The Future of Education

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March 19, 2021

Introduction

As someone who always bore in mind the etymology of words, David Bohm would have noted the root of the word 'university' comes from the Latin, *universitas*, which means 'whole.' The Latin term *universitas magistrorum et scholarium* roughly translates to 'community of teachers and scholars.' It is synchronic and meaningful then that the modern university system has its roots in the European medieval university, which was created in Italy and evolved from cathedral schools for the clergy during the High Middle Ages.

In order for us to explore education paradigms and communities we must first consider the purpose of education. And in order for us to explore the future of education, we must look at the purpose of education from a historical perspective, that is, the educational history of how we have been taught to see, to think and to learn.

Part I: Purpose of Education

To me, education is awareness. It is the act of perception. It is the simple yet intricate process of teaching each other how to think, how to see, how to feel, how to be, how to act and how to connect. Thus, it is more of a system of participation than one of vocation; it is a culture of learning for enlightenment. Many of us are by now aware of 'systems thinking' as a way of seeing interconnectedness and fragments as part of a

greater whole. We are systems living within ecosystems nested within larger systems, learning from and interacting with each other and our respective environments.

If we look at human and education systems over time, we might notice paradigm shifts occurring, often at the margins, with creatives and outliers. Following Thomas Kuhn's *Structure of Scientific Revolutions*, we see how time is a factor in how and when new ways of perception are accepted by the mainstream. This means the rate of change for radically new thought is generally slow, partly due to the bureaucratic nature of movement and progress in institutions of higher education, institutions that have largely remained static over hundreds of years. Our current higher education system is set up with lifelong tenure, lengthy accreditation programs, textbooks grandfathered by powerful publishing companies, and established hierarchies that are designed to maintain and perpetuate power structures. Therefore, change is slow and incremental.

Furthermore, if we look at the purpose of education from a longer historical perspective, we see how a myriad of innovators such as Thales, Pythagoras, Democritus, Plato, Socrates, Khayyam, Fibonacci, Galileo, Descartes, Von Bertanlaffy, Popper, Dewey, Godel, Piaget, Montessori, Steiner, Vygotsky, Jung, Wittgenstein, Bohr, Winnicott and others have shaped our perceptual antennae, imagined conceptual frameworks and given us the language to describe our understanding of our world.
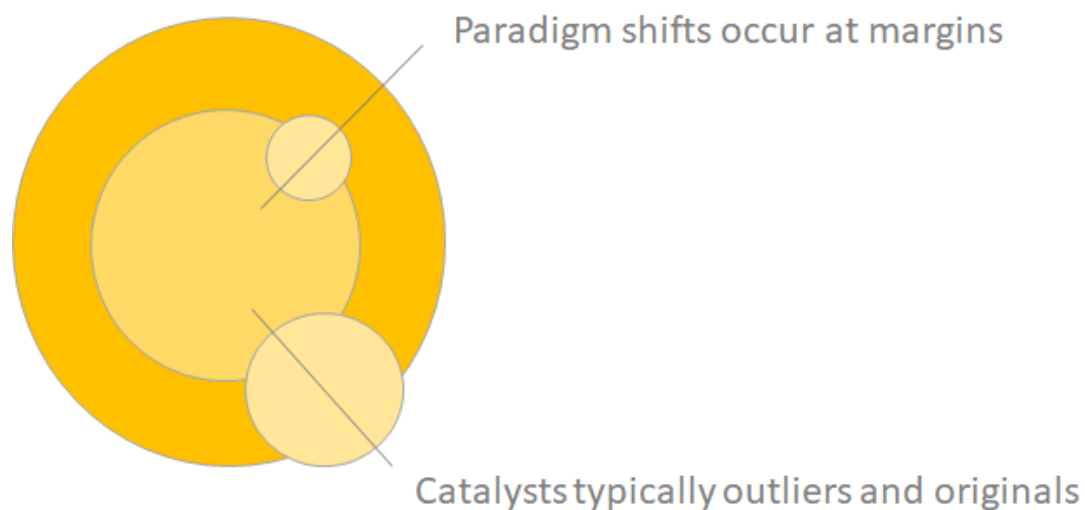
Figure 1: Systems Thinking

If education is perception, the first thing we can draw from systems thinking is that it is a helpful way for us to 'see.' It provides us with the lens (or lenses) through which we view the world. Understanding the cosmos as a system (or series of systems) allows us to fill gaps in our specialized disciplines. Learning originally started in hunter gatherer

societies; it was not until the agrarian and industrial eras that formalized education took hold. More often than not, mandatory mass education found a way to exercise power and influence. Classical education originally started as a holistic endeavour that included the arts, sports and other disciplines. Modern higher education, however, has created highly specialized degrees in strictly categorized fields so that now one typically knows a lot about a little rather than a little about a lot. We have also separated our minds from our bodies—a proliferation of Cartesian duality—as though we were empty shells with disembodied cortices.

Figure 2: Integrative Being

More recently, we have seen a revisiting of holistic learning, a reintegration of our bodies and minds. Mindfulness is now taught at MBA schools, executives are taking ayahuasca meditation retreats, doctors are learning about psychosomatic illnesses and large insurance carriers are covering costs for naturopathic remedies. This shift has also impacted how we think—moving away from juxtaposed divergent and convergent ways of thinking toward a blended model of integrative thinking. We are less inclined to accept the former dichotomies of an 'either/or' mindset which has shown its limitations, inclining more towards embracing a 'both/and' mindset, bringing us closer to an *integrative way of being*.
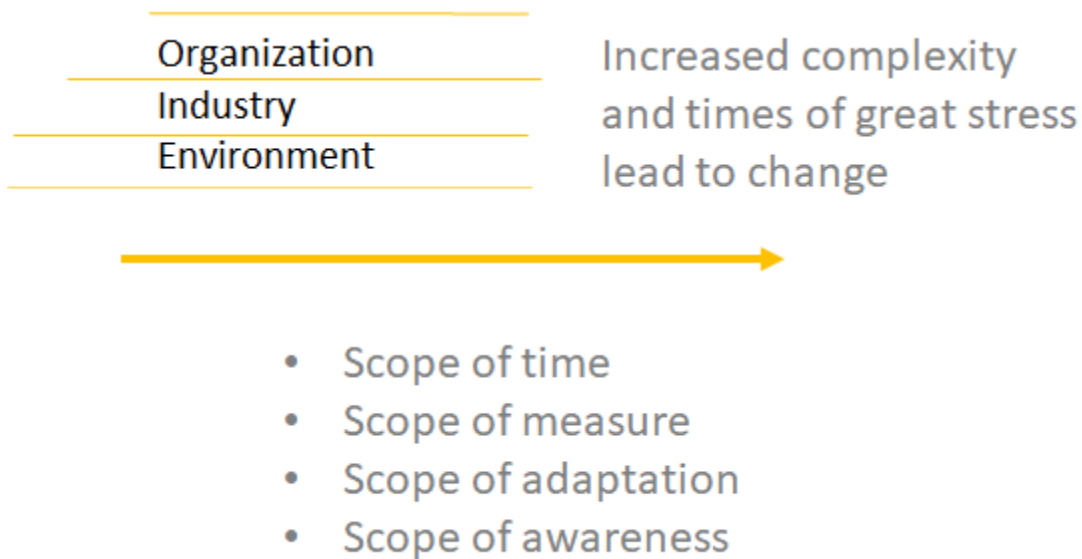
Ecological Learning

Figure 3: Ecological Learning

Education also encompasses 'how' we learn. And 'how' we learn has changed over time. Keeping in mind that we are systems within systems, we have discovered we are ecological learners. We are conscious beings learning all the time from everything and everyone around us. The revelation is that education and curricula are no longer confined to the classroom—learning is present in all facets of life: self-awareness, relationships and interdependence with the world around us.

Co-creating curricula and educational paradigms for the future learner is a serious endeavour because it has the potential to impact the future of humanity, especially as we face an existential crisis. With a systems perspective, an integrative way of being, and ecological learning, we see that we are wired to learn and adapt to our environment.

Organization
Industry
Environment

Increased complexity
and times of great stress
lead to change

- Scope of time
- Scope of measure
- Scope of adaptation
- Scope of awareness

Figure 4: Educational change over time

When we situate education in space and time, we see that the scope of measure and rate of adaptation has also changed. During times of great stress and complexity, our education paradigms have shifted. As we consider human systems in the context of our current time and space, we observe education in the midst of cultural and epistemic shifts.

As we consider the purpose of education, we also have to consider stakeholders. The answer to the question why we educate depends on who we ask. Everyone has a vested interest—a different stake in why we believe education is important. Parents are likely more concerned with the caring, capacity building and competitive advantages of having a good education. Educators are more likely to strive for imposing, imprinting and inspiring whereas society's aims are more likely driven by religion, government or industry. Another way to look at stakeholders in education is as three goals: a public goal—to prepare learners for civic participation; a professional goal—to prepare learners for employment; and a personal goal—to further the pursuit of happiness, fulfilment and self-actualization. This perspective also changes if we consider that many Indigenous peoples do not identify 'stakeholders' as such: relationships in certain cultures are so interconnected, it makes no sense to separate them or invoke the idea of stake holding as everyone is included and involved.

Chart 1: An overview of the working generations

| Characteristics	Maturists (pre-1945)	Baby Boomers (1945-1960)	Generation X (1961-1980)	Generation Y (1981-1995)	Generation Z (Born after 1995)
Formative experiences	Second World War, Rationing, Fixed-gender roles, Rock 'n' Roll, Nuclear families, Defined gender roles — particularly for women	Cold War, Post-War boom, "Swinging Sixties", Apollo Moon landings, Youth culture, Woodstock, Family-orientated, Rise of the teenager	End of Cold War, Fall of Berlin Wall, Reagan / Gorbachev, Thatcherism, Live Aid, Introduction of first PC, Early mobile technology, Latch-key kids; rising levels of divorce	9/11 terrorist attacks, PlayStation, Social media, Invasion of Iraq, Reality TV, Google Earth, Glastonbury	Economic downturn, Global warming, Global focus, Mobile devices, Energy crisis, Arab Spring, Produce own media, Cloud computing, Wiki-leaks
Percentage in U.K. workforce*	3%	33%	35%	29%	Currently employed in either part-time jobs or new apprenticeships
Aspiration	Home ownership	Job security	Work-life balance	Freedom and flexibility	Security and stability
Attitude toward technology	Largely disengaged	Early information technology (IT) adaptors	Digital Immigrants	Digital Natives	"Technoholics" — entirely dependent on IT; limited grasp of alternatives
Attitude toward career	Jobs are for life	Organisational — careers are defined by employers	Early "portfolio" careers — loyal to profession, not necessarily to employer	Digital entrepreneurs — work "with" organisations not "for"	Career multitaskers — will move seamlessly between organisations and "pop-up" businesses
Signature product	Automobile	Television	Personal Computer	Tablet/Smart Phone	Google glass, graphene, nano-computing, 3-D printing, driverless cars
Communication media	Formal letter	Telephone	E-mail and text message	Text or social media	Hand-held (or integrated into clothing) communication devices
Communication preference	Face-to-face	Face-to-face ideally, but telephone or e-mail if required	Text messaging or e-mail	Online and mobile (text messaging)	Facetime
Preference when making financial decisions	Face-to-face meetings	Face-to-face ideally, but increasingly will go online	Online — would prefer face-to-face if time permitting	Face-to-face	Solutions will be digitally crowd-sourced

*Percentages are approximate at the time of publication.

Figure 5: Generational values, relationship with technology and preferred methods of communication

In turning our gaze from the past to the present and then toward the future of education, we see the importance of technology as a tool for communication, record keeping and archiving the history of human knowledge. With the advent of television, internet, smart phones, artificial intelligence, machine learning, virtual reality and more technologies to come, we recognize changes taking place within the human brain. The speed with which we now consume information has impacted not only our attention spans, but anthropologists are finding our thumbs are getting bigger and neuroscientists posit that our neurocircuitry is changing. Increasingly, reward centres in our brains are becoming addicted to digitized validation, game theory incentives and the projection of curated psychic avatars.

More and more people are choosing computers and technology over cuddles and human encounters. These changes are impacting our ability to be co-present with one another and our consciousness capacities. We sacrifice cuddle time for screen time and find ourselves in epistemic bubbles ordained by algorithmic powers that inherit the biases of their programmers. Even in an increasingly globalized world, we are finding less homogenization, a rise in tribalism and a return to even smaller identities. The chart above highlights how different generations interact with the technologies of their time

and experience value shifts. As the pace of new technology adoption accelerates, we see less opportunity for the cross pollination of intergenerational dialogue. These considerations must be factored into the educational planning of the future. As the future learner changes, what and how we teach also needs to adapt.

As we try to make sense of a dynamic world, we are trying to make sense of the chaos—to find resting places amidst all the noise, information overload, new discoveries, the unknown and the known—to create a sense of structure. The polarities of chaos and structure—implicate and explicate orders—require a new way of 'being' where we learn to embrace and become comfortable with the tension and confusion of the complexity, ambiguity and uncertainty.
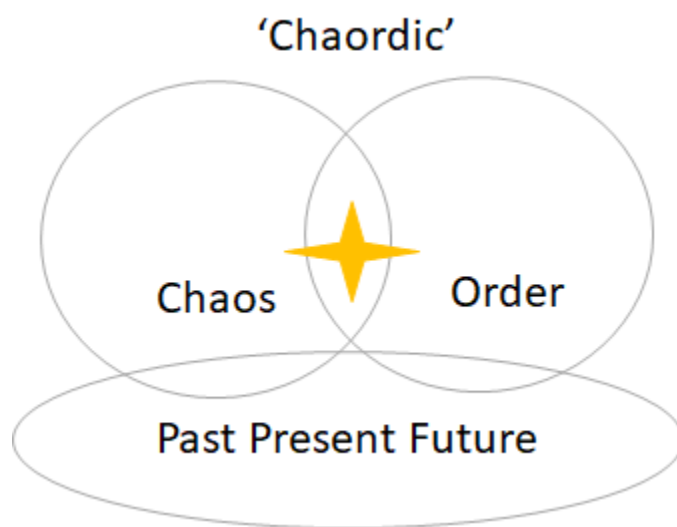
Figure 6: Polarities and chaordic organizations similar to the notions of entropy and synchronicity

The Venn diagram above illustrates Dee Hock's concept of 'chaordic' organizations. He suggests that our optimal locus of action is at the edges of chaos and order—in the chaordic middle where we find a curve that resembles our world, or the bending of two polarities: order within chaos, and chaos within order, or perhaps, the Tao and 'way' of life... equilibrium, harmony and flow.

Natural world process based on nature of reality: physics, math, perception

Finding fractal patterns

Figure 7: Patterned puzzle learning

If we then further extrapolate, drawing upon natural world processes and perceptions of reality (physics, math and art) we can identify that they all seem to follow one very simple logical aesthetic: the biomimicry of fractal patterning. Therefore, when looking at the world of higher education, what natural patterns do we see emerging? Where is innovation succeeding? What is happening at the organizational level? Which departments have the best cohesiveness and the best facilitation process for making decisions? What hierarchical or non-hierarchical determinants yield results in various contexts? By looking at these patterns, one discovers some commonalities—and that brings us to 'co-designing principles.'
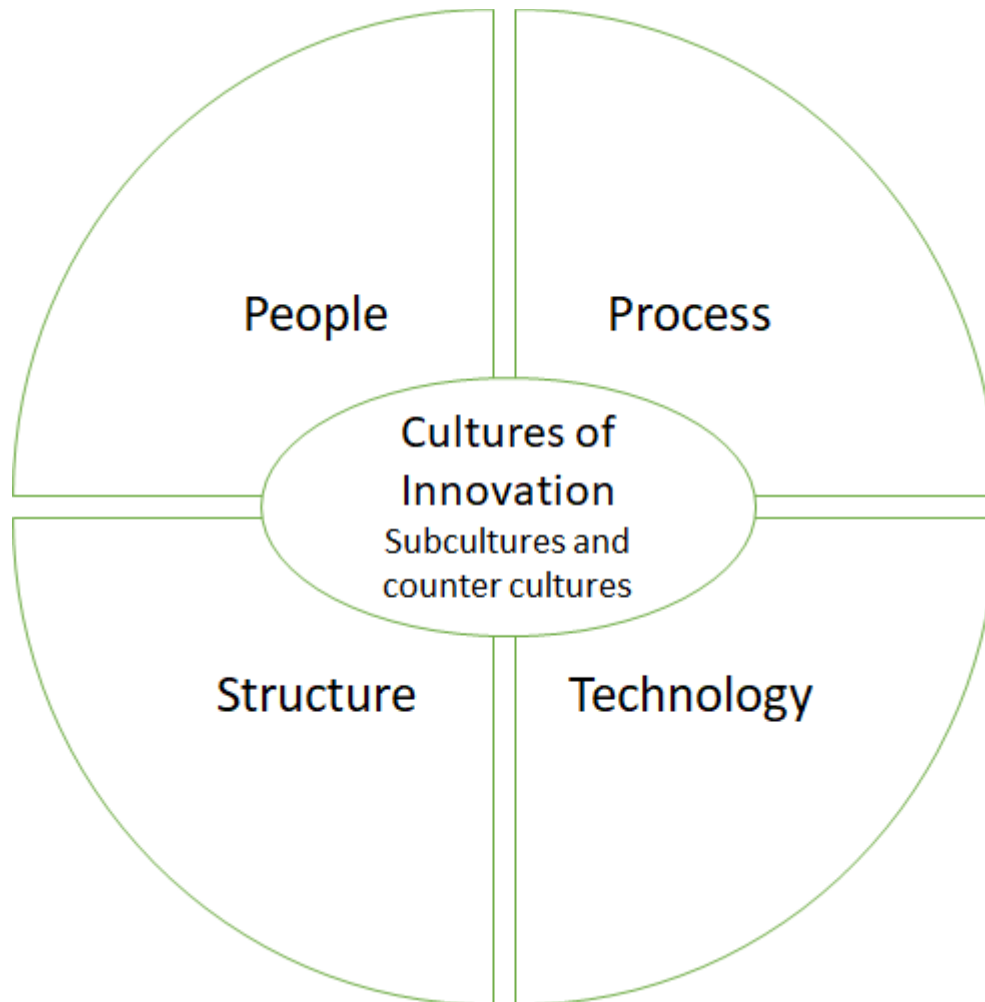
Figure 8: Design principles as drivers of culture

As we look to the future of education, the idea of co-creating lifelong curricula transforms the concept of learning from a finite state into an ever-evolving phenomenon that does not have a definitive start and end. It becomes, instead, a deeply human, biological, life-giving experience that happens in relationship with our world and with others. It moves us beyond survival to thriving, to imaginative worlds and innovation. It becomes a curious, playful, experimental, self-directed and scaffolded experience. As educators and learners, we must co-create curricula with strategic foresight and plan for interconnected and interrelationship relevance. One aspect of this means that everyone be invited to take a seat at the table and new processes be developed to seek input. If we think of Bohmian dialogue, this means opening oneself to all perspectives in order to become aware of one's own assumptions and limitations.
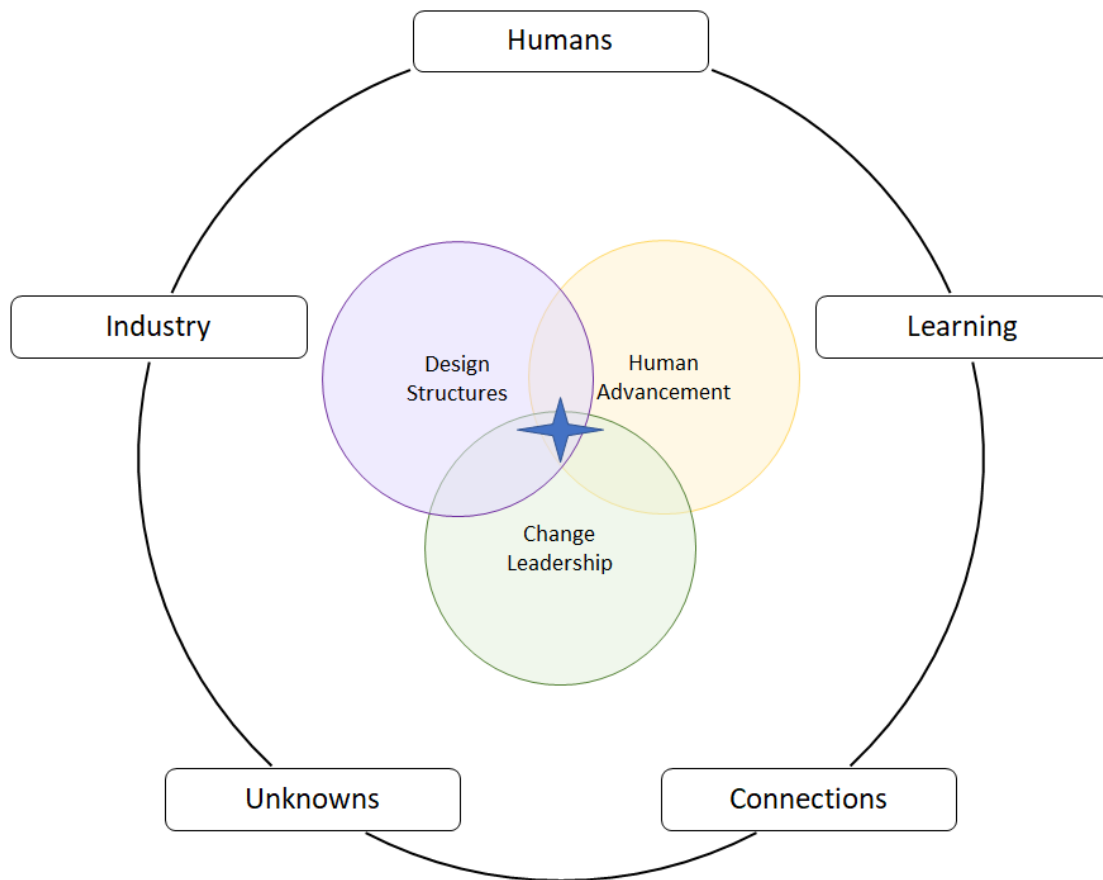
Figure 9: Integrative co-design

As we come to integrate ***fra gm en ted*** parts into a larger whole, we can begin to envision education as an act of community perception, an act of communal communion, an act of constant contemplation and an act of deep dialogue. This leads us to consider the essence of what F. David Peat intended to create at the Pari Center and how we can preserve the wisdom of a simple truth: education as community.

With Goethe, Merleau-Ponty and Wilbur, we move toward and beyond the question we started with:

- What is education?
- What is the telos of education?
- Who is the educator?
- The educated?
- The student?

- Why create curricula?
- What is co-design?
- How do we engage whole systems?
- And how can we co-create?
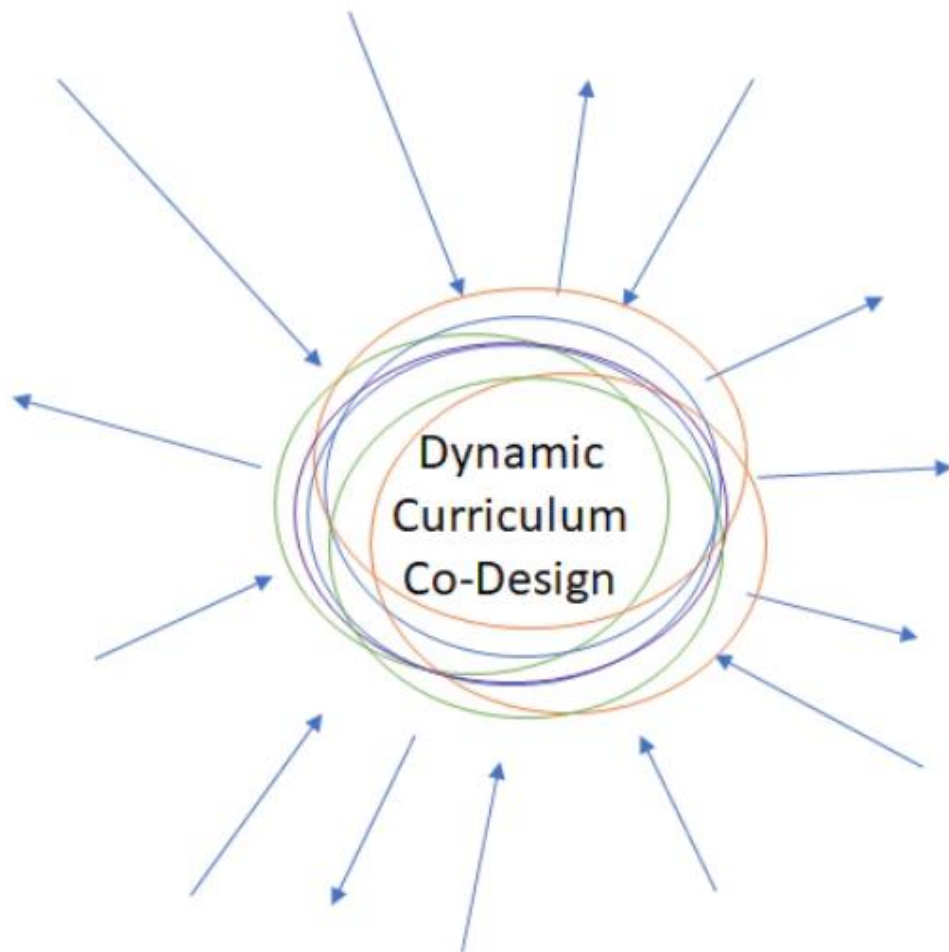
Figure 10: Dynamic curriculum co-design

When we consider the future of education and the future learner we come face to face with our limited understanding of time. Our experience is limited to a three-dimensional plane that is now becoming an ever more two-dimensional cybersphere: a merging of the holoflux with our contextualized understanding of a digital world. It is a new space

where we are interacting with each other and participating in consciousness processes via psychic avatars, embodied narratives and unconscious biases. In rethinking education as community, we are in fact seeking new ways of explaining older concepts about meaning, dialogue and the cosmos based on a mirroring of the natural world. What is community?

We are at a point of significant change for our species. As space exploration, radical ways of knowing and understanding the human experience are becoming more and more mainstream, we see humanity struggling to grasp the nature and infinite potential of our capabilities.

As much as the topic of education as outlined above may seem important, perhaps we can also grasp it as a finite infinite—it may not really be that important at all! I turn to the sage summation of F. David Peat, who revealed that the most important things in life might just be the simplest: community, creativity and relationships.

"Hmm…. An easy question! The most important thing in life…. You know, maybe I don't think about it. Maybe I don't think about that sort of thing. I mean, it's been nice finding a village on a hilltop, surrounded by beauty, where people live in a sort of traditional way, where you can lead a life that's balanced - a little bit of walking, good food, warmth. And, I suppose, being able to express yourself creatively, maybe that's the important thing - whatever it might be, writing or painting or doing something. And having relationships with people…. I don't know. I don't know. It's not something that worries me. Maybe if it worried me I wouldn't be doing this. In the past I was more worried about things. Maybe I'm not worried at the moment … but nothing lasts forever." (F. David Peat)

Perhaps what we can do when we view education as a form of community is take gentle action and strive to create peace havens… and see that 'the future has an ancient heart' by acknowledging the wisdom of artistic, spiritual and scientific giants.

What if we expand the notion of a 'spirit of place,' engage more fully in Bohmian dialogue and make it an essential part of our nature to engage in ideas exchanges that have the potential to germinate, seed and blossom into a renaissance—
a *rieducazione* of the mind, heart and soul.

As we move into a new romantic renaissance, this means revisiting 'whole human' and 'human-centred' ways of being. We might even see a reprioritization of wisdom, beauty and truth, a reimagining of synchronicity and *unus mundus*, Latin for 'one world.' Perhaps education is a feeling, a spiritual encounter with the sacred flow of what is both within and just beyond us.

TAO can be talked about, but not the Eternal Tao.

Names can be named, but not the Eternal Name.

As the origin of heaven-and-earth, it is nameless:

As "the Mother" of all things, it is nameable.

So, as ever hidden, we should look at its inner essence:

As always manifest, we should look at its outer aspects.

These two flow from the same source, though differently named;

And both are called mysteries.

The Mystery of mysteries is the Door of all essence.

Derek *[Lin translation of the Tao Te Ching](#)*

'The future is ours to imagine,' I like to say. What if education came to be seen as a whole body, whole system, whole world, whole community endeavour that had the ability to transcend time, space and bring us back to our connection with the sacred?

If we take a methodical perspective, the history of curriculum development (for over 7 billion people) with expanding concepts of global awareness and interconnectedness means education will help learners go through particular transformations: shaping identities, cultures and futures. This means not just the content of the offerings but also how those offerings are conceived and delivered. The changing landscape of dominant languages, paradigms, technologies and epistemologies means we will have 'collision flows' of waves, particles and Hegelian-esque syntheses. There may come a time when 2+2=5! This would not be 'quantum quackery' but an acceptance that there is much yet to be known about our world. In the grand scheme of things, the field of philosophy, physics and science are still quite young—newer disciplines will be born and we must be prepared to recognize the coming of new 'enlightenments' and 'dark ages.' Perhaps what we await is an enlightenment age where dark matter and dark energy are more clearly defined as the yin and yang of the cosmos, the 96% of reality that we cannot perceive.

We are here
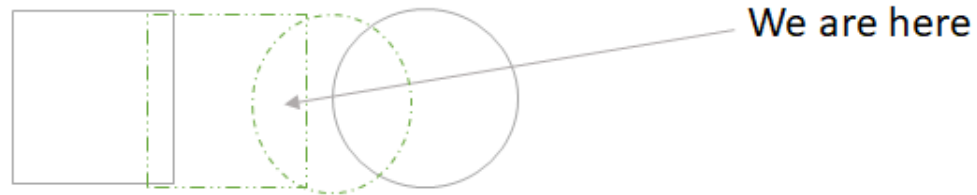
We are in the midst of a consciousness revolution

Figure 11: Emerging models of civilization

As Feynman posits: 'Reality takes precedence over public relations, for nature cannot be fooled.' Perhaps what he was trying to say is that nature will unfold and enfold... and that as we become aware of the traumas, tensions and embodiments of our psychic prisms (and prisons)—we will become increasingly aware of our biospheres and how our family structures, community structures, national structures and global structures impact our learning.

We might also come to agree to a collective shift from a competitive ethos to a communal one—beyond learning systems, learning organizations and learning beings toward enlightened systems, enlightened organizations and enlightened beings.

Mariam Hashemi Brian (MA, CPF) is a science artist, creative consultant, founding director and epistemic philosopher circling at the intersection of thought, action and innovation. With over 15 years experience in the private, public and education spheres, she has led global education and change management interventions in Europe, North America, Asia, Africa and with Indigenous populations. Mariam has been invited as a thought leader to speak at International conferences and contribute to various publications. Her focus is on systemic innovation, transformational cultures, creative leadership, designing healthy workplaces and ethical technologies. Mariam is inspired by the poetry of quantum physics, the sacred beyond spacetime and elevating collective consciousness with humility and empathic resilience.

This article was presented initially at the Global 'Beyond Academics Summit' and published in Pari Perspectives in Italy. Thanks to Maureen Doolan for inviting me to contribute. It was an honour and privilege.

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