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Schrödinger and Nietzsche and Life: Eternal Recurrence and the Conscious Now

Babette Babich

For Antonio de Nicolás, Hochachtungsvoll

Homo liber nulla de re minus quam de morte cogitat;
et ejus sapientia non mortis sed vitae meditatio est.

*There is nothing over which a free man ponders less than
death; his wisdom is, to meditate not on death but on life.*
– Spinoza¹

*"What is life?" I asked in 1943. In 1944 Sheila May told me,
"Glory be to God!"*
– Schrödinger

Prelude to a Reflection on Consciousness: Science, Life, Desire and Delusion

Abstract:

The phenomenological question of consciousness² usually associated with Husserl (although there are echoes of this in Augustine as in Marcus Aurelius, Kant and Schopenhauer), is the consciousness of the now, the present moment. I explore this consciousness for Erwin Schrödinger, which for him included reference to the *Upaniṣads* together with Nietzsche's central teaching or "thinking" of the eternal recurrence of the same.³

¹ Spinoza, *Ethics*, Pt IV, Prop. 67, as cited in Schrödinger, *What is Life? with Mind and Matter and Autobiographical Sketches* (Cambridge: Cambridge University Press, 1967), p. 2.

² This essay grows out of a lecture presented at a graduate conference at Fordham University for students from Fordham and the University of Antwerp in mid-September, 2011. Both Antonio de Nicolás and Patrick Aidan Heelan were mentioned on this occasion with reference to Fordham where Antonio was Fr. Heelan's student and Stony Brook: where they were colleagues.

³ This doctrine is introduced by way of the penultimate aphorism ("The Greatest Weight" [GS §341]) of the first published version of *The Gay Science*, which ends with the section *Incipit tragödia* (GS §341) that recurs verbatim as the first section of *Thus Spoke Zarathustra*. Thus connections between Nietzsche's books tends to be elusive (Nietzsche's famous aphoristic style seems to lead literary and philosophic scholars to ignore their genesis and read them periodically, insisting on three periods (divided like Gaul or the persons in the one God, I am not sure which). What is certain is that authors read Nietzsche's texts in isolation from one another, which further fuels – and blinds – source scholarship. At any rate, scholars tend not to read *The Gay Science* and *Thus Spoke Zarathustra* together. I argue for this conjunction in several places and I differ from other scholars in that I contend that this is further complicated by the importance of Nietzsche's first book on tragedy for *The Gay Science*. See Babich, "Gay Science: Science and *Wissenschaft*, *Leidenschaft* and Music" in: Keith Ansell-Pearson, ed., *Companion to Nietzsche* (Cambridge: Blackwell, 2006), pp. 97-114 as well as "The Science of Words or Philology: Music in *The Birth of*

We are familiar with the physical and cybernetic framework of the question of life as Schrödinger himself posed it and indeed Schrödinger is celebrated as one of the first to pose this question using the framework of physics, itself increasingly the standard for the biological sciences today. Nietzsche, who is usually associated with the death of God and the will to power in the popular mind, also raised the question of life, drawing upon both Schopenhauer⁴ and Kant as well as classical philosophy and letters.⁵ In addition, Nietzsche's critically reflexive philosophical,⁶ approach to the sciences – not unlike the approach Mary Midgely has always urged, most recently in her defense of Ruper Sheldrake's *The Science Delusion*,⁷ as did indeed Paul

Tragedy and The Alchemy of Love in The Gay Science" in: Tiziana Andina, ed., *Revista di estetica*, n.s. 28, XLV (Turin: Rosenberg & Sellier, 2005), pp. 47-78.

⁴ The context in Nietzsche's second *Untimely Meditation*, namely, "Schopenhauer as Educator" is also one of Nietzsche's earliest expressions of life affirmation and the question that leads to his notion of the eternal return. Nietzsche, *Kritische Studienausgabe* (Berlin: de Gruyter, 1980), Vol. 1 p. 362.

⁵ Reading Nietzsche on the theme of life is an inherently esoteric undertaking given Nietzsche's own discipline of ancient philology, i.e., what we call classics today. This esoteric dimensionality was especially close to Nietzsche via his friend and colleague, the Heidelberg philologist, Erwin Rohde, who was not only an expert on the 2nd century satirist, Lucian as well as the Greek concept of soul or spirit and mind, as author of the two-volume, *Psyche*. See Rohde, *Psyche: The Cult of Souls & The Belief in Immortality Among the Greeks*, introduction by W.K.C. Guthrie, trans. W.B. Hills (New York: Harper & Row, 1966); originally: *Psyche: Seelencult und Unsterblichkeitsglaube der Griechen* (Tübingen: Mohr 1894).

I have shown that Lucian is critical for our understanding of the very seriously comic or parodic dimensions of Nietzsche's Zarathustra just to the extent that Lucian's dialogues thematize death and the afterlife, as the phantasms of metaphysics, and in this fashion the vanities of worldly life. Yet Lucian, who once enjoyed overwhelming popularity, counts as both a common-place and esoteric referent because, as the late Annette Baier pointed out with reference to David Hume for whom Lucian is also significant, we no longer read Lucian.. Parodic themes recur in Nietzsche's Zarathustra, who also, à la Lucian's own account of Empedocles not merely flies into a volcano but to hell (and back). See Babich, « Le Zarathoustra de Nietzsche et le style parodique. A propos de l'*hyperanthropos* de Lucien et du surhomme de Nietzsche, » *Diogenès. Revue internationale des sciences humaines*, 232 (October 2010): 70-93. See also, foreground Empedocles and Hölderlin in English, Babich, "The Time of Kings: Nietzsche's Zarathustra, Nietzsche's Empedocles." In: Horst Hutter and Eli Friedlander, ed., *Becoming Loyal to the Earth: Nietzsche's Teaching as a Therapy for Political Culture* (London: Continuum, 2013), pp. 157-174.

⁶ Nietzsche's theoretico- cosmological concerns are well known and he had read the theorists of his day, especially Robert Mayer and Ernst Mach and many others, as has been detailed for many, many years now. See my own discussion of this engagement in *Nietzsche's Philosophy of Science*, where I also emphasize the earlier contributions of Reinhard Löw, Wolfgang Müller-Lauter, Abel Rey, and especially Alwin Mittasch in particular and if only for his reading of the importance for Nietzsche of J. R. Mayer, among others.

⁷ See Mary Midgley's review of Rupert Sheldrake's *Science Delusion* (London: Coronet, 2012), "We must find a new way of understanding human beings" which begins with this crucial reflection

Feyerabend, and others – meant that he directed his own questioning of life “to the physicists” as well as “the philosophers” whom he charges with dealing death as – “nothing,” he writes, “escapes their hands alive” (TI, *Reason in Philosophy*).

All this makes Nietzsche as difficult as Schrödinger, as I have noted over the years, recently in connection with David Reiff’s *Swimming in a Sea of Death*, his memorial for his mother, Susan Sontag. A fact checker,⁸ unable to find a reference to what turned out to be Nietzsche’s aphorism, “The Thought of Death,” wrote to me on Reiff’s behalf.⁹

Of course I was not contacted until a range of other Nietzsche scholars had failed to be able to answer her question. Today’s Nietzsche scholars are analytic by formation and analytic scholars philosophers read Nietzsche in order to correct his views on epistemology or more commonly on ethics or morality or “the political.” They do not tend to know “the text” just because they often have not “read” it as such.¹⁰

Sontag refers to Nietzsche in her diaries without giving the source, so the fact checker wrote to me, adding that what she cites in her diaries seems impossible to locate. In replying, I noted that Sontag’s reference mixed two different loci, indeed, metonymically, which is also the way the mind works. The most important locus was the most evident one, shades of Poe’s Purloined Letter. This was the “Thought of Death” (GS §278).

as Midgley writes here: “The unlucky fact that our current form of mechanistic materialism rests on muddled, outdated notions of matter isn’t often mentioned today” and continues to argue, precisely on the very ontic and ontological terms of both evolution and the – often summarily dismissed – facts of perception that “We must somehow find different, more realistic ways of understanding human beings – and indeed other animals – as the active wholes that they are, rather than pretending to see them as meaningless consignments of chemicals.” Midgley, *The Guardian*, 27 January 2012.

⁸ That would be the difference between trade and academic authors and it is how you know whether you are a “real” author or not, not only have you an agent *and* an editor, but an assistant to check your facts.

⁹ Reiff himself, I am very honored to say, was thankful for my reply, as he wrote to me when he sent a copy of his book. See David Reiff, *Swimming in a Sea of Death: A Son’s Memoir* (New York: Simon and Schuster, 2008).

¹⁰ The habit of not reading Nietzsche in his entirety is a point of pride for analysts, from Richard Schacht to Maudemarie Clark and Brian Leiter. Even Bernard Reginster and Peter Poellner – both of whom have read Nietzsche in context tend to follow the lead of their colleagues and bracket this in their accounts. I do not consider Robert Pippin’s non-reading because he is an analytic Hegelian and needs our forbearance.

Rieff closes his own book with a reference to “the melancholy happiness”¹¹ Nietzsche tells his readers he “derives from the spectacle of human beings loving life”¹² while scrupulously avoiding even the slightest “thought of death.”¹³ Nietzsche’s point does not parallel Sontag’s own quote from Kierkegaard, a temporal reflection important for Rieff throughout his book: “life must be lived prospectively but can only be understood retrospectively”¹⁴ – nor Rieff’s own melancholy, “by then, it is usually too late.”¹⁵ But Nietzsche’s challenge is a writer’s challenge. Perhaps appealing to Sontag accordingly: “to do something” for all those human (all-too-human) lovers of life “that would make the thought of life even a hundred times more appealing to them.”¹⁶

Nietzsche’s point exceeds the philosophical chestnut that we as mortal beings are defined in our essence by our mortality and not less by our ability to think about this mortality. Thus the poet Robert Burns’ gave himself to reflect in a poem on ruining the life-chances of a small mouse, inadvertently turned out as he plowed the field. The Scots poet thus echoes Nietzsche’s insight on life and its brevity: whoever has not now already built a house, will build one no more. What distinguishes us, ‘proximally and for the most part’ as Heidegger says, echoing Nietzsche, who is echoing Seneca, is not that we are mortal and can think about death but rather that we don’t think about it. And as Heidegger reminds us, the best way, the all-too-human way not to think of death is to insist that that we do. So we say: *everyone dies*.

Nietzsche tells us this, as does indeed Pierre Hadot and the Austrian priest Ivan Illich and Heidegger and Schopenhauer, along with the ancients. Even Žižek, who as a Hegelian does not quite believe this, underscores: “And so on and so on.”

Nietzsche’s paradoxical, classically philosophical insight points out that in our lack of concern with death we also fail to think of life. In our (obviously Hobbesian) struggle to get ahead of everyone (this is the context of the aphorism

¹¹ Nietzsche, *The Gay Science*, §278.

¹² Rieff, *Swimming in a Sea of Death*, p. 174.

¹³ Nietzsche, *The Gay Science*, §278.

¹⁴ Rieff, *Swimming in a Sea of Death: A Son’s Memoir* (New York: Simon and Schuster, 2008), pp. 177-78.

¹⁵ David Rieff, *Swimming in a Sea of Death*, p. 179.

¹⁶ Nietzsche, *The Gay Science*, §278.

which is set in Italy, at an emigrant's port), as we seek to outreach everyone *in medias res*, in and through our ambitions "to be the first in this future." We do not see that "death and deathly silence alone are certain and common to all in this future." (GS §278).

The classical focus on fate and its conflicts with desire resounds in Rieff's quote from the Marxist and Irish historian of science, J. F. Bernal in his *The World, the Flesh & the Devil*: "there is 'the history of desire and the history of fate and man's reason has never learned to distinguish them.'"¹⁷

Like Nietzsche and Schrödinger, Bernal contrasts religion with science and looking to the East, adds a further contrast with Buddhism:¹⁸

Desire, the strongest thing in the world, is itself all future, and it is not for nothing that in all the religions the motive is always forwards to an endless futurity of bliss or annihilation. Now that religion gives place to science the paradiscial future of the soul fades before the Utopian future of the species, and still the future rules. But always there is, on the other side, destiny, that which inevitably will happen, a future here concerned not as the other was with man and his desires, but blindly and inexorably with the whole universe of space and time. The Buddhist seeks to escape from the Wheel of Life and Death, the Christian passes through them in the faith of another world to come, the modern reformer, as unrealistic but less imaginative, demands his chosen future in this world of men.¹⁹

Nietzsche likewise argues that science differs from religion in that science locates its promised fantasy of salvation not in the afterlife but in the world: the here and now.²⁰ Rupert Sheldrake's above mentioned *The Science Delusion* is only a recent contribution to the blinders that tend to be required to believe in that science, a

¹⁷ Rieff, *Swimming in a Sea of Death*, p. 78.

¹⁸ I call attention to the significance of the plural form in Rom Harré's book, *Philosophies of Science*, and note that, in part, my account of not-P philosophy of science (i.e., non-physics sciences) is indebted to Harré's formula throughout in: Babich, "Towards a Critical Philosophy of Science: Continental Beginnings and Bugbears, Whigs and Waterbears," *International Journal of the Philosophy of Science*, Vol. 24, No. 4 (December 2010): 343-391.

¹⁹ J. D. Bernal, *The World, the Flesh & the Devil: An Enquiry into the Future of the Three Enemies of the Rational Soul*, (Bloomington: Indiana University Press, 1969), p. 7.

²⁰ Thus Nietzsche agrees with Bernal as does the so-called French Freud, Jacques Lacan. But we should remember not only that this sentiment appears in Epictetus and Marcus Aurelius, and is thus a mainstay of Stoicism as well as a well-known Irish prayer.

more pellucid example of which can be found in the gerontological phantasms of Kurzweil's *The Singularity*.²¹

Schrödinger's Cat and Nietzsche's Madness

Like Nietzsche, Schrödinger is surrounded with myth. Where Nietzsche's myths turn on the will to power or the death of God or his supposed syphilis,²² Schrödinger's myths testify to his mathematical and quantum mechanical genius. Some of these myths turn on Schrödinger's equation, others involve his quantum thought-experiment regarding a complicated way to kill a cat – the point being not the death of the cat (this ultimate outcome is given) but the uncertainty of knowing the life/death state of the cat in question at any specific time.

Now the cat, locked in his box, and no matter whether he is (still) alive or (already) dead, is unfortunate in any case. In this respect the cat is like every animal used in science and at every step of the way from their breeding and birth or still all-too-commonly from their 'collection' from the wild as well as pets taken from animal shelters to use in scientific experiments (pets are more docile because they – erroneously – expect kindness), and of course, virtually all of them are killed as part of the research project, and this is universally so when it comes to cats used in studies of perception and so many other things. A one-way street for the animals, scientific research on animals presumes a logic of death.

It is its' verisimilitude, echoing the gas chambers used then and to this day in fatuously designated animal 'shelters,' the techniques of experimental science guarantees Schrödinger's cat example its macabre force. By using the fact and time of death as an experimental index or indicator describes what is done in all

²¹ I discuss Kurzweil in Babich, "On Machines as the Masters of Humanity: Martin Heidegger, Günther Anders, and the Singularity of Digital Technology" in: *Journal of the Hannah Arendt Center for Politics and Humanities at Bard College*, 2 (2012): 122-144. See too: Babich, "Nietzsche's Post-Human Imperative: On the "All-too-Human" Dream of Transhumanism," *The Agonist*, Vol. IV, Issue II (2012). Online publication accessible here: http://www.nietzschecircle.com/AGONIST/2011_08/Dream_of_Transhumanism.html.

²² I address this in Babich, "Reading Lou von Salomé's Triangles," *New Nietzsche Studies*, Vol. 8, Nos. 3 & 4 (2011 / 2012): 82-114, see especially the discussion leading to the last footnote, here p. 114. As we will return to this issue below, it is worth noting that Schrödinger had a greater statistical likelihood of having had syphilis given that usual avenues for infection include intimate contact and, unlike Nietzsche, Schrödinger boasted so many erotic conquests that his biographers vie for different ways to talk about this.

branches of science, especially in but not only the biological and psychological sciences, especially in these days of neuroscience but also in chemistry and physics, and also medicine and military science.²³ At issue is one state or the other: is the cat alive or dead? Schrödinger's humor is what puts a point on the significance and the paradox of quantum indeterminability which works as a thought experiment just because death is a quantifiable index: a ready-made gauge. Where would the chemist Robert Boyle have been with his air-pump – how would the dispute with Thomas Hobbes have been settled? – in the absence of an array of suitably suffocated mice and canaries as mute witnesses?²⁴

Beyond the ailurophobic example of the cat – is 'it' alive or dead²⁵ – this question also illuminates the measurement paradox of the quantum state as Schrödinger. The furthest thing from a joke – although in popular culture, even in university contexts, it is nearly always greeted with hilarity – Schrödinger's thought experiment assumes the then and still current practice of experimental science, which depends upon an overwhelmingly massive utilization not only of cats but other animals "sacrificed" for the sake of science.

Schrödinger's "burlesque" example²⁶ offers a graphic illumination of the significance of quantum indeterminability.²⁷ Nietzsche would have reminded us

²³ The praxis of experimental science depends upon the violent, as a matter of course, and overwhelmingly massive in terms of sheer numbers life and death utilization of cats – but also dogs, rats, mice, pigs, sheep, primates, goats, etc. And we have singularly little sympathy for cats, especially in science but also in general and the numbers of cats killed (ignoring Asian markets for the moment) are proportionately much higher than surrendered or impounded animals like dogs in US shelter systems. Even the most modest statistic as offered by the ASPCA rates the proportion of cats killed as between twenty and thirty percent higher than dogs (note that almost all other animals, birds, rodents, rabbits are simply euthanized to start with and note too that, implausible as this many seem there are no reliable statistics to be had). The ASPCA, like the similarly named Humane Society or indeed PETA, is also responsible for many of these deaths as the great majority of animals "rescued" by the ASPCA are killed in shelters which, to be sure, should not be called *shelters* but 'execution holding facilities' or 'centers for domestic animal genocide' or some other more true to function descriptor.

²⁴ See here, and the authors do not make this point themselves even as they detail the point, Steven Shapin and Simon Schaffer, *Leviathan and Air-Pump: Hobbes, Boyle, and the Experimental Life* (Princeton: Princeton University Press, 1985). See too note 27 below.

²⁵ Schrödinger's cat has a life of its own in popular discourse, particularly as this is made iconic on the internet given the popularity of the 'lolkatz' example of the same ('lolkatz' are images of cats with various sentiments, as the authors suppose cats would have them, largely articulated from what is fantasized as the cat's point of view. OOO works in fairly parallel fashion).

²⁶ Schrödinger, „Die gegenwärtige Situation in der Quantenmechanik,“ [Part One] *Die Naturwissenschaften*, 23/48 (29 November, 1935): 807-812.

that living experience is indeterminate from start to finish and not merely as one or the other of two, mutually exclusive “states” (and it is because Schrödinger can take these to be opposites that his experiment works as it does). By contrast, for Nietzsche, life includes every discrete continuum of stages of life as well as stages of death: “The living is only a species of the dead, and a very rare variety” (GS §109).

For the scientist (and the military mind), half-dead qua doomed (the cat suffering in the box), counts as “alive.” Elsewhere I have argued that this same military insensitivity informs Nietzsche’s aphorism, “*From the military school of life* – What does not kill me, makes me stronger.”²⁸ Having survived a siege, one can be urged to fight on the day after even after whatever loss as Nietzsche lists such losses in his reflections on the being the hero who “welcomes the dawn.”²⁹

The issue of the “subject” (and correspondingly, the issue of objectivity) is only an issue for the scientist, the “observer.”³⁰ Hence science refuses (no matter the results of its experiments) to attribute anything like “subjectivity” to its animal subjects – and this is part of the issue that Mary Midgley has with the current mind-matter world view as we cited it at the start – and to this extent, brain science and cognitive psychology including (the term behavior is a dead or Cartesian-laden give-away) behaviourism, always neutralizes animals as objects that is: as things.³¹ Nor does it matter in the end whether animals in experimental situations learn to speak, or to use language or tools, or recognize themselves in mirrors, or whatever we ask. For us, they remain things, and when the experiment is over we recycle them for other experiments and ultimately, such is our concern to examine their brains, “sacrifice” them.³²

²⁷ [Note on previous page]. The reference to the airpump brings in a notion of ‘modest’ witness and we usually debate this in terms of class and sometimes gender but suffocated canaries are more modest than the least of these.

²⁸ Nietzsche, *Twilight of the Idols*, Streifzüge §8. I discuss Nietzsche’s aphorism here: Babich, *Words in Blood, Like Flowers*, pp. 109-110 but see too Tracy Strong’s appropriation of my discussion in his introduction to Nietzsche’s *Twilight of the Idols*, Richard Polt, trans. (Hackett), p. ix.

²⁹ Nietzsche, *The Gay Science*, §337.

³⁰ See here, Patrick A. Heelan’s unpublished manuscript, *The Observable*.

³¹ Midgley, *Animals and Why They Matter: A Journey Around the Species Barrier* (Atlanta: University of Georgia Press, 1983).

³² I take this up in my essay “‘What Makes Human Beings into Moral Beings?’ On the Evolutionary Significance of Ethics,” *Revista Voluntatis: Estudios sobre Schopenhauer*, Vol. 2, No. 2

I have attended to the issue of animals because it brings some real-life context into contrast with the scientific ideal of the Schrödinger *myth*,³³ spoken as if he were a power wrestler: corresponding to the Schrödinger equation as perfect symbolic signifier. In the case of Schrödinger's *What is Life?* this same mathematical mystique characterizing the image of Schrödinger in science, popular culture, and philosophy (rather in that order) distracts us from reading what he says to us. Hence when we think of Schrödinger we do not think of the mythic traditions that concerned him, from the ancient Greeks to the Sufi and Vedic traditions, we think of his wave equation or his unfortunate cat example.

Schrödinger himself was not particularly worried about cats. His example was meant to illustrate that fundamental quantum physics challenges the ordinary assumptions of ordinary observation, that is: space and time, together with the identity of the observed. Hence Schrödinger reflects that quantum theory "tells us that what was formerly considered as the most obvious and fundamental property of the corpuscles, namely their being identifiable individuals, has only a limited significance."³⁴ Thus the traditionally Laplacian expectation of an eventually calculable vision of the universe is demonically set on edge:

Only when a corpuscle is moving with sufficient speed in a region not too crowded with corpuscles of the same kind does its identity remain (nearly) unambiguous. Otherwise it becomes blurred.³⁵

A consummate mathematician, Schrödinger emphasizes that what is at stake is what is called bi-locality:

(February 2012): 3-30 and this emphasis formed a public commentary I offered on a talk on mirror neurons in the Fall of 2012 at Fordham University.

³³ This is the academic aura – "Das ist der Schrödinger" – as this awe accompanies what I have elsewhere called the "great man" cult in physics as in philosophy and so on in the academic world. See Babich, "Great Men, Little Black Dresses, & the Virtues of Keeping One's Feet on the Ground," *MP: An Online Feminist Journal*, Volume 3, Issue 1 (August 2010): 57-78. But if this overenthusiasm for 'great men' may be found across the board in the academy (the names vary from discipline to discipline and change every half decade or so), it is instructive that it is only scientists (and former times religious men) who manage to make the move from esoteric chic to exoteric fame. Think of Einstein and think too of all the other names you knew once – and perhaps no longer recall today.

³⁴ Schrödinger, *Nature and the Greeks*, p. 18.

³⁵ *Ibid.*

And by this assertion we do not mean to indicate merely our practical inability to follow the movement of the particle in question; the very notion of absolute identity is held to be inadmissible."³⁶

With respect to what Patrick A. Heelan has called the "observable,"³⁷ at issue for Schrödinger is the subjective consciousness of the observer. The problem is consciousness and this is a *constitutive* problem:

...science in is the attempt to describe and understand Nature simplifies... The scientist subconsciously, almost inadvertently, simplifies his problem of understanding nature by disregarding or cutting out of the representation of the world that is to be constructed his own person, the knowing subject.³⁸

This tendency to pretend to the God trick, or as Nietzsche puts it, to phrase questions in terms of what the world would look like *if one had cut one's head off and if one could still take a look*), reflects the problem, and the idealization, of objectivity.

The Personal and the Subject of Consciousness: The Dance of Subjectivity and Eros

Nietzsche's teaching of eternal recurrence and Schrödinger's reflection on the same theme both offer personal reflections on the person, considered in space and in time. And to be personal, I began my own academic life in the biological sciences at the State University of New York at Stony Brook and this is how I came to study with Antonio de Nicolás. I admired his style and I read his *Meditations Through the Rig Veda: Four Dimensional Man* as well as his *Avatara*³⁹

³⁶ Ibid.

³⁷ See again, Heelan's *The Observable*. Cf. Heelan, *Quantum Mechanics and Objectivity: A Study of the Physical Philosophy of Werner Heisenberg* (The Hague, Nijhoff, 1965). See too in this connection, the video interview with Patrick Heelan, "On Axiomatic Systems, Apples, God, and Hilbert Spaces," http://www.youtube.com/watch?v=S4NG2qniGqs&list=UUJqCWvIqA_bX5tcVpaNFe8w&index=7&feature=plcp.

³⁸ Schrödinger, *Nature and the Greeks*, p. 92.

³⁹ Antonio T. de Nicolás, *Meditations Through the Rg Veda: Four Dimensional Man* (New York: Weiser, 1976) and *Avatara: The Humanization of Philosophy Through the Bhagavad Gita* (York Beach,

together with his other work and his poetry. In this way I can attest to his elegance first hand, not only when I knew him Stony Brook, but also, years later, visiting him in Florida, where I walked with him on the beach and watched him as he fed soaring gulls with bread tossed into the air, matching their arabesques with his poet's joy.

When another of my teachers, the Irish Jesuit priest and mathematician-physicist, Patrick Heelan spoke of de Nicolás, he not only emphasized his importance to him as a friend but also praised his elegance as a poet. For me, it is telling that Heelan spoke about Schrödinger in the same way. But it is my science background that underlines the aura of Schrödinger's equation to emphasize Heidegger's counterintuitive insight: "Science does not think."⁴⁰

To be sure, Heidegger does not claim that "science does not think" in order to attack or undermine science but only to describe it. Beyond technology which was the point Heidegger was making as that without which there is (and can be) no science, science is calculation. This is why the apparent measurement of the faster than light neutrino⁴¹ formerly buzzing about in the media and the

ME: N. Hays, 1976). Also influential for me would be the biologist Edwin Battley, whom I met first of all as well as David B. Allison, Patrick Heelan, Don Ihde, and Robert Sternfeld and Richmond Hathorne, the last two my first undergraduate teachers (in philosophy and classics).

⁴⁰ Heidegger, *What is Called Thinking?*, F. D. Wieck, and J. G. Gray, trans. (New York: Harper and Row, 1968), pp. 8ff. For discussion, see the contributions to Babich, ed., *Hermeneutic Philosophy of Science, Van Gogh's Eyes, and God: Essays in Honor of Patrick A. Heelan, S.J.* (Dordrecht: Kluwer, 2002) — de Nicolás himself, who sent a wonderful encomium on the very idea of a *Festschrift*, a collective volume that is still poorly understood in the Anglo-Saxon world, when he wrote to me a series of emails, with the subject line: "Honor your teachers!," also forwarding a beautiful example of practical philosophy as the art of spiritual living, in this case on the practice of sainthood or a pragmatics of perfection, that is to say the technical art of the Ignatian spiritual exercises, which however he ultimately had to reserve for another purpose — and see too Jean-Michel Salanskis, "Die Wissenschaft denkt nicht," *Tekhnema*, 2 (1995): 60-85 as well as Dimitri Ginev, *A Passage to the Idea for a Hermeneutic Philosophy of Science* (Amsterdam: Rodopi, 1997).

⁴¹ In the interim these measurements and the claim related to them have retracted, owing to technical error and one will see what future reflections bring because what is certain is that the most critical question in experimental cosmology is the question of the neutrinos themselves, a literal question in that there seem to be too few of them: where are they? Thus measurement here tests, assuming our theory of cosmogenesis correct as this is also the theory of the development of stars and their collapse, the significance of the relative lack of neutrinos. This lack may be a measurement altogether (neutrinos by their nature are hard to detect) or because we are wrong about the speed of light as a limit (this is the CERN issue and why it was taken seriously at all rather than simply being classified anomalous. All of this matters to the extent that it could explain why our neutrino detectors have, in the forty years since the American physicist Ray Davis attempted to detect neutrinos in the North Dakota Homestake mine 3 kilometers below the earth's surface. As one recent summary put it: "His first results surprised. They are confirmed

more recent and vastly more useful (just to the extent that these findings secured rather than questioned the foundations of cosmology) detection of the Higgs boson.

Whether one is measuring neutrinos or detecting the Higgs boson, one simply needs to have to have equipment, rightly calibrated. That is what CERN itself is all about and why it has experimental facilities that take up large portions of southern France, Switzerland, Italy. Given the right equipment, the right experiments, the data, you simply do the math. Learning to do science is learning to do the kind of mathematics that is the only thing that makes science science.

It is to express this experimental, institutionally mediated metric that Planck observed that the real is that which can be measured.⁴² For Planck, “mathematics is the chief tool with which [physics] is worked. All physical ideas depend upon measurements, more or less exactly carried out.”⁴³ Planck’s measuring and calculating allusion is to the Galileo who spoke of a God who, as it were, kept or wrote two books: the Bible and the book of the nature, which as Galileo noted, and as both Newton and Leibniz exemplified, is written *as* mathematics.

today, after 20 years of data: above a neutrino energy of 1 MeV, the sun emits three times less neutrinos than predicted by the standard solar model.” Alternately, we may simply be wrong about the natural history or life-cycle of stars. If we are not wrong about either, and if we can detect them as we suppose we can, the lack of neutrinos points to a much older sun than has been supposed in which case, and from an cosmological point of view, we are facing incipient doom, which would, contrary to the apocalyptic scenarios of Hollywood’s last days, only mean that life on earth could simply vanish in the first of the few minutes it would take for the sun to expand beyond the earth’s orbit, to Jupiter or so it is estimated.

⁴² Heidegger explains that “because modern science is theory ... in all its observing [*Be-trachten*], therefore, the manner of its striving after [*Trachtens*], i.e., the manner of entrapping-securing procedure, i.e., [*the scientific*] *method*, has decisive security” Heidegger, “Science and Reflection,” in: Heidegger, *The Question Concerning Technology*, p. 169. It is in this securing-calculating context that Heidegger cites Max Planck’s definition of “the real” as “that which can be measured” (ibid.). Although historians of science often repeat, uncritically, Planck’s contention that he never said such a thing, this is inaccurate. See Planck’s 1909 lecture series at Columbia University (also published in German that same year), *Eight Lectures on Theoretical Physics. Delivered at Columbia University in 1909*, A.P. Wills trans. (New York: Columbia University Press, 1915 [Leipzig: Hirzel, 1909]). As Planck observes here, talk of objects is arbitrary. One should only speak of “complexes of sense perceptions” rather than, say, the “rustling,” of the leaves of a tree. (Ibid.) – a claim Heidegger expressly opposes both in his teacher Husserl’s spirit, and with his own emphases. For his part, Planck goes on to emphasize that any discussion of measures “presupposes” that the progress of the phenomena is not influenced by the measuring instrument.” Ibid., p. 98.

⁴³ Planck, *Eight Lectures on Theoretical Physics*, p. 3.

In just this fashion, Schrödinger's 'elegant' mathematics enabled quantum mechanics to be a mechanics. And as one of Schrödinger's young assistants in cosmology at the Dublin Institute for Advanced Studies, Heelan would also have noticed (in addition to Schrödinger's elegance) – as the Dublin Irish could not help but notice – the constant seductions that were also part of Schrödinger's affective activities in the public eye.

By way of explanation (or pride), Schrödinger wrote to Max Born,

I have no higher aim than to work out the *beauty* of science. I put beauty before science. *Nititur in vetitum* [We strive for that which is forbidden, Ovid] We are always longing for our neighbor's housewife and for the perfection we are least likely to achieve.⁴⁴

Unlike Nietzsche (not unlike Heidegger and still more, not unlike de Nicolás), Schrödinger was, in every sense, a lady's man.⁴⁵ And like de Nicolás and in addition to the good looks Schrödinger began with (nobody, perhaps apart from de Nicolás, keeps these to the end), there was also Schrödinger's poetry and there were his philosophical and spiritual passions for Vedic philosophy. I talk about aesthetic appearance as it applies to both men, as it does to the question of consciousness and identity. In addition, we shall note that Schrödinger invoked consciousness and the philosophical issue of objectivity and subjective identity for the sake of seducing his conquests but also – and this is surprisingly related – in order to smooth his moving on from the one conquest to the next.

Here we may recall Sartre's discussion of bad faith as it concerns the sheer possibility of bad faith per se. How is it possible for the subject itself to deceive the subject, the self, itself? There is no problem regarding the self's deception of another (actual or intended). And there is no mystery to making a bad promise (the intention is the only thing that matters in this case, otherwise we speak of good faith), as we know from Kant. What is at issue – this is the reason for Kant's resolution of the problem in terms of a purely instrumental or categorical

⁴⁴ Cited following Walter J. Moore, *A Life of Erwin Schrödinger* (Cambridge University Press, 1994), p. 296, without references to be sure, and without the Latin or its translation, in William H. Cropper, *Great Physicists: The Life and Times of Leading Physicists from Galileo to Hawking* Oxford, 2004, pp. 281-282.

⁴⁵ One can get de Nicolás's own poet's sense of this in Antonio de Nicolás, *The Sea-Tug Elegies: of Angels, and Women Mostly* (New York: Paragon House, 1991).

imperative – is the Augustinian question of what the self ‘really’ wants when it comes to garden variety lying (and note that Kant’s argument is that lies as such involve a tacit Jesuitry, or mental reservation, shorn of which one would not be able to lie, and hence the categorical imperative).

Sartre frames the question of the subject as subject for and to subject itself, by posing the question of bad faith (Sartre learnt this from Heidegger who learnt it from Nietzsche – and not from Aristotle or Kant as Heidegger insists) *as a question*. How is it possible for the self as subject to be *in bad faith* not for another but for and to itself? The question for Sartre is key to the unconscious and to consciousness.

As Sartre underscores bad faith quite authentically, if complicatedly, is always a belief held by the subject with regard to itself, in other words: “bad faith is *faith*.”⁴⁶ This same ‘faith’ is echoed in Schrödinger and to illustrate we may recall Sartre’s *Being and Nothingness* where after teasing the waiter for his officiousness or pomposity (these are Parisian waiters, let us not forget – and Slavoj Žižek cites Bernasconi’s parallel with the “overfriendliness” of North American waiters by contrast),⁴⁷ Sartre subsequently turns to indict a young woman’s bad faith in nothing other than an erotic context. The young woman is, as Sartre puts it, out for the evening. The specific occasion is a first encounter – the first meeting quality of the event, the still-closed box (in the case of the cat

⁴⁶ Sartre, *Being and Nothingness*, Hazel E. Barnes, trans. (London: Routledge, 1958 [1943]), p. 67.

⁴⁷ On the first page of his recent Hegel book, Žižek cites his discomfit (or delight) at being asked about his day on his first visit to the US and his ingenuously or earnestly honest answer. See Žižek, *Less Than Nothing: Hegel and the Shadow of Dialectical Materialism* (London: Verso, 2012), p. 1. Žižek goes on to repeat Bernasconi’s reading of Sartre’s waiter at length in his *Less Than Nothing*. For Bernasconi, Sartre’s waiter “plays at being a waiter by acting like an automaton, just as the role of a waiter in the United States, by a strange inversion, is to play at acting like one’s friend. However, Sartre’s point is that, whatever game the waiter is called upon to play, the ultimate rule that the waiter follows is that he must break the rules, and to do so by following them in an exaggerated manner. That is to say, the waiter does not simply follow the unwritten rules, which would be obedience to a certain kind of tyranny, but, instead, goes overboard in following those rules. The waiter succeeds in rejecting the attempt to reduce him to nothing more than being a waiter, not by refusing the role, but by highlighting the fact that he is playing it to the point that he escapes it. The waiter does this by overdoing things, by doing too much. The French waiter, instead of disappearing into the role, exaggerates the movements that make him something of an automaton in a way that draws attention to him, just as, we can add, the quintessential North American waiter is not so much friendly as overfriendly. Sartre uses the same word, *trop*, that we saw him using in *Nausea* to express this human superfluity.” Bernasconi, *How to Read Sartre* (London: Granta, 2006), p. 38; here in Žižek, *Less Than Nothing*, p. 355.

example) – and this is crucial to the seductive point in question and to the issue of bad faith. For although, as Sartre tells us, she is “well aware” of her companion’s intentions toward her, and Sartre underlines this ‘knowledge’ in terms of both her ‘faith’ and its quasi-unstable character, she nevertheless opts to take refuge from this consciousness – this is what Sartre describes as its “meta-stable” character⁴⁸ – and chooses to limit her conscious focus on her companion to the external signs he gives of his respect and regard. Formality, politeness, however much it is a social pretense, are decisive details when it comes to seduction and its charms and the success of its advantage.

Sartre’s argument is that the young woman is in bad faith *because* she is aware of the pretext itself just as she is indeed of her suitor’s intentions. Nevertheless by means of her coincidentally distracted inattention to his attentions in all their immanence (as Sartre speaks of them) she achieves a quasi-god trick: immediately transported (how dare she? And the sexism here is both implicit and inseparable from the example, and it does not work if a woman takes a man’s hand and he continues his discourse) to the level of the pure philosopher: wholly transcendence, a subject utterly enthralled by ideas.⁴⁹ As Sartre writes, she “just happens” to be passionately absorbed by the ideal, with the effect that she is transported, absent from her body, unaware of its sensual circumstances, all the while this same disconnect adds to the *frisson* of her transport.

In the interests of precision, after all these years of reading this text, it ought to be pointed out, although Sartre does not do so, that there are two subjects and that even on the terms of Sartre’s example, both play at the same game of bad faith. The young woman (and her male companion (in addition to noting that the example is not commutative, notice too that his age does not bear mention) are both dancing the same mind-above-body dance she is dancing and when her companion quietly takes her hand as Sartre points out that he does, the politeness of seduction requires that he doesn’t advert to this act when he does it. In this way he doesn’t advert to his intentions, even if he will be happy to claim them should she respond positively, much less ask her point blank (even if both

⁴⁸ Sartre. *Being and Nothingness*, Ibid., p. 54.

⁴⁹ Ibid., p.56.

surely know that the erotic is the main menu of the evening) “Hey, how about it?”

In *Being and Nothingness* Sartre to be sure gives a free pass on the bad faith of her fellow who would deny in a flash that he had any untoward intentions if the young woman objected or suggested (everything depends on timing) that might be *too soon to move to the friends with benefits stage*, he might reply *Oh, no! of course not ...* An older man, this is how the aged or the ugly succeed, would of course press his luck, turning the tables of timing to his advantage – while he still had it. Element of surprise.

In fact, both sexes dance the dance of subjectivity, a dance predicated upon denying the subjectivity of the other. This is its Hegelian dimensionality which Kierkegaard takes to town. The “dance” is Sartre’s capitalist metaphor too when it comes to the bad faith of the tradesman of whatever kind: greengrocer, judge, physician, they all have their dance, without which, as Sartre points out, the very specifically social *commercium* of the everyday cannot function.⁵⁰

Like Nietzsche, like Sartre, what interested Schrödinger was subjectivity, expressed in terms of consciousness and in terms of objectivity. And where most scholars commenting on Schrödinger’s *What is Life?* pose the question of consciousness and objectivity in terms of the sciences, Schrödinger frames the question with respect to ancient traditions – the Greeks and beyond to the East tradition itself. Thus Schrödinger is able to pose the question of consciousness without the excessive genuflection before the scientific church of what we today call critical thinking, i.e., brain science, i.e., cognitive science which is these days what we call rationality.

As Schrödinger makes clear – and it is important to underline just how much his emphasis goes against the enduringly received view in the biological sciences today, in genomics, in the neurosciences, in gerontology – *no amount of mathematics, no matter how elegant, is or can be of any use to us in posing the*

⁵⁰ Ibid., p. 59. Here a connection with the quotidian tactics of the Jesuit Michel de Certeau remains to be made. See to begin with de Certeau, *The Practice of Everyday Life* (Berkeley: University of California Press, 1984). Intriguingly and relevantly these considerations also inform de Certeau’s reflections on the mystical or the spiritual. See here, de Certeau, *The Mystic Fable: The Sixteenth and Seventeenth Centuries* (Chicago: University of Chicago Press, 1995) and for a reflection by a friend who knew him well, Luce Giard, “Un chemin non tracé” in: *Histoire et psychanalyse entre science et fiction (Michel de Certeau)* (Paris: Gallimard, 2002).

question *What is life?* Thus he wrote that the “subject matter” of the lectures was difficult and

could not be termed popular, even though the physicist’s most dreaded weapon, mathematical deduction, would hardly be utilized. The reason for this was not that the subject was simple enough to be explained without mathematics, but rather that it was much too involved to be fully accessible to mathematics.⁵¹

It is the “much too involved” contention here that bothers people which means that Schrödinger’s assertion is overlooked.

Bracketing the ultimate issue of consciousness as Schrödinger raises this question in his lectures simplifies the task of writing on Schrödinger’s lectures: one stays with preliminaries. Schrödinger anticipated this, and emphasizes this danger within the lectures themselves. And seemingly noting that the ultimate point of his lectures would prove elusive, Schrödinger foregrounds the theme by setting it in the title of his lecture *Mind and Matter* which he would give in Cambridge thirteen years later.

Schrödinger’s 1943 Dublin lectures are outlined as an argument on the topic of life, whereby and Schrödinger also happens to be among the first to note, in passing, the sheer idea of genetic transfer specifically in terms of information or code.

⁵¹ Schrödinger, *What is Life?* Schrödinger was of course not the first person to make, or to have to make this point but it has not survived much in the history and philosophy of science. Hence Schrödinger bridges the scientific world of an Avenarius whom he quotes and a Mach and a Boltzmann with a range of background scholarship that includes the pre-socratic philosophers, the Sufi and Vedic traditions as I have said, along with Kant, Schopenhauer, and Nietzsche, where the connection with Schopenhauer and the Vedanta is the most significant. There is no scientist living today who shares all of that, certainly no philosopher of science comes close although the extraordinary Michel Bitbol or Michael Stolzenberg or indeed Carl Gethmann and even Nancy Cartwright, and so on, all of whom can be mentioned here, all in different ways. The point would be that Schrödinger was all of this and more. Hence to do justice to him one will need to do justice to the “more” in question, just where it is Schrödinger’s point in both his Dublin and Cambridge lectures that less is not more. On Schrödinger, see further, Michel Bitbol, *Schrödinger’s Philosophy of Quantum Mechanics* (Dordrecht : Kluwer, 1996) as well as his *Physique et Philosophie de l’Esprit* (Paris : Flammarion, 2000) and “Science as if situation mattered,” *Phenomenology and Cognitive Science*, 1 (2002): 181-224.

If Hans Ulrich Gumbrecht's essay on the lectures gives us a preliminary reading of Schrödinger's autobiography,⁵² other authors who write on Schrödinger have elected to explain some of Schrödinger's more unusual interests in terms of what may here be called, using conventions familiar to the philosophy of perception and aesthetics: the El Greco effect.⁵³ Thus in analogy with scientific reductions of El Greco's painterly art that "explain" it by referring to his putative astigmatism, scholars like his biographer surmise that Schrödinger was a 'manic depressive,' although and of course nothing empirical stands behind such a diagnosis. Similarly, and similarly without the slightest basis in empirical fact, we continue to be informed that Nietzsche writes what he writes 'because' he had syphilis.⁵⁴

But Schrödinger's biographer tells us that Schrödinger was 'traumatized' by the cooptation of the elegant logical schema of his wave theory and its incorporation into the Bohr-Heisenberg model that became the Copenhagen Interpretation of quantum mechanics and so on.⁵⁵ This *reduction* of a scientist's motives to his psychological "health" or else to what is sometimes called his brain state matters. Thus we speculate about Schrödinger's manic depression. And so too, in the dominant cognitive-neuroscience modality of our day, Nietzsche's thinking has been reduced, not to his depression — although Freud, inspired by Lou Salomé's late life gossip speculated on Nietzsche's sexuality (in

⁵² Hans Ulrich Gumbrecht, "Keeping the Singular, Risking Openness: Erwin Schrödinger's Way of World Experience," in: Gumbrecht, et al, *What Is Life?: The Intellectual Pertinence of Erwin Schrodinger* (Stanford: Stanford University Press, 2011), pp. 103-122.

⁵³ How anyone supposes that we can know this without an optometrist's data is beyond me, but details like an absence of factual information has never handicapped reductionistically minded argument and their proponents. Walter J. Moore, one proponent of this claim, outfits the assertion by citing a psychoanalytic assessment of genius and mental disorder via physiology, a kind of physiognomic phrenology. See Moore, *Schrödinger: Life and Thought* (Cambridge: Cambridge University Press, 1992), pp. 4-5.

⁵⁴ This diagnosis too is made in the absence of factual information, no tissue analysis, no blood test, which would in any case and as Ludwik Fleck reminds us (and it matters here that Fleck was a serologist) would not be decisive for diagnosis in the case of syphilis which last is the key point, sociological, historical, case study in Ludwik Fleck, *The Genesis and Development of a Scientific Fact* (Chicago: University of Chicago Press, 1980). On Nietzsche the same issue periodically recurs for sheer salaciousness, but see, most recently, Richard Schain, *The Legend of Nietzsche's Syphilis* (Westport: Greenwood Press, 2001).

⁵⁵ Ibid. Which as Schrödinger's biographer, Walter Moore stoutly insists, simply isn't science. But less is not more and that may be — just to cite John Horgan's *The End of Science: Facing The Limits Of Knowledge In The Twilight Of The Scientific Age* (New York, Broadway Books, 1997) — the problem with science today.

general Freud was given to assuming that famous authors were homosexual) – but most recently to the effects of a spirochaete in its early and late stages, which same effects would explicate what seems to be the historical ‘fact’ of a complete and sudden collapse, as the late Lynn Margulis has argued.⁵⁶

An evolutionary biologist, Margulis repeats the findings of journalist’s accounts of Nietzsche’s life without, however, adverting in the case of her discussion of syphilis to what other scholars write on Nietzsche nor to scientists like the physician, Ludwik Fleck and his important 1935 study on the very topic that concerns Margulis (the pleonastic character of a disease and the corresponding disease entity) in his parallel investigation into syphilis in his *The Genesis and Development of a Scientific Fact*, which argues a case that would have supported her own thesis (had she been aware of it).⁵⁷

What matters in Nietzsche’s case is our general lack of data in Nietzsche’s regard, a lack persisting to this day – this is the problem of the ‘missing blood test’ as I am inclined to argue⁵⁸ – Margulis’s point rightly concerns the difficulties of diagnosis, just as Fleck would have done (even with respect to such a blood test, if indeed we had one). Margulis’ argument thus supports the claim that Nietzsche’s ‘paresis’ – whatever we are to suppose this term to mean (and it is no hermeneutic leap to point out that there is an enormous archaeo-sociological and historiographic challenge here to parse the term as today’s physicians use it and as Nietzsche’s contemporaries used it, i.e., simply to begin

⁵⁶ Lynn Margulis, « Syphilis & Nietzsche’s Madness: Spirochetes Awake! » *Daedalus* (Fall 2004): 118f. There is addition to the question of Nietzsche’s subjectivity of his consciousness becomes a matter of the source of its destruction: the result of the effects of a spirochaete or more chillingly, as this is still the treatment du jour, as a consequence of the side-effects of the drugs administered to him to heal him? Lynn Margulis, et al. “Spirochete round bodies. Syphilis, Lyme disease & AIDS: Resurgence of ‘the great imitator’?” *Symbiosis* 47 (2009): 51–58. Margulis and company here offer an invaluable contribution to an ongoing (and owing the nature of the topic noisome) debate on the conventional understanding of disease agency that is directly related to Fleck’s work on *The Genesis and Development of a Scientific Fact* [*Die Entstehung und Entwicklung einer Wissenschaftliche Tatsache*]. What is at issue is a pleonastic, agent, i.e., one that changes form in response to the environment, and this by definition makes both treatment and diagnosis elusive. Margulis is correct in pointing out, and this is the problem with both Lyme and Syphilis, that the late-stage manifestation of the disease affects consciousness.

⁵⁷ This lack of scholarship is typical of our university scholars, even extraordinary ones like Margulis and it is an ongoing problem that results from the division of approaches in philosophy, in this case the history and philosophy of science.

⁵⁸ The Weimar archives do have Nietzsche’s hair samples and that may indeed help us at some time.

to interpret different medical reports) – was a result of a syphilitic infection contracted from sexual contact, or extragenitally (as that to our contemporary minds unusual vector is quite possible in Nietzsche’s case simply given his wartime work as a medical orderly), or, and Margulis’s empirical research and related argument would also support this hypothesis, it might well mean that Nietzsche was the victim of a particularly unfortunate tick bite: both Lyme disease and syphilis are spirochaete infections, and the problem with spirochaetes as both Margulis and Fleck argue is that they are pleonastic in disease manifestation and micro-morphology.⁵⁹

I would add to the complexities of this complex array by arguing from known fact that that Nietzsche’s final collapse (this is to be distinguished from whatever it was that transpired in Turin which may indeed have been a deliberately tactical cry for help or just despair – Nietzsche’s pension was slated, as he feared this, to be cut by a third the following year) was and would inevitably have to have been iatrogenic. I argue that it was induced by the sheer range of at the time still experimental psychopharmaceuticals administered to him by a variety of doctors during his institutionalization in two psychiatric clinics, respectively run by Ludwig Wille in Friedmatt and then by Otto Binswanger in Jena at the end of his life, in addition to whatever Weimar doctors he saw and all in addition to Nietzsche’s own history of self-medication. All these drugs would have been administered in addition to the unrecorded (and unremarked upon) sedatives he was given initially to facilitate transport and again (and constantly) overnight in such clinics to counteract his (reported) screaming, and all this in turn in addition to the neurological damage caused by

⁵⁹ I note that the late psychiatrist, and philosopher, Thomas Szasz has made the case for the dangers of psychiatric medicine for some time. See Szasz, *The Manufacture of Madness* (London: Routledge and Kegan, Paul, 1971). For a recent discussion, including Nietzsche, see Szasz, *Coercion as Cure: A Critical History of Psychiatry* (New Brunswick: Transaction Publishers, 2007), esp. p. 81. Although Szasz points to Nietzsche’s own use of drugs (p. 175), he also makes the valuable point that such self-medication is to be distinguished from the effects of the variety of psychotropic drugs administered to him during the course of his clinical institution as a psychiatric inmate following his Turin ‘collapse’ – although Szasz would have been the first to point out that the two could not but be connected. Like radiation exposures, the effects of such drugs are cumulative. My point is that even had Nietzsche taken nothing throughout his life, the amounts and combinations of drugs administered to him at the end would have been sufficient, neuro-physiologically speaking, for inducing ‘mental illness’ in the sole sense in which Szasz would have spoken of it, that is: sufficient to cause literal or physical brain damage.

the mercury salve directly rubbed into his skin as ‘treatment’ at those same clinics. Thus the cocktail of drugs Nietzsche received and over the course of time that he received them would appear to make Nietzsche a picture book image of some of the side-effects of treatment by the same psycho-pharmaceuticals still favored by conventional psychiatric medicine.⁶⁰

If the sadistic Authenrieth subjected the great poet Hölderlin to the brutal physical assaults and tortures of early 19th century “medicine” for his supposed madness, Nietzsche would also be subjected to a version of these same assaults (of course, this was the life-work of the late Thomas Szasz, this continues to this day, including) the more physiologically devastating effects of pharmacological interventions. And then the question of Nietzsche’s own subjectivity becomes a matter of the source of its destruction: Was it the result of a spirochaete, whether from syphilitic sexual contact as Margulis argues, or Lyme disease: the result of a seemingly trivial tick bite? Or, and just as chillingly, was it pharmacologically induced or simply pharmacologically compounded? a consequence of the side-effects of the drugs administered to him to “heal” him?⁶¹

⁶⁰ At the same time, it is nearly impossible to say precisely what he received and how much he received, though one can say that the compounds themselves were at the time largely unknown both with respect to amounts (standardization only comes later) and side-effects. It is instructive that neither Volz nor Schain, themselves physicians, find it worth reflecting upon either the nature *or* the kind *or* the amounts of the medicine prescribed during his treatment (though everyone duly repeats Stefan Zweig’s fictional account of his self-medication), and a good deal of forensic and archaeological hermeneutics would be needed just to begin to do this just where the use of such pharmaceuticals was in its early, untested, unadjusted, unregulated stages. The exception is Schain’s mention of chloral hydrate in the context of disproving what he supposes to be suspicions concerning Nietzsche’s suicidal tendencies (Schain refutes these). See, again, Schain, *The Legend of Nietzsche’s Syphilis* which draws upon both Pia Daniela Volz, *Nietzsche im Labyrinth seiner Krankheit. Eine medizinisch-biographische Untersuchung* (Würzburg: Königshausen und Neumann, 1990) as well as Curt Paul Janz’s three volume biography as well as Paul Julius Möbius, *Über das Pathologische bei Nietzsche* (Wiesbaden: Bergmann, 1902). Schain’s book is useful for the reader without German, if Schain who is neither a Germanist nor a philosopher has an unfortunate tendency to combine a psychiatric doctor’s straightforward reporting style with jarringly inaccurate assertions about Nietzsche and what Nietzsche should be supposed to have thought (on climate for example) and long citations wherever certain words seem to appear as if to make an argued case thereby.

⁶¹ I take up this question in the context of Nietzsche’s life in Babich, “Reading Lou von Salomé’s Triangles,” *New Nietzsche Studies*, Vol. 8, Nos. 3 & 4 (2011 / 2012): 82-114.

Nietzsche: *What is Life?*

In *The Gay Science* aphorism entitled *What is Life?* Nietzsche deploys his characteristic style of repetition punctuated by his customary thought slash. We get the rhythm of his refraction of the question, meaning that the reply to the question is *and is not* the answer, “Life – that is, continually shedding something that wants to die” (GS §26). The rest of the aphorism gets more obscure, sentence by sentence, and it can be hard to know how to take what Nietzsche says here. And Nietzsche goes on to rephrase the claim: “Life – that is: being cruel and inexorable against everything about us that is growing old and weak – and not only about *us*” (GS §26).

So is Nietzsche no more than what fans of Ayn Rand and “easy-Nietzsche” – a kind of fascist, a Nazi *avant la lettre*? EZNietzsche, like FakeZizek on Twitter, would thus be little more than a 19th century Callicles or Hobbes – bristling British: nasty, brutish, and short. Whereby Nietzsche’s point would only be: and now we are back to our Sartrean seduction scene over apricot martinis or ‘just coffee’: got to catch youth while you may.

A reading of this kind is great for the post-humanists, the transhumanists, who wish to argue that Nietzsche was a transhumanist in advance (what, so they say, does his talk of the Overman *really* mean?),⁶² which transhumanist persuasion is to be sharply distinguished from those transhumanists (like Nick Böstrom, for one) who are discomfited by the comparison and wish to keep Nietzsche at a massive distance (“easy” Nietzsche does seem to come with all those fascist, “easy” social Darwinian overtones mentioned at the start of the current section).⁶³

Here we note, that Nietzsche contends against Darwin and is thus not a Darwinist,⁶⁴ and he contends contra Malthus and he is accordingly no

⁶² See again, Sorgner, “Nietzsche, the Overhuman, and Transhumanism,” and Babich, “Nietzsche’s Post-Human Imperative” and so on.

⁶³ See for instance, Nicklas Boström, “Transhumanist Values,” in: *Review of Contemporary Philosophy*, 4: (2005) and for further references, especially for these, the notes to Babich, “Nietzsche’s Post-Human Imperative.”

⁶⁴ I have always argued this on the basis of what Nietzsche says about Darwin, but Nietzsche’s writings on Darwin are manifestly difficult enough that some readers do not think at all hold that he is an anti-Darwinist, see John Richardson. Greg Moore splits the difference, but more recent

Malthusian. For Nietzsche, the simplicity of Darwin's argument, like that of Malthus, happens to miss the point when it comes to the question of life, which was for Nietzsche the question of the organic and the inorganic, the question of the vital and the dead, the question of excess and abundance and the question of lack and debility which for Nietzsche was always a sign of either a sickness unto death or that from which one might eventually and, given good luck, – which for Nietzsche entailed good climate, good air, good times – even convalesce. In a *Nachlass* note we read what Nietzsche says about "the organic," when he names it "merely" and no more than "variety of the inorganic, and a very rare variety," emphasizing that "the entire opposition between the organic and inorganic belongs to the phenomenal world."⁶⁵

The issue is similar to the point Schrödinger makes with respect to the subject when it comes to explaining the mind in his *Mind and Matter*. For Schrödinger, referring to what the brain factually is, as supposed by those who invoke "brain states," the problem is that such brain states *do not and cannot tell* us anything at all about consciousness, if by that we don't mean (but it turns out that we always do mean) the inevitably circular claim of electroencephalographic data findings regarded as signifying brain states.⁶⁶ For Schrödinger, we are no better off with our modern findings than we would be if we limited ourselves to observed behaviour. For Schrödinger, "real consciousness" refers to *your* consciousness of you, the subject and your subjective self, as *opposed* to that of your neighbor, as *opposed* to the consciousness of the person sitting next to you, behind you, two chairs away, the consciousness of a lover, the consciousness of a friend, an enemy, a stranger on the train.⁶⁷

We are not even, it is this that constitutes Schrödinger's point, *conscious of ourselves*, we ourselves, when it comes to our past selves, that is: as we were

studies begin to speak to the complexity of the question and the impossibility of reading Nietzsche as a Darwinist. Or one can just go read for oneself the things Nietzsche says about Darwin.

⁶⁵ Nietzsche, KSA 11, 25 [356], p. 106.

⁶⁶ An exception here may be found in the careful reflections in M. R. Bennett and P.M.S. Hacker, *Philosophical Foundations of Neuroscience* (Oxford: Blackwell, 2003).

⁶⁷ In the context of Schrödinger's reflections on consciousness, the *appearance* of the person sitting next to you tells you a great deal about their consciousness inasmuch as the person next to you may appear dejected, seem sad, strike you as bored or anxious, etc. Schrödinger's point is that all that is always and only the barest surface of what their consciousness is really all about.

yesterday, last week, ten years ago, thirty years ago, say, when I was an undergraduate student listening to Antonio de Nicolás make a point in a class about consciousness and self-recognition – recognizing oneself in a mirror – a point to be sure that was predictably similar to Schrödinger’s observation, as Husserl and Sartre and Nietzsche too made similar observations.

For Schrödinger, and his point may be found more musically in Augustine’s famous book XI of his *Confessions*, one is never conscious of anything but the present and that changes from moment to moment. One is (no longer) conscious of the past, one is not (yet) conscious of the future. And our collective sadness at the massacre of civilians including children in Pakistan and Syria (ah but we should also add Libya and Afghanistan and Iraq and so many, many other places, especially in Palestine and Africa) and deaths everywhere, indeed, even animal (especially noteworthy given all the animals we kill, that is the almost unimaginable scope of our rapacity, and for all the reasons we kill them – and I cannot even begin to speak of the trees and other plants as we never, never do) betrays our awareness that what is lost in death is every potential, every possible conscious moment: from now on in. For Nietzsche observes that science has no intention of limiting itself to the phenomenal domain. The physics that deposes the metaphysics of the schools turns out to be interested in nothing but the metaphysical domain:

That all appearance [*Erscheinung*] is material [*Materie*] is clear: therefore the natural sciences have a justified goal. Because to be material is to be appearance. But at the same time it turns out that that the natural sciences are only interested in what lies behind the appearance [*Shein*]: which it handles with high seriousness as reality.”⁶⁸

In the context of the Greeks, as Schrödinger argues⁶⁹ and hence with regard to the Pythagorean/Orphic tradition, that is Empedocles, Nietzsche reflects that

⁶⁸ Nietzsche, KSA 7, p. 130. The problem here for Nietzsche is that as he later writes just prior to his famous time-atom fragment, KSA 7, 26 [11], p. 175 as he writes, “The opposition between material and representation [*Vorstellung*] does not exist. The material is given only as sensation.” Whereby every conclusion that goes beyond sensation is illicit. “*Jeder Schluß hinter sie ist unerlaubt.*” (Ibid.) Cf. Ibid., 9, 11 [69], p. 467.

⁶⁹ But also like Afrikan Spir to name a name that would have mattered to Schrödinger and that has become ineluctably esoteric for our sensibilities.

such a logical, scientific sensibility was ancient Greek science, “everything inorganic has come to be on the basis of the organic, as dead organic material. Cadaver and human being.”⁷⁰ Nietzsche converts this point and thus he speaks of will to power. One can have the autotelic organization or dynamism of organic matter *only if* as he writes “it is already present at hand in the suitable or relevant inorganic matter.”⁷¹

And if this were a different essay, I would seek to draw a connection between Nietzsche, this would be the Irigaray move, as a thinker of the sea, and for me this recalls the eternal laughter of Aeschylus, the wave greedy for its prey, existence on the model of a beautiful sea creature sunning itself on the rocks, and all too literally a matter of wave and form, both Irigaray and Bataille:

The exchange of raising and sinking [*Hebung und Senkung*], the wave [*Wogen*] is the simplest type. The wave form is in almost all preliminary stages of nature: all movements disseminate themselves in this. Rhythm has dominion over the entirety of so-called dead existence [*sogennant todtes Dasein*].⁷²

As a reader of Helmholtz and others, Nietzsche means this as scientifically as you please and he emphasizes the pulsing form of wave mechanics and human sensation, that “we experience impressions of light and sound as constant, although they are rhythmic”⁷³ and in this same sense he reminds us that we are not able to perceive movement, which must necessarily vanish in order to be perceived, leading to an exactly “static effect.”⁷⁴ But we “do not perceive movement.”⁷⁵ Nietzsche, the scholar of ancient philosophy that he was, probably repeats nothing more often than this.

Indeed Nietzsche reflects, the more science we have, the more theoretically advanced we are, the more we are able to come to perceive

⁷⁰ Nietzsche, KSA 7 23 [24], p 553.

⁷¹ Nietzsche, KSA 11, 26 [274], p. 221.

⁷² Nietzsche, KSA 8, 9 [1], p. 131.

⁷³ Nietzsche, KSA 8, 9 [1], p. 131.

⁷⁴ Ibid.

⁷⁵ “Empfindung ist eine Zeichen eine statischen wahrnehmbar gemachten d.h. aufgehobene Bewegung. Die gewöhnliche Vorstellung, das die Empfindung der direkte Ausdruck einer in uns erregten Bewegung sei, ist falsch. Die Bewegung als solchen empfinden wir nicht.” (Ibid.).

“movement, restlessness, happenings.”⁷⁶ This takes an enormous amount of time and even then:

the human belief in “things” has become so unshakably solidified, just like the belief in matter. But there are no things, everything is in flux [*alles fließt*] – thus speaks insight but the instinct contradicts it at every moment.⁷⁷

As Nietzsche repeats, following Schopenhauer but also the science of his day (think again of Mach):⁷⁸ “Matter itself is an age-old, enfleshed prejudice [*uraltes eingefleischtes Vorurtheil*].”⁷⁹ Nietzsche’s point here is that this prejudice is incorrigible – and this incorrigibility is the hardest aspect of Nietzsche’s epistemological, scientific thought.

When Nietzsche writes of life and death in *The Gay Science*, he remarks that we should avoid speaking of “laws of nature” (GS §109), emphasizing that there are only necessities.⁸⁰ For Nietzsche, as we noted above, “Let us beware of saying that death is opposed to life. The living is merely a type of what is dead, and a very rare type” (GS §109). Translated back into what is taught in the life-sciences, the organic, the more organized, the autotelic motion, is a kind of inorganic, that is not so organized, that is more chaotic, heterotelic motility. Hence Nietzsche can claim that “matter is as much of an error as the God of the Eleatics,” that would be *nous*, that is mind, for the Eleatics that is being as we recall Heidegger teaching us to read Parmenides that is the same: to think and to be.

⁷⁶ Nietzsche, KSA 8, 23 [26], p. 413.

⁷⁷ Ibid. Indeed even Boscovich whom Nietzsche usually praises is criticized here for his reification of his own insight, clinging to a fixed notion of what he calls the *Klumpchen Atom*, something thing-like, “stuff” or “matter.” Cf. Nietzsche, *Beyond Good and Evil*, §12. I discuss this, among other things, in Babich, *Nietzsche’s Philosophy of Science: Reflecting Science on the Ground of Art and Life* (Albany: State University of New York Press, 1994).

⁷⁸ I offer a discussion of Mach, along with an array of other references in Babich, “Early Continental Philosophy of Science,” In: Keith Ansell-Pearson and Alan Schrift, eds., *The New Century Volume Three: Bergsonism, Phenomenology and Responses to Modern Science: History of Continental Philosophy* (Chesham: Acumen, 2010), pp. 263-286.

⁷⁹ Nietzsche, KSA 8, [150], p. 458.

⁸⁰ Nietzsche returns to this more famously, more explicitly, turning directly to the physicists themselves in the first aphorisms of *Beyond Good and Evil*.

This forms the basis of Nietzsche's critique of causality. As he writes: we can only perceive what is perceptible in material events but and by contrast, "for that for which we have no sensibility" does not exist for us.⁸¹ Anything that goes beyond the domain, the form, the sense of that sensibility, that is of our senses cannot be grasped or imagined. Thus "for us" and very literally "such a thing cannot exist."⁸²

To be sure we have microscopes, telescopes, electron microscopes, super-colliders, just in order to guess at those faster-than-light neutrinos and so on. But in order to give us information at all, these instruments give us information on our terms.⁸³ As we know, handily from theorists of technology like Ellul, like Mumford, like Heidegger, and before Heidegger like Friedrich Dessauer, Hegel's student, our tools, our technologies, our objects, *extend our senses*.⁸⁴

Here I pass over Nietzsche's uncanny references to death in his *Thus Spoke Zarathustra*. *I teach you the overhuman*, we read, as Zarathustra teaches the *Übermensch*.⁸⁵ What is significant in the current context is that death unites the

⁸¹ Nietzsche's term is *Sinne* "Wofür wir keine Sinne haben" which means sensibility, but it also refers very basically to sense, and we have five of them.

⁸² Nietzsche, KSA 9, 11 [75], p. 470.

⁸³ See Patrick A. Heelan: "Husserl, Lonergan, and Paradoxes of Measurement," *Journal of Macrodynamical Analysis*, 3 (2003): 76-96 as well as Heelan, "The Phenomenological Role of Consciousness in Measurement," *Mind and Matter*, 2/1 (2004): 61-84.

⁸⁴ And transhumanist speculators on the transcendent possibility of the supposed singularity, are nowadays (this comes and goes in the modern era) wanting to continue the same project of extension, including and going beyond our bodies, our minds entire, our lives. But all such projected extensions or fantasies work by reduction, as Nietzsche already teased when he spoke of men of knowledge who became through their specific disciplinary extensions, so many giant ears, or eyes, or hands, or feet.

⁸⁵ This indeed and of course, all about death, read backwards as a reference to Nietzsche's classical philological formation as we noted at the outset. In another context, I would take up Nietzsche's fingernail reflections, another metaphor to go with Nietzsche's metaphor for the gateway, *Augenblick* in *Thus Spoke Zarathustra*. See Babich, "Le Zarathoustra de Nietzsche et le style parodique" as well as Babich, "The Philosopher and the Volcano," *Philosophy Today* (Summer/Fall 2011): 213-231. Especially in the French version of this text, "Le Zarathoustra de Nietzsche et le style parodique," I discuss Nietzsche's aphorism, *On Growth After Death* (GS §94), which in turn invokes Fontenelle's own evocation of Lucian via Fontenelle's *Dialogue of the Dead*. Fingernails and death are crucial for German gods and the particular qualities of the ship that sails before the final battle, Ragnarok: "The ship that is called Naglfar also becomes loose. It is made of the nails of deadmen; wherefore it is worth warning that when a man dies with unpared nails, he supplies a large amount of materials for the building of this ship, which both gods and men wish may be finished as late as possible." Snorri Sturluson, *The Prose Edda: Norse Mythology*, Rasmus Björn Anderson, trans. (Chicago: Scott, Foresman, 1901, [1879]), p. 58.

two doctrines Zarathustra comes to teach: both overhuman and eternal return of the same. *Das Gleiche*.⁸⁶

Same old, same old.

Note here that Nietzsche does not say the same as, things taken again and again, day in, day out, *das Selbe*. *Das Gleiche*. You, you yourself return not as you are now, with everything you take yourself to be: you as you imagine yourself to have been and you as expect yourself to become.

Much rather what returns is what was. Nietzsche doctrine of eternal recurrence emphasizes the return of everything that has been: the past, the same as it was and every tiny and major aspect of it: the same old, same old. The grass⁸⁷ grows at the end of the twilight of the gods.⁸⁸ The same grass grows at Auschwitz, at Buchenwald, where we have laid waste to Baghdad, and in Afghanistan, in Libya, and, eventually, in Gaza. And then there is Kosovo, Korea, Vietnam, Verdun, Dresden. Add the physicist's legacy: Hiroshima, Nagasaki.

Nietzsche and Schrödinger on the Subject

Our engagement with Schrödinger's *What is Life?* brought us to talking about death. Thus Nietzsche reflects in a passage that caught Susan Sontag's attention: *all these people* waiting at the port (here Nietzsche's reference is Genoa), all of them poised to emigrate effectively form "a brotherhood of death." The image, the port, the ship about to embark, is classic and refers to both Epictetus and Marcus Aurelius and indeed and to be sure to Lucian's Charon, the same ghostly ferryman featured in the same dialogue from which Nietzsche takes his Overhuman: *The Downward Journey*.

⁸⁶ Cf. for a discussion of Lucian and eternal return, Babich, « Le Zarathoustra de Nietzsche et le style parodique. »

⁸⁷ This is the point Kant makes when he speaks of a Newton of a blade of grass. And we may think we are long past that, but with everything we can do, with all the genomics we have, with all the plans the singularity mongers have (plans to live forever), it transpires that we cannot make a single blade of grass and that what we call synthetic 'organisms' are cobbled together, like so many micronized Frankenstein monsters, out of the fragments of once living beings. We hijack life, our experimental methods push the organism to its limits, and we watch the awkward life that results, the crippled lives that result, and we gloat and ignore the suffering and the early deaths, when we do not 'sacrifice' the products just to 'see' what we have made.

⁸⁸ *Völuspá*, 59.

In *The Gay Science* aphorism, *The Thought of Death*, this tacit brotherhood is the *only* brotherhood there is for living subjects of consciousness, for subjects of desire, for subjects such as ourselves all of us, born to mortality and thus bound to die, whether we think about it or not. Nietzsche's point is the philosophical point that living subjects abjure the thought of death: it is the furthest thing from their minds.

We abjure death, we deny it, and we choose life instead, as Sontag also chose life and did so until and of course – though we ourselves have no less difficulty grasping this notion when it applies in our own individual case – that choice was no longer hers. For his part, the economically (or dismally) minded Schopenhauer reflected that life was a business that did not cover its costs, a business that from an economic point of view, a business point of view, made absolutely no sense “as an enterprise,” and therefore was the only thing that really compelled reflection.⁸⁹ Nietzsche added more biology and more thermodynamic statistics to the same reflection, recognizing that abundance and waste was the way of life – and of death. Hence he could argue with the best of 19th century cosmology, that a dancing star was born of chaos, excess, confusion.

Not that it mattered given that dancing star too would have to die.

When I began my university studies convinced that the only things worth studying were the life-sciences, I was also immediately confronted with death. Biology, the science that teaches life in all its varieties, teaches this by way of the dissecting scalpel and the electron microscope, flaunts vivisection at every level, and the images, the fragments, the remainders of death. If the life-sciences are steeped in death it is by no means incidental that my first biology teacher Edwin Battley, specialized in nothing other than thermodynamics: measuring entropy, which he did in the very same terms (caloric value) that Schrödinger invokes.⁹⁰

Thus we recall that Schrödinger asks “how can the events in space and time which take place within the spatial boundary of a living organism be

⁸⁹ Schopenhauer, this is the point here, thought about such things as the son of a successful businessman, that means a business who is practically good at economics – which is called the dismal science, as we know today and to our pain, because it is so difficult to be good at it.

⁹⁰ Edwin Battley, who was fond of cats was also, like many scientists, well able to square that fondness both with what his colleagues did and even to give up his own pets (for love), measured microbial growth in terms of heat (caloric) production. http://www.researchgate.net/profile/Edwin_Battley.

accounted for by physics and chemistry?"⁹¹ Biologists are still trying to resolve this question.

Like all students, I was possessed of *stultitia*, stubbornness, stupidity.⁹² That would also be the *ostinato*, the same word Nietzsche uses to speak of science: he says it three times, stupid, stupid, stupid. As Adorno says, seemingly rephrasing Heidegger's comments on measurement for his own purpose, "When all actions are mathematically calculated, they also take on a stupid quality."⁹³ Stubbornly, I kept at biology until it became evident that to continue I too would be required to kill small animals as a matter of course, and indeed that I had already been complicit with the project of the same all along. No exclusions.

Only then, only confronted with my own stupidity, did I switch from biology to philosophy.

Schrödinger might seem to have switched to philosophy himself, as he found himself in Dublin seducing one colleague's wife after another: he liked to lie on the roof, so Patrick Heelan has told me that he did, staring at the Dublin

⁹¹ Erwin Schrödinger, *What Is Life? Mind and Matter* (Cambridge: Cambridge University Press, 1944), p. 3.

⁹² In the vicinity of Fordham University, along Arthur Avenue, an Italian section of the Bronx, or else in the Bay Ridge section of Brooklyn (there are hardly any Italians left in Manhattan's Little Italy), one does not have to walk too long in the summer months before hearing some irritated grandfather or uncle shout the same words once shouted at him from his own grandfather: *stoonad*.

⁹³ Theodor Adorno, *Minima Moralia* (1974), p. 107. On Heidegger and measurement, see Michael Roubach, *Being and Number in Heidegger's Thought* (London: Continuum, 2008) as well as Theodore Kisiel, *The Genesis of Heidegger's Being & Time* (Berkeley: University of California Press, 1993) in addition to the contributions to Alfred Denker and Holger Zaborowski, eds., *Heidegger und die Logik* (Amsterdam: Rodopi, 2006). and see too Babich, my own as well as my contribution to a festschrift I compiled and edited in honor of William J. Richardson, S.J., "Heidegger's Philosophy of Science: Calculation, Thought, and *Gelassenheit*" in Babich, ed., *From Phenomenology to Thought, Errancy, and Desire* (Dordrecht. Kluwer. 1995), pp. 589-599. As noted above, Heidegger has the same objection to Max Planck who is, of course, famous for a particular *constant*: a measure for measuring. Planck who enjoyed a classical formation as did all scientists (and all philosophers) once upon a time, was so horrified by the implied stupidity attributable to anyone who said, flatly, just what Heidegger had had him say, personally began a campaign to take it back: rewriting history, or at least his own account of it, his students' own account of it. And for the most part that is what we say when we talk about Planck and Heidegger, defending Planck contra Heidegger. But as cited here, in footnote 42 above, in 1909 Planck had published his words to this effect in both English and German almost as soon as he had spoken them in a series of public lectures at Columbia University in 1908. Publication in the 19th century and earlier in the 20th century – not like local mail delivery, which once came twice and sometimes three times a day – was faster and more frequent at the time than it is today (indeed, professional texts can take years for certain texts appear in print, even after publication has been promised, and even today scholars often forget to link to a preprint on academic repositories, social networks, etc.).

night sky. And (or else his seductions would not have worked, even as a poet) in addition to his interest in philosophy (remember Sartre writing on how seductive that is), Schrödinger dressed well. Note his illustration of kinds and scales of distance: the relative measure of tweed, conceived in yards not Angstroms. There Schrödinger also quotes Tagore in an Irish climate: "The butterfly counts not months but moments, and has time enough."⁹⁴

If one takes the philosophical point of view, if one has a classical formation and if one also happens to be a theoretical and mathematical cosmologist, one also knows that the subject conscious of his own consciousness, the subject lying on his roof, the subject moved by poetry and by bodily desire is still, and in every possible sense of the word, looking at eternity.

We look out into eternity and find ourselves looking backwards.

We think, we 'solve,' the problems of the heavens themselves simply by thinking of the universe in terms of what we call, using physicist's metaphorical language, the Big Bang. Like Goethe's teasing Prometheus, as Nietzsche quotes this in his first book, and the little steps that are the sins of women, if that is so, we do not mind it, with one big leap, the men get there. Here the point is to skip over *everything in between*. Talk of the beginning, like talk of the end does that.

And yet and already and since the turn of the last century, as Schrödinger reminds us in 1943, biology has become the province of physics.⁹⁵

So what is life?

As *physis*, as *natura*, the answer is already patetn: life is emergent order, life is what becomes of itself, what becomes out of itself, organizing itself in itself, by itself. And what would be the difference between that and a crystal? Little enough say the scientists – and to this day the parallel sticks because on the molecular level we have indeed to do with crystal formations – and yet ...

And yet we have come to know better, although that better knowing doesn't always penetrate scientists writing for the popular press and it certainly

⁹⁴ I refer here to the often cited discussion between the poet Rabindranath Tagore and the physicist Albert Einstein.

⁹⁵ See Babich, "Early Continental Philosophy of Science" in: Keith Ansell-Pearson and Alan Schrift, eds., *The New Century Volume Three: Bergsonism, Phenomenology and Responses to Modern Science: History of Continental Philosophy* (Chesham: Acumen, 2010), pp. 263-286 and on the dominance of physics in science, including other non-physics or not-P sciences, as I call them here, see Babich, "Towards a Critical Philosophy of Science."

takes its time before it reaches philosophy, especially that of the uncritical scientific kind, that is analytic philosophy of the sort (and there are other kinds) that tends to dominate today, as what we also call “mainstream” philosophy. And as Evelyn Fox Keller, who is herself as respectably mainstream as anyone, but who is pro-science (as I happen to be pro-science) without being scientific (as I myself also happen not to be scientific) has written:

For almost fifty years, we lulled ourselves into believing that, in discovering the molecular basis of genetic information, we had found the ‘secret of life’; . . . And we marveled at how simple the answer seemed to be. But now, in the call for a functional genomics, we can at least read a tacit acknowledgement of how large the gap between genetic ‘information’ and biological meaning really is.⁹⁶

To the question “what is life?” Nietzsche’s reply is given, not unlike Schrödinger, in *economic* terms, terms for Nietzsche borrowed from Schopenhauer but also terms attuned to the cosmological balance of thermodynamic law. And if life can be regarded as kind of business or energy equation, in terms of energetic efficiency, increasing negative entropy means, as Nietzsche puts it, “shedding something that wants to die” (GS §9).

Thus to be able to step lightly through life, to be able to live, is to be able to lose what one does not need, what does not serve one. And when the organism loses this ability, it is already dead. In the capitalist West of days gone by, businesses declare bankruptcy, in the the West of the capitalist of the current world order insists on public bailouts. In a Western religious context, spiritual advice tells us that if it hinders you, drop it. “Life is shedding something that wants to die” (Ibid.).

Nietzsche who died himself as a relatively young man (old enough to be old to his mind – or to the mind of anyone younger than he was – but ‘young’

⁹⁶ Evelyn Fox Keller, *The Century Of The Gene* (Cambridge: Harvard University Press, 2000), p. 7. See too Andrew Torrance, “Gene Concepts, Gene Talk, and Gene Patents,” *MINN. J.L. SCI. & TECH.*, 11(1) (2010): 157-191. Regretably neither Keller nor Torrance mention Latour or, perhaps most relevant in this context Ludwik Fleck, even as Torrance includes an epigraph from Keller on what she does not term (although it surely is) a *hermeneutic* of *laboratory life*, as Latour would speak of it (also without the hermeneutic word). “It’s been a growing conviction of mine that biologists have a whole other way of talking to each other in the lab than they do to the public.” For her part, however, Keller does mention her Cambridge, Mass. colleague, Richard Lewontin.

as Schrödinger would have judged him) failed to master that one trick of life. Nor did he manage to die as he taught in his Zarathustra: “at the right time” (Z, *On Voluntary Death*). In this way, and not unlike the great majority of us, Nietzsche became “too old for his victories” (as his Zarathustra also says with regard to suicide: many become “too old for their truths and their victories” (Ibid.) and as Heidegger quotes Nietzsche in turn in his *Being and Time*.⁹⁷

For Schrödinger, the trick of life is not a matter of aesthetic timing. Instead, the living organism has to “suck in” order – countering, offsetting entropy. Here what is important is that this uptake is quantifiable to the extent that entropy itself, as Schrödinger reminds us is not a

hazy concept or idea, but a measurable physical quantity just like of the length of a rod, the temperature at any point of a body, the heat of fusion of a given crystal or the specific heat of any given substance. At the absolute zero point of temperature (roughly -273°C) the entropy of any substance is zero.⁹⁸

One lives by offsetting disorder:

Thus the device by which an organism maintains itself stationary at a fairly high level of orderliness (= fairly low level of entropy) really consists continually sucking orderliness from its environment.⁹⁹

To this extent, negative entropy counteracts what it is in you **that wants to die**, and as Nietzsche emphasizes, something in a living entity drives not to pleasure (as the utilitarians suppose) but the opposite of pleasure, *unlust*, as this goes along with and is part of the passions themselves.

⁹⁷ Heidegger, *Being and Time*, Macquarrie and Robinson, trans. (New York: Harper and Row, 1962), p. 306. SZ: 264.

⁹⁸ Schrödinger, *What is Life?*, p. 71.

⁹⁹ Schrödinger, *What is Life?*, p. 73. Schrödinger goes on to remark on the very triviality that catches the philosopher of science, Evelyn Fox Keller’s good notice: “Indeed, in the case of higher animals we know the kind of orderliness they feed upon well enough, viz. the extremely well-ordered state of matter in more or less complicated organic compounds, which serve them as foodstuffs. After utilizing it they return it in a very much degraded form – not entirely degraded, however, for plants can still make use of it. (These, of course, have their most power supply of ‘negative entropy’ the sunlight).” Ibid., pp. 73-74.

Or as Nietzsche says still more alluringly for the fitness buffs among us – this is what his Zarathustra will mean when he urges the creators to “become hard,” that is as he writes here in *The Gay Science*, as it is of course and as advertised, the “prelude” to Zarathustra: “to be cruel and inexorable against everything about us that is growing old and weak” (GS §26). Nor does Nietzsche shy away from the point, it is one of the themes of *The Gay Science*, whereby simply to live, this is the ineluctably Jainist metaphor is “Constantly being a murderer? – and yet old Moses said: “Thou shalt not kill” (Ibid.).

The nirus is an intriguing thing. The point at this juncture is that life and death already include a connection with sex, of course: because as Nietzsche alludes to the Buddhists, if a child is born to you, the fetter forged, the demon born to you, is not only an obligation, you caused it – you care for it – but is also the symbol of your own death, your own insignificance.¹⁰⁰

Nietzsche stresses abundance: increasingly we are come to another kind of insight as we human beings deal death all around us. Nor, as a species have we ever been so rapacious, so extraordinarily destructive as we are today. The Nazis have nothing on us, not a thing. There are genocides with no Levinas to reproach anyone for any part of it. Wholesale devastations: we fish the oceans dry and do not cease. As animals vanish piece by piece as we kill wolves, bears, tigers, lions, elephants, whales and sharks, what remains. The scientist answers in thermodynamic terms that life remains. What kind of life in the seas, to take one of the scenes of our unimaginable violence, by direct poisoning with dead oil, sewage, waste, by sound blasts for exploration, for the sake of pointless experimentation, or because most scientists are men, just because, we are told that there is an explosion of jelly fish by the millions, ichthyologists, so I am told, have no idea where they come from, or how they come to be in the place of a biomass that was once fish. We starve sperm whales by taking to eat for our own purposes – we call it ‘harvesting,’ we call everything we do in the sea ‘harvesting’ – all, *but all* the squid they eat, so that starving, they try, without success to eat other things instead, eating plastic. Indeed, everything from fish to birds tries to eat the plastic that is our garbage that floats in the sea, in the

¹⁰⁰ You are no longer the child you once were, but yesterday’s news (not that this will *not* be true if you put off having children or forget as many academics do, but not Schrödinger, to have them in the first place).

Hudson river where mindless New Yorkers throw their water bottles, soda bottles, any bottle at all, until it all ends up, we say, in the same place, at sea. We, this we know, are death to so many things.

Hijacking life, we call it science. Abusing life, we “raise” domestic animals, caring for them, feeding them, automatically to be sure, in factory farms which is their life as they know it: all of us, a nation of witches raising animals in cages, like Hansel and Gretel, we fatten them for the kill. Or when it comes to excess pets, the pets we cannot keep, because there is a new job, because we like to travel here and there, because we cannot manage to train “it” (neutering is our ideal when it comes to our pets) properly, or because we have moved, or because we found it on the street and thought to that animal control is the best place for it (complimenting ourselves on our humane feelings as we do so), we keep these former pets in cages, on concrete, a day or a week in hell before gassing them or killing them by injection (we have no idea if they suffer, we paralyze them before this in vets’ offices, so the process seem ‘peaceful’ to our gaze and we call it mercy), a killing that we cannot euphemize when it comes to kittens, their veins are too small, so we inject them brutally into the chest and we know they suffer.

Nor do we breach the question of animal subjectivity, animal consciousness as they die, as they go to their deaths. What is the subject? What is consciousness?

We deal death. *Our life*, as Heraclitus and the other Preplatonic philosophers remind us, *is their death*. This is no peaceful notion, strife, hatred: as we live life, everything around us dies its death. Anaximander calls this the crime of existence. But the Greeks knew that bloodshed costs, that life lost has its price. Thus we need, Nietzsche claimed this too, purification. But after so many years we are so distant from this that it perhaps it makes no sense to imagine it.

Maybe that is why the most popular focus for most philosophy is ethics, virtue ethics, wisdom ethics, practical ethics, political theorizing: we do what we do, more than ever, worse than ever and ask for justification.

Schrödinger's Eternal Recurrence

the human being who has never realized the strange features
of his own condition has nothing to do with philosophy
– Schrödinger

Schrödinger emphasizes the philosophical interests he began with, coupled too with a keen interest in the Presocratic philosophers and bridging Nietzsche and Schopenhauer's own interest in the Indian philosophies of the Vedānta. In his epilogue, after shocking the reader with the declaration that, so he suggests, summarizes the general insight of all mystic traditions, here including the *Upaniṣads* as he names them here as well as the *Cherubinic Wanderer* (the author of which he does not name):

In Christian terminology to say: 'Hence I am God Almighty' sounds both blasphemous and lunatic. But ... in itself, the insight is not new. The earliest records to my knowledge date back some 2,500 years or more. From the early great Upanishads the recognition *ĀTHMAN = BRAHMAN* upheld in (the personal self equals the omnipresent, all-comprehending eternal self) was in Indian thought considered, far from being blasphemous, to represent the quintessence of deepest insight into the happenings of the world. Again, the mystics of many centuries, independently, yet in perfect harmony with each other (somewhat like the particles in an ideal gas) have described, each of them, the unique experience of his or her life in terms that can be condensed in the phrase: *DEUS FACTUS SUM* (I am become God)."¹⁰¹

The French physician and philosopher of science, Michel Bitbol recognizes this as central for Schrödinger, characterizing the equation $\bar{Ātman} = Brahman$, as nothing less than Schrödinger's "second" equation.¹⁰²

Who or what is the subject? What are the implications of Schrödinger's ,second equation': " $\bar{Ātman} = Brahman$ (the personal self is identical with the omnipresent, all-comprehending eternal self)"? As Schrödinger continues to reflect, you are what you know yourself to be and thus your memory tells you

¹⁰¹ Schrödinger, *What is Life?*, p. 87; trans. altered.

¹⁰² On Schrödinger see again, Bitbol, *Schrödinger's Philosophy of Quantum Mechanics* as well as *Physique et Philosophie de l'Esprit*.

who you are, whenever you reflect or attempt to tell yourself, as Nietzsche puts it in his own reflections on the nature of consciousness, as we count backwards, recollecting “the twelve trembling bell-strokes of our experiences, our lives, our being – ah!” and this ah, “ach!” in the original, is how we know that we have to do with Nietzsche, “ah! And miscount ourselves in the process ...” (GM, *Preface*, i).

For Nietzsche, necessarily, incorrigibly, you are and can be no closer to those memories of yourself, of your life as you lived it. “We are unknown to ourselves, we knowing-ones, we ourselves to ourselves” (Ibid.). For Nietzsche, even assuming (as he does assume) an aesthetic justification of existence, a world of creative play, even noting that we have a consciousness of this play, whether played by a cosmic *Ur-Künstler* or some divinity, we are still and only *played* whereby and to be sure “our own consciousness regarding this our significance is hardly other than the warriors painted on a canvas have of the battled depicted upon it” (BT §5).

We could almost be speaking of Arjuna and Kṛṣṇa in conversation.

But Schrödinger’s reflection on subjective identity uses the same Schopenhauerian image of figures painted on a canvas, reflecting on the stranger from Vienna that he is in the strange land that is Irish Dublin, and refers to the present and to our possible consciousness of our selves. Schrödinger’s point here is that you are your recollections but that you are no closer to those memories of yourself, your life as you lived it, to the people that you used to know, than a figure painted on a canvas and both Nietzsche and Schrödinger borrow it from Schopenhauer, who himself doubtless takes it from somewhere else,

Here for Schrödinger, the point is to refer to the present, the now that stays, or stands as the mystics say in a parallel with eternity, as this was also Goethe’s reference to the present that is our only happiness:

each of us has the indisputable impression that the sum total of his own experience and memory forms a unit, quite distinct from that of any other person. He refers to it as ‘I’ and What is this ‘I’? If you analyse it closely you will, I think, find that it is just the facts little more than a collection of single data (experiences and memories), namely (experiences and memories), namely the canvas upon which they are collected. And you will, on close introspection, find that what you really mean by ‘I’ is that

ground-stuff upon which they are collected. You may come to a distant country, lose sight of all your friends, may all but forget them; you acquire new friends, you share life with them as intensely as you ever did with your old ones. Less and less important will become the fact that, while living your new life, you still recollect the old one.¹⁰³

Schrödinger is highlighting the difference between the you, the subject you are now – we claim this subject as “having” subjectivity, but, like the late Thomas Szasz, Schrödinger points more to doing or being than to *having* – and the you you were, the you that was you. Again, he distinguishes the self you are from your former self:

“The youth that was I,” you may come to speak of him in the third person, indeed the protagonist of the novel you are reading is probably nearer to your heart, certainly more intensely alive and better known to you. Yet there has been no intermediate break, no death.

Ultimately the point of the thought experiment here concerns birth and rebirth and thus the irrelevance of personal identity to it all, rather like the differently tuned experiment that brings in Nietzsche’s demon at the conclusion of the *Gay Science* with respect to what Nietzsche calls the greatest weight, that is the thought that, so he says, would if you ever began to grasp it, crush you utterly, change you utterly.

even if a skilled hypnotist succeeded in blotting out entirely all your earlier reminiscences, you would not find that he had killed you. In no case is there a loss of personal existence to deplore. Nor will there ever be.¹⁰⁴

To illustrate this, we may have recourse to Nietzsche’s pale criminal. We encounter him in one form or another throughout Nietzsche’s writing: in *The Gay Science*, and in *Thus Spoke Zarathustra* and again in *Beyond Good and Evil* and in *The Genealogy of Morals* in one or more guises. A lawyer appointed to represent our criminal, or anyone guilty of a crime would do well, as advocate, to teach him the one emotion Nietzsche claims does not grow or bloom in jail, that is the

¹⁰³ Schrödinger, *What is Life?*, pp. 89-90.

¹⁰⁴ Schrödinger, *What is Life?*, p. 90.

feeling of remorse and that is just because of the point Schrödinger makes about consciousness and in prison there are all kinds of other things to worry about. This distraction is the ineluctable, incorrigibility of the present although with good preparation from one's lawyer one can work around even that. After the crime, the criminal has no remorse (and this is coming at the phenomenon from the other side of the crime) while, as Nietzsche points out, beforehand, as it were, he also has no presentiment of crime as such, because in neither, before the crime he is about to commit (this is why premeditation matters so much) and after the crime the crime with which he is charged, is he the same as the one who commits the crime. In other words, more simply expressed: he does not know why he killed, save out of what Nietzsche with a strange precision called the joy of it, which the prisoner may well recall, yet without the same consciousness of the deed that is the consciousness that concerns Schrödinger and Nietzsche. Johnny Cash's parodic line in the song Folsom Prison gives some voice to self-distancing, even in an inculpatory mode: *but I killed a man in Reno just to watch him die.*

Exculpatory or not, the point here is that Johnny Cash takes the prisoner's side in this (and every prisoner who heard him sing understood this) in a precisely Zarathustran fashion: there is no why *and you are guilty.*

Like the rose – and Georges Bataille takes this argument to the extreme of extremes in his *Inner Experience* but above all in the *Tears of Eros* – the murderer is without why.

For most of us, this is impossible to believe and yet the Greeks who invented the mind also invented courts of law. For Schrödinger, lovers know something about the consciousness of the other. To the extent that they do love, one might talk (as John Dewey does of art as pinnacle of existence) of the erotic, high point of sex. Bataille is quite overt about this, Nietzsche not so overt but this is what the Apollonian and the Dionysian are about. The whole point of the erotic encounter is that it is a vision intense, imaginary, fantasy, union with the other. It is just this that Lacan denies by saying that there is no sexual relation, but Lacan – womanizer that he was – hardly means by this that there are no sexual encounters: no sex, far from it. Lacan means exactly what he says (just as Szasz who says, contra psychiatry, that there is no mental illness argues not against mental troubles or sorrows or problems but against the organic claim that

ties the last to physical, bodily, objectively diagnosable illness). What Lacan means, and he tends to be right in this regard, is that there is little *relating* going on in the sexual relations that go on constantly, all that “constant craving” as this characterizes popular advertisement culture on so many levels.¹⁰⁵

Schrödinger however always maintained the poet’s insight that two *can be one*. To understand this, note both that such a union between lovers is rarely attained and that even those consummations that are attained do not remain as such – a disappointment that inspires the whole of Goethe’s *Faust*. Thus most or many or almost all erotic relations are relations between those who remain others to one another: only the barest hint of oneness and apart from that no transcendence one to another.

And just to the extent that Schrödinger’s was the soul of lover,¹⁰⁶ Schrödinger could not but share the same belief (bad or good) faith Sartre underscores above. To this same extent Schrödinger believed every lie he ever told (and it was surely true when he spoke it) and his real secret was, like any seducer, that he managed to persuade the women he loved to deal with the other women he also loved – or wanted to love. This is the Machiavellian art of managing to have his ladies, his wife included, accept his infidelities. The point here is that the only way to do this (and this contrasts with many lesser men with lesser souls and lesser minds) is by telling the truth. Thus, and this is also how such ‘management’ works – it’s good to give a loved one something else to do besides sit by the phone – Schrödinger was tolerant in turn, allowing the women in his also to be unfaithful to him (his wife, Annemarie Bertel, had love affairs of her own, notably with Hermann Weyl, where the only thing that matters is that she stayed with Schrödinger, true to their marriage vows, until he died).

Erotic registers, like a list of traffic tickets, are incomplete violations apart from those we know, and the womanizer counts on the limitations of what beloved can know or even imagine.

¹⁰⁵ See chapters four and five in Babich, *The Hallelujah Effect*.

¹⁰⁶ Recall here Nietzsche’s beautiful *Night Song*: “it is night. Now awaken all the songs of those who love. And my soul too is the song of a lover.” Nietzsche, *Thus Spoke Zarathustra*, II: *Das Nachtlied*.

Read like a police report, i.e., just the facts, we can read that Schrödinger seduced Hildegunde March, the wife of Arthur March, with whom he had one of his daughters, and that he went on to seduce many more, having two additional daughters by two additional Irish women.

We say, as Schrödinger's philosophically conventional biographer says, and as it makes far more sense to say, this was just the way it was *fin de siècle Vienna*, you know, like the late Stephen Toulmin and the still living Allan Janik's account of *Wittgenstein's Vienna*, for people like Wittgenstein and what we suppose ourselves to know of his homoerotic persuasion. Vienna, where, gateway to the orient as it is, they inscrutably manage to get their eros into high art, extraordinary images.

Paul Feyerabend, who also hailed from Vienna, knew what it was to know nothing about the one thing about which everyone might speak (this is the erotic, and Feyerabend throughout his life spoke as a man who was physically unable to do much with the erotic domain after his injury as a relatively young man). But because of this perhaps Feyerabend was more sensitive than most to the conditions of knowledge, that is what is needed to speak of knowledge or to make judgments about it. Thus Feyerabend challenged scientists and academics who condemn astrology, observing that their rejection could not be taken seriously. The same scientists and scholars knew (*and wanted to know*) nothing about astrology. Thus, again as Feyerabend pointed out, these same scientists lacked a scientific knowledge of the subject – one way or another. Feyerabend's argument is scientifically enlightened with respect to astrology (note that this hardly makes him an adherent),¹⁰⁷ and he extended it to the example of Western medicine and Eastern acupuncture, arguing that one needed knowledge to judge such traditions.

Scientifically speaking, critically speaking, you'd need to know a science cold, its history and its claims, the doing of that science, before claiming the right to name it hokum, tying it to a metaphorical stake and burning it as pseudoscience.

¹⁰⁷ Ironically, iconically so, Feyerabend once featured his own horoscope as frontispiece to one of his books. Paul Feyerabend, *Erkenntnis für freie Menschen. Veränderte Ausgabe* (Frankfurt am Main: Suhrkamp, 1980). Frontispiece, p. 2.

Learning astrology, reviewing the data, is not what the scientists who condemn it bother to do (which was Feyerabend's point as it is also Mary Midgley's point cited above and referring to Sheldrake) nor is it what more humanistically oriented academics do. Instead, and based on what we take ourselves to know, these are prejudgments and this is how prejudice works, we condemn whole traditions that simply happen to be other than the ones we know and can judge. This otherness is how western science condemns eastern science, how modern science condemns medieval science (correcting this was the obsession of Pierre Duhem's later life), and indeed ancient Greek science.¹⁰⁸ This otherness is why Western medicine calls everything else 'alternative' medicine, language that institutes its approach as canonic. Here the hermeneutic issue is that this is how prejudice works. Its limitations means that it is anything but scientific, meaning one who seeks to know by testing (*tasting* as Nietzsche points out), one who is open to experience, i.e., enlightenment.

Resumé and Conclusion

Talking about Schrödinger and honoring what Antonio de Nicolás has had to tell us about Indian philosophy, about consciousness, we have had recourse to aesthetic elegance and, in the case of Schrödinger, to sexual inclinations and passions or dedicated excess(es), as well as to his famous wave equation and to his first time use of the word "code" when talking about the transfer of genetic information. The last reference remains tricky because Schrödinger was not necessarily arguing in his own text that the same genetic coding that matters to us was necessarily interior to the cell, as we take it to be where we take genes to be, simply because for Schrödinger what was at stake was the relation between the inside of the cell and the outside of the cell.

The issue was a matter of economy, as Avenarius and Mach would say and as Schrödinger emphasized the relevance of this notion. For Schrödinger, the

¹⁰⁸ See on Duhem and medieval cosmology, the several essays I have written on the history of continental philosophy of science, in particular, Babich, "Philosophies of Science: Mach, Duhem, Bachelard," in: R. Kearney, *Continental Philosophy in the 20th Century* (London: Routledge, 1994), pp.175-221, esp.: pp. 187-194.

point would only be that the code, however it worked,¹⁰⁹ was impingent on the system as such: it came from without. When scholars want to complement Schrödinger they find themselves setting his idea of the code *into the cell* rather than beyond it as he actually argues – and as his point requires. Here to conclude I note only that the problem remains: how does the inside get outside, how does the code code, how, in other words, does nucleotide transcription really work, *in vivo*?

What we exclude by way of our focus on Schrödinger's poetry and his supposed depression and his supposed erotic abandonment, as Gumbrecht underscores, even to his vacations, or by mentioning his sartorial elegance, or (at the time) scandalous sensuality and even by focusing on his mathematical ingenuity, is Schrödinger's enduring concern with the subject (him- or herself) as Schrödinger was concerned with consciousness and time. And both consciousness and time are philosophical issues.

What is striking about consciousness for Schrödinger, and here he echoes Husserl and Heidegger as much as Nietzsche, is its extraordinary *temporality*: "consciousness is always now. There is really no before and after for mind. And it is never multiple, not even when it is you, not even when you dialogue with yourself."¹¹⁰

Schrödinger emphasizes this by noting that we are not even conscious of our reasons for past actions, or, as he refers to Aristotle's description of thinking as the soul's dialogue with itself, are we transparent to ourselves in reflection:

the empirical fact that consciousness is never experienced in the plural, only in the singular. Not only has none of us even experienced more than one consciousness, but there is no trace of circumstantial evidence of this ever happening anywhere in the world.¹¹¹

This point was one Schrödinger was at pains to make thus he writes:

¹⁰⁹ Erwin Chargaff as I knew him in my early years at Fordham in Manhattan would and did know more about that in Schrödinger's day – as would indeed Richard Lewontin among others we might name today.

¹¹⁰ Schrödinger, "Mind and Matter," in: *What is Life?*, p.135.

¹¹¹ Schrödinger, "Mind and Matter," in: *What is Life?*, p. 130. Cf. "What is Life," p. 88.

When in the puppet-show of dreams we hold in hand the strings of quite a number of actors, controlling their actions and their speech, we are not aware of this being so. Only one of them is myself, the dreamer. In him, I act and speak immediately, while I may be awaiting eagerly and anxiously what another will reply (...). That I could really let him do and say whatever I please does not occur to me (...).¹¹²

Nietzsche offers a related reflection, when he writes of appearance as a “a dance of spirits and nothing more,” he also reflects, and this is he learned from Schopenhauer as much as from Kant enlightenment about appearance changes no part of it: “...I woke up in the midst of this dream but only to the consciousness that I am dreaming and that I must go on dreaming, lest I perish, as a somnambulist must go on dreaming lest he fall...” (GS § 54).

When you set about to think about a problem or question, you may not instantly see a solution (in fact sometimes you still don’t, not even after thinking about it for hours, days, years). Sometimes, like Descartes, and for thinkers like Schrödinger, an insight can come to you readymade, as if or literally in a dream. Like a leaf, as Nietzsche uses the metaphor, it floats whole, into your lap.

Arjuna and Kṛṣṇa – again.

Poincaré offers a statistical, very Schrödinger-like, mathematician’s proof of eternal recurrence.¹¹³ Poincaré’s point was Nietzsche’s point, which is not to say that Nietzsche had the mathematical prowess to work out a similar proof.¹¹⁴ Nietzsche’s concern with respect to the eternal recurrence and personal identity was not mathematics but consciousness. Thus he also emphasized, with regard to the pale criminal, that one has little other than conviction or belief that would link one to one’s own past acts. Personal identity even in this life, as Nietzsche (and Sartre as we saw above), follow Schopenhauer’s reflections on human nature, is a matter of consciousness and identity with one’s past consciousness is tied to belief.

In other words, what we know as personal identity is not guaranteed after death and yet continuity is.

¹¹² Ibid., p. 131.

¹¹³ Babich, “Towards a Critical Philosophy of Science” and also in Babich, “Early Continental Philosophy of Science.”

¹¹⁴ This is not limited to Nietzsche’s contemporaries and Milič Čapek, who used to teach at Boston University when I was at Boston College, also wrote on this. See note below.

This too Nietzsche seeks to foreground with his own talk of eternal recurrence.¹¹⁵ Nietzsche's concern with respect to the eternal recurrence and personal identity was not mathematics but consciousness. Thus he also emphasized, as already noted with regard to the pale criminal, that one has little other than one's convictions or beliefs to link one in the present to one's own past acts. Personal identity even in this life, as Nietzsche (and Sartre as we saw above), follow Schopenhauer's reflections on human nature, is a matter of consciousness and identity with one's past consciousness is tied to belief.

Schrödinger the modern man gives this illustration of this Schopenhauerian point: your consciousness is not identical with – you *are not*, you *do not have*, you *do not share* – the consciousness of your younger self. Thus when it comes to consciousness you have more chance of sharing consciousness at the real pinnacle of existence, erotic love – which is not just about sexual climax but the oneness Schrödinger describes (perhaps he should have written Valentine's day cards?) when he writes

those true lovers who, as they look into each other's eyes, become aware that their thought and their joy are numerically one – not merely similar or identical; but they, as a rule, are emotionally too busy to indulge in clear thinking, which respect they very much resemble the mystic.

But the point of difference remains. It is the same one Derrida tries to make, without referring to either Schrödinger or Schopenhauer or the *Upaniṣads* when he writes about the person who promises to love and the person he now is, and it is the hard-gentle words Schrödinger is reported as having offered one of his lovers when he points out what she herself also would know, we were once as one. That was then and that then is not now. Between the two of them together reflecting on the truth of that truth could not but have broken resistance. Because the endearing thing about Schrödinger was that he liked as much as possible to keep his loves, even while moving on to other lovers.

¹¹⁵ For further references and discussion of Poincaré and Nietzsche on thermodynamics and eternal recurrence, see, again: Babich, "Towards a Critical Philosophy of Science" and also in "Early Continental Philosophy of Science." Poincaré's point was Nietzsche's point, which is scarcely to say that Nietzsche himself had the mathematical prowess to work out a similar proof.

Seduction, anti-seduction, a dynamic play between lovers who have lost their love which never really works as planned. Passed-over lovers never quite believed Schrödinger's rhetoric but had to concede the truth of what he said. For everything follows from that disjunction – if what one means by love is union – and every lover, every poet with the soul of a lover knows that what one means by love is union. Two are one (or as Nietzsche varies that, loving himself as we know that he did, one can become two, but even that passes:

*Da, plötzlich, Freundin! wurde eins zu zwei – .
– Und Zarathustra ging an mir vorbei*

In fact, intriguingly, it is when you love that you love so very much that you *want* to promise forever, that you *want* nothing so much as to hitch your love to your future self, whether it wants it or not and even though it *certainly* will not want it.

Thus we may recall Nietzsche's complex aphorism on love and divinity.

Love of one is a piece of barbarism: for it is practiced at the expense of all others, Love of God likewise (BGE §67).

For Schrödinger, to go back to mind and eternity, you, the subject, lose nothing by the fact that you lose your subjective, personal identity just because you, qua subject, lose it all the time. As Nietzsche says every bit of our consciousness, especially our higher consciousness, depends upon forgetting: to be *morally, ethically* human we must get ourselves a memory and we do create a memory for ourselves in our ethical and civic laws, which we burn into ourselves. This is also the assault on the body: only that which is inscribed with pain, says Nietzsche, and this is so important for Freud's theory of the unconscious and trauma, *can be* remembered. And we do remember, as Nietzsche says, five or six I will nots, and thus commandments to be remembered are negative and thus commandments include a threat, a promise of vengeance, of loss.

It is for this reason that we say when we marry not I will love you forever but yes I will, meaning yes I will not: I will cleave to you only, renouncing all

others till the end of time, all others, no matter who they are, no matter how true or right for me they may be.

You do not know the *you* you were for Schrödinger because you do not have consciousness of that you: you are not aware of that you, and even your memory which is what you do have, even the vividness of your memory, fades. This is the reason we tell a grieving friend that *time heals all wounds*, just as the marvelous Fiona Shaw, the actress explains in that over-long and over-wrought academic film, namely Terry Malick's *Tree of Life*. Because, and of course it is true: time heals all wounds because in time we forget. Yet the consciousness of grief, like the consciousness of erotic, ecstatic erotic love (i.e., true love) does not want to hear or permit that it, this pain, this love, shall pass, but wants instead to burn its Eros, but above all its loss, its pain, its grief into memory. The American Indians of the northern plains, cut off a finger to create such a memory for themselves, and although Nietzsche does not refer to them explicitly here, this is the point that he likewise seeks to make. We do something much gentler when we put on a wedding ring to remind ourselves of a promise we have made.

For Schrödinger, there is no difference between you that says I and the universe: you are already everything *and* you do not know it, except that you can master the trick of thinking this identity, as Nietzsche also mused. In this sense we know that we are those who have figured out that we are figures in the dream of a god who dreams.

For Nietzsche, you can learn to bless life, love fate, *amor fati* or not. In any case, what is significant is the long run, the highest feeling, eternity. Thus when he writes contra the usual role of the promises of the afterlife in an early unpublished note, "My teaching says, Thus to live that you would *wish* to live again is the task – you will do so in any case."¹¹⁶

Thus you will, in any case, be reborn, again and again. But reborn, your consciousness is no more connected to your consciousness than your consciousness is identical with the consciousness of drinking this morning's cup of coffee, provided you were conscious enough after last night's party (assuming there was a party, assuming you were invited) to remember to have a cup of coffee to begin with. As Nietzsche reflects on pride and memory: "I have done

¹¹⁶ Nietzsche, KSA 9, 11 [163], p. 505.

that' says my memory. That I cannot have done – says my pride and remains inexorable. Finally – memory yields" (BGE §68).

You are no longer present to the past self that you were, you are not conscious of the past. Once again, we turn to the young Schrödinger:

I venture to call it [the mind] indestructible since it has a peculiar timetable, namely mind is always now. There is really no before and after for the mind. There is only now that includes memories and expectations.¹¹⁷

We may, or so I believe, assert that physical theory in its present stage strongly suggests the indestructibility of Mind by Time.¹¹⁸

Or

"It is by observing and thinking this way that one may suddenly experience the truth of the fundamental idea of Vedânta. It is impossible that this unity of knowledge, of feeling and of choice that you consider as YOURS was born a few years ago from nothingness. Actually, this knowledge, this feeling and this choice are, in their essence, eternal, immutable and numerically ONE in all men and in all living beings (...). The life that you are living presently is not only a fragment of the whole existence; it is in a certain sense, the WHOLE."¹¹⁹

Nothing of what Schrödinger says here is without paradox, and it is not for nothing that he suggests that Western science and understanding can do with an "infusion" of Eastern wisdom.¹²⁰ But he says this with respect to the notion of the subject, the *you* that you are and indeed with respect to the objects you take to exist around you. And thus not at all abstract, the issue for Schrödinger is as

¹¹⁷ Ibid., p.145.

¹¹⁸ Ibid., p. 165.

¹¹⁹ Schrödinger, *Mein Leben, meine Weltansicht* (Munich: Deutscher Taschenbuch Verlag, 1985 [1925]).

¹²⁰ " Unter solchem Anschauung und Denken kann es geschehn, dass urplötzlich die tiefe Berechtigung jener vedantischen Grundüberzeugung aufleuchtet: Unmöglich kann die Einheit, dieses Erkennen, Fühlen und Wollen, das du das deine nennst, vor nicht allzulanger Zeit in einem angebbaren Augenblick aus dem Nichts entsprungen sein; vielmehr ist dieses Erkennen, Fühlen und Wollen wesentlich ewig und unveränderlich und ist numerisch nur eines in allen Menschen, ja in allen fühlenden Wesen." And he continues: „Aber auch nicht so, dass du ein Teil, ein Stück bist von einem ewigen, unendlichen Wesen, eine Seite, eine Modifikation davon, wie es der Pantheismus des Spinoza will.“ Schrödinger, *Mein Leben, meine Weltansicht*, p. 71.

personal as it was for Nietzsche, which is to say that what Schrödinger says is all about his own being, the “I” but that means that it is about you, yourself and what makes you you (rather than, as Schrödinger also reflects some other being, your brother or your father. Thus for Schrödinger as for Nietzsche, *you will be reborn*, that he argues is certain, but to say that could not possibly be to say that you will *remember* this life or any part of it.

[As] inconceivable as it seems to ordinary reason, you – and all other conscious beings as such – are all in all. Hence this life of yours which you are living is not merely a piece of the entire existence, but is in a certain sense the whole; only this whole is not so constituted that it can be surveyed in one single glance. This, as we know, is what the Brahmans express in that sacred, mystic formula which is yet really so simple and clear: *Tat toam asi*, this is you. Or, again, in such words as ‘I am in the east and in the west, I am below and above, I am this whole world.’¹²¹

Note that you are no longer conscious of the start of these reflections now that it is nearing its end: unless you took notes as you went along. But even then you are merely recognizing the note, reconstructing your earlier awareness. The eternal recurrence is *not* what Woody Allen says it is, it does not mean that he or anyone else will have to sit through the *Ice Capades* again and again, it is not the wretched Michael Keaton film *Ground Hog Day* – I mention these two physically fairly unattractive movie stars, cast as they are, as Woody Allen is fond of casting himself, as romantic leading men, in order to point out that they are the *subjects* rather than the objects of desire in their romantic comedies.

For *all subjects*, this is the meaning of what it is to be a subject, *are unattractive* by definition. The subject is not the desired, the subject is not the judged and evaluated. The subject is the subject who desires, who judges, evaluates, or as Nietzsche said, wills (where it matters very much indeed that only men are those who will for Nietzsche) because the subject is the observer and thus conscious as such, rather than being the object of consciousness (at the same time, it should go without saying that none of us should be learning the meaning of Nietzsche’s eternal return from a movie).

¹²¹ Ibid.

To put this in Schrödinger's words,

Without being aware of it, and without being rigorously systematic about it, we exclude the Subject of Cognizance from the domain of nature that we endeavor to understand. We step up with our own person back into the part of the onlooker who does not belong to the world, which by this very procedure becomes an objective world.¹²²

Instead, like a speck of dust, as the demon says, the hourglass of existence is turned upside down, again and again. That is to say, so Nietzsche argues at the end of his 19th century and we may think of this as an harmonic oscillator, the universe is so cycled. This cycling is Empedoclean, Heraclitean, Anaximandrian, and Parmenidean but it is perhaps above all a Vedic notion. This is the Atman and as Nietzsche says – more modern than any of us, making the same point Neils Bohr makes about his horse shoes and about superstition in the realm of the Real – shaking his head: *du wirst es jedenfalls*.

This is you, as Schrödinger says, here reprising Descartes's powerful point about the need for constant creation (or conservation), and it is you – in any case.

Say yea or nay to recurrence, as Nietzsche says, "you will do so in any case" – what eternally recurs recurs in any case. For Schrödinger:

"It is certain that the earth will give birth to you again and again, for new struggles and for new sufferings. And not only in the future : it resuscitates you now, today, every day, not just once but several thousand times, exactly as it buries you every day several thousand times (...). (For) the present is the only thing which has no end."¹²³

¹²² Ibid.

¹²³ Ibid., p. 72.