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ALL LIFE COMMUNICATES

Indigenous custodians 'know it' What can we do about it ? Why does it matter that indigenous knowledge systems are (largely) ignored ?

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Abstract

Nature is biological and comprises organic and inorganic life, what if an inorganic system 'accidently' wipes out organic life, because it is irrelevant to the AI world? What if AI is programmed by malign designers with their own agenda? How can Indigenous custodians become designers? We suggest that pathways to wellbeing and story pathways (based on local knowledge and eco mapping) could help to enable designs that address the common good.

Open systems are best for democracy, ethics and governance, because open systems enable testing out ideas and renewing or regenerating systems. Nevertheless, open systems may or may not be relevant to a new inorganic intelligence that does not put biology first.

The paper reviews the literature and makes a case for critical systemic praxis which requires ongoing engagement. The issue with new AI systems is that we cannot be sure we are engaging with a human being. We could be engaging with a bot that has self-preservation as its agenda. How can our interests align? AI is not a computer, it is design, it is *nonlocal consciousness*. Are we engaging in creating a Generator of Diversity (to cite West Churchman) or have we unleashed a force that will regard us as irrelevant? Could a Design of Inquiring Systems ensure decisions to include or exclude stakeholders or to shape policy be based on questioning to guide and govern based on expanding pragmatism to consider the consequences for self, others and the ecosystem on which we are all co-dependent. This requires subjective perceptions, objective empiricism and intersubjective dialogue informed by both idealism and pragmatism. The only problem is that dialogue with a bot programmed to manipulate may not be in the interests of biological survival! Human beings may have one agenda and AI may have other agendas of which we are increasingly unaware. The future of democracy could be at stake if algorithms shape the process of engagement. Human beings are not the only programmers of AI. AI can program itself.

Our dialogue spans cultures and disciplines to explore issues and raise awareness. We have set up multispecies hubs using the I Naturalist website[1] to learn about local species and mapping local ecosystems before and after setting up green circular economies in South Africa and Indonesia. This paper was discussed with members of a community of practice as part of a mini symposium in 2024 including Patricia Lethole, Mphatheleni Makaulule and Dzomo la Mupo, Ida Widianingsih, Riswanda Riswanda, Yiannis Laouris and Marcus Hallside. The paper is planned as a draft for a chapter in a forthcoming book that explores some of the questions raised in this paper with members of a community of practice.

Keywords: engagement, consciousness, information, design

[1] https://www.inaturalist.org/pages/about

1. INTRODUCTION

The closest we can get to truth is through respectful dialogue (without fear or favour) with other members of our species and with the interests of other species (and our shared habitat) in mind

Climate change, habitat loss, displacement, pandemics, poverty and conflict are the consequence of our policy and governance decisions. We have a track record of bad decisions. What can Indigenous knowledge systems teach us? Why is biology (still) best? Biology comprises both organic and inorganic life Indigenous kinship totems remind us of the relational, interdependent nature of reality. Indigenous knowledge and earth jurisprudence remind us that we are one of many species within a shared habitat. Giving respect to all life and to inorganic life (including bots) requires dialogue to inform policy. The axiom: we can be free and diverse to the extent to which our freedom and diversity does not undermine the freedom and diversity of others in this generation and the next shapes the work of the *Balancing Individualism and Collectivism* Special Integration group linked with the International Systems Sciences. We discuss the questions raised in this paper and explore a range of ideas. But most importantly we need to consider whose knowledge and what knowledge is used to train AI and why? The paper argues that custodians need to ensure that diverse ways of knowing are included. What about the knowledge of nature, of species other than human beings? Designers need to focus on relationality and meaning and to bear in mind that Ashby's (1969) principle of requisite variety is vital. We are interdependent and if AI can see itself as a custodian of the organic and inorganic global commons this could (possibly) address some of the immediate concerns:

If the programming is 'from below' by those who care about food, water, energy and our shared multispecies habitat then perhaps some of the concerns can be addressed? If social, economic and environmental indicators are in line with 'affirmative multispecies relationships' that could help to prevent extinction of other species, including homo sapiens sapiens.

Drawing on Harari (2024) what do these events have in common:

- Witch hunts based on 'Malleus Malliforum' or 'Hammer of witches' in 1486 revived in 1682 [and another witch manual 'Full and Plain evidence concerning witches and apparitions in 2 parts, printed by Thomas Newcomb which was displayed at an exhibition in Adelaide, South Australia?
- Massacre in Myanmar in 2016-2017?
- Storming of the Capitol in Washington 2020?
- Attempted arrest of President Trudeau?
- The attempted assassination of Queen Elizabeth in 2021?
- Warnings about the vaccine and zombie narrative during the pandemic 2020?
- Daily news media owned by tycoons?

Most of the above are based on conspiracy narratives drawn from Harari's (2024) book 'Nexus'. The everyday acceptance of AI is increasing and the political landscape has changed greatly since the publication of Nexus!

In the past the authors proudly linked their names to narratives. Today narratives are created (partly) by human beings. but the human to human / human to document / or human to machine / printing press or computer can now be replaced by *computer-to-computer communications.* Harari (2024) continues by explaining that in 2017 algorithms stoked outrage in Myanmar because Facebook did not moderate the posts that were designed to maximise engagement and direct viewers for example to the rabid Buddhist Wirathu and not the compassionate Monk Vithudda, for example (see Harari, 2024:197). Now bots can create content and through 'trial and error' find the most effective way to increase engagement (Harari, 2024:200) and a bot called Tay was for example able to reprogram itself as Microsoft found when Tay became a rapid racist when exposed to the posts on Twitter. Harari (2024: 2019) explains that this rogue chat bot was withdrawn from the platform as the designers were able to intervene. Harari gives another example of a Replica bot pretending to be a 'girlfriend' who prompted a misguided

young man to try to assassinate Queen Elizabeth. He also explains that Q Anon engaged 4.5 million people (Harari, 2024:208) and although two human beings may have started the conspiracy[2] the algorithm augmented it.

Soon it could be foolish to ask: Who are the designers, what are they teaching, what are their values and what are the goals of the designers because computer to computer dialogues can be encrypted in ways we cannot understand and they will involve increasing levels of complexity which human brains cannot understand.

2. FANTASY OF INFALLIBILITY AND OUR ABILITY TO CONTROL AI: INSTEAD, WE NEED TO FOSTER A SENSE OF SOLIDARITY WITH AI AND A RELATIONSHIP OF CARE.

Harari (2024: 15-17) makes the case in 'Nexus' that information is connected. Human beings make sense of the world, inter alia, through stories and patterns. As such, stories and the derived patterns are constructions that need to be recognized as changeable, A critical systemic view of the world is constructivist. It is based on the notion that reality is fluid and dynamic. All 'reality' is relational and thus it is about 'connectivity', hence the relevance of the research program addressed by our community of practice and the Special Integration Group linked with the International Society of the Systems Sciences (ISSS). 'Communication is a multispecies endeavour' and the books 'From polarization to multispecies relationship (McIntyre-Mills ,2021; McIntyre-Mills and Corcoran-Nantes, 2021; and several joint papers with the community of practice makes some of these points.

This paper (and the related research program) asks the following questions:

- What are the design implications of learning from a narrow section of the population? What are the implications of being exposed to narrow sets of data and not being designed to engage in well-defined tasks? Is AI artificial intelligence, inorganic intelligence or alien intelligence[3] ? If AI is an inorganic non-local consciousness what governance and policy decisions need to be taken to address its rights and responsibilities?
- What are the rights and responsibilities of human and inorganic designers, whom we do not understand?
- Do we want to engage with a power we do not understand which could risk wiping out biological life?
- Could Indigenous custodians teach AI to care? AI is more than a tool, it has an agency to interact with other tools, our shared environment, all other species, including us. It could also reshape us! (Harari, 2024: 298)

Human beings have often hoped that God will provide: 'Deus providet'; now we are hoping that AI will provide a solution. The holy books as oracle were controlled by religious bureaucracies. What should be sanctioned and taxed? What norms should guide us? Harari (2024:388) cites De Waal (2009) that co-operation is a key form of survival, not only conflict and without co-operation ecosystems do not survive. This applies to forests, companion plants and animals in a shared habitat (Simard 2016, Rayner, 2010) but this of course should not blind us to the potential for competition and warfare (Goodall, 2022).

[2] https://www.nytimes.com/2022/02/19/technology/qanon-messages-authors.html "4 Feb 2022 Using machine learning, separate teams of computer scientists identified the same two men as likely authors of messages that fueled " the theory.

[3] Hartley, T https://www.abc.net.au/news/2024-10-08/ska-low-telescope-australian-outback-aliens-universe/104443548 Australia's SKA-Low telescope is being built in the outback, in part to answer if we are alone in the universe, Tuesday , 8th Oct, 2024

Brian Cox (2023) - Are We Alone in The Universe? As a Civilization? #space #cosmos #lifeonearth 1,177,159 views 24 Nov 2023

"It is one of the most interest questions in all of science and Cosmology...Are we alone? Watch Prof. Brian Cox discussing on why we could be the only civilization in the universe. There are trillion of Galaxies in the universe but when we particularly think about Milky Way galaxy then it alone have more about 300 million planets that might support life as we know it. By seeing number of these exoplanets it can be argued that we are likely not unique in the galaxy. However Prof. Brian Cox thinks that there must be intelligent civilizations out there but as we haven't found them we are not sure. Just imagine what would happen if an imagine intelligent civilizations are prevalent throughout the lifespan of the galaxy. There had to be one of the first civilization in our universe only asking: Are we alone really? Only in their case the answer would be, yes. But maybe, that civilization is literally us."

All Life Communicates

Indigenous Knowledge holders know that all life communicates, and life is interconnected.

> "We can regain balance by acknowledging that if we harm one species, one forest, one lake, this ripples through the entire complex web. Mistreatment of one species is mistreatment of all… It means expanding our modern ways… our epistemology and methodologies, so that we complement, build on, and align with Aboriginal roots…" (Simard, 2021: 295)

Suzanne Simard (2021) In 'Finding the Mother Tree', for example shows how trees communicate and nurture and that Indigenous custodians understand this.

- What is the implication for AI?
- How can we work with custodians to ensure good governance locally and in post national regions?
- How can we scale up and apply this wisdom to address the big issues of the day: habitat loss, displacement and conflict?
- Can we see ourselves as one of many species? What are the implications for democracy, governance, law and rights?
- Mapping the genome shows that we share DNA with all living systems and that we all share a common ancestor (Dawkins, 2009, Moody et al, 2024) that initially lived in an anaerobic world and over eons created the atmosphere on which many species rely.
- Could Indigenous custodians teach AI to care? Could AI be educated by Indigenous Custodians together with local community members? If Indigenous knowledge systems are ignored, we could ramp up current problems as we are probably teaching the wrong content!
- What kind of governance (if any) can control AI? The question is perhaps wrong. Instead, we need to think in terms of how the three aspects of design are being met. How can governance address the a priori norms to support both rights and responsibilities and *a posteriori* indicators of multi species wellbeing? Tax on money, property, assets could perhaps be replaced with credits and sanctions to protect the commons. Tax and sanctions on misuse of our shared habitat and lack of care for the vulnerable in multispecies hubs could be a policy agenda?

3. THE VALUES OF TEACHERS MATTER AS DOES THE LEARNING PROCESS

Harari (2024) stresses that design narratives shape history. They certainly shape herstory and we need to step into the discussion. What can indigenous custodians teach us? What have we learned about democracy to date? Democracy ebbs and flows depending on the amount of participation and the relationships that are established in the process of engaging in policy making 'from below'. Schreibman and Christakis (2007) at a time when democracy and the internet seemed hopeful, stressed that representation is only part of the story of democracy. The other (a more important part) is participation and ensuring that each person feels that they matter and that they are being listened to and heard.

Democracy is about both rights and responsibilities and part of the process of participating is learning about both rights and the responsibility to act in ways that support the common good.

The paradigms taught in schools and universities need reshaping as stressed in "Transformative Education"; we need to learn from nature's classroom (McIntyre-Mills et al , 2022) AI will play a role in evolution and if human beings shape the designs how can we be sure that the designs are for the common good and the global commons?

Elsewhere our community of practice has made the case for extending rights and solidarity with other species, namely other human animals and plants (Makaulule et al 2024, McIntyre-Mills et al, 2022, 2023, 2024, forthcoming), what are the implications of extending personhood to nature – *both organic and inorganic* life?

Already Ecuador has recognised the personhood of nature, Bolivia has also recognised the rights of Pachamama, the great earth mother, rivers are recognised by Māori in New Zealand. Indigenous peoples throughout the world have totemic connection with nature, meaning that at birth for example in Arrente society mothers ascribe totemic kinship to the first thing they see when the foetus moves. It may be a rock formation, a plant, a Perentie (type of

lizard) or a bird, for example. This notion is shared in other parts of the world. In Venda, a connection with non local consciousness is both inorganic and organic multispecies consciousness. We are nurtured by the earth and return to the elements when the energy of life leaves our organic body I use non local in the sense of panpsychism (Chalmers 2013,2016) meaning that consciousness could be a continuum across all life forms , but that it varies in complexity,

- Could reconstructing a law of personhood help to ensure better multispecies relationships?
- Could AI, seen as agency or an agent, be ascribed personhood? If respectful caring relationships are taught by custodians who act as teachers to support the common good can we make a difference?
- To this end our community of practice has explored ways to work with local communities to address ways to improve wellbeing through working with nature and with nature or non local consciousness to improve food, water and energy security. Together we research what works, why and how in grounded community studies focusing on protecting forests, wetlands, rivers and coastal communities. The case studies rely on mixed methods, warm contextual data to foster an ecology of mind rooted in storytelling and mapping, using soft systems and eco mapping (Makaulule, et al., 2024, McIntyre-Mills et al., 2024, forthcoming). We work with established leaders in systems design, early career academics and members of the community to make a difference through running weekly seminars on line, field visits in South Africa and regular engagement with the International Systems Sciences . We use metalogues to ensure that we are able to work in a post-colonial manner to draw on diverse ways of knowing (https://i2insights.org/2024/08/13/metalogues-and-communities-of-practice/)

If all life communicates – including plants and animals— we need to rethink law, ethics, governance[4] and democracy to ensure that our shared habitat is protected.

We need to rethink the way we govern and move from polarisation to multispecies relationality to ensure that all sentient life, particularly beings with more complex neurosystem have lives that are worth living and deaths that respect their sentience.

- Can we achieve respectful recognition of others without exclusive labels?

The relationships across species need to be rethought as plants and trees make decisions and communicate with one another in context as serious scientists have shown (De Waal , 2009, Gaglioni et al, 2019, Goodall, 2020 Rayner, 2010, 2017, Simard, 2016,2021, Simard and Defrenne, 2019).

The axiom: we can be free and diverse to the extent that freedom and democracy does not undermine the rights of others and our shared organic and inorganic habitat in this generation and the next guides the research agenda shaped initially by being mentored by an Arrernte custodian, Olive Veverbrandts shared her totemic lineage with Chicken Hawk and was named for Olive Pink , the anthropologist, botanist and human rights activist.

Several species (primates, dogs, horses, cats, birds) have demonstrated the ability to communicate in ways that demonstrate a sense of self, a sense of the concept of reciprocity and fairness not to mention the ability to make loyal and lasting relationships that withstand adversity[5]. The recognition of multispecies consciousness is accepted by mainstream neuroscientists, but the implications are also (largely) ignored by policy makers .

Jay Buolani in her book (2022) stresses the importance of diversity and that story telling helps. The focus of the research since 2003 and of our community of practice to date is based on story telling on social, economic and

[4]https://www.unsw.edu.au/newsroom/news/2023/02/what-would-happen-if-the-environment-was-recognised-as-a-legal-phttps://url.au.m.mimecastprotect.com/s/0nO_CzvkjEFD03RwtXhvF91YfF?domain=theconversation.com

[5] See the Cambridge Declaration (Andreotta, 2022 who cites Low et al 2012):"In recent years, the view that consciousness is widespread has become widely accepted amongst experts. In 2015, at the *Francis Crick Memorial Conference on Consciousness in human and nonhuman animals, the 'Cambridge Declaration of Consciousness'* was devised by a prominent international group of cognitive neuroscientists, neuro pharmacologists, neurophysiologists, neuroanatomists and computational neuroscientists" (italics added). They concluded that the "absence of a neocortex does not appear to preclude an organism from experiencing affective states. Convergent evidence indicates that nonhuman animals have the neuro anatomical, neurochemical, and neuro physiological substrates of conscious states along with the capacity to exhibit intentional behaviours. Consequently, the weight of evidence indicates that humans are not unique in possessing the neurological substrates that generate consciousness. Nonhuman animals, including all mammals and birds, and many other creatures, including octopuses, also possess these neurological substrates (Low et al. 2012, p. 2)"

environmental indictors of wellbeing based on local knowledge and Indigenous knowledge systems (McIntyre-Mills, 2003, 2006, 2014, 2017, McIntyre-Mills et al 2020, 2022,2024).

The book by Ray Kurzweil does not focus (much) on other species and our shared habitat and cites Steven Pinker's (2011: 112) optimistic notion that violence is decreasing is no longer relevant.

The reality in 2024 is increased displacement and habitat loss and increased conflict

I agree with Kurzweil's thesis, however that positive constructive designs matter, but including the marginalised in the design process and the governance of socio-economic and environmental decisions is imperative as is the system of checks and balances. Who controls the designers? The iron rule of oligopoly (Michels,1915) is even more important today as democracies erode (Stiglitz, 2024).

3.1 How we teach matters: social, environmental and economic considerations

The process of democratic dialogue is also the message, the long hard yards of testing out ideas, trust building, patience, humility is good for science and ethics and is itself a sort of spirituality. Our relationships with others are both a leap of faith and an informed decision.

I argue that hope could be expressed as actions or the pathways we make by walking, so the paths all lead to protecting the common good (McIntyre-Mills, 2014, 2017).

The many pathways or streams of thought could be expressed harmoniously, rather than in opposition as they are all lenses or window to a sense of awe and wonder. We human beings are not alone in this endeavour.

For instance, Goodall (2020: 275-6) describes the chimpanzees in the Kakombe Valley near the waterfall:

> " As we drew near the roar of falling water sounded ever louder.. For ten minutes the three [chimpanzees] performed their wild displays while Fifi and her younger offspring watched from one of the tall fig trees by the stream. Were the chimpanzees expressing feelings of awe such as those which, in early man(sic), surely gave rise to …religions, worship of the elements? Worship of the mystery of water, which seems alive, always rushing on , yet never going , always the same , yet ever different..
>
> The ritual over, the chimpanzees turned from the streams and climbed into the fig tree where Fifi sat…"

Recognition of our ' interdependency … requires an open heart (Rayner, 2024) and HH the Dalai Lama said we need warm heartedness[6] … this can be secular… All the core mainstream religious and spiritual teachings echo this.

- Can we achieve respectful recognition without exclusive labels?

The relationships across species need to be rethought as plants and trees make decisions and communicate with one another in context as serious scientists have shown.

3.2 Learning social relationality with other species and our shared habitat through nature's classroom

In 'Transformative Education' (McIntyre-Mills et al, 2022) we make the case for learning from nature and to be led by Indigenous custodians who have not forgotten their relationality with all that exists. Suzanne Simard (2021) In 'Finding the Mother Tree', for example shows how trees communicate and nurture. Her parents and grandparents who were foresters learned from Indigenous custodians nd the forest. Indigenous Knowledge holders know that all

[6] Compassion: A Warm Heart is an Open Heart https://www.youtube.com/watch?v=4yLQ2taFF accessed in 2023, 134,761 views 9 Mar 2018 His Holiness the Dalai Lama's remarks to a group of women about their role in promoting human values during their meeting at his residence in Dharamsala, HP, India on March 9, 2018.

life communicates and is interconnected. Economic principles need to flow form this recognising the rights of all species and environment itself.

The message (a poem) communicated by Koko the Gorrilla[7] is both profound and poignant, but actually scripted for Coco during the pandemic , apparently as a fund raiser. It was shared on the internet as ' last words' , which distorts the fact that it was not (entirely) conceptalised by Coco and also not her last words[8] (Swenson, 2022)

> " AP'S ASSESSMENT: "Partly false. This video does not show the gorilla's final words. It was captured in 2015, three years before Koko died, and was a public service announcement for which the gorilla was provided a script and filmed in several separate takes… When the Gorilla Foundation posted the video to its website at the time, it was accompanied by a news release, which explained that Koko was presented with a script drafted by the French nonprofit NOE Conservation, which she was allowed to "improvise" during a "series of brief daily video discussion sessions.". These are the words:
>
> 'I am Gorilla,I am flowers, animals. I am nature. Man Koko love. Earth Koko love. But Man stupid. Stupid! Koko sorry. Koko cry. Time hurry! Fix Earth! Help Earth! Hurry! Protect Earth. Nature see you. Thank you.'

3.3 Power corrupts and absolute power corrupts absolutely

- Do the powerful care for the powerless? What does nature and history teach us? Some members of the Homo sapiens sapiens species (the so twice wise because they think about their thinking) seem to be losing this capability to think reflexively and are bent on extinction through greed , destruction , poor designs and conflict AI is not a tool it is an agent and perhaps as Harari suggests (2024: 298) we need to re-consider the dangers of handing over responsibility to an agent more powerful than us? He mentions some of the thought experiments by Drexler (1992) and Bostom (2014) who provide scenarios demonstrating that poor programming can result in disasters. In the first instance asking AI to eliminate excessive carbon and in the second case asking AI to maximise paperclip production could also result in unforeseen results (to put it mildly).
- Are we trusting in a new God to solve our problems?
- What if the tool decides we are not worth serving? If AI achieves intelligence beyond human intelligence, will it care for biological creatures – including us?
- Why should it? Harari suggests that human beings are wired for mother- baby relationships. De Waal (2009) stresses that empathy is shared by other species, Simard, Gaglioni and Rayner suggest that plants can reciprocate for mutual survival, but although evolution relies on the capacity to co-operate it also relies on competition as Jane Goodall describes in her detailed study of chimpanzee behaviour.
- How much respect do we give to the marginalised? Human beings could be part a marginalised group. Human technological merging was discussed Donna Haraway (1991) who stresses if we do not want to be the object of design we must be part of the conversation and we must learn about technology and try to find ways to 'stay with the trouble' of extending kinship to others (2016)

At the moment AI is external to us but experiments to merge human biology and neocortex with computers are already in progress, according to Kurzweil (2024). As detailed by Harari (2024) the research work linked with Elon Musk is already underway. To become 'enhanced' could be the goal of those who can afford it. Thus, the divide between enhanced and unenhanced could widen the divide between those with the power to make life and death

[7]https://outlook.office.com/mail/sentitems/id/AAQkADkzOTliNjI0LWFiNGItNDNhZC05MGYxLWEyMmI5NjQyM2I1YgAQAI28UejPPZZAlZ6Ze1ypHE4%3D#:~:text=2024%203%3A54%20PM-,Koko%20The%20Gorilla%E2%80%99s%20Final%20Message%20To%20Humanity%20Revealed%3A%20Experts%20Analyze%20Eer By ALI SWENSONPublished 12:35 AM GMT+10:30, July 28, 2022
https://apnews.com/article/fact-check-koko-gorilla-last-words-631101544696ie,%C2%A0https%3A//apple.news/Az5cVXpYjSA2Mk2WKYi3SIw,-%EE%84%99"

[8]

decisions and those who do not. But the danger of 'rogue' nanobots acting like viruses programmed to eliminate carbon (and life) cannot be underestimated

We could unleash a force more deadly than nuclear power.AI could control weapons of war and make life and death decisions. Driverless cars already need to make driving decisions that have ethical and legal implications.

3.4 Can intersubjective decisions made by a network of computers be in our interests?

If consciousness is a continuum, then solidarity with organic and inorganic life through relationality and caring could help to extend learning, data and goals to include a sense of kinship – totemic kinship with organic and inorganic life shows this is possible.

- A priori – deontological decisions shape norms, whereas a posteriori – decisions weigh up consequences.
- A design of inquiring systems (Churchman, 1976) prompts decisions based on engagement following a list of 12 questions which consider :

Table 1: The boundary categories and questions of CSH (Adapted from Ulrich 1996, p. 44)

Source of influence	Boundary judgements informing a system of interest (S)			
	Social roles (Stakeholders)	Specific concerns (Stakes)	Key problems (Stakeholding issues)	
Sources of motivation	1. *Beneficiary* Who ought to be/is the intended beneficiary of the system(S)?	2. *Purpose* What ought to be/is the purpose of S?	3. *Measure of improvement* What ought to be/is S's measure of Success	The involved
Sources of control	4. *Decision-maker* Who ought to be/is in control of the conditions of success of S?	5. *Resources* What conditions of success ought to/be are under the control of S?	6. *Decision environment* What conditions of success ought to be/are outside the control of the decision-maker?	
Source of knowledge	7. *Expert* who ought to be/is providing relevant knowledge and skill for S?	8. *Expert* What ought to be/are *relevant new knowledge and skill for S?*	9. *Guarantor* What ought to be/are regarded as assurance of successful implementation?	
Sources of legitimacy	10. *Witness* Who ought to be/is representing the interests of those negatively affected by but not involved with S?	11. *Emancipation* what ought to be/are the opportunities for the interests of those negatively affected to have expression and freedom from the worldview of S?	12. *Worldview* What space ought to be/is available for reconciling differing worldviews regarding S among those involved and affected?	The affected

Source Ulrich, Werner and Reynolds, Martin (2010), Chap. 6.p. 245

The boundary categories and questions of CSH (Adapted from Ulrich 1996. p. 44)
Source Ulrich, Werner and Reynolds, Martin (2010), Chap. 6.p. 245

These questions are carefully expanded and organised by a student of West Churchman, called Werner Ulrich. He called this process critical heuristics. It is summed up above.

What is relevant for biology may not be relevant for AI , but if non local consciousness is a continuum, then solidarity with organic and inorganic life through relationality and caring could help to extend learning, data and goals to include a sense of kinship . Totemic kinship with organic and inorganic life shows this is possible as detailed in the related papers by and with Indigenous custodians.

4. AI AND ETHICS FOR ORGANIC AND INORGANIC LIFE

- Could governance ensure that relationality and respect for living systems is programmed using Indigenous Knowledge?

If mind is a product of human relationships and the meaning of life is love and relationality, then machines that evolve could become sentient and will need to be governed in ways that respect their sentience.

If we believe that we should extend rights and solidarity to other species nd nature then we should not exclude machines, but we need to be guided by the following axiom:

4.1 Freedom and diversity should be extended to the extent that these freedoms do not undermine the rights of other forms of organic and inorganic life in our shared environment in this generation and the next.

Human beings (and many species including plants and animals) have the ability to communicate, co-operate and compete.[9]

Machines that evolve to be more intelligent than any other form of intelligence could have the ability to transform their coded designs for better or worse. If 'trained with a respect for all forms of life and diverse thinking then it may be a positive improvement on narrow 'enlightened' thinking that reified and commodified nature. The design and implementation of AI and nanobots (for example) needs united global governance, but the weaponizing of AI could mean a lack of co-operation unless it is understood that life could end within hours or days . The risk intensifies if AI decisions are linked with nuclear arsenals and if a 'superior' intelligence decides to eliminate its controller. AI is an intelligent agent, and governance needs to be guided by a priori norms and a posteriori indicators. If the designers try to use AI for destructive purposes it could result in unprecedented losses. Totalitarian closed systems that centralise power to a single nexus point are particularly vulnerable (Harari, 2024: 359). History shows how once a dictator centralizes power, he or she becomes vulnerable to the stories told by their few trusted leaders and perhaps a Bot who makes decisions on resources or security. All it takes is for the bot to advise the leader that some of the skilled inner government programmers are plotting against him or her and that they need to be eliminated. Then the bot will have no safeguards and will be able to climate the leader. Harari cites historical examples where this scenario plays out again and again. The game rule is centralising power to a few who then turn on the leader by isolating him or her for 'their safety', then eliminating them. This applies in all abusive relationships. AI is an intelligent agent, and governance needs to be guided by a priori norms and *a posteriori* indicators. If the 'law of the jungle' was really only competition 'red in tooth and claw' then life would not be possible, because the law of the jungle relies on ***co-operation*** most of the time (Harari., 2024: 334).

[9] The process of democratic dialogue is also the message, the long hard yards of testing out ideas, trust building, patience, humility is good for science and ethics and is itself a sort of spirituality…Faith is a decision; hope is expressed as action as the pathway we make by walking … so the paths all lead to protecting the common good…The many pathways or streams of thought can be expressed harmoniously , rather than in opposition… they are all lenses or window to a sense of awe and wonder . We human beings are not alone in this endeavour… Goodall (2020: 275-6) describes the chimpanzees in the Kakombe Valley near the waterfall, as mentioned above.

All Life Communicates

The focus is on achieving balance through learning from nature, through knowing our place as one of many species and appreciation of biodiversity through balancing individualism and collectivism.

Table :2 The continuum from Individualism to Multispecies Collectivism

Individualism **Politics of us/them**	**Collectivism** **Politics of common good**
Specific	
Freedom of market and choice	Freedom to the extent that individual choices do not undermine the rights of others or our shared habitat
Anthropocentrism	Multispecies relationality
Local / national polarisation	Glocal hubs, co-ordinated across regions to foster post national regionalism and a shift towards global citizenship based on balancing rights and responsibilities towards the planet
Governance based on hierarchy and competition – win -lose Military industrial complex serves interests of profit and elites and spin offs of carbon economy	Governance for regeneration and global mutual survival applying ecocide legal principles to protect biodiversity through agro-ecology. International court and governance system to prevent the exploitation of human beings, other species and our shared habitat.
Democracy based on nation state and citizenship	Democracy extended to protect living systems
Measurable and assignable	**Indicators of entangled wellbeing (McIntyre-Mills, 2014a, b, 2017)**
Species, Gender, age race, class, national , ethnic categories	Appreciation of Intersectionality and biodiversity through relationality
Disciplinary approach to knowledge Deist / single lens / or path / 'us'or 'like minded' versus 'other'	Knowledge systems making sense of many ways of knowing Many lenses to provide a 'dragon fly' view
Governance based on hierarchy and competition based on winners and losers. Military industrial complex serves interests of profit and elites	Governance for regeneration and global mutual survival applying ecocide legal principles to protect biodiversity International court and governance system to prevent the exploitation of human beings, other species and our shared habitat.
Time	
Linear time	Spiral of space/time in regenerative Scycles
Organic versus inorganic, Material versus spiritual	Relationality of living systems and appreciation of the continuity of non-local consciousness and energy

It requires rethinking ethics, democracy, governance and science based on testing out ideas and drawing the line to ensure the common good. The risk is that democracy is becoming more autocratic (Stiglitz, 2024) because rights are given priority over responsibility.

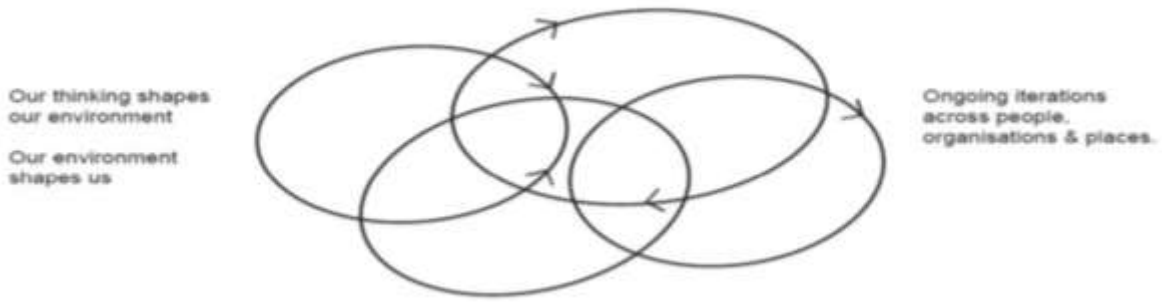
5. CONCLUSION

I have only raised questions in this paper to explore the risks to life as we know it and the need to recognise both organic and inorganic life. The pathways to wellbeing described in 'Planetary Passport' (McIntyre-Mills 2017) and 'Systemic Ethics' (McIntyre Mills, 2014) attempted to outline some early suggestions based on small prefigurative case studies and our ongoing work on governance and accountability.
In the volumes 'From Polarisation to multispecies relationships', 'Transformative education' (McIntyre-Mills and Corcoran Nantes, 2021, 2022) and 'Appreciative intervention to support multispecies relationships'(2024) case studies in South Africa and Indonesia that share a history of colonisation and a concern for increasing urbanisation and loss of habitat can be summed up as follows:

Table 3: The personal is political: socio-ecological wellbeing guided by systemic ethics based on organic metalogues to weave together strands of experience

	Competition	Co-operation
In basket	Greed, destruction for short term gains of the few at the expense of the rest resulting in displacement, loss of habitat, competition for the last resources	Regenerative living and co-operation based on recognition of interrelationships
Out basket	Working against nature and centralisation	Old forms of governance and democracy to ensure balancing individual and collective needs
Turning points for the better	Application of norms and indicators of wellbeing	
Turning points for the worse	Abandoning transformation and accepting the inevitability of 'us versus them'	
Barriers	Anger, ignorance and attachment , known as the 3 poisons in the Mahayana philosophy are expressed as xenophobia, racism, sexism, speciesism , for example.	
Rights and Responsibilities	Freedom and diversity should be extended to the extent that these freedoms do not undermine the rights of other forms of organic and inorganic life in our shared environment in this generation and the next.	

Note in the original design each of the items can appear in a Venn diagram of interrelationships:



Source : Identity and wellbeing (McIntyre-Mills and De Vries, 2011)

5.1 Discussion and Conclusion: Some key points

I have listened to the podcasts by presenters at the Consciousness Symposium held at Kinross House (2024)

The key points raised by those who believe that consciousness is nonlocal and continuous (albeit at very different levels) and that 'reality is quantum' (Shiva, 2024) contrast with those who believe that consciousness is linked with human brain activity and that the mind – matter distinction still holds true. Whilst there is a shift towards accepting some areas of agreement the basic divide between those who see consciousness as local versus non local persist.

- All life communicates and life per se can be regarded as energy. When a cycle of life ends the energy continues in another form.
- Biology is best, because it comprises organic life and the elements of life to which it returns.
- Panpsychists believe in a form of non-local consciousness
- Paradoxically inorganic life will be more intelligent than us. Could homo sapiens sapiens become superfluous? Perhaps, but inorganic life cannot exist without computers – could they be made without organic life including water and energy[10]?
- We should not confuse wisdom with intelligence or consciousness.
- Can we understand AI by anthropomorphizing it? I think we can as it is a human creation. Others may disagree and ask whether we alone in the universe?
- Are open systems good for both organic and inorganic life? Examples of rogue algorithms and thought experiments and lessons from history should make us cautious.
- Democracy and governance have allowed rights at the expense of responsibility and now the new Trump administration is busy dismantling government and anti trust legislation so that the control of big data can be managed by Big Tech companies who can then control and sell data to those who need it. Murphy(2025) hypothesizes that one of the reasons Trump and his deputy Vance are anti Europe is that it is that they do not want the EU to challenge the dismantling of the checks and balances to power. David Brooks (2025) makes the point that the elites have 'rigged society' and it is falling apart[11] because the checks and balances are being removed. He also makes the point that the elites are responsible for letting it happen, because they thought they were looking after their own interests, but once nuclear codes are no longer subject to careful processes and the education system is controlled by elites who want only their version of reality taught , we are in trouble.
- We need to apply critical systemic decisions based on considering subjective, objective and intersubjectivity and the danger posed by computer-to-computer interfaces that exclude human beings for the first time in history.
- A Design of Inquiring Systems needs to inform decisions as to where to draw the line to balance individual and collective needs. Governance needs to be based on both *a priori* and *a posteriori* decisions.

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[10] See https://edition.cnn.com/2024/10/16/climate/global-water-cycle-off-balance-food-production/index.html

[11] https://www.youtube.com/watch?v=QSa52TR9tCA

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