

Lecture Five

Neuroscience, Happiness, and Positive Illusions

“BUDDHISTS LEAD SCIENTISTS TO ‘SEAT OF HAPPINESS’”

The latter is my favorite extravagant headline from among numerous hyperbolic ones that appeared in the third week of May 2003. This headline and associated press releases, some that implied that I had discovered the “seat of happiness,” gave rise to my “Warhol minutes.” For the youngsters in the audience, the late “pop culture” icon Andy Warhol promised everyone fifteen minutes of fame¹ These were mine.

The source of the media frenzy was an article I wrote that appeared that week in *The New Scientist* magazine. “The Colour of Happiness,” was the editor’s choice for the title of the piece in which I reported on two preliminary studies on one meditating monk that showed a remarkably frisky left pre-frontal cortex (LPFC), a site well correlated with reports of positive mood, as well as a certain immunity to the normal startle response (Flanagan, 2003b).² I described these preliminary results as ‘tastalising’, and I said that we were positioned to test ‘the hypothesis’ that long-term meditative practice might produce happiness. This is very different, of course, from saying that studies on Buddhist practitioners had, in fact, led scientists to the Holy Grail of the ‘seat of happiness!’ But that was the conclusion that almost every radio and TV interview insisted on. Despite my protestations *that* is what I had discovered, or if not me then researchers who I knew well! My job was to explain where it was, why *all* Buddhist practitioners had it, and how the rest of us could activate it *immediately*.

¹ One might pause to wonder why do we call dead people ‘late.’ What exactly are dead people late for?

² News agencies such as Reuters, the BBC, and Canadian and Australian Public Radio were the first out of the gate with reports on the research, and I did (too) many media interviews. *Dharma Life* magazine, in an amusing headline of its own, called the scientists, Richie Davidson and Paul Ekman, who performed the early studies on the meditating monk, “*Joy Detectives*.”

So now almost three years after my initial article appeared I take a deep breath, and ask: What is ‘true happiness’? What is ‘true happiness’ like phenomenologically? How, if there is such a thing, do we measure or assess it? What are its causes and constituents? Can we judge a person to be truly happy if she is happy in virtue of having certain false beliefs, what psychologists call ‘positive illusions’? These matters are the focus of tonight’s lecture

Three Kinds of Happiness

Happiness, however one conceives it, is some sort of state or condition with causes and constituents.³ Here are three kinds of happiness scientists study, which they and philosophers such as myself are very interested in: **Happiness**^{hedonic}, **Happiness**^{subjective-wellbeing},

Happiness^{eudaimonistic}.

- **“Hedonics”** is “the branch of psychology that deals with pleasurable or unpleasurable states of consciousness.” In an essay entitled “Objective Happiness,” the psychologist Daniel Kahneman, a Nobel prize winner for his work on ‘irrationality’ in economic choice, writes that an “assessment of a person’s objective happiness over a period of time can be derived from a dense record of the quality of experience at each point-instant utility. Logical analysis suggests that episodes should be evaluated by the temporal integral of instant utility. Objective happiness is defined by the average of utility over a period of time” (1999, p. 3).

In his recent book, *The Singularity is Near* (2004), Ray Kurzweil says that we are just a few years away from reading our e-mail using saccades to turn on and scroll through computer

³ In a wonderful new book, soon-to-be-published, Matthieu Ricard, the meditating monk whose brain caused the media stir that gave rise to my Warhol minutes, calls happiness life’s “most important **skill**.” *Happiness: A Guide to Developing Life’s Most Important Skill* (Little Brown, soon 2006). This idea that happiness is a skill rather than a state goes back to Aristotle. Aristotle is often interpreted as suggesting that happiness *comes* from skillful activity (in which case it could be interpreted as a state), but he is just as reasonably read as suggesting that what he calls *eudaimonia* is the skillful activity of living well.

screens embedded in nanobots in contacts or eyeglasses. So imagine a variation on the actual methods or devices that Kahneman uses and that require self-reports or button pressing every 10 seconds or so. Call my device a “hedonometer” (patent-pending), and imagine the nanobot is embedded in glasses or contact lens or on the eye-lashes. Just as we learn to use bifocals or progressive lenses, subjects learn, i.e., are trained up, to unconsciously but reliably register by 21 unique saccadic movements instant hedonic utility on a -10 to +10 scale where 0 is neutral. This actually would not be that hard. So suppose we want to know how happy Michael Arbib is over the course of the last five minutes, or today, or this week. We simply read off the computational measure of objective happiness over the relevant interval. Research of this sort is being done. When last I heard, Kahnemann’s subjects had produced on the order of a million data points.

One might worry about measures of objective happiness with the hedonometer for a host of reasons. The general thrust of objections would be that the hedonometer doesn’t measure what we want to measure. Some such objections would be methodological/epistemological: (i) There is an *interference effect* caused by the need to consciously interrupt ongoing experiences (my hedonometer helps here since we learn to unconsciously record instant utility, but still the mind/brain is being asked to do two things at once on-line); (2) Even if the hedonometer does reliably measure average instant utility over an interval it makes temporal assumptions about pleasurable and unpleasurable experience-intervals that are false, specifically, the-units-to-be-assigned-utility-scores are often too short. Why? Because many emotionally salient experiences and episodes have longer than, say, 10sec. durations (notice that the interference effect plus this ‘longer duration’ objection create a connected damaging criticism); (3) Experiences of “Flow,” of ‘being-in-the zone’, are well-documented to contribute to very positive experiences of what is called “subjective well-being” (**SWB**); but “flow experiences” are characterized by a sort of

neutral conscious hedonic tone *while* they are happening (although they get high scores afterwards). According to Csikszentmihali, ‘flow is what happens to and for composers, musicians, athletes, dancers, rock-climbers, mathematicians, and philosophers when what-they-are-engaged in is going well . Flow appears to be the main constituent of ‘enjoyment,’ “although enjoyable experiences are not high in emotion while we are in the zone” (Csikszentmihali, 1997 *Creativity: Flow and the Psychology of Discovery and Invention*, pp. 111). The hedonometer is poorly equipped to capture this (see *Appendix 1* for more on “Flow”). That is, a score of +10 for the previous hour of playing soccer or listening to music or painting or doing philosophy or meditating doesn’t (and shouldn’t produce retroactively scores of +10 for each 10sec. interval over that hour. The reason is principled: each 10 sec. interval was not fused with conscious hedonic tone – although the overall experience was or seems to have been.

Another type of objection is *normative*. Even if the hedonometer reliably measures point-instant utility, humans retrospectively (and quite possibly on-line, in real time) evaluate experiences with standards of what *matters* that override and/or recast instant utility assessments. Norms governing mattering can be defended. Suppose at the end of one day I have an average instant utility score of 7, but suppose that there were two ½ hour periods, during which I experienced bad lower back pain that I scored -9 to -6 over that period, resulting in an average of -8 for that interval. During another ½ period I had great sex with someone I love, same scores but all positive from +6 to +9 for an average of +8 (make the sequence such that the sex occurred first so you can’t complain about a recency effect). At day’s end, I produce a narrative summary of my day. I report satisfaction with the experience with my lover but don’t even mention the backache. A true believer in measuring instant hedonic utility might say that this is due to a familiar bias that leads people – and thus that has led me -- to spin their narratives positively

(‘self-serving bias,’ **SSB**). Whereas the defender of measuring subjective well-being or what is different, *eudaimonistic* well-being, will say that the sexual episode with my lover matters to the overall quality of my life, the backache doesn’t.⁴ There is no mistake. This is, in fact, how the dialectic plays out. I can recommend relevant reading.

- **Subjective Well-Being.** Researchers who favor measuring subjective well-being, **SWB**, over objective hedonic satisfaction think of **SWB** as a (some sort of) function of *{life satisfaction, pleasant emotions, satisfaction with domains such as work and health, feelings of fulfillment and meaning, and low levels of negative emotions}*. Measuring **SWB** (or attempting to) has been the major approach in “Positive Psychology,” over the past thirty years, well before the field was officially baptized as such within the last five years.

Since 1972 a representative sample of Americans have been asked this question by the government (USGSS -- General Social Survey): *"Taken all together, how would you say things are today -- would you say you are very happy, pretty happy, or not too happy?"*

The steady finding is this: 32% very happy; 56% pretty happy; 12% not too happy. Almost everyone reads the relevant self-reports as involving judgments or beliefs about the subject’s overall life, despite the fact that the question specifically asks “how would you say things are *today?*” And almost all books on the topic use the statistics to support the claim that 80%-88% of Americans are happy, SSRI sales, notwithstanding. Well it’s government work, as we say.

⁴ “Mattering” is of course a normative notion. The fact that people apply discount rates to backaches but not to some romantic encounters may not be surprising, or indefensible, but it does seem to employ criteria of “mattering.” But psychologists worry about applying discounts. The self-serving bias (**SSB**), so dubbed because people report, and apparently remember, good things **they do** better than bad things **they do** is worrisome. Unlike the backache-sexual experience with your lover case it does, on most any interpretation, involve self-serving spin and possibly not taking sufficient responsibility for actions one should be taking account of. Thus if we switch the example to two sexual encounters over, say a two day period, one licit and the other illicit, the latter is likely to be discounted and this might easily be construed as problematic since from a moral point of view we might be inclined to say it *should* matter.

Even if we think the answer to the GSS question is some sort of all-things-considered judgment about how my life has gone so far, or seems to be going now, no information is given about what I believe are the causal contributors to my happiness. The GSS question is very different from this question: **How would you rate your satisfaction in these domains ($d_1, d_2 \dots d_n$)?** -- where d is a variable whose subscripted tokens pick out domains that (are thought to) “matter” most in determining overall life satisfaction.⁵ Unlike measurements with the hedonometer, “mattering” is measured. Of course, one may be mistaken.⁶ If there was good scientific evidence that my backache affects my assessment or my overall mood significantly despite my not thinking so, then I make a mistake about the nature, conditions and causes of my state.⁷

Charts such as these are common:

⁵ One issue I should mark here, and which will get a lot of play as I proceed, is this: there is the issue of what in fact matters most to most people and the issue of what *should* matter, which may in fact matter to hardly anyone!

⁶ It has been common for a very long time in epistemology to think that instantaneous state reports are much more reliable than all-things-considered reports over an interval. Descartes’ “cogito” can be read as an instant self-confirming state report, and, in a different conceptual space, the logical positivists loved “protocol sentences” – ‘Lo, red-patch-there-**now**’ – thinking such reports were the rock bottom ground floor for good science.

⁷ Put these issues to one side. There are still some problems with the measurement tools. **SWB** measures typically specify some set of domains ($d_1, d_2 \dots d_n$) as relevant to judgments of **SWB**, but sometimes only ask for an overall score, rather than for scores for each d . Other times scores for each member of the set $D = (d_1, d_2 \dots d_n)$ are given, as well as an overall score. But as I read the literature, the overall satisfaction score is still normally given by the subject. That is, the overall ‘life satisfaction score’ is not derived by weighting and then performing a computation over scores assigned to each domain. More usually, the subject gets to assign all the scores, first the overall life satisfaction score, and then the domain scores. The only exception I see consistently (and mostly in recent literature) is a score more the amount of pleasant experience and the amount of unpleasant ones, where the latter is subtracted from the former and an overall ‘hedonic affect’ score is computed. I may not have studied the matter carefully enough, but my current impression is that the scoring methods are sloppy.

Subjective Well-Being

Table 1

Life Satisfaction of Selected Groups

<u>Positive Groups</u>	<u>Life Satisfaction</u>
Forbe's Richest Americans	5.8
Maasai (East African tribal people)	5.4
Pennsylvania Amish	5.1
Inughit (Northern Greenland)	5.1
American College Students	4.9
Cloistered Nuns (USA)	4.8
Illinois Nurses	4.8
Calcutta Slum Dwellers	4.4
Neutral Point of Scale = 4.0	
<u>Negative Groups (below neutral)</u>	
Calcutta Sex Workers	3.6
Calcutta Homeless	3.2
Mental outpatients entering therapy	2.9
California Homeless	2.8
Mental inpatients (hospitalized)	2.4
Prisoners, newly jailed men in county jail	2.4
Detroit Sex Workers	2.1

Note: Scores potentially range from 1 (Extremely dissatisfied) to 7 (Extremely satisfied)

Calcutta (1-7, 4 is Neutral)

Group	Life Satisf.	Housing Satisf.	Satisf. With Self	Satisf. w Family
Slum Dwellers	4.4	4.1	5.5	6.1
Sex Workers	3.4	4.9	4.9	5.4
Sidewalk Dwellers	2.9	3.8	4.8	4.6

Subjective Well-Being

Table 2

Importance Ratings of Happiness and Other Values

<u>Nation</u>	<u>Happiness</u>	<u>Wealth</u>	<u>Love</u>	<u>Health</u>	<u>Meaning</u>	<u>Attractiveness</u>	<u>Getting to Heaven</u>
OVERALL	8.0	6.8	7.9	7.9	7.3	6.3	6.7
Brazil	8.7	6.9	8.7	8.6	8.3	6.4	7.8
Canada	8.6	7.1	8.6	8.2	8.1	6.3	6.5
Chile	8.6	6.9	8.6	8.1	8.2	5.8	7.8
Portugal	8.6	6.5	8.8	8.6	8.4	5.6	6.4
Australia	8.3	6.5	8.2	7.9	7.6	5.9	6.8
Nepal	8.2	7.2	8.4	8.3	8.3	6.3	7.2
Egypt	8.1	7.6	7.4	8.0	7.1	7.2	7.3
Ghana	8.1	7.1	7.9	8.0	7.2	6.7	8.1
Greece	8.1	6.8	8.3	8.8	8.2	6.1	6.4
Nigeria	8.1	7.4	8.2	8.4	7.1	7.2	8.4
Russia	8.1	7.3	7.9	8.2	7.9	6.9	5.9
Thailand	8.1	7.4	7.4	7.8	7.6	6.4	6.8
USA	8.1	6.7	8.3	7.6	7.6	6.2	7.3
Indonesia	8.0	7.2	7.9	8.0	7.9	6.7	8.2
Poland	8.0	6.8	8.2	8.2	8.1	6.2	7.5
Iran	7.8	7.0	8.1	8.5	7.9	6.6	7.9
South Africa	7.8	6.4	7.6	7.6	7.2	5.5	8.2
Bangladesh	7.7	6.7	7.3	6.6	6.6	6.9	6.8
Germany	7.7	6.8	8.6	8.4	8.0	6.5	5.7
Switzerland	7.6	6.4	8.4	8.3	8.0	6.2	6.1
India	7.5	7.0	7.5	7.8	7.5	5.7	6.6
Kuwait	7.4	7.3	7.8	8.4	7.9	8.1	7.9
Japan	7.4	6.6	7.8	7.8	6.8	5.9	6.1
Uganda	7.4	6.7	8.4	7.4	7.9	7.1	8.0
China	7.3	7.0	7.4	7.8	7.5	6.1	5.0
Malaysia	7.3	6.6	7.2	7.4	7.2	6.5	7.2

Note: Ratings made by college student respondents. Potential responses range from 9 (extremely important) to 1 (Not at all important). Nations shown are selected from the 47 nations that were sampled.

QuickTime™ and a
TIFF (LZW) decompressor
are needed to see this picture.

One might worry about these charts wondering what they, in fact, measure. Suppose that **SWB** scores give information about overall life satisfaction and satisfaction in whatever domains are picked out by psychologists. I have not seen any studies that let subjects determine which domains are to be assigned values. But this means that unless the psychologists are lucky, we can have no real confidence that *matterings* is well-measured. I can make this point about the norms governing *matterings* more clearly by giving two examples:^{8 9}

1. Imagine a Calcutta sex worker who sensibly rates her work as very unsatisfying and means it. But she engages in mindfulness training and learns to apply a large discount rate to her job when assigning an overall value to her **SWB**. Is she under the grip on an illusion or has she simply done something adaptive with how she conceives of what matters to her overall **SWB**? The answer would depend, I think, on having more information than I have given. The point is that one can easily imagine that both discount and value-added strategies are deployed all the time, and that we apply them with some rationality using norms governing what matters (more or less).

⁸ Note in the chart above where Calcutta street dwellers give a very low score to overall life satisfaction with significantly higher (but still low) scores to each of the other domains. What is going on? What is such an overall score even about? Is overall life satisfaction a domain among others, or is it a score based on computing the domain scores, or is it a separate score that subjects are asked to give. There should be a clear answer but I haven't found it in the literature. My surmise is that the subjects give all the scores, that is, as I noted above (footnote #) the 'overall life satisfaction' score is not computed from scores in the domains. So assume that the Calcutta street dwellers were asked to give an overall life satisfaction score. Even so they might not have done that. That is, these individuals might not really be giving an overall satisfaction with life score but, instead be focusing on what it is like to live on the street while discounting the specific domains – all of which are better. i.e., more satisfactory. The same for the sex workers who show a similar pattern of response. It seems to them as if life sucks overall, but if they were to reflect on the domains that matter to them (first, say), they'd see that it sucks less than they are inclined to say without being asked to focus domain-by-domain.

⁹ See, for example, E. Diener & C. Scollon, University of Illinois, "Subjective Well-Being is Desirable But Not the Summum Bonum Aug. 8, 2003: <http://www.tc.umn.edu/~tiberius/workshop.html>). One might regiment the overall score by determining a mathematical function that assigns different values to the different domains – either as assigned by subjects themselves (so family is weighted more than work for some individuals, the reverse for others), or by psychologists who find that some domain, family, say (almost) always outweighs 'work' by some characteristic amount or ratio. What I have in mind here is that even in cases where satisfaction in the two domains of family and work receive identical satisfaction scores, +7 say, we (either the subject or the psychologists) weight the first .6 and the second .4 in determining **SWB**.

2. Suppose, as is true, that I, Owen, give no value to getting to heaven. If I am not asked for an overall **SWB** rating, but instead one is assigned by whatever mathematical function is favored -- suppose it is simply an additive average -- then my score will be lower than the one I would give since the **d**, getting to heaven, isn't something I believe in, care about, etc. It doesn't matter one iota to me. In fact, I feel bad for others that it matters to them, since I consider the possibility delusional.

- **Eudaimonistic happiness** comes in many flavors depending on the normative conception of flourishing in play. One starts with a certain normative conception of what contributes to a truly good life and sees how individuals fare in relation to it or to each component of it. Individual subjects don't choose the domains or the weights assigned to them. The normative conception does all that work. Measures of **EWB** incorporate a large objective component that is different from the objectivity of instant utility measures. **EWB** measures could be wildly divergent from **SWB** scores, as well as from measures of average instant hedonic utility. I'll use an interesting idea from Aristotle to illustrate this point. Suppose a person dies, having lived what subjectively seemed like an excellent life (high **SWB**) and that is so judged by others. At her memorial service this is said. Is this dead person *eudaimon*? Since she is dead one who favors subjective evaluation might say that she **was** *eudaimon*. But since she is dead and no longer a subject of experience she isn't happy or unhappy **now**. Aristotle could agree, but would still say this: We can't even judge whether she **was** *eudaimon*, even supposing she and we have excellent information about her character and her life, until we see how her children and grandchildren turn out! Even if we accept that

Athenians had much more causal power over their kids than we do, Aristotle's point is interesting. The quality of a person's life, whether she was or is *eudaimon*, is not simply a matter of how she feels about herself, nor about how others judge her, it depends in addition on her causal contribution to the quality of the character and lives of the other persons she is at least partly responsible for creating. Karma!

One might think that Aristotle is being excessively moralistic especially if we assume (a) that he overestimates the causal power of parents and grandparents to affect the character of their charges; and (b), what is related, that if a person has done her best to build good character for herself and in her charges, she has done all we can reasonably expect.¹⁰ This seems right. But the point I want to draw attention to, which the illustration reveals, is the divide between subjective and objective evaluation of *eudaimonia*. Not only is it a consequence of Aristotle's view that the person I depicted cannot be judged *eudaimon* until certain later objective states-of-affairs are assessed, so too are these two sorts of case possible: (1) A person does not feel very happy (low **SWB**), she is judged by her compatriots as unusual in virtue of being loving and compassionate even when being this way doesn't seem to serve her self interest. At best, she is thought to be a sweet naïf. Suppose her children and grandchildren turn out just like her and are judged the same as she was by their compatriots, as sweet but on-the-fringe. Is she, was she, *eudaimon*? Yes. It is too bad she never felt the self-esteem she deserved, but she was *eudaimon*. Her society was simply a poor judge of goodness and she, not surprisingly, was affected in how

¹⁰ For a classic essay in behavioral genetics see Plomin, Robert & Daniels, Denise. 1987. "Why are Children in the Same Family So Different from One Another?" *Behavioral & Brain Sciences* 10:1-16. Despite being 'behavioral geneticists', Plomin and Daniels don't push a strong nativist line: there are, of course, basic temperamental differences among kids in the same family, different attitudes from parents depending of temperament, gender, parents' age at birth, and so on that all together contribute to making very different persons.

she felt about herself by how others saw her. Ergo, her self-esteem issues.¹¹ (2) Imagine that a greedy entrepreneur feels very good about himself, his family, and his work. He obeys the laws, national and international, but will do whatever is best for the business bottom line. He is off the charts **SWB**-wise and his hedonometer keeps breaking from overuse of the +10 key. Is he *eudaimon*? It's doubtful. I can't help but comment that people such as these are abundant in business and in politics. Social endorsement of capitalistic economic practices allows such people to think they are good.

Carol Ryff and her colleagues (1989; Ryff and Keyes, 1995) have recommended a scheme to measure *psychological well-being* **PWB** this is different from **SWB**, falling more into this *eudaimonistic* category. **PWB** is a way of evaluating well-being that takes into account the extent to which subjects *endorse* such values as high levels of autonomy, environmental mastery, personal growth, positive relations, living purposefully and meaningfully, and of living in a way that supports positive self-regard. One can see the difference between **SWB** and **PWB** by remembering that on one standard way of measuring **SWB**, scores are determined as a function of these four (possibly separable) components: life satisfaction; satisfaction with specific domains such as work, family; amount and/or frequency and/or tone of positive affective experience; negative affective experience. **PWB** starts with a conception of worthy aspirations and they measure whether and how much individuals endorse these aspirations and values and, in principle, how well they see themselves doing in achieving them.¹²

¹¹ Two points: First, social reinforcement is very important, so important that it is in fact hard to imagine that the person I describe can keep her eye on virtue for herself and her charges for two generations despite the lack of social support. Second, the *Capabilities Approach* of Sen and Nussbaum, discussed in lectures one and two, is an approach designed to make these sorts of objective judgments of flourishing or non-flourishing that (can) diverge from **SWB** reports or assessments.

¹² This doesn't yet measure how well they are in fact doing in relation to the norms, values, and domains designated by **PWB**

These three ways of conceiving and measuring happiness are woven throughout subsequent discussion (even when they are not directly mentioned), so keep them in mind. Out of fairness I should say that there is some, variable, sensitivity among researchers who work in positive psychology about the problems and pitfalls of different measurement tools. One strategy that, in certain respects, is already in use is to keep using different measurement tools, objective hedonic measurement, **SWB**, and eudaimonistic ones, such as **PWB**, and let the dialectic play out among them, examining what the advantages and disadvantages of each are as research progresses.

Ok, onto the studies on the very happy meditating monk.

The Meditating Monk and Neurophenomenology

In my 1991 book *Consciousness Reconsidered*, I proposed use of a method for studying the mind/brain. I called it “the natural method” and recommended it as the right method to adopt if one is a naturalist about mind. The basic idea is to triangulate a subject domain by coordinating phenomenological data with psychological and behavioral data and both with neuroscientific data. My late great friend Francisco Varela called his almost identical method “*neurophenomenology*” (Varela in Petitot et al. (eds.), 1999).¹³ It is a sexier, catchier name, so I’ll use it. The work on the meditating monk is an instructive example of how profitable the method can be. Since more is involved in happiness, positive mood, well-being and *eudaimonia* that what is going on in the brain the task is eventually, or even at the same time, to make

¹³ The program of neurophenomenology advanced by Varela and his colleagues is virtually identical to what P. S. Churchland (1986) calls the “co-evolutionary strategy” and what I call (Flanagan, 1992) “the natural method.” A great advance being developed by Varela et al. just before his untimely death was second person phenomenology. The basic idea was to have experienced individuals work in a cooperative Buberian (after the theologian Martin Buber), I-Thou manner, with subjects offering first-person reports to help them get clearer on what they are experiencing in fine-grained detail. The idea is to improve first person reporting by a form of dialogue “between the two of us.” The subsequent, hopefully more refined report, is something the subject and her interlocutor work to produce together.

surmises about which causes and condition in genes and fetal development, upbringing, education, moral and spiritual commitments, and the social world generally are correlated with various brain indices of well-being.

Starting in the early 70's, three young graduate students met in Cambridge Massachusetts. Richie Davidson and Danny Goleman were Ph.D. students in psychology at Harvard and Jon Kabat-Zinn was a Ph.D. student at MIT. They met because they were all interested in the practice of meditation, where I mean in 'practicing meditation.' Very quickly, Davidson and Goleman set to publishing some work on the relation of prefrontal cortical activity and positive and negative affect, at least one on the connection of meditation and positive affect (Davidson, Goleman, & Schwartz, 1976).¹⁴ Prior to their studies there were some good data indicating that first-person **SWB** reports linked to differential activity across PFC. Leftward activity (LPFC) was correlated with positive affect; rightward activity (RPFC) with negative affect. One background theory that might explain this hemispheric difference, and that has received increased support over the years is this: PFC is important, maybe **the** most important area, when it comes to hatching plans and executing action, either approaching a goal or withdrawing from an aversive situation that is undesirable. LPFC is more active when we are going after what we want. Activity in RPFC increases when we want to escape what is undesirable.¹⁵

The pre-frontal lobes are relatively recently evolved structures (in ancestors of *Homo sapiens*) and have, as I've said, long been known to play a major role in foresight, planning, and self-control. The confirmation of the fact that pre-frontal cortices are also crucially implicated in

¹⁴ Gary Schwartz and Cliff Saron now at Arizona and UC-Davis, respectively, were also involved at early stages.

¹⁵ To this day, the best book by a philosopher on the phenomenological structure (somewhat idealized) of intentions and plans is Michael Bratman's. Before that, in psychology, there was Miller, Galanter, and Pribram's, *Plans and the Structure of Behavior*. In retrospect, we can say that both books lay out from, what Dennett calls the *intentional* and *design* stances what is, in fact executed, from the point of view of the *physical stance* by PFC.

emotion, mood, and temperament is exciting because it lends some insight into *one* area where a well-functioning mind coordinates cognition, mood, and emotion. How exactly the coordination is accomplished is something about which little is known at this time.¹⁶

In any case, thirty years after Davidson, Goleman, and Kabat-Zinn's first foray into studying the relation between PFC and meditation was first done, and thus at the time I wrote "The Colour of Happiness," this view of the role(s) of PFC was fairly well-entrenched. I surmise, based on the science, that it, or something in its vicinity, is true. So, Matthieu Ricard an experienced Buddhist monk (born and bred in France) was brought to Madison, Wisconsin where Richie Davidson's Center for Affective Neuroscience is housed, and his brain was studied.

Lo' and behold Matthieu's left prefrontal cortex lit up brightly (thus the editor's choice of "colour" in the title of my article). Indeed, his left side lit up brightly and more leftward than *any* individual tested in previous studies (approximately 175 subjects). It was literally off-the-charts. However, none of these prior studies involved people meditating while the scanning was underway (in the meditating monk's case most meditation was on compassion and loving-kindness).

These scientific problems did not prevent various media sources from announcing that scientists had established that Buddhist meditation produces 'true' happiness. Indeed, I was asked repeatedly if Matthieu was the happiest person ever studied, even: was Matthieu the happiest person on earth? One could imagine this line of conversation culminating in the

¹⁶ Deficit studies are terrific ways to figure out how a complex system works, so looking at areas affected by stroke, tumors, etc., has been very helpful in distinguishing among areas differentially involved in particular types of processing. PLFC strokes are correlated with increased depression, but are neither necessary nor sufficient causes of stroke related depression.

question: Is Matthieu *the* happiest person ever to exist?! (if and when it does happen, as I expect, I will say ‘yes’ -- why not?).

If you are even slightly tempted to let your thoughts roam in this direction, stop and consider these obvious facts. Being ‘leftmost’ PFC-wise’ is not in any way like ‘being the tallest.’ Whoever is the tallest is the tallest, but whoever is the leftmost, despite being the leftmost isn’t the happiest no matter what standard of ‘happiness’ one is using. Individual brains ‘do the same thing’ in somewhat, sometimes very different ways and at somewhat different locales. Suppose two people both think ‘that patch is red’ in response to the exact same red patch stimulus. Assume that both are ‘having the exact same thought,’ although it must be said even this assumption is controversial. We might after all experience red a bit differently, perception of red things might cause different associations, and so on. Bracket these worries. Assume that whatever else goes on when each of these two individuals think ‘*that is a red path,*’ both think that much, and each thinks the thought in the same way as far as that red patch goes. If so there will be brain activation in each individual that is *that* thought or is the neural correlate of *that* thought. But no one expects two different brains to have exactly the same thought (assuming they are) in a way that is subserved by perfectly identical neural activation. The consensus is that the exact same thought can be realized (indeed is likely to be realized) in different brains in somewhat different ways. The same for phenomenologically identical or very similar emotional states.¹⁷

For all we currently know, the subject who tests 25th or 35th or even 70th from the leftmost point so far plotted might be, according to all the evidence taken together – phenomenological,

¹⁷ Imagine, what is often the case, that I have one and the same text – say, this very chapter -- on different computers, a PC and a Mac, with different operating systems. Each computer holds, realizes, encodes, and projects the identical text when asked to do so, but each does it in a somewhat different way. The identical text on the screen is sometimes referred to as a “user illusion” since behind the scenes differences abound.

behavioral, hormonal, neurochemical -- the happiest person ever tested.¹⁸ Left-side pre-frontal activity is a reliable measure of positive affect, but no one has asserted let alone confirmed that among the group of “lefties,” the left-most individual is the happiest. One problem is due to the fact that the concepts of ‘positive mood’ and ‘affect,’ even more so ‘happiness,’ are not fine-grained enough, nor sufficiently well-operationalized by the scientists who use them, so that we know what *specific* kind of positive mood or emotional state is attached to a lit-up area.¹⁹

The important point is that for all anyone knows at this point, a happy life whose source is family might light up the brain in the same way as a happy life whose source is virtue or even money. One can control for this of course by being careful about the phenomenological and psychological-behavioral aspects of the *neurophenomenology*. Suppose that Donald Trump, Rupert Murdoch, and Hugh Hefner’s LPFC light up just as Matthieu’s did, with the ratio of LPFC to RPF activity the same. We know that the causes and constituents of their ‘happiness’ are different from Matthieu’s and thus, it seems that one ought to say that the happiness itself is different, different-in-kind. That is, even though the brain at this level of analysis doesn’t reveal what the differences are, there are big differences. From a naturalistic perspective, these better show up, at least as encoded, elsewhere.

So we say that despite substantial LPFC profiles among this foursome, both the causes of their happiness are different, and the contents of their happiness (what their happiness is about)

¹⁸ Actually some right-leaning PFC’s might be indicative of happiness. How so? Well, in some people, most often some subset of left-handed people, hemispheric differences of certain sort are reversed.

¹⁹ My considered view, which I violate somewhat here, is it that it is best to keep the word ‘happiness’ in the titles of books, chapters, or lectures – it brings in buyers and audiences. But the word, not the concept, is best kept out of the analysis. Here I follow Marty Seligman’s strategy. Seligman is the *eminence gris* (actually he is on the bald side) of the positive psychology movement. He entitles his best-selling book on positive psychology, *Authentic Happiness* (2003), and then rarely uses the words ‘happy’ or ‘happiness’ in the text. We are then told this in the appendix:

The word *happiness* is the overarching term that describes the whole panoply of goals of Positive Psychology. The word itself is not a term in the theory ... Happiness, as a term, is like *cognition* in the field of cognitive psychology or *learning* within learning theory. These terms just name a field, but they play no role in the theories within the field. (2003, p. 304).

different. Let me explain what I mean by ‘about-ness.’ Philosophical talk of the ‘*aboutness*’ of mental states originates in what Franz Brentano (adopting ideas from Thomas Aquinas) called “intentionality” (from the Latin *intendo* = to aim at). Feeling yucky might not be about anything, but believing [snow is white] is *about* the color of snow. So even if A is happy to +9 *about* the fact that [she is very rich] and B is happy to +9 about the fact that she [directs an AIDS orphanage], they are happy in different ways. The *content* of their happiness is different even if the *degree* of their happiness is the same. There are no brain imaging or scanning techniques that (as of now) distinguish among contents. All information about *content* needs to come from first and third personal narratives and the like.

This much shows that a state of happiness is not to be typed or classified solely by neural markers in PFC. This is where other measurement tools come in handy since **SWB** ratings, if fine-grained enough, will show obvious differences between what matters to Hugh Hefner and what matters to Matthieu. And mattering and what I call content are related in a way I’ll leave unspecified, but that is worth working out precisely.

In any case, ‘happiness’ is a polysemic term, it has many different meanings. For this reason I almost always, when discussing the topic, revert to superscripting, so there is *happiness*^{Buddha}, *happiness*^{Aristotle}, *happiness*^{Local hedonist club}, *happiness*^{Marquis de sade}, *happiness*^{standard American} = *happy*^{joy-joy-click-your-heels}. Aristotle pointed out that everyone says ‘happiness’ is the *summum bonum*, while meaning different things by the term. The same situation obtains today. Even those who say that ‘happiness’ is what they want more than anything else may well mean different things by ‘happiness’ or, what is different, may overrate ‘happiness’ colloquially understood as *happiness*^{standard American} = *happy*^{joy-joy-click-your-heels}.

This last point about overrating happiness entails that even if one goes along with the superscripting strategy it doesn't remove all the problems. Individuals might legitimately claim that even though they judge their lives as very meaningful as, say, an Aristotelian or Buddhist or Christian, feeling happy is *not* even an issue. And thus ascribing *happiness*^{Aristotle} or *happiness*^{Buddha} misses the point.

Was the Buddha happy? Was Jesus happy? Was Confucius (Kongzi) happy? The answers do not seem obviously 'yes' according to common contemporary usage of the term. When I ask my students these questions they are unsure what to say. Many will say it doesn't matter or that is not the point. They are onto something.

On the other hand, no one who seeks *happiness*^{Local hedonist club}, *happiness*^{Marquis de Sade}, or *happiness*^{standard American = happy}^{joy-joy-click-your-heels} will say that happiness is not the issue, not what matters. It matters to them. In the Buddhist case, 'equanimity' is one of the four noble illimitables and it is the only one of the four (the other three are compassion, loving kindness and sympathetic joy – being happy for the successes of others), which describes a general abiding condition of heart/mind (this is the right translation for all Asian terms for 'mind'). Equanimity, whatever exactly it names, might be said (like flow) to be intermediate between anxiety and boredom. It might in certain cases feel blissful, but it might not. As far as my own linguistic intuitions go, words like 'equanimity' and 'serenity' are not, even in American English, in the same family as *happiness*^{standard American = happy}^{joy-joy-click-your-heels}.

In any case, as I've indicated, prior to the study of the meditating monk there had been a number of excellent studies on positive affect and the brain (Davidson & Irwin, 1999; Davidson, 2000; Davidson et al., 2002; Davidson and Hugdahl, 2002). This research showed that there was a distinction between basal (baseline) and tonic (variable) reports of 'well-being' or 'positive

mood' as reported first-personally and as measured in PFC. The still dominant view is this: each person has a characteristic baseline ratio of LPFC: RPFC activity, and then various experiences (or stimuli) result in changes (which some say 'overlay' the basal condition).²⁰ Thus when subjects are shown pleasant pictures (say, sunsets), scans (PET or fMRI) or skull measurements of activity (EEG), reveal increased left side activity in prefrontal cortex.²¹ Whereas when subjects see unpleasant pictures (say, a human cadaver), activity moves rightward. Furthermore, people who report themselves generally to be happy, upbeat, and the like, show more stable left side activity than individuals who report feeling sad or depressed in whom the right side of prefrontal cortex is more active.

Positive mood, we can say, has two faces. Subjectively, phenomenologically, or first-personally it reveals itself in a way that an individual feels and about which she typically can report on (although subjects commonly report difficulty describing exactly what the positive state is like). Objectively, the subjective feeling state is reliably correlated with a high degree of leftward prefrontal activity. Thus we can say that if a subject is experiencing happiness or, what is possibly different, is in a good mood, then left prefrontal cortex is or gets frisky, or bright, or even colorful depending on whether you use EEG, fMRI, or PET.

Most people, between 70-80%, report themselves to be happy as opposed to not so happy, sad, or depressed. Davidson found that in a normal population (of undergraduates) pre-

²⁰ The idea is that the basal ratio is somehow deep and abiding (deep-structural) for an individual. But presentation of 'good' or 'bad news' results in tonic shifts. These can be thought of as (normally) temporary and involve surface structure. A phenomenon known as 'adaptation' where lottery winners or those who suffer loss of loved ones or become paraplegics and 'return to baseline' after a surprising short interval might be thought to be evidence of the resiliency of the basal deep-structural features of LPFC:RPFC ratios. But there are other explanations for adaptation. It is a topic that needs more bright minds to get to the bottom of the phenomenon.

²¹ I'm not sure why my article got so much media attention, it has to do I think with what the AP and Reuters decide to write about, because I was not the first to report the findings on Matthieu. His Holiness, using his given name, Tenzin Gyatso, first alluded to this study in an op-ed piece for The New York Times, April 26, 2003, (Gyatso, 2003a), that I reported on in The New Scientist, and that Dan Goleman (2003b) wrote about in The New York Times (4 February 2003).

frontal lobe activity is distributed in a fashion that corresponds to the phenomenology, a left-leaning hyperbola. Those who are very happy are fewer than those who are pretty happy, but both groups are larger than *les miserables*. What we might call the “neurophenomenological curve” looks like this.

Figure 1. The Neurophenomenological Curve: LPFC & Self-Reports

Joost Draw

I take it that any finding to the effect that Buddhist practitioners are happier than most would be a statistical finding that significantly more than, say 25% are in the first, very happy group. Since the neurophenomenological curve reveals that in a normal undergraduate population approximately 18% fall into the ‘very happy’ group, then a finding that 25-30% in that group for a representative sample of Buddhist practitioners would be statistically astounding. A somewhat lower percentage would still be impressive. As I write the data don’t exist but studies are underway.

There are many people watching this research closely. And most of those I know are betting that the greater happiness hypothesis will be confirmed. I’m not sure. Let me explain why.

Matthieu radiates happiness. I’m not sure how much he values happiness, but I know he values virtue and wisdom more. But he is, there is no doubt about, a very happy man. Most Buddhist I know, however, will say that happiness is *not*, in almost all its usual senses, what matters. Wisdom and virtue are what matters and being wise and virtuous typically bring

equanimity. Next time I see Matthieu I'll ask him what he thinks. I predict he will say this too, despite the fact that he is very happy.²²

So Matthieu is very happy and equanimous, and he is “off the charts” LPFC-wise. But he is just one individual. What should we expect in studying other adepts, Buddhist monks who have practiced meditation for many years or secular Western practitioners of mindfulness practice? I suspect we'll find this: subjectively if we listen carefully we'll hear them reporting that they are happy (if they are willing to use the word at all) = serene and equanimous, not *happiness* ^{standard American} = *happy* ^{joy-joy-click-your-heels}. One reason for my confidence is saying this is that I know enough about Buddhism to know that if there is such a thing as happiness^{Buddha}, that Buddhists would endorse as desirable, it will involve two aspects:

1. A stable sense of serenity and contentment (*not* the sort of happy-happy/joy-joy/click-your-heels feeling state that is widely sought and promoted in the West as the best kind of happiness);
2. This serene and contented state is caused or constituted by enlightenment or wisdom *and* virtue or goodness²³ as these are characterized within Buddhist philosophy.²⁴

²² These facts put a burden on scientists in the field: When a worthy sort of happiness is claimed to be among the goods produced by embodying a practice, two requirements must be met by scientists wishing to study the connection between that practice and that kind of happiness. First, we must specify precisely what kind of happiness we are looking for. Second, we must have a clear conception of what aspects of the practice are thought to be key to attaining that kind of happiness.

²³ I use the terms ‘enlightenment’ or ‘awakening’ (*bodhi*) and ‘wisdom’ (*prajna*) interchangeably -- often as enlightenment/wisdom. Strictly speaking, they are not exact synonyms. But using them interchangeably is quite common in the literature, and comports with one classical view according to which achievement of complete wisdom and complete virtue are necessary and sufficient for enlightenment (*bodhi*). For parallelism, I use virtue/goodness, or just one or the other, to refer to a life of good conduct (*sila*), as well as a character that embodies eventually, *inter alia*, the divine illimitables or abodes (*Brahma-vihara*), compassion, loving-kindness, sympathetic joy, and equanimity.

²⁴ It is only by living a life of wisdom and virtue/goodness that a sense of meaning, purpose, and happiness can be secured. It is a Zen-like paradox that if we seek simply to attain happiness we won't, whereas if we aim for enlightenment and virtue, initially setting our undisciplined pursuit of happiness to the side, that we might begin to achieve ‘true happiness’-- happiness^{buddha}. Happiness^{buddha} is the kind of happiness that comes from commitment to and embodiment of Buddhist philosophy understood as a normative theory and practical philosophy of enlightenment or awakening and virtue or goodness. It is a type of happiness born of achieving wisdom (*prajna*) by

Regarding the current state of research, there are in fact *no* scientific studies yet on Buddhism as a lived philosophy and spiritual tradition, in any of its forms, and happiness. What we do have are a few scientific studies that involve examining meditators -- mostly experienced Tibetan Mahayana practitioners from France, America, and Northern India (Lutz, et al., 2004), or individuals new to the practice of Zen and mindfulness meditation (Kabat-Zinn 1995; Davidson & Kabat-Zinn et al. 2003; Rosenkrantz et al., 2003). What has been found is interesting and important:

- Mindfulness practices lower stress and cause relaxation. Cortisol flow, the “natural killer” is contained, moderated, regulated. This helps with health and longevity.
- Mindfulness practice increase the number of influenza antibodies in meditators relative to controls both of whom have been given flu shots (Richie Davidson and Jon Kabat-Zinn 2003; Rosenkrantz et al., 2003).
- Mindfulness practice among adepts produces widespread synchronized gamma oscillations. This is rare, but such activity bespeaks of a mind/brain that is active, attentive, and very well-focused.²⁵

becoming free of the standard mental affliction that come with being human, and finding one’s way to deep compassion (*karuna*) and loving-kindness (*maitri*) for all sentient beings. Although I have claimed that enlightenment and virtue co-constitute the *ultimate end*, we can analytically separate the two components:

Enlightenment/Wisdom: Buddhist enlightenment requires that one comes to understand: (1) that all things are impermanent (*anitya*; Pali, *anicca*); and (2) for this reason I am not possessed of a permanent self, ego, or soul (*atman*). “I” am *anatman* (Pali: *anatta*), a transient ‘being’ constituted only by certain ever-changing relations of psychological continuity and connectedness (Bhikkhus Nanamoli and Bodhi, trans. 1995, MN.1.138; Siderits, 2003).²⁴

Virtue/Goodness: Buddhist virtue/goodness requires moral conduct (*sila*) and thus conformity to the third, fourth and fifth of the steps on the noble eightfold path. True virtue, of course, requires more than moral conduct. An individual, such as a bodhisattva, overcomes the three poisons of greed (*lobha* or *raga*), hatred (*dosa*), and delusion (*moha*), and positions herself to embody the four divine illimitables --compassion, (*karuna*), loving-kindness (*maitri*), empathic joy (*mudita*) and equanimity (*upeksa*) (Santideva, 8th c. C.E.; Lopez, 1988).

²⁵ See the important study by Davidson’s group (Lutz, et al. 2004) in the prestigious *Proceedings of the National Academy of Science (PNAS)*. This groundbreaking work shows that there are significant and unusual oscillatory patterns in the brains of experienced meditators compared to controls. Now we need to figure out what these differences mean and exactly what sorts of experiential differences they subserves.

- Adepts doing compassion meditation report increased intensity in a way that maps perfectly onto increasing gamma activity and increased global synchrony of gamma.
- Matthieu is excellent – better than anyone ever tested – at controlling his startle response. The bets are that other very experienced adepts, as well as experienced mindfulness practitioners will be able to do so as well.
- Matthieu and three other experienced meditators are “off the charts” when it comes to reading facial “micro-expressions.”²⁶

I call your attention to the fact that the findings just mentioned have *nothing* directly to do with measuring happiness, and in this way are utterly different in kind from the PFC work. There is one exception: in the Davidson and Kabat-Zinn study there were mood improvements as well as increased influenza antibodies.

Nonetheless, all these studies show the worth of certain mindfulness practices. Supposing that researchers return to their initial devotion to testing for ‘happiness,’ and assuming that we eventually succeed at measuring the effects of different types of practice on happiness, we need to be extremely clear about what sort of happiness, if any, the practice aims at or promises. This requirement is a general one for doing good science in this area. If one wants to study ordinary Americans, Aristotelians, utilitarians, Trappist monks, secular humanists, scientific naturalists, or

²⁶ When Dan Goleman and I first reported the face reading studies, the word was that no one had ever done as well as the adepts. This turns out to be false. There were a few others in the big data base Paul Ekman had who achieved similar scores. There is no way to know whether these individuals were skillful face-readers or just lucky. That aside, Ekman has now developed techniques (I have the one hour training cd) that trains anyone to be as good as the four adepts at reading micro-expressions. You can purchase it at http://www.paulekman.com/training_cds.php if you have the proper certification and \$175. What remains very interesting is why, if it is so easy to learn this skill, everyone hasn’t done so, after all there is an arm’s race to detect liars and cheaters. Ekman (personal communication) has no answer yet. The fact remains that the adepts naturally developed the skill, but not as far as we know by trying to do so for faces. My best guess is that what is called insight (Vipassana) meditation where concentration and skills of analytic attention are honed (often primarily on one’s own sensations, mental states, etc.) result in good analytic skills in interpersonal situations. Ekman’s first surmise that it might have to do with skills that come from *metta* (loving kindness) meditation where empathy and compassion are honed. We both might be right. But as of now, we just don’t know why/how these adepts developed the skill.

members of the local chapter of the “Hedonist Club,” one will want their experts to specify the kind of happiness they claim to seek or to achieve. And one will want information on what aspects of their form of life they think lead to attaining their theory-specific form of happiness.²⁷ Only with such information at our disposal can scientists construct experiments to “look and see” if the kind of happiness sought is attained and whether the practices thought to produce that kind of happiness are causally implicated in its production. Such work will involve a mother lode of careful anthropological and sociological analysis as well as psychology and neuroscience.^{28 29}

²⁷ There are certain core principles that are espoused and abided across Buddhist sects. Wapola Sri Rahula, (1974/1959) remains an excellent source on these shared core beliefs. That said, there are also distinctive practices and beliefs that, for example, distinguish Theravada, Mahayana, Tibetan Buddhism (Vajrayana) Zen (Ch’an), Japanese Pure Land Buddhism, and Socially-Engaged Buddhism. To some degree, these differences are based on differences in the choice and interpretation of key texts. But they are also due to philosophical interpenetrations, as in the case of Buddhism meeting Daoism in China, resulting in Ch’an (Zen) which, of course, took on a certain Japanese flavor as it migrated East. Buddhism in North America and Europe is not a sect or a coherent tradition. It is a syncretic blend of Buddhisms. Zen Buddhism first caught North American attention in the 1950’s among certain members of the “beat” generation. In the last four decades Socially Engaged Buddhism (Thich Naht Han, 1987; 2004) and Tibetan Buddhism (Tenzin Gyatso, the 14th Dalai Lama, 1998; 1999) have become at least as influential as Zen. If there is anything distinctive added to the mix by Westerners (both in North America and Europe) it comes from a certain secularism, so that, for example, the doctrine of rebirth is either rejected, reconceptualized, considered optional, or understood as a quaint but instructive piece of mythology.

²⁸ In all studies, be they designed to test the connections between mindfulness and health or longevity or to examine the connection between Buddhism and happiness, certain guidelines will lead to well-designed experiments that will yield revealing findings, one way or the other. For example, in cases where experienced practitioners are studied, we will want to know which kind of Buddhism they are committed to and what type of happiness, if any, that kind promises. I claim that happiness^{buddha} as depicted above captures a common core conception shared across all or most forms of Buddhism. However, there are various more nuanced types or subtypes to be depicted and studied if one wishes to examine a specific Buddhist sect. And truth be told, many non-Western Buddhists will truly say that happiness of any sort is *not* the point.

²⁹ In cases where certain Buddhist practices such as Tibetan Buddhist compassion meditation or the Japanese Pure Land practice of calling on Amitabha’s presence (the Spirit of Life and Light) by chanting “*Nama Amida Butsu*” -- are extracted from the kind of Buddhism in which they are typically embedded and are then taught to individuals who have no personal commitment to (possible no knowledge of) any form of Buddhism, this will also need to be carefully marked. The reason is that such studies, no matter what they reveal about the efficacy of that practice in producing some good, even if it is some kind of happiness, have no clear relevance to what many think is most important and interesting, namely, what goods do long-term commitment to (a form of) Buddhism produce. The trick is to direct our natural urge to happiness to the right sort of happiness and then to work with reliable methods to achieve it. The right sort of happiness is happiness^{buddha}. It comes, if it does come, from practices that aim at enlightenment/wisdom and virtue/goodness (see Bhikkhu Bodhi (2000) SN.4.223-9; SN 4.235-237). There are plenty of texts in the Pali canon (the original canonical texts accepted as complete by Theravadins and accepted as basic but extendable by Mahayanans) where the Buddha distinguishes between types of happiness as understood and chased after by the common person, the happiness of the path to liberation, and the happiness of liberation. He asks this: “[W]hat bhikkhus is happiness more spiritual than the spiritual? When a bhikkhu whose taints are destroyed reviews his mind liberated from lust, liberated from hatred, liberated from delusion, there arises happiness. This is called happiness more spiritual than spiritual (SN. 4.235-237, pp. 1283-4 (Bhikkhu Bodhi trans., 2000).” Thus not surprisingly stories of “happy” *arahants* and “happy” *bodhisattvas* are abundant across various classical traditions

We also need much more philosophical work in which different theory and tradition specific conceptions of ‘true happiness’ receive articulation. We know that Aristotle, Epicurus, Buddha, Confucius, Mencius, Jesus and Mohammed all put forward somewhat different philosophical conceptions of an excellent human life with somewhat different conceptions of what constitutes true happiness. With these different conceptions well-articulated, we can look at brain activity within and across advocates/ practitioners of different traditions to see what similarities and differences our mappings reveal. The same strategy should work for negative emotions and destructive mental states. Get well-honed first-person reports from subjects on the negative states they experience and then look for brain correlates. With such data in hand we can then test Buddhist techniques, say, meditation on compassion, which are thought to provide antidotes for anger, hatred, and avarice. Along with first-person reports on any experienced change in mood or emotion we can look and see what, if anything, reconfigures itself brain-wise. We can do the same for practices from other traditions. Eventually, we will want to coordinate such studies with the ever-deeper knowledge of the connections among virtue, mental health, well-being, and human flourishing, allowing science and philosophy to speak together about what practices seem best suited to make for truly rich and meaningful lives. At this distant point, with an array of conceptions of excellent human lives before us, as well as deep knowledge of how the brains of devotees of these different traditions look and work, we should be able to speak much more clearly about the nature of happiness and flourishing than we can now.

The more theory-specific conceptions of virtue, well being, and flourishing that we have, so much the better will our understanding be of the constituents of happiness, if

(see Bond 1988; Lopez, 1988). See also Hammalawa Saddhatissa (1970, 1997, 2003), written from a Theravadin perspective. Here Saddhatissa consistently refers to the Buddha as “the Happy One.” But he points the reader to *suttas* in the Pali Canon where neither Buddha, nor anyone else, claims to know direct techniques for achieving happiness. This, of course, is compatible with their being indirect techniques via wisdom and goodness.

that is 'happiness' stays on our radar as what matters most all-things-considered.

Overlapping consensus on the components of these things will, no doubt, reveal itself.

Importantly, differences in conceptions of virtue, well being, and flourishing will also reveal themselves. The overlaps and the differences can be discussed and debated at the philosophical level from a normative ethical perspective, and the scientists can chime in, wearing philosophical hats if they wish, but equally importantly, telling us how the brains of practitioners from different traditions light up, which neurochemicals rise and fall, and so on.

Inter-theoretical conversation such as I am envisioning will put us in the exciting position of being able: (a) to have a better idea of the fine-grained states we looking for and, (b) to compare different theories in terms of the goods they claim to produce and hopefully do, in fact, produce.

For those of us who are convinced that Buddhism is a noble path to wisdom, virtue, and happiness^{buddha}, and especially at this time when some scientists claim to be reaching pay-dirt in the empirical exploration and confirmation of what many Buddhist practitioners already claim to know, it is necessary to speak with maximal precision about what practices, Buddhist and others, are thought to produce what sorts of specific positive states of mind and body. Overall, this sort of inquiry provides a truly exciting, unique, and heretofore unimagined opportunity for mind-scientists, practitioners, and philosophers from different traditions to join together in a conversation that combines time-tested noble ideals with new-fangled gadgetry to understand ourselves more deeply and to live well, better than we do now.

Positive Illusions

I turn to the last topic for tonight's lecture: the alleged relation of positive illusions and happiness.

Western epistemology is built around the idea that 'we ought not have false beliefs' (after childhood, at least). In the East, Buddhism and Confucianism say pretty much the same. In Buddhism, *moha*, is one of the three poisons (basic noxious tendencies of persons) that can pretty much ruin a life. *Moha* is often translated as "delusion." Psychologists often distinguish illusions and delusions this way: illusions are subject to feedback. I believe that [I will *never* get prostate cancer] even though I am told that my chances are 1 in 6 in virtue of being male. I get prostate cancer, then I give up the illusion that I won't. "Delusions" do not similarly yield to new information. It would be an odd and very disturbed duck who believed he would never get prostate cancer, did and insisted that he didn't have it. This would be delusional.

True story: Until I first visited Italy when I was 21 I believed that [spaghetti was a rice-like crop harvested in Italy]. I learned this was false. No harm was done, etc. In fact my girlfriend was amused and I sort of was amused too. In any case, the sorts of "positive illusions" I aim to discuss are epistemically worrisome. They are unlike ordinary false beliefs -- perhaps my spaghetti belief was one of the ordinary types -- because they are *resistant* to disconfirmation. Delusions are often *totally immune* from disconfirmation as in the example above. Why are "positive illusions" a problem? Because, according to some psychologists they contribute to happiness, well-being, optimism, and so on. Indeed, according to some studies, the only people who lack such illusions -- and see things-as-they-are -- are "moderately depressed!"

I recently came across this surprising passage in Aristotle Bk X: 13.37 where he, Plato's most excellent student -- Plato the hater of false beliefs if ever there was one -- seems to endorse positive illusions: "We ought not to follow the proverb-writers, and 'think human, since you are

human, or ‘think mortal, since you are mortal.’ Rather, as far as we can go, we ought to be pro-immortal, and go to all lengths to live a life that expresses our supreme element; for however much this element may lack in bulk, by much more it surpasses everything in power and value.”

Earlier in the *Nicomachean Ethics* Aristotle has stated that a life of pure contemplation is the best but only something the god’s can live. Here in Bk. X, a book, which for the latter reason has often puzzled commentators, he seems to endorse the contemplative life as a realistic human aspiration. What makes it realistic? Possibly, it is our capacity to put ourselves into a frame of mind that allows us to actually overachieve what we normally can’t achieve.

In lectures one and two I argued that humans in virtue of our nature possess some sort of *platonic orientation*: when conditions allow we like to live in the vicinity of what is good and true and beautiful. I was careful not to endorse view that this is due to an impulse to return to the world of the Forms (*Eidos*) where our souls lived before birth and for which we now as embodied being’s recollect (dimly) and thus long for. No, I situated *the platonic orientation* in our nature as social animals as depicted by neo-Darwinism. I should add that Plato, despite thinking we are born with the relevant orientation did not think it was easy to achieve *truth*. Most people after all live in the famous cave and it is only through the sort of education and training endorsed in the *Republic* and embodied in Plato’s Academy where we, possibly only some few, learn to know reality deeply and truthfully. It is good to keep these two issues separate: knowing what is true and knowing deep truths.

The worry I address in closing is this: what if the actual way or degree we are endowed with *the platonic orientation* is weak, and that, in fact, our aspirations to live well, in the vicinity of what is beautiful and worthy, and to be happy, require turning down our truth-detectors at least when it comes to accurate self-assessment and assessment of how those we care about are

and are faring? How bad would this be? Is there good evidence that doing so is required to live a happy life?

I first discussed this issue in *Varieties of Moral Personality* (1991). The state of research has not changed very much. I am going to orient this around the findings discussed in an important paper in the psychological literature, "Illusion and Well-Being," by Shelley E. Taylor and Jonathan Brown (1988; also see S. Taylor, 1989). The paper deals in the first instance with the relation between a certain kind of epistemic realism and mental health. But it connects this relation up in various tantalizing ways with the matters of contentment and goodness as well.

Let us refer to the traditional view (*TV* for short) as the view that accurate appraisal of one's self, one's compatriots, and one's world are, *ceteris paribus*, essential components of mental health. The mentally healthy person has close contact with reality. She sees things for what they are even when what is not what she wishes it to be (for some relevant philosophical work see Martin, 1985, especially the essay by Gilbert and Cooper; A. Rorty, 1975; and McLaughlin and Rorty, 1988).

Marie Jahoda (1958), in a distillation of dominant views in the late 1950's, claimed that this expectation of accurate appraisal is a central component in all extant models of the mentally healthy person (for example, Allport, 1943; Erikson 1950; Menninger, 1930; Fromm, 1955). She writes, "The perception of reality is called mentally healthy when what the individual sees *corresponds to what is actually there*" (p.6). In an earlier paper she wrote, "Mentally healthy perception means a process of viewing the world so that one is able to take in matters one wishes were different without distilling them to fit these wishes" (1953, p. 349).

TV must of course be interpreted as allowing room for persons who, through lack of interest, attention, education, or intelligence, have no views, or implausible or irrational views,

on matters such as probability distributions, life after death, the geopolitical and economic scene, and human psychology. *TV* allows considerable latitude in the accuracy of our appraisals of the self, others, and the world based on such factors as interest and attention, as well as knowledge of ‘theory’. Thus, the requirement that what a mentally healthy individual sees “corresponds to what is actually there” involves a somewhat loose and culturally relative sense of correspondence. That said, at least in our culture, among accurate appraisal of the self, others, and the world, the first – the requirement that our sense of self “correspond to what is actually there” – is considered normatively important. We are, it seems to me heirs and heiresses to the Socratic idea that the unexamined life is not worth living, and thus that some work at self-knowledge is a personal, social, and moral good. Maybe it is better to say that in deploying certain norms of common sense savvy we expect people to know what they did, what others did, and how, and at whatever level is necessary for getting around, what is happening in the external world. Minimally in the intrapersonal case, we expect people to be in touch with their beliefs and desires as they arise, and to know/remember what they did. Socratic norms of self-knowledge go deeper and involve ethical scrutiny of our motives, aims, intentions, plans, and so on, as well as accurate self-appraisal, of seeing who we are, what we are like, and so on. I am not sure how deep we expect such knowledge to go. In part, there are certain accessions to realism: After all, we know – even without importing an orthodox version of Freudian psychology or deep knowledge of the ‘cognitive unconscious’ -- that we cannot just do a “look see,” and discover who we are, what we are like, nor are our motives transparently “there” for inspection, even less so what caused our motives to be as they are. This kind of knowledge of oneself requires more than a little theory. Because over world historical time people have thought that “knowing thyself” more deeply than we are naturally disposed or equipped to

matters, we have constructed psychological theories and methods to better enable us to do so.

This is relevant in the present case because if we do judge that people are prone to insensitivity when it comes to self-knowledge or, what is different, that we are commonly self-deceived, then it might be that pointing this out, and explaining why, when, and how we cause ourselves to be insensitive or to believe falsely, will extinguish the effect if the cognitive-affective bias is judged first and third-personally to be undesirable. This is well-known to happen with the “perseverance effect.” Learn about the tendency to persevere in attaching importance to what you have learned is false feedback and you can stop doing so. So, if your self-esteem still suffers because someone deliberately and without ground tried to make you feel shitty, understand that this is not surprising, and now get over it!. We are imperfect information-processors, but we can learn about what sorts of false information leads to incorrect self-assessments (negative or positive) and get over the tendency. Because the perseverance effect can be thought of as a type of bad epistemic tendency and can be overcome, that fact is directly relevant to other alleged reasoning weaknesses, such as alleged tendencies to adopt (other) “positive illusions.” But this strategy of overcoming positive illusions, assuming they are ubiquitous, is not a good idea if such illusions are *essential ingredients* for mental health as Taylor and Brown claim. But are they really essential ingredients of mental health, and, what is different, of a happy mind? I think not. Let me explain.

Based on a meta-analysis of a wide array of studies, Taylor and Brown claim that (1) unrealistic positive self-evaluations, (2) exaggerated perceptions of control or mastery, and (3) unrealistic optimism are (a) “characteristic of normal human thought,” (b) positively related to the ability to care for others, (c) positively related to happiness and contentment, and (d) positively related to the ability to engage in productive, creative work.

The conclusions (a-d) are important *if* true. Note that there are really three different claims: First, people characteristically hold beliefs that are *exaggerated* and *unrealistic*; Second, these *exaggerated* and *unrealistic* beliefs are normal; Third, these exaggerated and unrealistic beliefs produce good personal and moral effects (a-d). Let me lay out Taylor and Brown's experimental findings by looking at the evidence for 1-3 and then I'll comment on these three claims just distinguished.

Here are some of the experimental findings for *unrealistically positive views of self*:

1. Given a list of trait names, subjects judge positive traits to be overwhelmingly more characteristic of self (and intimates) than negative traits.
2. Subjects rate self and self's performance on a task more positively than observers do.
3. Persons score themselves (and close friends and loved ones) better than others on all measures.
4. Persons judge the group or group(s) to which they belong as better than other groups.
5. Persons have more trouble recalling failures than successes.
6. Recollection of task performance is often exaggerated and remembered more positively than it was.
7. Favored abilities are seen as rare. Disabilities are seen as common.
8. Things persons do poorly are judged less important than things at which they are accomplished.
9. People think they have improved in abilities that are important to them even when their performance has remained unchanged.
10. Initially modest attributions of success or failure become more self-serving over

time; for example, on a joint performance, credit given to partner gradually shifts to self.

Comments: (a) I am not handy. I am aware of this and judge it to be a sometimes inconvenient but not a very important feature of me. Is there a mistake? No, in part because there is no objective fact of the matter about how important being handy is; (b) Memory and narrative are interconnected but they can be distinguished. I may remember various embarrassing failures well enough, but I'd be a fool to dwell on them and even more of a fool to incorporate them into the self-revealing narratives I tell to others. Yes, I want to look good and I want to protect my self-esteem. But these facts pertain to my desires, not my beliefs. To the degree that narratives involve misrepresentation (which is different from accentuating the positive), we can be accused of lying or concealing the truth. But, if there is something wrong here, it is a moral failure, not an epistemic one;³⁰ (c) The fact that I judge my performance as 'better' than others do, can be explained by three features of performance that don't involve false beliefs: first, as in (a) above it is not clear that there is any objective fact of the matter about how well any individual does on many of life's tasks; second, I care more than others about how I am doing and thus I am paying more attention to how I am doing than others; third, when I act I start with some first-personal standards of success, I may adjust these some as I act and as I respond to particular features of the task. Others are often not positioned to see, notice these features, nor do they much care

³⁰ There is lots of interesting recent work on narrative (see. Fireman, McVay, and Flanagan (eds, 2003)). Narratives are normatively governed: there are norms about not saying embarrassing things, and there are norms about politeness and not saying things that will discomfort self and others. There are also complex norms about giving directional information. By this I mean that supposing that I have learned or am trying to learn from my failures, I give information about my good qualities, worthy accomplishments and plans. Why? Not to deceive myself or others, but to provide reliable information about where I am headed.

about noticing or attending to them. They are doing their own thing. Such facts easily account for some of the self-other asymmetries listed above.

The findings related to *illusions of control* are as follows:

1. People often act as if they had control in situations that are determined by chance – as if, for example, skill at throwing dice mattered.
2. One's degree of control over heavily chance-determined events – for example, the sex of a child – is vastly overestimated.

Comment: These strike me as especially dubious. Yes, everyone says “come on baby” when rolling dice. This is a fun little ritual that bespeaks hopefulness, not belief. Since I first came across these claims over 15 years ago I have asked hundred of students about them, and have even bothered people at gaming tables in Costa Rica and Las Vegas. I have yet to meet *anyone* who really believes they have any control over such chance events, except in the baby case for those who know that there is some correlation between gender and vaginal Ph levels, and that this can be controlled. I infer along with my students and fellow gamblers that if there are people who hold such illusions the correlation is with stupidity not with either mental health or happiness.

Finally, these are the findings on *unrealistic optimism*:

1. When asked their chances of experiencing a wide variety of negative events – for example, auto accidents, job trouble, illness, depression, or being the victim of a crime – most people believe they are less likely than their peers to experience such negative events. Taylor and Brown write: “Because not everyone's future can be rosier than their peers', the extreme optimism individuals display appears to be

illusory” (p. 197).

2. “Over a wide variety of tasks, subjects’ predictions of what will occur correspond closely to what they would like to see happen, or to what is socially desirable, rather than to what is objectively likely . . . Both children and adults over-estimate the the degree to which they will do well on future tasks . . . and they are more likely to provide such overestimates the more personally important the task is” (p. 197).

Comment: The fact that predictions correlate with hopes and social norms governing desirable outcomes allows the interpretation that it is best to interpret such prediction exactly that way, that is, as expressive of hopes not as expressive of beliefs. The epistemic standards for *hoping* and *believing* are sufficiently different that no mistake needs to be imputed unless the hope is really wild. *Personal reflection:* I ride a Vespa *Serie Americana* 150cc around town. This is dangerous. I have four inches of metal in my left wrist from an accident several years ago. People who ride motorcycles have a nickname at the Duke Medical Center -- “motor donors!” Does riding my Vespa around town bespeak any illusion on my part? Well I know it is dangerous (more so than walking or driving my car). One might say my actions belie saying I have properly absorbed the relevant knowledge about the danger I am in. This may be true. I suspect I have trouble imagining how bad things could go. But, even if this is so, it is not clear what false belief I have. There is a difference between not seeing something clearly and holding a false belief. I do see the point of considering this counterfactual: if you, Owen, were to have a really horrible outcome wouldn’t you wish you had made a choice not to own or drive the beloved Vespa? The answer is ‘yes.’ If I think enough about this I may change my behavior. But I still don’t see that this would show that I have any false belief now. I might be accused legitimately of being foolhardy, inconsiderate of those who depend on me, and an imprudent

risk-taker, but I don't see how any of this shows that I have any false beliefs. The point is being correctly ascribed foolish hopes and moral insensitivity are different failings than holding false beliefs.

In any case, consider each comment above as a caution against buying into any hyperbolic or global assessment of what the research reveals.

Taylor and Brown ask whether any subpopulation can be distinguished from the general population merged in the meta-analysis, which is not prone to these findings.

Does there exist a group of individuals that is accepting of both the good and bad aspects of themselves as many views of mental health maintain the normal person is?

Suggestive evidence indicates that individuals who are low in self-esteem, moderately depressed, or both are more balanced in self-perception. These individuals tend more to:

(a) recall positive and negative self-relevant information with equal frequency . . .

(b) show greater evenhandedness in their attributions of responsibility for valenced

outcomes . . . (c) display greater congruence between self-evaluations and evaluations of

others . . . and (d) offer self-appraisals, which coincide more with those of objective

observers . . . In short, it appears to be not the well-adjusted individual, but the

individual who experiences subjective distress who is more likely to process self-

relevant information in a relatively unbiased and balanced fashion. These findings

are inconsistent with the notion that realistic and evenhanded perception of self are

characteristic of mental health (p. 196) *my italics*).

How ought we to understand these data? Consider the three claims I distinguished above:

First, people characteristically hold beliefs that are *exaggerated* and *unrealistic*; Second, these

exaggerated and *unrealistic* beliefs are normal; Third, these exaggerated and unrealistic beliefs

produce good personal and moral effects. To which we can now add this: Fourth, the only *group* not to suffer from *exaggerated* and *unrealistic* beliefs is the *moderately depressed* group.

The first question to ask pertains to the fourth finding, that the only group whose members are on average not prone to exaggerated and unrealistic beliefs about the self are the moderately depressed. What other groups besides the moderately depressed were picked out for study? Well, the very depressed were on the radar. In some studies, the groups examined were extraverts and introverts. So we have five groups: normal, moderately depressed, very depressed, extraverts and introverts (where most of these are normal in the sense of not depressed). The first thing worth pointing out is that the very depressed, not surprisingly, do have exaggerated and unrealistic beliefs of a different sort than normals. They think that they are much more likely to suffer various calamities. If the odds are 1 in 6 that a male will get prostate cancer and I am very depressed I might say that I will almost certainly get prostate cancer! Now in some studies in the meta-analysis such factors as education and SES are examined, as well as traits like neuroticism, and no statistically significant differences were found.

Let's analyze these four claims by adding to the mix some theory and data that have become better understood since Taylor and Brown published their seminal paper:

- Infants as young as 10 months old reveal a characteristic basal *affective style* as indicated by the ratio of LPFC:RFPC activity, response recovery to baseline from shifts caused by positive and negative stimuli. Affective style is indicative of mood and whether one is judged as an optimist or pessimist.
- Affective style has relations to certain personality traits such as extraversion and introversion, as well as consequences for such things as self-confidence, optimism v. pessimism. Affective style is neither illusory nor non-illusory; it is simply an indicator

of mood and of one's cognitive-affective-conative orientation towards life. That said, optimists tend to think things, especially things-that-require-their-own effort, will turn out ok; pessimists are more wary and anxious about outcomes. This makes sense because confidence is a predictor of success.

- Positive psychologists refer to “positive offset” as the preferred and most common cognitive setting (again, one sees it in infants). When one starts the car one wants it humming evenly at a certain rpm so that take-off is smooth and reliable. Too low and too high are both undesirable and your car needs fixing. So too with persons. It is best to be ready to ‘get up and go.’ An experienced person knows what she is good at and she knows what she’s not good at. I hire people to fix broken plumbing. Fixing plumbing is less important to my identity than certain other things, not because I judge it objectively less important than other things, but rather because, given that it is something I don’t do well and others do, my doing it well doesn’t figure strongly in my own identity assessments.
- There are no data that people with positive affective style (most people) are prone to holding *false beliefs* across all three of the domains.
- Studies show that the more well-educated a person is the more likely they are to absorb and try to change certain, say, dietary habits, when they are given information about risk factors for various diseases. Thus thinking one has a lower than base-rate chance of suffering from a certain malady may have to do with making plans to adjust one’s lifestyle in ways that one is taught will change the probabilities.
- Mind-reading skills come in two varieties: intrapersonal and interpersonal. Mother nature made people good at accurately reading characteristic facial expressions of

conspicuous (Darwin, 1872). And Mother Nature designed persons to be quick at picking up their own surface-structural beliefs and desires and executing actions accordingly. How good did Mother Nature make people at reading their own and other minds as required by contemporary social environments, and, what is different, as endorsed by Socratic norms? Well, one ought to ask first what people need to know about themselves and others to successfully negotiate current social reality. The answer is quite a lot. The answer varies depending on the complexity of the relevant worlds. But since we didn't evolve with traits for this modern social world, the best answer is that becoming a virtuoso at accurate self-knowledge, an adept mind-reader, and a deep knower of the nature of the external world requires various knowledge and skills that are not part of our innate endowment. For good Darwinian reasons most people are accurate in assessing what is *out there* in so far as accurate perception and belief are required for negotiating the everyday physical world. To the degree that knowledge of facts requires more theorizing (water is H₂O, f=ma, thinking involves brain processes), 'knowing' defined as 'justified-true-belief' becomes more difficult, more history and culture-bound, and thus less common. Importantly, such theoretical knowledge also generally matters less to fitness than knowledge of matters that simply require proper functioning of our basic mental equipment.

- *Is the claim that people normally hold false beliefs or is it best interpreted as that people generally have positive expectations and hopes—a positive attitude? Exaggerated and unrealistic* are adjectives used to describe the whole set of epistemically questionable states of mind that show up in the meta-analysis. Every sensible person hopes she will not have various calamities befall her. But when such

calamities, major or minor, occur no one but nutty people deny that they happened to them. A sensible counterfactual test for whether a person in fact holds a belief in a strong and objectionable way would be whether the state-in-question yields and if so how quickly, easily, and so on, when there is countervailing evidence. Many, if not most of the alleged positive illusions will yield in the counterfactual situation, so perhaps they are not rightly understood as beliefs, at least not firm ones, in the first place. Second and relatedly, there is conflation in Taylor and Brown's study between being an optimist or a pessimist and suffering from illusions. Optimism is clearly adaptive. It has an outlook component, I see the cup as half full, and an action component, when I act I plan things in such a way that I am more likely to succeed than fail. If I am playing a game and think to myself ("I think I can win") I do something sensible – I shore up my self-confidence – and by so doing increase my chances of winning (whatever these are). When I think this thought does it follow that I believe that [I will win]? No. 'Can' does not entail 'will.'

I won't go on. The main point is that even if the meta-analysis is taken at face value, two things must be kept firmly in mind: First, no one holds all the illusory beliefs; second, these are group effects. Thus there are many individuals besides the alleged group of moderate depressives who don't live among the illusions.

I close with several summary comments and observations and suggest a testable hypothesis that would, if true, show these results – or at least Taylor and Brown's interpretation of them -- to be somewhat misleading:

- The effects as I've said are group effects, so we should want to look at the accurate self-appraisers who are in each of the five main groups (normals, moderately depressed,

severely depressed, extraverts and introverts who do not suffer from positive illusions and figure out why. Given that there are (and there are) individuals who are not moderately or severely depressed and do not suffer from the alleged illusions then positive illusions are *not* essential components of mental health or happiness. That is, if *essential* is taken to mean *necessary*, then it is just false that all mentally healthy people suffer from exaggerated and unrealistic views .

- It is obvious from a Darwinian perspective that ambulatory social animals need to have reliable urges, motivation, “to get up and go.” Such urges are best guided by figuring out the best strategies for success at whatever task is at hand and thinking that one will succeed. There is nothing illusory required for this.
- That said, Americans, especially, are subject to all sorts of social forces to spin their narratives (to themselves and for public consumption) in what are, on every view, excessively self-serving directions (see H. Frankfurt’s *On Bullshit*, Princeton University Press, 2005) for a compelling essay on what the relevant phenomena requires). This shows up in data that reveals considerably less self-serving self promotion among, for example, the Japanese.³¹
- Other cultures don’t encourage bullshitting and self-deception, so it is possible we could bring the undesirable forces under control. Maybe. One reason for optimism is that evidence for certain cognitive biases, such as representativeness and availability biases, recency effects, tendencies to think small samples are representative, affirming the

³¹ I saw a TV show several years ago about a public school in lower Manhattan (Chinatown) where the kids were tops or towards the top in both math and English skills statewide. This was so despite the fact that their first generation immigrant parents, most of who were restaurant workers, spoke Chinese at home. When the principal was interviewed, she was pressed by the interviewer along “You must be sooo-proud, sooo-happy” lines. To his consternation (I detected), this Chinese-American 50-something woman replied, “No, not really, we just try to do what is right.”!

consequence, and so on, that do seem to be common across cultures. The best explanation for these cognitive weaknesses is that Mother Nature did not design us as optimal epistemic creatures. But, as I've said, learning about these tendencies can noticeably weaken them. In the case of so-called "positive illusions," they are not cross-culturally ubiquitous. This means that the degree to which they exist in individualistic Western cultures is an artifact of there being socially encouraged. Because it is bad to believe what is false we should find ways to stop encouraging them. There I stand.

Ok, here's the hypothesis: Study Americans who engage in insight meditation (Vipassana) on a regular basis. Here is what you will find: these individuals are less likely to be (a) depressed, but (b) more importantly, they will score much lower than normals on positive illusions. No psychologist has studied meditators with this hypothesis on the table. I challenge someone to do so. I will bet *all* the royalties for the book that emerges from these lectures that you will find what I predict. Oh, the sample will need to be large, representative, the research peer reviewed and replicated. Then you will pay me with all the money going to charity. It is a good cause. So that's the dare. Let's have fun. Take the bet.

Thank you and goodnight.

Appendix 1: On Flow

Flow:

1. There are clear goals every step of the way.
2. There is immediate feedback to one's actions.
3. There is a balance between challenges and skills.
4. Action and awareness are merged.
5. Distractions are excluded from consciousness.
6. There is no worry of failure.
7. Self-consciousness disappears.
8. The sense of time becomes distorted (stops, speeds up or slows down).
9. The activity becomes autotelic, an end-in-itself (Csikszentmihalyi, 1997 *Creativity: Flow and the Psychology of Discovery and Invention*, pp. 111-113)

Seligman says this about Flow:

On good days, "flow" is what happens to and for composers, musicians, athletes, dancers, rock-climbers. Flow is constitutive of "enjoyment," although enjoyable experiences are not high in emotion while we are in the zone.

Notice a salient absence: there is no positive emotion on the list of essential components. While positive emotions like pleasure, exhilaration, and ecstasy are occasionally mentioned, typically in retrospect, they are not usually felt. In fact, it is the absence of emotion, of any kind of consciousness, that is at the heart of flow. Consciousness and emotion are there to correct your trajectory; when what you are doing is seamlessly perfect, you don't need them. (p. 116)

Csikszentmihalyi and his colleagues use the experience sampling method (ESM) to measure the frequency of flow. In ESM, participants are given pagers and then beeped at random times during the day and evening, and they record what they are doing at just that moment: what they are thinking, what emotions they are feeling, and how engaged they are. His research team has gathered more than a million data points involving thousands of people from many walks of life.

Flow is a frequent experience for some people, but this state visits many others only rarely if at all. In one of Mike's studies, he tracked 250 high-flow and 250 low-flow teenagers. The low-flow teenagers are "mall" kids; they hang out at malls and they watch television a lot. The high-flow kids have hobbies, they engage in sports, and they spend a lot of time on homework. On every measure of psychological well-being (including self-esteem and engagement) save one, the high-flow teenagers did better. The exception is important: the high-flow kids think their low-flow peers are having more fun, and say they would rather be at the mall doing all those "fun" things or watching television. But while all the engagement they have is not perceived as enjoyable, it pays off later in life. The high-flow kids are the ones who make it to college, who have deeper social ties, and whose later lives are more successful. This all fits Mike's theory that flow is the state that builds psychological capital that can be drawn on in the years to come. (p.117)

(Seligman, Authentic Happiness)