

1 - Schrodinger's Cat Learns to Swim

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I have seen inside the box. I have peered at Schrodinger's cat as she takes her nap after a long sip of milk. I have seen behind the curtain, glimpsing hidden mysteries, meditating on paradoxes of Nature, using lenses I acquired through the vision of Physics and Mathematics under the tutelage of master teacher Philip B. Horton. He taught me the one grand paradox of God's created world: God's mind is in full view. It is all there, simply waiting for us turn our head and look, sometimes with stereoscopic lenses, and then to dig a little, so that we might catch a partial glimpse of the great mystery of God's universe. *For now we see through a glass, darkly; but then face to face: now I know in part; but then shall I know even as also I am known.*

To open our eyes we must leave the safety of ignorance, the numbness of complacency, and simply approach the boundary between land and sea, between comfort (and possibly its derived ignorance and intellectual safety) and understanding. We must boldly leave dry land and seek the unknown, the unknowable, the new, the unexplored, the deep mysterious water. We must learn to put our toe in and then go neck deep and then swim. In *Steppenwolf*, Hermann Hesse writes: ***Most men will not swim before they are able to. Naturally, they won't swim! They are born for the solid earth, not for the water. And naturally they won't think. They are made for life, not for thought. Yes, and he who thinks, what's more, he who makes thought his business, may go far in it.***

Indeed, life is a voyage, a journey of discovery where we both move across the deep ocean and also plunge into the water. My captain, Philip B. Horton showed me how to swim in the sea of mystery and knowledge. Perhaps you ask yourself: Why move from land to sea? Why not play it safe? Just stay put and block out the subconscious hint that there really is more to learn, more to experience. Don't bother, we might say to ourselves. Safer to stay on solid ground, where we spend most of our lives. Here's the problem: when we stay on land, we are not participating. Instead, we

live on the surface, we do not penetrate land. We live above it, only touching it with our feet, a body's length from our head. We are elevated above land, distant from the frozen water or dirt of its surface. But, with water, we are in. We join the mystery. We participate, fully engaged. When we walk into the ocean, we are inside water, submerged and part of its medium. As a result we are vulnerable, taking the big risk of learning what the water can teach us. When we get in the water, we are in its world, having transcended our world into its fluid form. (Paradoxically, we too are mostly fluid, so the entrance into water is our returning home.)

It is important that we actually enter the water, not simply floating or skimming or skiing or skidding along its surface. This water, this domain of the unknown, the unexplored, the sacred, is our baptism and transformation. It cleanses and refreshes our being. There is more. Water both reflects and refracts light. It is a mirror and a medium for light. Not so with land. It can absorb or reflect light, but it cannot transmit light. Land is opaque, water translucent. And, to move from what we know to what we don't know, we need ALL of the power that light provides.

I have learned to swim, coached by Philip B. Horton. He was my mentor, instructor, and fellow aquaphile. As his protege, I learned to look for deeper meaning, to look for the invisible behind and underneath the visible. I have learned, as he modeled with his own life, to wonder, to dream, to look for and try to apprehend the secrets of God in his natural world and in the world of thought. Accordingly, Dr. Horton showed me how to seek the great ideas in science, literature, philosophy, art, music, poetry, architecture, computing, geology, chemistry, astronomy and the liberal arts. He loved all of our world and encouraged me to find that love too. I did. I do.

Wisława Szymborska, the Polish Nobel Laureate, also understood the difference between land and sea, as described in her poem *Utopia*:

Utopia

Island where all becomes clear.

Solid ground beneath your feet.

The only roads are those that offer access.

Bushes bend beneath the weight of proofs.

***The Tree of Valid Supposition grows here
with branches disentangled since time immemorial.***

***The Tree of Understanding, dazzlingly straight and simple,
sprouts by the spring called Now I Get It.***

***The thicker the woods, the vaster the vista:
the Valley of Obviously.***

If any doubts arise, the wind dispels them instantly.

***Echoes stir unsummoned
and eagerly explain all the secrets of the worlds.***

On the right a cave where Meaning lies.

***On the left the Lake of Deep Conviction.
Truth breaks from the bottom and bobs to the surface.***

***Unshakable Confidence towers over the valley.
Its peak offers an excellent view of the Essence of Things.***

***For all its charms, the island is uninhabited,
and the faint footprints scattered on its beaches
turn without exception to the sea.***

***As if all you can do here is leave
and plunge, never to return, into the depths.***

Into unfathomable life.

I confess that while Philip was showing me the mysteries and showing me how to jump in and do the backstroke, I was simply enthralled and loving learning. He never whispered - 'Now pay attention. This is a deep dark mystery of the universe and you

must inquire and learn'. No, he simply said - 'Look at this. Isn't it interesting?', and I looked and kept looking and refined my ability to see and discern. I dug in and explored because what he showed me was fascinating and difficult. I wanted both. I was in love with the process and fearlessly swept away by the current. In effect, Philip led me out of Plato's cave, into the LIGHT of the sun, into the world of forms and ideas. And, I am still awestruck and eternally grateful to be able to say: you don't know what you don't know. If a teacher comes along and offers to lead you out - to educate you - just follow and say thanks. Thank God for my teacher, Philip, who appeared when I was ready at age 19. Philip led me into the world of hidden meaning, into the details. His tutelage did not rely on vague, mind-muddying generalization, but into the world where one learns to work things out with pencil and paper and thereby fully know. Physics is about diving into the labyrinth in order to find the way out. It is about seeing the steps and taking them, even when it is strenuous. Especially when it is strenuous! I did not consult Wikipedia. I did not watch YouTube. Instead, he taught me the value of working things out longhand, patiently, confidently. He showed me the work of the great thinkers of science. As a result, I have glimpsed eternity with its power and grace, its subtleties and essence. The light that penetrates the water we entered illuminates the shadows and the crevices, the crystalline nuances and beauty.

So, how did this all start? The lifelong (45 years!) mentor/protege journey began in the fall of 1971 in Dr. Horton's General Physics - where, I confess - I was much more interested in another kind of study - Miss Nancy Shellady. As we both sat in Philip's class, I noticed (because I was looking!) that Nancy was not wearing the promise ring she had worn all of our freshman year. I strategized. It took several days, but I moved closer and closer to her desk in until I was sitting next to her. The following exchange was recorded in our notebooks, as we sat adjacent to each other on a Friday morning during a class devoted to Newtonian Mechanics:

Don: *What happened to the ring?*

Nancy: *We broke up.*

Don: *In that case, what are you doing tonight?*

Our first date was born. That night we went to Briggs Auditorium and watched a screening of Steve McQueen in *The Reivers* ([https://en.wikipedia.org/wiki/The_Reivers_\(film\)](https://en.wikipedia.org/wiki/The_Reivers_(film))). Truthfully, I remember NOTHING about the film except that it was based on the writing of Nancy's favorite author - William Faulkner. Nancy and I continued to date, graduating from Phillips University together on May 25, 1974, married on May 26, 1974. The pivotal moment, both for our lifelong love and life together and my journey with Philip was that fall of 1971. The next important event, unfolded in the spring of 1972.

In his *Poetics* Aristotle says, δύο μὴν οὐν τοῦ μυθοῦ μέρη, περί ταυτ' ἐστί, περιπέτεια καὶ ἀναγνώτησις, which says: There are two parts of a great story. First, a sudden change of fortune and second, concealment that eventually becomes recognition. Concealment (and consequently recognition) is grounded upon a fate in which the dramatic action disappears from view and from which it derives its obscure and enigmatic origin. Concealment and revelation are critical to the sojourner being able to understand his/her life and the direction it must take. A change of fortune occurs when one state of things within the story becomes radically different or even its opposite. Furthermore, the two elements Aristotle is describing are connected. The change or reversal of fortune is what causes the traveler to discover what is concealed, thereby revealing some deep insight that was once one hidden and is now understood.

My insights on how Philip affected my life revolve around Aristotle's notions of a) change of fortune and b) concealment that is transformed into revelation and recognition. The present essay focuses on change and reversal. The second essay (forthcoming) will focus on the revelations of what was once concealed that I learned from my friendship with this amazing man. The second essay is therefore what I learned by entering the water. Back to 1971. That fall was pivotal in bringing about a change of direction for me. It was both my first time as a student in Phillip's class and my connection to Nancy. General Physics might have been my only time with Dr. Horton, had it not been for the spring of 1972. That semester, at the close of my sophomore year, I was merrily chugging along in mathematics, having finished three

semesters of calculus and awaiting the adventures of topology, linear algebra, advanced calculus, differential equations and probability.

My spring schedule needed another course - so I enrolled in an introductory psychology class. I lasted one day. It was completely clear to me that I would not be able to last a full semester studying Psychology. No way. So, I went to Dr. Almes for advice. I wanted to drop Psychology and pick up something else. That something else turned out to be a course in *Atomic and Nuclear Physics* - a breakthrough semester. It launched my Double Major in Physics and Mathematics! This was the great reversal of knowledge in my life, the great change of path. I had jumped into the ocean and was learning to swim. It was change of fortune that gave life to my discovery of the depth of Physics and the opportunity to take many more courses with Dr. Horton. I took every Physics class he offered. I became Dr. Horton's lab assistant for General Physics, and he essentially handed over the keys of all the cabinets, all the Physics classrooms and labs, including the dark room, and the Physics library. I was even shown where he kept the coffee can filled with cookies! I soaked it all in. Mathematics was not the main thing anymore. I discovered another love. Stay tuned for Chapter 2, wherein I reveal the many mysteries that my time with Philip unlocked.