

Meditations on Coltrane

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NBIO 201: Social and Ethical Issues in the Neurosciences

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Note: Hi Steven and Bill. Please excuse the liberties I took to make this “fun”. I ventured into the more poetic, especially toward the latter half, and wanted to take the form of storytelling instead of the usual essay. I wanted to explore things in what I felt was the best form for creativity and depth of exploration. And I liked how this class could be a place for that. (The footnotes are optional, but I did enjoy them very much, and you may get more of an understanding of the essay if you read them. Sorry that they go over length.)

Maria is a brilliant anthropologist from the future. She has read up on all the cultures of the world, from past to present, and studied the myriad of human rituals and practices since antiquity. Inquire into any fact about humans, she'll tell you it. She could provide the most detailed description of any ritual or advanced art form – from what a Zoroastrian high priest might say about looking into a ritual fire after years of practice, to what John Coltrane describes feeling when he plays *Meditations*¹. But Maria still says she does not know a lot. For one, she does not know what it is like to see the ritual fire as the priest does², nor does she know what it is like to interweave years of improvisational, jazz practice and study into a complex musical embodiment like the *Meditations* – though she's working on the latter. Maria does know a lot though. In fact, she knows all there is to know about science. This essay will be a brief exploration of things Maria knows, things Maria can't know, and the beauty to know the difference.

Before Maria became a poet-anthropologist, Maria was philosopher-neuroscientist pondering the hard problem of consciousness. In her mind, the hard problem of consciousness masked two different kinds of problems, and came with a great deal of conflation with what it means “to know.” There was the little hard problem of

¹ *Meditations*, John Coltrane, 1965. Tracks: (1) The Father and the Son and the Holy Ghost, (2) Compassion, (3) Love, (4) Consequences, (5) Serenity.

² “The two men sat staring at the bright flames for about half an hour, when the Dastur turned and said: ‘Now hasn't the world changed?!’ Boyd was perplexed; he had studied Zoroastrian theology, but had not yet learned how to *see* the reality of a ritual fire.” (*Ritual Art and Knowledge: Aesthetic Theory and Zoroastrian Ritual* by Williams and Boyd). I will be honest, I read this whole book and wrote a paper on it, but, like most philosophy and humanities I study, I can't ever remember much content, just some central bits, and images that come whisking to mind, with the emotional overtones of memory that stay. That's how I remembered this image. I think I will view my year-long fascination and study of qualia perhaps similarly.

consciousness: how does Mary³ see the blueness of the blue Sky, and Keats the whiteness of a white dove? And then there was the big hard problem of consciousness: what is it like to be Nagel's bat⁴ echolocating, breathing, and flying all at once, and what it is like for Keats to feel love pulsating, memories mingled with emotions mixing, and the kinesthesia of the feather and the fingers that funnel this unified experience into words on a page titled *Ode to Psyche*?

Maria believed it was all about the body: embodied experience was the heart of the little and big problem. But once you see how embodied experience is, you see there are different kinds of "to know". There is the usual kind of "knowledge" in the sense of propositional knowledge, facts and information that can appear in the form of equations, words, and ideas on a page, filling our books, and perhaps even one day a "completed science". But the other kind of *knowing* is phenomenal, how something feels or is experienced for a being. To the surprise of most philosophers, this kind of knowing only *actually* happens when you are experiencing some quality *in a given moment in time*, but most of the time it only exists *potentially*, as an ability of your neural representations to enable experiencing or simulating it. The proof: Keats thinks he knows the redness of a rose always, but consider this: just before he encounters red or thinks red he may get a lesion to the brain that knocks out his color vision⁵ (or Maria would claim that in the future, we could have on-demand, very localize-able TMS that could be turned on and off

³ Mary is Frank Jackson's thought experiment for isolating qualia: Mary is brilliant scientist knowing all science but who grows up in a black and white room, and one day goes out to see the colored light, by which she learns what its like to see blue.

⁴ *What it is Like to be a Bat?* Thomas Nagel, in *Mortal Questions* (1979).

⁵ There have been reported patients (even an artist) who once saw in color, but after the lesion, lost color perception and even the color in once-colored memories

to simulate the lesion). You think you know what it is like to see red, but really, you only know it for sure when you embody it. Maria agreed with Krich and Koch: “the reason Mary does not know what it is like to see a color, however, is that she has never had an explicit neural representation of a color in her brain, only of the words and ideas associated with colors.”⁶ But not only that, Maria only knows (phenomenally) what it is like to see that color *when* she has that neural representation active.

That’s the surprise with the little problem, and here’s the surprise with the big problem: Maria can never know what it is like to be a bat, but neither what it was like to be little John Coltrane first learning to play the sax, and not even what it was like to be Maria at 7 years old listening to Coltrane’s *Blue Train*, nor Maria 7 seconds ago meditating on Coltrane’s *Meditations*. At best, she has memories and limited abilities in recollecting, simulating, and re-living *in similarity* the embodied experiences of others and herself in times past. Keats, she thinks, can never fully know in the exact same sense what it was like to write that final line, but perhaps the beauty lies in the changing embodiment and remembering and returning to that beauty that emerges and re-emerges in changing and familiar forms.

Since falling in love with science as a kid, Maria had always believed in the beauty of science. She remembered reading about Feynman’s Flower, or Feynman’s Rose, as she re-dubbed it: “science knowledge only adds to the excitement, the mystery

⁶ Chalmers, David. *The Puzzle of Conscious Experience*, in *Scientific American*.

and awe of a flower. It only adds. I don't understand how it subtracts."⁷ And she felt this spirit embodied in her love for philosophy and neuroscience. She says:

When Keats writes, "A rosy sanctuary will I dress/ With the wreath'd trellis of a working brain,"⁸ I experience beauty in the poetry. But I also find beauty in understanding the workings of my brain and Keats': from the poles of indolence and the wild ecstasy in the odes, to the synesthesia and negative capability in his love letters. Whether in the simple or sublime, there lies a beautiful neurological basis to it all. Is it not a wonder that all this comes as a gift wrapped in intricacies of body and brain, presented as mind and heart? I just see it as adding to the garden: the trellis of Damasio's brain⁹, the scent of Feynman's rose, and branches of thought¹⁰ and the holding and beholding of it all together in the Psyche of Keats. It's all beautiful.

But Maria experienced a turning point in her life when she stumbled upon the work of Leon Kass, after a day of re-listening to John Coltrane's *Ballads* and *Meditations*, and re-reading John Keats' odes. Kass reminded her of something she had always wondered, something she always knew, or felt, long before her falling for science¹¹: there are some things science will never know, and that something may be the most profound, most beautiful. *Why is there something instead of nothing at all?* All this fancy philosophy, even a completed Chalmers-esque completed theory of physics and

⁷ Feynman in responding to his "nutty" artist friend claiming he dissects away the beauty of a flower with his science. *What Do You Care What Other People Think?*

⁸ *Ode to Psyche*, last stanza.

⁹ This spirit of wonder and the added beauty from science from the "simple to sublime" is captured in the neuroscientist Antonio Damasio's preface to the book, *Descartes Error*.

¹⁰ "Where branched thoughts, new grown with pleasant pain,/ Instead of pines shall murmur in the wind". Keats compares his thoughts to the branching out of a tree. *Ode to Psyche*.

¹¹ Phrase taken from *Falling for Science: Objects in Mind*, edited by Sherry Turkle – a book I have not read but like it's abstract. I find lots of what Turkle writes about in *Alone Together* very similar to Kass. Kass says, "we may need to be prodded by voices long dead" and heed our traditional moral and cultural wisdom. Turkle warns of similar seduction to the siren song of technological progress, without listening to same ethical and theological questions, dangers, and pitfalls, spoken in myth and literature, all of which, interestingly enough, was pondered deeply by the founders of AI.

consciousness, still would leave some things unstated, unproved, and unknown. She laughed at a silly thought:

I wonder if in some other universe you could make a being that embodied enough interwoven machinery to know all the many splendored qualia, in all its forms? From the qualia of an extinct electricity-sensing fish to a kid eating chocolate-chip-cookie-dough ice cream on a hot summer day. A being who would not only know the completed science of everything, but could experience and know the living of it all, (and if possible, even all at once?!) But even this being, if you asked it, could not tell you, why is it here? *Why*, not in the scientific sense, but in the true sense of, why is this universe, this embodiment, here rather than nothing at all? (But I suspect this being might just laugh in response.)

And she felt strangely lost in light, humbling laughter. “We have lost our way in the world partly because we no longer believe that our ordinary experience of life in the world may be the privileged road to the deepest truth.”¹² She remembered and repeated Kass’ words, letting them roll off her tongue. The tongue, she thought. So many splendored ways of experiencing its beauty. Taste, language, poetry, coming from the same thing – this emblem of ambiguous functions, purposes, and the making of meaning, inside the ensemble of consciousness. But beneath the sweet beauty she was trying to create, she tasted a strong bitterness.

She saw the ethnosphere¹³ of the varieties of human forms being endangered. She saw languages and windows into collective and individual minds, with their own stories, literatures, truths, beauty, wisdom, at peril. We have human rituals, practices of modes of being, built upon successive layers of modes of being. She liked the image of the spiral staircase¹⁴, or the nautilus depending on who was telling the story. Each long turn has the

¹² From Leon Kass’, *The Hungry Soul*, from which I draw extensively in allusion.

¹³ Inspired by Wade Davis’ TED talks on the ethnosphere and the web of human ritual.

¹⁴ Adapted from Kass, pg. 14: “The argument is thus an ascent – from nature to human nature to human nature culturally clothed by the just, then the noble, then the holy – but

ability to return one self toward deeper layers of truth, of experiences that can only be known through being experienced. Like beauty that retreats and re-emerges in new, but familiar forms, these are experiences built upon experiences, known in life, not in books.

She felt this was the greatest social and ethical issue of the times, the greatest most important human issue. But she felt totally lost, unsure how to help, where to begin. She saw man's ravenous quest toward a completed science, toward a singularity of truth that will never come, for all that has ever been and will ever be is a plurality¹⁵ of experiences in its many splended forms. And she felt fear for what was in danger.

So she turned like she always did toward her imagination, to a place where she could grapple with dark myth, but re-craft, redeem it, re-create it. She wanted to experience it in the spirit of music, but first she had to write the myth:

He may gain the knowledge of the world, the knowledge of science, but he, like Oedipus, may remain completely blind to knowing himself, tragically in the most important sense. He may not see that in his quest to change his end, he only perpetuates his suffering, and blights the lives of those he loves so dearly. But even this story was born out of compassion for Oedipus, and love for Antigone. It was born out of the mortal life, wanting to share wisdom of the need to see beyond blindness to truth. Sophocles, like any mortal, experienced the aging of the body, but he also felt the brewing of compassion with suffering in the heart, and the tasting of love's wine that spills forth.

And when she wrote this down, a fluttering of an image and whispering of words came to mind: poetry in the form a song she once heard,¹⁶ a song sung with the saxophone. "I am

by an ascent that remains in touch with its beginnings... Like the rising spiral staircase the path revisits earlier vistas that, now enlarged, can be completed with greater depth of understanding, yielding insight into both the viewer and the viewed."

¹⁵ This is not Maria's language. She got this from her field notes from interviewing some student who was taking a class, related to social and ethical issues, and he said he heard a really smart Doc use the term "the plurality" as a playful joke.

¹⁶ From the poem "Creation Story" in Joy Harjo's, *How We Became Human*. Performed to music and the tenor sax, with her band, *Poetic Justice*.

not afraid of love, or it's consequence of light." And she felt a sense of serenity upon her

¹⁷. But she wouldn't want to say this. She'd want to interweave it, like poetry, ideas, psyche, and soul coming together, in music. To learn to play it, like Coltrane.

¹⁷ God, grant me the serenity to accept the things I cannot change, courage to change the things I can, and wisdom to know the difference.