it in the light of further and more reliable evidence that might be forthcoming.

Some have claimed that there exists a positive correlation between high IQ and happiness, but a very weak one⁸ while others have held that there is no correlation whatever.⁹ As far as I know, there are no empirical happiness studies that suggest that intelligence *alone* is a factor that enhances happiness. The stress here is rather on EQ than on IQ, emotional intelligence rather than intellectual, i.e. the stress is on the fact that in order to live happily you should be good at interacting with other people, capable

of empathizing with them, of understanding them, and caring for them.¹⁰ One might suspect that this is something that, to some extent, may be at odds with enhanced cognitive capacities, at least to the extent that the enhancement means more focus on intellectual tasks, less tendency to be distracted by other people, and so forth. At least this seems to be a fact for girls. Low intelligence in boys, on the other hand, disposes for depression.¹¹

There is *some* evidence that there is a correlation between happiness on the one hand and, on the other hand, high intelligence and an ability to solve theoretical problems (0,30 according to an influential study),¹² but here we are within the normal range and the important thing is to be, absolutely speaking, intelligent rather than stupid. It is natural to assume that this is important since, in a competitive society, you do not fare well if you drop below a critical line, taken for granted at work-places and in social life. This conjecture is indirectly corroborated by the fact that people who are intellectually so retarded that they are not even *aware* of their special situation, and hence do not strive for a position in our highly competitive society, tend to live lives that are even *happier* than lives in general.¹³ And there is no indication that, the *more* intelligent you are, the happier. I have not come across any evidence that *extremely* high intelligence in boys or girls disposes for happiness. Of course, if you are mentally retarded, then you are vulnerable. And even if you are just not as clever as other people, you are open to abuse of all kinds. Furthermore, there seems to be some (amazingly small) correlation between intelligence and the capacity to avoid reasoning biases.¹⁴ This, again, makes for vulnerability in a competitive society. So what we can conclude from these studies seems to be that it might be a good idea, at least in a highly competitive society, to level out differences in intelligence, and to do so by trying to raise the intelligence of people who are at the lower end of the continuum, but this is not enhancement on my narrow definition of the notion.

⁷ Even in D. Kahneman, P.P. Wakker & R. Sarin. 1997. Back to Bentham? Explorations of Experienced Utility. *QJE*; 112: 375–405, perhaps the most theoretically advanced discussion of the relation between classical hedonistic utilitarianism and empirical happiness studies, the problem is simply glossed over. For a suggested solution to the problem of the hedonic unit, see: T. Tännsjö. 1998. *Hedonistic Utilitarianism*. Edinburgh: Edinburgh University Press/Columbia University Press.

⁸ R. Veenhoven. 1984. *Conditions of Happiness*. Dordrecht: Reidel; & M. Argyle. 2001 *The Psychology of Happiness*. 2nd edn. London: Routledge.

⁹ E. Diener & R.E. Lucas. 1999. Personality and Subjective Well-being. In *Well-being: The Foundations of Hedonic Psychology*. D. Kahneman, E. Diener & N. Schwarz, eds. New York: Russell Sage: 213–229; F. Heylighen & J. Bernheim. Global Progress I: Empirical Evidence of Ongoing Increase in Quality-of-Life. *Journal of Happiness Studies* 2000; 1: 323–349; M.E.P. Seligman. 2002. *Authentic Happiness: Using the New Positive Psychology to Realize Your Potential Deep Fulfillment*. London: Brealey; Veenhoven, *op. cit.* note 8.

¹⁰ Veenhoven, *op. cit.* note 8; M. Argyle, *op. cit.* note 8; D. Goleman. 1996 *Emotional Intelligence: Why it can matter More Than IQ*. London: Bloomsbury.

¹¹ See an interview with an expert in the field, psychologist Per Gjerde, published on the net. Available at <http://www.ucsc.edu/oncampus/currents/98-99/11-16/depression.htm> [Accessed 22 May 2006].

¹² E. Diener & F. Fujita. 1995. Resources, Personal Strivings, and Subjective Well-Being: A Nomothetic and Idiographic Approach. *J Pers Soc Psychol* 1995; 68: 926–935.

¹³ A. Verri et al. An Italian-Australian Comparison of Quality of Life among People with Intellectual Disability Living in the Community. *Journal of Intellectual Disability Research* 1999; 43: 513–522.

¹⁴ K.E. Stanovich & R.F. West. On the Relative Independence of Thinking Biases and Cognitive Ability. *J Pers Soc Psychol* 2008; 94: 672–695.

It might be tempting to argue in the following manner. Consider a simple cognitive activity like playing chess. Surely, an enhanced ability to play chess will give someone with a keen interest in the game more fulfilment because he will be able to explore more of the possibilities of the game. The same applies to somebody with a keen interest in poetry, maths or whatever. But the evidence is against this speculation. One of the studies on the relation between intelligence and happiness¹⁵ suggests an explanation for this remarkable fact. It is more important to have realistic ambitions and a fit between intelligence and the tasks we set ourselves, than high intelligence as such. A person who is dissatisfied with his or her skill at playing chess or understanding poetry will probably stay dissatisfied at a 'higher level', after having his or her cognitive capacities enhanced.

So if we want to become happier, we should focus on happiness as such, not on intelligence. Mood enhancement would obviously have a direct and positive effect on our level of happiness. Moreover, if we want to become happier we should try to become more *modest*, we should train to adjust our ambitions to the intellectual resources we actually hold. Our intellectual resources as such make no difference to our hedonistic level.

If we do not focus, then, on IQ, but rather on such things as new senses, would this be more promising for the hypothesis that cognitive enhancement gives rise to happiness? Suppose we could see ultraviolet colours, listen to very low or high notes, would this make us any happier?

Here we cannot rely on any empirical evidence. We must speculate. And it strikes me as plausible to argue in the following manner. All this would certainly provide us with new possible sources of (aesthetic) pleasures, but this does not mean that we would be any happier. A plausible conjecture is that, in order to live a satisfactory aesthetic life, we need to have *enough* sources of aesthetic pleasure. But we already do, unless we are seriously disabled. Here it is important to ponder the result from empirical studies of people who lose capacities they once had. We tend to adjust to disabilities, unless they are painful, and we soon return to a point close to our previous level of happiness.¹⁶ In particular, the complete loss of a *sense*, such as

sight or hearing, doesn't as such seem to make people *any* less happy.¹⁷ So why would not the same thing happen when we are given additional senses; after having enjoyed the use of them for a time, we return to our standard hedonic level.

3. HEDONISM – THE REFINED VERSION¹⁸

According to Mill, it is better to be a dissatisfied Socrates than a satisfied fool. One objection that arises immediately is: How does Mill know this? His answer is a certain test:

On a question which is the best worth having of two pleasures, or which of the two modes of existence is the most grateful to the feelings, apart from its moral attributes and from its consequences, the judgment of those who are qualified by knowledge of both, or, if they differ, that of the majority among them, must be admitted as final.¹⁹

This test is intended to enable us to decide whether a satisfaction is of a high or a low quality: consult an individual who has experienced both, he said, and accept the verdict of this person. A person who has both read Ovid and seen the porno movies on cable television can tell what kind of erotic art engenders the highest form (if any) of pleasure. We ought to go for the higher quality rather than the lower one, at least if they are equally pleasant.

But can the test really guide us, one may wonder. What if two persons reach conflicting verdicts on a certain kind of pleasure, which of them are we to trust? In particular, how do we know that they have had the *same* experience? The same stimulus can have produced different reactions in them. Moreover, even if the test works, why abide by it? Why search the higher pleasure rather than the lower one, if the lower *feels* more satisfactory? I have my own sceptical suspicions here, but I will not discuss whether

¹⁵ Diener & Fujita, *op. cit.* note 12.

¹⁶ S. Frederick & G. Loewenstein. 1999. Hedonic adaptation. In *Well-being: The Foundations of Hedonic Psychology*. D. Kahneman, E. Diener & N. Schwartz, eds. New York: Russell Sage: 302–329; C. Kim-Prieto et al. Integrating the Diverse Definitions of Happiness: A Time-Sequential Framework of Subjective Well-being. *Journal of Happiness Studies*, 2005; 6: 261–300; & K.S. Sheldon & S. Lyubomirsky. Achieving Sustainable Gains in Happiness: Change Your Actions, Not Your Circumstances. *Journal of Happiness Studies* 2006; 7: 55–86.

¹⁷ J.J. Kleinschmidt et al. The Role of Control in Depression, Anxiety, and Life Satisfaction among Visually Impaired Older People. *Journal of Health Education* 1995; 26: 26–36; M. Werngren-Elgstrom, O. Dehlin & S. Iwarsson. Aspects of Quality of Life in Persons with Pre-lingual Deafness Using Sign Language: Subjective Wellbeing, Ill-health Symptoms, Depression and Insomnia. *Archives of Gerontology and Geriatrics* 2003; 37: 13–24.

¹⁸ In this paragraph I draw to some extent on things I have published elsewhere, e.g. T. Tännsjö. Narrow Hedonism. *Journal of Happiness Studies*, 2007; 8: 79–98.

¹⁹ J.S. Mill, 1886/1962. Utilitarianism. In *Utilitarianism*. Mary Warnock, ed. London & Glasgow: Collins/Fontana: 260.

Mill's view is plausible or not. I want to see what conclusion we would reach, if we were to apply it to the question of whether enhanced cognitive capacities would make our lives go better. In order to answer this question we must be clearer about what Mill's view really amounts to. He claims that aside from the hedonic *level* of a mental state (our experience at a certain time) it has a certain *quality*. Some mental states are of a 'higher' quality than others. What are we to make of this?

I think there are at least three possible approaches we could take here, when we try to make sense of Mill. We can focus on the *object* of some aspect of the state, or on the *causal origin* of some aspect of the state (what 'faculties' are involved in producing it, as he often puts it), or on some *felt quality* of some aspect of the state.

Let us think of an example. Suppose I have a good dinner, drink some good wine, take part in a lively discussion, and then go to the opera. I listen to a superb performance of Figaro. I'm enjoying myself. My hedonic state is almost perfect, near +100, say. What kind of pleasure is this? Is it a high or a low one?

If we focus on the content of aspects of my experience we will have to admit that we are confronting a mixture of many such aspects. Suppose I take pleasure *in* the singing of Figaro. My taking pleasure in his singing certainly means that, in Mill's terms, my 'higher faculties' are engaged. I use my ear for music. Does this mean that my hedonic status counts for a higher one? This may seem so, but wait a minute, I also feel sexually aroused *by* viewing the deep décolletage of the singer who is creating Suzanna. Here my 'lower faculties' are indeed engaged. Does this render my total hedonic state an unworthy one? Moreover, it is no doubt that a factor contributing causally to my being at such a high level of subjective well-being now, at the opera, is my having had the superb dinner, the good wine, and the good conversation an hour ago. Does that disqualify my present hedonic experience as a 'low' one?

Could Mill say that *each* such aspect of my total experiential situation contributes *its* share to be taken into account when we try to assess my total situation? I doubt that there is any way of making sense of this complex mathematics.

Could he rather take a strict view and claim that, unless my experience at the opera, with respect to *all* its content, is a 'clean' one, it is of a low quality? To disqualify it, it is sufficient if some lower faculty has been engaged?

Or, should Mill perhaps be taken to hold a more lenient view admitting that, if *some* aspect of my experience is, with respect to content, of an aesthetic kind, engaging my higher faculties, then my entire experience counts as a high pleasure?

I don't think there exists any answer to the question of how Mill is best interpreted. He seems not to distinguish between the various different possibilities. This is of little importance in the present context, however. Here we can simply query whether enhancement of our cognitive capacities would make our lives go better in *any* of the possible ways we have here distinguished. Would enhanced cognitive capacities (including the addition of new senses) improve the quality of my life? This is doubtful. The faculties we all have, unless we are severely mentally retarded or suffer from severe senile dementia, seem to be sufficient for us to enjoy higher pleasures just as well as lower ones. And this is true with respect to the origin of our pleasures, as well as to which faculties we engage (we have both lower and higher ones at our disposal), and to the felt quality of various different aspects of our total experience at a certain time.

It might be objected that, if we were provided with more intelligence, new senses, and so forth, we might be able to enjoy more complex pieces of art and to solve more complex intellectual problems; gaining pleasure from doing this would count as living a better life than deriving our pleasures from more simplistic kinds of artistic and scientific endeavours. But this would not count as experiencing higher pleasures according to all of the interpretations of Mill. Certainly, this would not involve any higher *faculties* than the ones we use now. And it is far from certain that the felt quality of the pleasure we derive from solving more difficult problems is any different from the felt quality of the pleasure we gain from solving simpler problems – provided the challenge to our understanding is the same. Remember that the crucial thing to our happiness has been observed to be a good fit between our intellectual capacity and the kind of tasks we set ourselves.

But certainly, the causal origin of the felt pleasure would be different. It would be derived from the solution of a difficult problem rather than from the solution of a simple one. Once again, however, it is hard to see why this should matter to the quality of the felt well-being.

One may suspect that raising our intelligence is a way of *directing* our interest towards higher qualities rather than lower ones. In that case, cognitive enhancement would direct us into a more worthy life-style, on Mill's account. However, the result could equally well be that people keep the direction their lives already have, using their enhanced intelligence to provide more time for doing what they like most. Some would go on with their attempts at scientific and artistic achievements, while others would go on with their more vegetative lifestyles, leading a 'good life' with good wines, good food, much leisure time, and a rich sexual life. Yet others, who live in

depravity, would find new and refined ways of seeking sophisticated pleasure out of their sadistic cravings.

The upshot of this, then, seems to be that we are not on firm ground if we want to claim that cognitive enhancement would provide us with better lives, when the matter is judged from the point of view of J.S. Mill's qualified version of hedonism.

4. PREFERENTIALISM

If cognitive enhancement doesn't seem to improve our hedonic level, it might be thought that at least from the point of view of a desire-satisfaction theory (what I will call preferentialism) cognitive enhancement may seem more promising. Couldn't one argue that since cognitive enhancement would improve instrumental rationality, it would mean enhanced desire-satisfaction? Couldn't one plausible claim be, then, that high intelligence is, in Rawls's sense, a primary good? I think here of a good that will enable one to achieve more of what one wants, whatever one wants (and in addition a good such that the more of it one has, the better able one will be able to achieve what one wants).²⁰

In order to be able to assess this claim we need to look more carefully into what kind of view preferentialism is. I have discussed this at length elsewhere²¹ so I will be brief. In its most plausible interpretation, preferentialism states that what makes our lives go well is our having our *intrinsic* desires satisfied. The more they are satisfied, the better. Some may want to add even further conditions, for example a condition to the effect that the relevant desires are only the ones that can resist cognitive therapy including the knowledge about how we have acquired them, but we need not enter into complications such as these in the present context. For even the acknowledgment that the desires must be intrinsic is enough to cast doubt upon the argument to the effect that cognitive enhancement, producing enhanced instrumental rationality, will lead to enhanced satisfaction of intrinsic desires. As a matter of fact, preferentialism is extensionally equivalent either to hedonism (for some people) or to perfectionism (of a kind to be discussed in the next section, to other people). What else can people desire, for their own sakes, other than happiness, knowledge, friendship, and so forth? In the next section I will discuss items such as knowledge and friendship. Let me here just note that, to those who desire happiness for its own sake, the hedonistic paradox is relevant, if preferentialism is

correct. These people may well desire happiness for its own sake, but it is not a good idea in general to aim at happiness in your life, if you want to obtain it. But all this helps, if preferentialism is correct, to explain why intelligent people, exhibiting instrumental rationality, are not any happier, than less intelligent ones. These people are rational with respect to all sorts of desires and preferences they happen to hold, i.e. they succeed in 'getting what they want'; but the fact that they get what they want does not mean that they succeed in satisfying their *intrinsic* desire for happiness.

It should be noted that many so-called happiness studies are cast in terms of satisfaction rather than felt happiness. To the extent that satisfaction and felt happiness come to the same thing, as they do for people who desire happiness for its own sake, we have again an explanation why intelligent people are not any happier (or any more satisfied) than less intelligent ones. The problem, once again, is the misfit between capacities and aspirations. People who set themselves tasks they cannot accomplish will stay unhappy (dissatisfied), no matter how intelligent they become.

What if there are people who have an intrinsic desire to be as smart as possible, the smarter the better? Would not cognitive enhancement help them to satisfy this desire?

Of course it would, but it is unlikely that there are many people who hold such an intrinsic desire. Many intellectuals want to become smarter because they believe that, if they were smarter, they would be more successful. But that does not mean that they have an *intrinsic* desire to be smart. Moreover, even if some do, it is not likely that this (silly) desire will survive cognitive enhancement. When people actually get smarter, they realize that being smart is not what life is ultimately about!

5. THE OBJECTIVE LIST VIEW

The main rival candidate to hedonism is some idea of an *objective* list of items worthy of our pursuit. Here is an example of such a view, put forward already by Aristotle, according to which a happy life is constituted by:

... good birth, plenty of friends, good friends, wealth, good children, plenty of children, a happy old age, also such bodily excellences as health, beauty, strength, large stature, athletic powers, together with fame, honour, good luck, and excellence.²²

²⁰ I owe this objection to an anonymous reviewer for the journal.

²¹ See Tännsjö, *op. cit.* note 7, ch. 6.

²² Aristotle. 1985. *Rhetoric*. Trans. W. Rhys Roberts. In *The Complete Works of Aristotle*. Vol. 2. Jonathan Barnes, ed. Princeton: Princeton University Press: 1360b; 19–24.

And here is a more recent one put forward by Derek Parfit:

According to this theory, certain things are good or bad for people, whether or not these people would want to have the good things, or to avoid the bad things. The good things might include moral goodness, rational activity, the development of one's abilities, having children and being a good parent, knowledge, and the awareness of true beauty. The bad things might include being betrayed, manipulated, slandered, deceived, being deprived of liberty or dignity, and enjoying either sadistic pleasure, or aesthetic pleasure in what is in fact ugly.²³

Suppose a good life is characterized, not only by feeling fine inside, but also, and primarily, by having accomplished all sorts of achievements. Would that make any difference to the assessment of cognitive enhancement?

This depends on how we conceive of the items on the objective list. Suppose there is one value that is *essential* to a good life; and suppose that this unique value is *knowledge*. Then it might seem obvious that cognitive enhancement would make our lives go better. At least cognitive enhancement would render us more capable of gaining more knowledge; and it is also likely that, to some extent at least, we would use this capacity actually to gain new knowledge that we could not have reached had we not been enhanced. I will discuss this possibility in the next section. I now just put it to one side. A reason to do so, as we will see, is that it is not very plausible.

Few who have defended the objective list view, and who have thus been dissatisfied with hedonism, have thought that there is any such unique value on the list, let alone that knowledge should be such an essential value to a good life. Of course, most adherents of the view would claim that a life completely without knowledge (a life where we are completely deluded about our situation) would not be a good life. However, our actual capacities are sufficient to guarantee that this is not so. But then the most plausible understanding of the objective list view is that there is no item on it, in particular, that is essential to a good life.

When I say that our actual intellectual capacities are sufficient to see to it that we do not live our lives in complete delusion, I intend this in a mundane sense. When people like the members of the Ekdal family in Ibsen's play *The Wild Duck* live in a 'life-lie', this is due not to lack of intelligence but rather to bad character traits. This is not to say, then, that we have enough

intelligence to meet the challenge from philosophical scepticism. However, it is not likely that cognitive enhancement would help us to meet that sort of challenge. Our very position in the universe is such that we have to live with some basic uncertainty as to the true nature of the world we inhabit.

Furthermore, the most plausible idea is not that one should *maximize* any item on the list, or even that we should go for an optimum. We should rather seek lives that include some of the items, where we strike a reasonable balance between them: if we have children, we devote much (but not all) of our time to them, and we combine this with something else, moral goodness, say, or a love for what is truly beautiful.

Cognitive enhancement would perhaps make us capable, then, of developing one of the items on the list further (we would become able to gain more true beliefs), but this does not as such mean that our life would become any better on the standard interpretation of the objective list view. With less intelligence we can instead choose to develop some other item on the list more fully. Whatever our intellectual and emotional *assets*, it takes time and effort to use them to develop any item in particular on the list. This means that there is competition between them. And if we develop one of them to the exclusion of the others, there is a risk that we will live a narrower and, on the whole, less valuable life than if we went for more items on the list. Perhaps there is even a risk here with intellectual endeavours. It may turn out that more intelligent people are less prone to having children, caring for them, or devoting their lives to a good cause. If this is true, cognitive enhancement may produce, on the objective list understanding of what it means for a life to go well, *worse* lives. My point is not that cognitive enhancement *will* lead to such results, it is only that, for all we know, this development is as likely to come about as not.

What about an improved capacity for language learning, then?²⁴ Would that help us to lead better lives? This is not likely. We are already extremely good at picking up a first language. Our lives would not be better if we could do that even earlier in our lives. We are also quite capable of learning a second language, which can function as a *lingua franca*. If we hold some special interest for a particular culture, and want to invest much time on going deeply into it, then we can with some effort learn the relevant – third – language. If we could do this *easily*, we would be robbed of a possible achievement! It is true, though, that we cannot learn very many (all) languages. But even if we could do this, we would still

²³ D Parfit. 1984/1991. *Reasons and Persons*. Oxford: Clarendon Press: 499.

²⁴ This has been suggested to me as a promising candidate for cognitive enhancement by an anonymous reviewer for the journal.

not individually have time to go deeply into all cultures. And the fact that there are good translations between the literature in different languages is enough to give us the best of world literature. Generally speaking, making life easier is not tantamount to making life better.

If all this is true, why are couples concerned when Prenatal Genetic Diagnosis suggests the child will have IQ detriments? Why, if not because we think they believe that the child will get less of life's bounty?²⁵

Well, not all couples *are* concerned when they receive this message. Many are pleased to have a child with Down's syndrome, knowing that such a child, if taken well care of, is likely to be a happy child. But certainly, many are concerned and many go for abortion. I submit, however, that the best explanation, for this obsession with intelligence is not that people believe that intelligence as such makes life worth living. Rather, the explanation is that they see high intelligence in general, and higher intelligence than on average in particular, as a means to all sorts of good things in life. They seek *positional* advantages for their child. This may be a rational thing to do, in the individual case, irrespective of whether other people do it, but if everyone seeks such an advantage, then no one will obtain it.

To be smarter than other people is indeed an asset in many situations. Here lies a problem with genetic diagnosis and abortion. We seem to face a social dilemma, if people are free to use these techniques as they see fit. Here successful individual rationality transforms into collective stupidity. This may be seen as an argument why society should take control of these techniques and use them to level out differences between people with respect to such things as intelligence. However, there are also strong arguments in favour of keeping the decision about the use of these techniques in the hands of prospective parents, so perhaps this kind of collective irrationality is something with which we just have to live. I will not pursue this theme any further in the present context.

6. PERFECTIONISM

A caveat is in place here. I have admitted that there is a possible version of the objective list view according to which we can improve the quality of our lives if we become more intelligent. This is the version according to which we should indeed try to maximize the achievements with respect to each item on the list or, when in order to develop one we have to let another one stand back, we

should go for an optimal result. Or, most typically, a perfectionist version of the objective list view, where one item, intellectual achievement, is held to be more important than all the rest. I now turn to this view.

In a special interpretation of Aristotle, this was his view. He famously claimed that a contemplative life was superior for man. It does not follow from this that, the more ambitious speculative tasks we set ourselves and solve, the better our lives are, but this may very well have been his view. Anyway, this is the view I now want to consider. Why should we believe this view?

Aristotle gave an argument in defence of the view that a contemplative life is superior, at least for man. This is how he states it:

Moreover, the rule . . . will apply here . . . that what is best and pleasantest for each creature is that which intimately belongs to it. Applying it, we shall conclude that the life of the intellect is the best and pleasantest for man, because the intellect more than anything else *is* the man.²⁶

In order to make sense, this argument presupposes that Aristotle's essentialism is correct. The argument presupposes not only that humans are *special* in that they have an intellect. Humans may be special also in other senses; for example, humans may be special in the sense that only humans are characterized by the fact that they are featherless and walk on two feet. This does not mean that being featherless and walking on two feet makes life for humans go well. Aristotle's point is that having an intellect is an *essential* characteristic of human beings. We can lose our legs and still be human but we cannot lose our intellect and still be human. I will not question the essentialism here, even though I am sceptical about it, but only note that it implies that some people, who are severely mentally retarded or who are suffering from severe senile dementia, are not human beings. I do want to question the step, however, from the putative fact that having an intellect makes us human to the conclusion that exercise of the intellect is more valuable than the exercise of some other capacity which we share with creatures who are not human (and with people who are severely mentally retarded or demented), such as the capacity for feeling pleasure. The argument instantiates what one could call evaluative speciesism. It is not speciesist in the sense that humans are being favoured according to the argument over non-humans (or super-humans), but it is speciesist in the sense that what, according to the argument, is an essential characteristic of each species is also taken, for

²⁵ I owe this objection to an anonymous reviewer for the journal.

²⁶ Aristotle. 1953. *Ethics. The Ethics of Aristotle. The Nicomachean Ethics*. Trans. J.A.K. Thomson. Harmondsworth: Penguin: 305.

this very reason, to be the most important source of value for individuals belonging to the species in question.

Why should we believe that? If pleasure is good for the demented and for mammals other than us, why should we not believe that it is good for us humans as well? And if there exist super-humans, who possess an intellect, but possess it only incidentally, why should not the exercise of it be just as good for them as it is for us? The argument is not convincing.

However, even a poor argument may have a true conclusion. Is this so with Aristotle's argument? No, it is not. The perfectionist ideal he expresses in the quoted passage, under this interpretation of his notion of the good life, is *morally* repugnant. It reflects a truly snobbish view of the good life. Moreover, it doesn't sit well with the more common-sense views Aristotle expresses otherwise, for example in the list quoted earlier in this article (from his *Rhetoric*). Note also that this is only one possible interpretation of the argument. When Aristotle states that the life of the intellect is superior he adds that it is also 'pleasantest' for man. This could be taken to be a mere empirical hypothesis (now falsified by happiness studies) to the effect that intellectual tasks make humans happier than other tasks. This view is false but it is not morally repugnant.

7. ENHANCED PSYCHOLOGICAL CONTINUITY IN OUR LIVES

We all seem to hold a special concern for our own future. We do not want to die, at least not if we live good lives. We think that if something terrible is going to happen in the future, it had better to happen to a stranger rather than to ourselves. Derek Parfit has conjectured that, in our special concern for our own future, what really matters to us is not personal identity, but a psychological relation involving connectedness in terms of memories and character traits between times in our lives, and also continuity over our entire lives in these respects. Personal identity is a matter of all or nothing, and for most parts of our lives, we retain it, irrespective of how we conceive of it. But psychological continuity and connectedness is something that obtains in degrees. Could an argument be made, therefore, that if we enhance our cognitive capacities, in particular our capacity for remembering things, our lives could become more closely connected and our psychological continuity thus enhanced?

On the face of it, this claim seems very plausible. So let us see if it can work as an argument for the direct importance to us of cognitive enhancement.

The notion of something 'mattering' to us may be understood in two very different ways. On Parfit's understanding of it, it is given its meaning with reference to a normative theory of rational self-interest. This theory claims that '... for each person, there is one supremely rational ultimate aim: that things go as well as possible for himself'.²⁷ And he goes on to explain:

A rational agent should both have, and be ultimately governed by, a temporally neutral bias in his own favour.²⁸

The reference here to a 'rational' aim, and a 'rational agent' is far from clear. Is it merely a way of stipulating what we should mean by this word? I think not. Parfit wants to discuss a normative theory. Are there certain norms of rationality that could be at variance with other kinds of norms, such as moral ones? While reading Parfit one gets the impression that this is his belief. But this is a very confused view. If there are norms with their source in rationality, and other norms with their source in morality, when they come into conflict we must make up our minds which one gives the right direction. We have to settle for one normative theory. It doesn't matter whether we call it moral or something else, but if it is *true*, then the conflicting theory must be false. And why then not call it a moral theory too?

On this understanding of the normative landscape, we have to conclude that Parfit's theory of self interest is a version of ethical egoism. But this renders the discussion less interesting, at least this is *my* diagnosis, since I have no inclination to accept ethical egoism (in the competition with utilitarianism, and other basic moral theories).

However, there is another way of understanding the talk about what 'matters' to us. I think of an interpretation in terms of what, as a general psychological fact, we are concerned with. We do have a special concern for our own future well-being, to be sure. We do not want to be hurt in the future. If someone is going to suffer, I would prefer it not to be me or someone I love. Even if this special concern does not derive any support from our moral theorizing, it exists as a brute psychological fact.

But what fact is this, if we want to be more precise? Is it a concern relating to my identity, or to the facts that, according to Parfit, make up our identity?

The question is meaningful, since the facts that make up our identity can also obtain in the absence of personal identity. This is so because, according to Parfit, these facts are only necessary to personal identity: they are not sufficient. Personal identity requires something more, to

²⁷ Parfit, *op. cit.* note 23, p. 306.

²⁸ *Ibid.*

wit, that the relation of continuity is instantiated in a unique manner. If somehow it is possible to split my mental flow, through tele-transportation, say, or by just cutting my brain into two halves and having them grafted onto two different bodies, very similar to mine, then we would have two individuals having all my memories, both claiming to be me. But both can't be me, according to Parfit, and I tend to agree.

What we would say, in this situation, I conjecture, is that I have not survived. Instead there are *two* individuals, distinct from me, who are psychologically continuous with me. Does this mean that there is any ground for complaint? No, according to Parfit. To use his words, how can a double success be a failure? But this answer is not plausible. A double success is indeed a failure.

Remember that what we are now speculating about are plain psychological facts. What do we care about, in the special way, when we care about our future?

I think it is indeed a matter of our own existence. So if it is correct that, in division, I cease to exist, and I realize this, then I will fear division just as much as extinction. Division *is* extinction. It may be some consolation, of course, that there is someone there prepared to take on my obligations, continuing my projects, and even better to have two persons doing this, but this has nothing to do with my special concern for my *own* future.

Is it rational to have this kind of special concern for one's own future? It may be that this concern is irrational in the sense that it rests on a false understanding of my situation. I may believe that I have a kind of Cartesian ego underlying my personal identity, and my concern may be for retaining this relation to it. And I may believe that only one person can retain this relation and therefore believe that, in division I lose it (and this is what it means for me to cease to exist). Perhaps there are no Cartesian egos and my special concern is hence irrational. However, irrational or not, this concern is a brute fact. And there is no corresponding special concern for psychological continuity with someone who is not *me*.

Could cognitive enhancement help us to get rid of this irrationality? This is not likely. The reason we stick to the belief in Cartesian egos is not that we are stupid. We stick to it because we do not want to give it up. Perhaps cognitive therapy could help us to get rid of it, but not cognitive enhancement.

Now, our (irrational) concern for the preservation of our personal identity does not show that, *within* our lives, closer psychological continuity would be something we could and should welcome. Would we appreciate if we could remember more clearly what has happened in our lives, all the way back to early childhood? A capacity to do so could indeed be the result of some kind of

intervention intended to enhance some of our cognitive capabilities.

Such an improvement of our memory would hardly be for the better. We do have a nice way of selecting what to remember and what to forget, which sustains our self-esteem. And, unless we suffer from dementia, we seem to remember enough to be able to conduct our lives and retain our sense of identity. One must fear that, if our memory were to be enhanced to a level that goes beyond what anyone now is enjoying, then this individual would develop severe problems with respect to self-esteem. He or she would be stuck with all sorts of memories of humiliations and shortcomings.

But could we not add also a capacity, at will, to forget?

Suppose we could do that. I still doubt that this capacity would be of any avail. When we are resentful we do not want to forget our humiliations. Quite to the contrary, we indulge in them. So even if we had a capacity to get rid of certain unpleasant memories at will, we would not take advantage of this capacity. We would not erase those bad memories but rather cherish them. What we need is *poor* memory; we need to be *liberated* of some of our memories of the past. But bad memory is not something people are prepared deliberately to seek.

My point is not that our forgetting rates are optimal. I do believe, however, that we would do worse than we do now, if we could decide deliberately about what to keep and what to forget. It is no accident that oblivion has not been the goal of the treatment of post-traumatic stress. In standard treatment, the goal has rather been to change the *attitude* to the traumatic memories, and the means to this goal is in effect to return to the painful memories, over and over again.²⁹ The situation may change. There is now research into the possibility of erasing or dimming bad memories.³⁰ However, my conjecture is that people will be willing to pay some price (not any price, though) for keeping their bad memories. But we must wait and see about that until these new techniques have been established as an alternative to the more traditional approaches.

8. CONCLUSION

Is there any direct gain to be made by having one's cognitive capacities enhanced? Would this as such make our lives go better?

²⁹ See for example D.L. Delahanty et al. Management of Posttraumatic Stress Disorder: Diagnostic and Therapeutic Issues. *JCP* 1999; 60: 33–38.

³⁰ The Dana Foundation, for example, provides some information about this at their website <http://www.dana.org/news/cerebrum/detail.aspx?id=76&p=5> [Accessed 15 September 2008].

No, I have argued, or, at least, there is no evidence available to the effect that it would. And it doesn't matter whether we consider the question from a narrow hedonistic perspective, from a qualified hedonistic perspective of J.S. Mill's kind, from the perspective of a preferentialist view, or if we adopt some objective list view of what makes a life go well. Finally, there doesn't seem to exist any good reasons to do with our sense of identity to enhance even our capacity to remember. Only if we adopt an extremely perfectionist view of the good life are we allowed to conclude that cognitive enhancement is likely to make our lives go any better. Such a view, I

have claimed, is not only implausible, it is also morally repugnant.

So, in the final analysis, it is highly doubtful that cognitive enhancement as such would make our lives go any better.

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