MORAL QUESTIONS

How to design tech & AI responsibly

Karel J. Golta / Eva Simone Lihotzky / Shannon Mullen O'Keefe / Adriana C.M. Nugter / Winnie So


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Book design by Wholly Wholly Ltd

QCollective
Visit our website at www.10moralquestions.com

This book has been published with the support of a grant from

BCG BOSTON CONSULTING GROUP

Printed in China
First Printing: November 2023
Name of printing company???

ISBN: 978-3-00-077034-0
E-book ISBN: 978-3-00-077035-7

Printed on FSC paper

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LETTER FROM QCOLLECTIVE

THE BEGINNING

In the spring of 2021, five people who were unknown to each other, grounded from the global pandemic, and based in five different cities in three countries on two continents answered a call by the House of Beautiful Business[1] (hereafter, the House) to take on a thought-project to create a moral framework for technology creators. The House is a global platform and a community that aims "to make humans more human and business more beautiful." The community comprises business leaders, economists, policy-makers, technologists, scientists, artists, thinkers, dreamers, and activists, as well as us, members of what would become QCollective!

Over six months, relying on Zoom and Miro, our online collaboration resulted in an ethical framework of 10 Moral Questions grounded in 5 Values called: "10 Moral Questions Tech Creators Should Ask (and Answer)." We adopted the name *QCollective* and presented the framework in person at the House's "Concrete Love" festival in Lisbon, Portugal, held October 29, to November 1, 2021. As part of our presentation, we also invited 10 artists to each contribute one artwork that engaged with one of the 10 Moral Questions. This collaboration resulted in a temporary exhibition that allowed for an engaging interaction with participants at the conference. In case you are curious, a virtual version of the exhibition is still available on our website www.10moralquestions.com.[2]

The night before the festival, October 28, 2021, we met for the first time in person. What a joyful and memorable evening!

Encouraged by the reception of our work, we found ways to continue the conversation about the importance of ethics as it relates to current technology innovations and deployment, as well as to business and society.

Shortly after the conference, an opportunity arose when the Boston Consulting Group (hereafter, BCG) asked us if they could incorporate a version of our 10 Moral Questions in their sixth annual Digital Acceleration Index Global Study 2022, which surveyed over 2,700 companies on a range of digital topics, among which was Responsible AI (hereafter, RAI). This spurred us into giving ourselves the next challenge: to write a book about our ethical framework and to invite BCG to integrate their findings.

Our aim: to start a discussion about a future in which technology truly improves our lives rather than leading us towards the other possibility – an imagined dystopian future.

QCOLLECTIVE: ORDINARY TECH USERS AND CITIZENS SPARKING CONVERSATIONS THAT MATTER

Why, you might ask, should you be reading what a group of people, who are neither experts in creating new technologies nor in moral philosophy, has to say about what morals should shape the development of technology?

As renowned computer scientist Yoshua Bengio pointed out in a keynote at AI for Good in 2021,[3] one of the pressing issues we face is whether we can adequately scale human education in not only the ability to understand the social consequences of emerging technologies but also in the practice of collaborative, collective moral and political decision-making. In his view, this requires humility. "You have to be in a mode of humility where you realize you only know a little part of the puzzle and there are these other people who know much more than you do, and so you really have to listen to them," Bengio said. This book is our attempt, as tech users and citizens, to provoke conversations and actions, to learn from all stakeholders, and to scale human education and engagement.

However, let's be not only humble but also brave and ask the following question: What would change if we created technologies that focused on the well-being of our entire ecosystem (human, animal, plant, and planet) instead of mainly share-holder (and some stake-holder) value? What would happen if we considered the entire spectrum of potential users? What if life itself were taken into account? As tech users and citizens, we have written this book in an effort to bring a common-sense view of morality, grounded in life's messy, multifaceted multitude of contradictions.

Like you, dear reader, we have many questions and few answers. But moral questions, by default, require a conversation. The world is constantly changing, and we must engage with diverse experiences, worldviews, and seemingly conflicting values in order to make decisions and act, without certainty of outcomes or even a complete picture of the situation. Respectful questioning and peaceful, collaborative dialogue about how we can negotiate values and moral questions in the business environment as well as in our daily lives are imperative. This is the only way for all of us – as families, communities, colleagues, companies, countries, and as a species – to collectively agree on some sensible answers and turn those into operating principles.

This is QCollective's "why" for sparking deep conversations that matter. We sincerely hope that this book will inspire you to do so!

QCOLLECTIVE

QCollective's individual representatives and authors:

Karel J. Golta

A humane innovation advocate and business romantic with a mission to build a more livable future for all life on earth.

Shannon Mullen O'Keefe

A lover of wisdom, a leadership thinker, strategist and writer, dedicated to imagining what we can build and achieve together.

Eva Simone Lihotzky

An empathetic realist seeking strategic innovations to solve bespoke problems in this world through magic and momentum.

Adriana Nugter

A believer of the imperative for technology to serve humans, and for all of us, individuals, businesses and governments, to prioritize human, societal, and planetary well-being.

WINNIE SO

A systems explorer seeking to make sense of humans and the web of entangled human relations and actions we have built up over time.

We sincerely hope that this book will inspire you to engage in conversations that matter!

A CALL FOR ACTION

We live in times when everything seems possible – especially with regard to the rapidly evolving technology all around us. With everything moving so quickly, it often seems like things are evolving without regard to a system of moral checks and balances. We think this is a problem. And we think there is something we can do about it.

Let's start with a question: If we had a magic wand and we could wish for everything we wanted, do you think we *should* do everything? Would it be "*right*" to do so? What do *you* think?

We think it is more important than ever to tether our decisions to something that can guide us – even those of us with seemingly unlimited abundance and power – toward the outcomes that most will desire. And we want to invite you into this conversation with us.

It is up to all of us to ensure that rapidly evolving technology does not evolve in a moral vacuum. We believe that the decisions technology leaders and creators make now affect all of us, including the future us. Thus, leaders and creators have an opportunity to step up and take an ethical stand. We all – tech leaders, users, citizens – have this opportunity. We think it is simply the right thing to do for humanity.

What then might guide us to do things we won't later regret? In this book we offer you our 10 Moral Questions and the 5 Values underpinning them to help guide ethical decision-making. We invite all of you, and tech leaders in particular, to use these values and questions to start a conversation – a conversation that may inspire and guide everyday and not-so-everyday decisions about technologies while they are being created and during their lifetime.

We sincerely hope that sparking a conversation will influence the development of technology in such a way that it will add real value to the canvases of our lives, societies, and our planet.

Let the 10 Moral Questions be where (y)our conversation begins.

HOW TO USE THIS BOOK

This book can be read from cover to cover, from A to Z. It is also possible to start wherever you wish. You may choose to focus on one or more chapters, depending on your interests and available time.

If you are curious about our 10 Moral Questions and the 5 Values underpinning them, start with Chapter 1. And if, subsequently, you have an appetite for more of a deep dive, go to Chapter 3.

If you are looking for evidence on why Responsible AI is an essential part of successful businesses, Chapter 2 is the place to visit as it describes the key findings from the 2022 Boston Consulting Group (BCG) study on Responsible AI.

If you are interested in ways to start a conversation, have a look at Chapter 5.

And if you want to immediately see the sometimes surprising but always interesting answers that the 10 Moral Questions can bring, Chapter 4 will be your starting point.

Of course, you are very welcome to (and we hope you will) read everything!

TERMINOLOGY: VALUES, MORALS, AND ETHICS

Values, morals, and ethics are often used interchangeably. Here we explain what we mean when we use these words. [4]

Each of us has our own set of beliefs about what is right or wrong. These beliefs are established with the influence of family upbringing, religious background, experiences, and societal and cultural norms. For example, some cultures value individualism, while others are more collectivist. Professor Joseph Henrich at Harvard University's Department of Human Evolutionary Biology coined the term WEIRD to describe people who were raised in Western, Educated, Industrialized, Rich, and Democratic societies, and his research shows that they tend to be more individualistic.[5]

Our personal values determine our morals or moral code, which is how we feel we need to behave in order to be good. The collective – whether family, community, or society – has agreed upon moral codes, which an individual may/may not entirely adhere to. If we value family, we may believe that making it home for dinner every night is good. If we value our physical and mental health, we believe that smoking is bad. A person who values fairness will negotiate differently from someone who values winning. Moral dilemmas emerge when values are in conflict and we are unsure of how we should act (i.e., success vs. integrity or honesty vs. do no harm). Morals exist at the personal level. They provide a personal compass that guides the behavior of an individual.

Ethics, as embedded in ethical guidelines, ethical principles or, in this book, an ethical framework, are defined and are potentially put into operation and enforced by organizations[6] and institutions. For example, the GoodCorporation's Business Ethics Standard provides a framework for the responsible management of any organization. Ethics exist at the community level and are societal standards of "right" and "wrong."

CHAPTER 1

10 MORAL QUESTIONS UNDERPINNED BY 5 VALUES

1.1 A TALE OF TWO TECHNOLOGIES

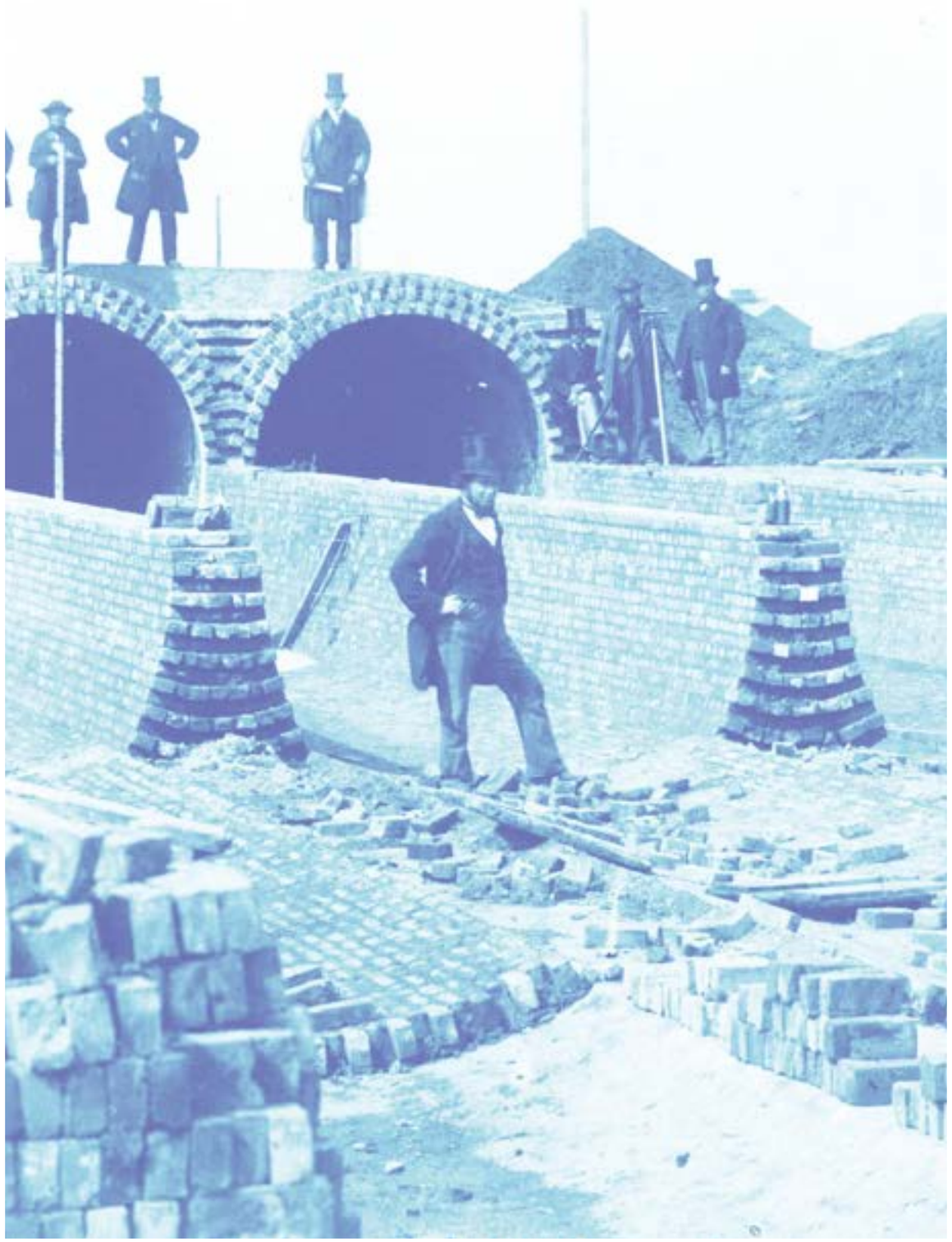
In the 18th century, London, the world's second-largest city at the time, was hitting the limits of its growth. One major factor was the city's inefficient system of handling its ever-growing amount of excreta from 630,000 human bodies. The agricultural demand for human excrement had suffered badly due to the importation of other fertilizers like guano and Chilean nitrate and later, chemical fertilizers. With human waste filling the streets, cholera struck London on various occasions. In 1865, a technological revolution, namely the invention and construction of Victorian sewage pipes, enabled the city to provide a system for a healthier, more bearable life in stinky London.

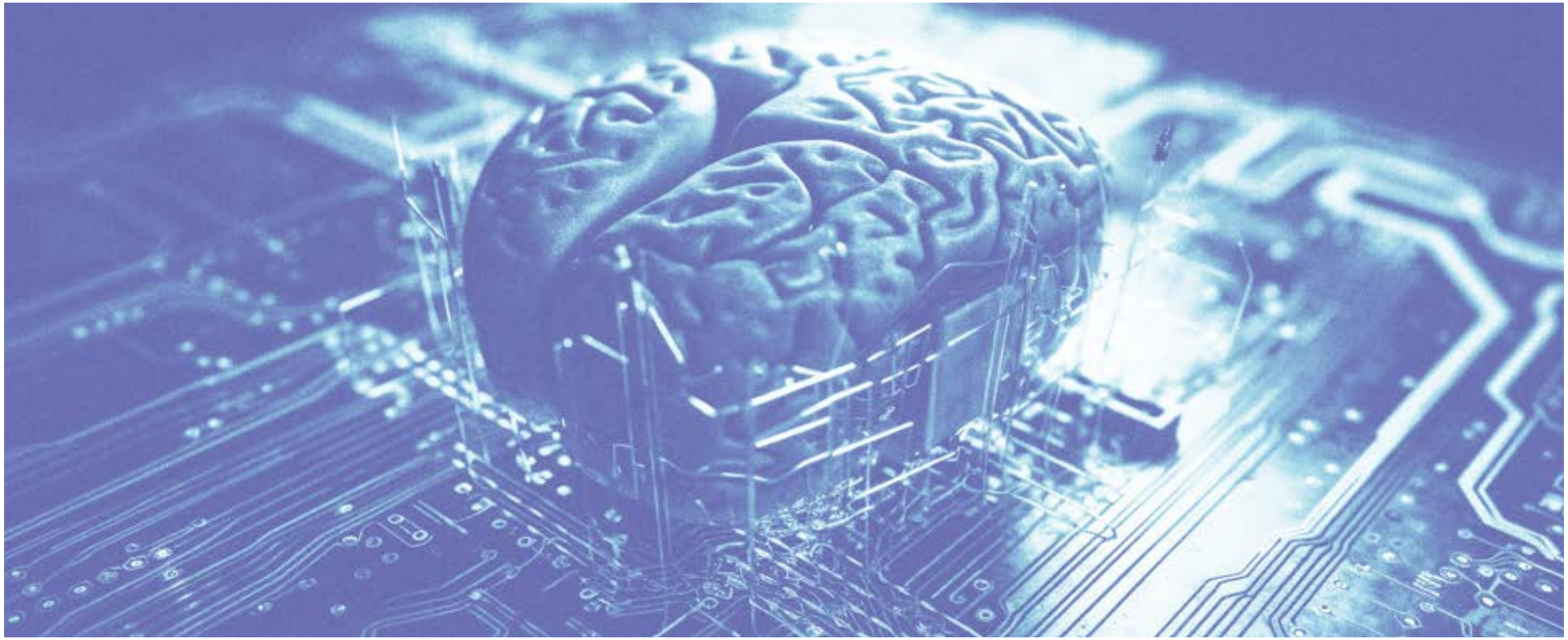
Around the same time that London was battling for fresh air and sanitary relief, the planet's most populated town, Edo (the former name of Tokyo until 1868), with over 1 million people, was walking down a different path.[7] The two cities' concepts of managing sewage and enabling growth could not have differed more. While London was trying to get its human excrement flushed out of sight and out of smellable range, leaving downstream to deal with it, on the other side of the world Edo was collecting what was called *shimogoe*, a "fertilizer from the bottom of a person" or "night soil" in English, and continued to use this as fertilizer. This practice had been widely used since the late 17th century and was facilitated by the fact that Edo had integrated rice, fruit, and vegetable farms into its city structure. This made it easy to transport the night soil to where it was needed and placed it within the reach of the transportation means available in those days.[8] This form of waste management offered one more advantage to Edo's citizens: it did not endanger a continued supply of fresh water.

Undoubtedly, the two contrasting technical solutions had different impacts on people and society. London's leaders invited one way of thinking: to disconnect its citizens from the source and its impact; to move the undesirable out of sight. In contrast, Edo's leaders (and leaders in Japan during that time) continued to recognize and value that what one produces may be re-used to nurture other life.

Both cases show how decisions about the choice and subsequent implementation of technology have long-term impacts.[9] Such decisions shape society's growth trajectory and resilience for generations to come.

Our desires define our technological visions. Technological choices may constrain the futures that are possible.





And speaking of growing waste streams, which concept would we endorse for today's megacities like New Delhi or São Paulo? Or any city?

The moral impact of technology choices grows exponentially over time.[10] Therefore, we should begin with the future in mind. The moral answer to what is "right" or "wrong," which technology to create and deploy, depends entirely on *our* desired outcome(s). So what's at stake today? Simply put, our visions of our future drive us to create technologies for those possible futures, bringing them from the realm of possibility into our lived reality.

We only need to watch *Black Mirror* or any number of sci-fi films (*Elysium*, *Gattaca*, *Minority Report*, *Snowpiercer*, etc.) to see the futures we don't desire. Most of us agree that we don't want societies of extreme inequality. We don't want a planet that is ravaged and unable to sustain life. We don't want the freedom to discover and choose our own paths to be taken away from us. We don't want endless war and strife and suffering. So, we might ask, where are the sci-fi films and TV shows that inspire futures to strive for? Futures that depict lives filled with loving, nurturing relationships, meaningful work, and material (or immaterial) comforts in a world at peace that enjoys a regenerative relationship with nature?

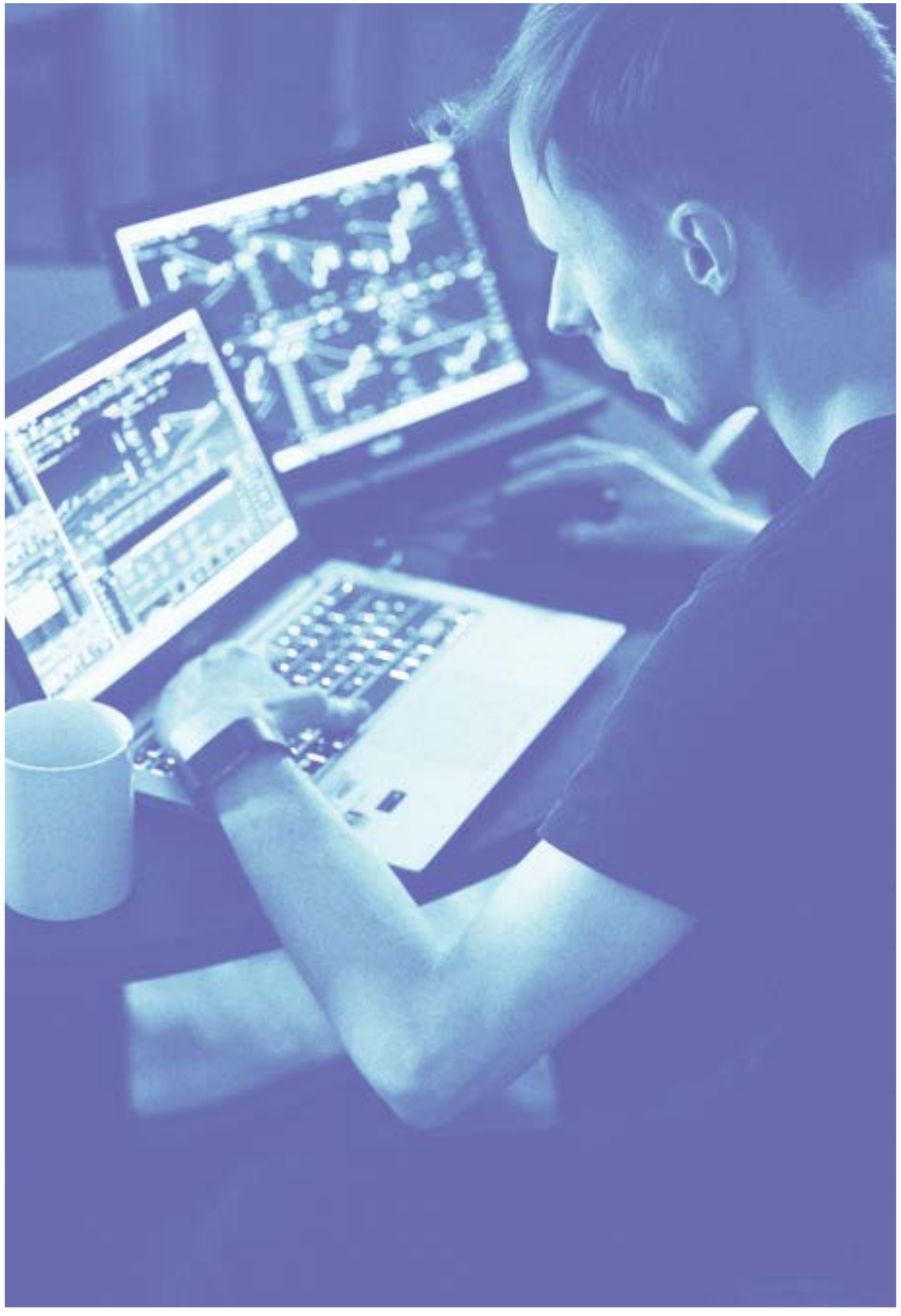
This was the starting point that led us to determine the 5 Values we believe should guide tech and business leaders. For each value we identified two Moral Questions. What would happen if we applied those Values and Questions when creating and deploying? What would happen if we applied them throughout their entire lifecycle?

1.2 THE IMPORTANCE OF VALUES

"Greed is good," declares Gordon Gekko, in what has come to define the purpose of a whole generation coming of age at the end of the last century, even though it was supposed to be a morality tale against greed.[11] In Oliver Stone's seminal 1987 film *Wall Street*, Gekko, played by Michael Douglas, tells a room full of shareholders, including a very young and impressionable Bud Fox, "Greed is right. Greed works."

The movie *Wall Street* shows how what we value defines our everyday lives. When Gekko makes his statement, he claims greed as a value – and as a leader, he promotes this value, thus extending its reach to his constituency. That value is perpetuated, and its reach extended as it becomes adopted by characters like Bud Fox. But what if Gekko had instead said, "We should treat one another as we'd each like to be treated ourselves?" What if Bud Fox had become inspired by that vision of "good" (instead of "greed is good")? The story shifts radically, doesn't it?

Probably the mother of all moral values is the Golden Rule: treat others as you want to be treated. Religious scholar Karen Armstrong pointed out that every major religion in the world preaches a version of the Golden Rule because "[t]his is the source of all morality, this imaginative act of empathy, putting yourself in the place of another."[12] It means enabling others to have the freedoms that we ourselves desire, as well as preventing the suffering that we seek to avoid, which undoubtedly will require self-discipline and self-restraint.



1.3

5 VALUES AND 10 MORAL QUESTIONS

As QCollective, we identified the following purpose statement for our work:

"We realize that technology only benefits humans when its creators imagine and build it in a responsible way which serves a moral purpose, inspiring us to care for, respect, and honor the planetary boundaries and our planet's needs, the universe, the dignity of all of its inhabitants, and future generations." [13]

From this purpose statement, we derived 5 Values to guide our decisions and actions so that we can live in alignment with our stated purpose. The 5 Values are as follows:

For each Value, we identified two key Questions.

What will happen if we apply those Values and Questions when creating and deploying new technologies? What if we applied them throughout the entire life cycle of that technology?

Let us introduce the 5 Values and 10 Moral Questions to you.

1. CARE & COMPASSION

Leading with Care and Compassion when creating new technology means that every time we build a new technology, we create it as if it is an extension of us – of our humanity. A humanity that is underpinned by our unique ability as human beings to love one another. To care for others and other things and to stand up for those who cannot stand up for themselves.[14]

Q1

How is my technology beneficial to the world at large?

Q2

To what extent is my awareness of our interconnectedness built into this technology so as not to cause anyone or anything suffering?

It's easy to see how Care & Compassion as a value is the Golden Rule in action. As Karen Armstrong explains in her 2009 TED Talk "Let's Revive the Golden Rule,"[15] "[P]eople have emphasized the importance of compassion, not just because it sounds good, but because it works." It works because we all find ourselves in need of care and compassion from others, whether it's because we have made mistakes that need to be forgiven or we've found ourselves in a weak and vulnerable state through illness or simply the passing of time.

Our value of Care & Compassion is about *care for the other, care for the collective.* In our contemporary Western societies, with our emphasis on the individual, the collective is something we have lost sight of. This is why work for the community, such as care work and education, has become so undervalued in many

countries. The resistance to mutual health insurance in several markets and the industry drive to move from collective to individual insurance structures also reflect such lack of value for the collective, for the community.

Let's zoom in on care work. Few will disagree that care work is important. However, it is underpaid, and it predominantly falls on the shoulders of women and workers in less privileged positions (such as migrant workers).[16] There is nothing we need more when we are feeling sick or vulnerable than the loving touch and attention of another human being. The promise of automation is often that it frees up our time and capacity to care for each other. But what if we use care robots to replace the human touch because employing humans in such work is only deemed cost-effective when it's done for free (family care) or at subsistence wages?

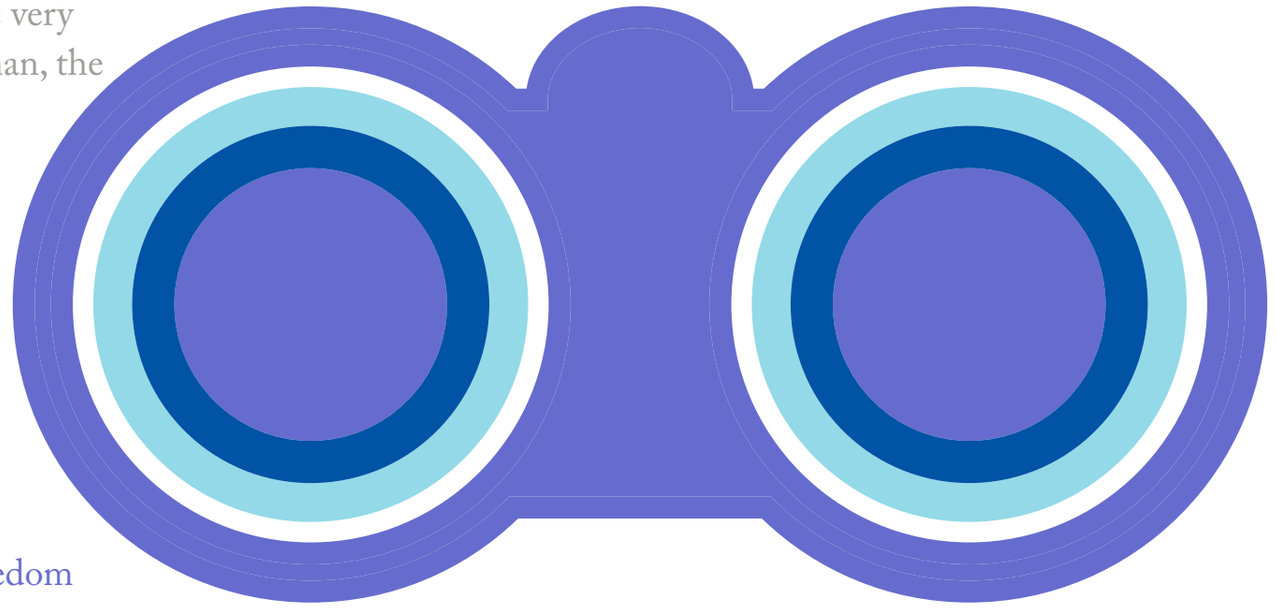
If Care & Compassion are central values to the design of technological systems in our lives, then instead of "smart" diapers,[17] we might instead come up with technologies (and economic arrangements) that allow ample time and capacity (in terms of both emotional cultivation and skills training) to provide that care without caregivers having to sacrifice their own mental, physical, and financial health.

Instead of striving to create the next "smart" device, technologists and investors should aim for caring and compassionate systems in which technology is only one tool. This means that instead of focusing solely on (cost) efficiency and convenience, technologists should ask:

- How can I create benefits for as large a group as possible?
- Is there anyone or anything that is likely to suffer?
- How will I take responsibility for the possible environmental or societal side effects?
- How might my technology care for those presently lacking in care, whether humans, animals, forests or natural ecosystems?
- And will I continue to monitor my original answers and recalibrate where necessary over time?
- How might my technology help to expand our circle of care.
- How will it help us collectively?

2. DISCOVERY

Leading with Discovery when creating new technology means that technology enables human beings to continue to experience the joy of learning and discovering new possibilities. It means that as we add ease of choice into our lives, we don't unwittingly weed out opportunities to revel in mystery and serendipity, the very experience of what it means to be human, the essence of life.[18]



Q3

How does my creation nurture the freedom of discovery?

Q4

Am I (or is someone) able to shut it off?

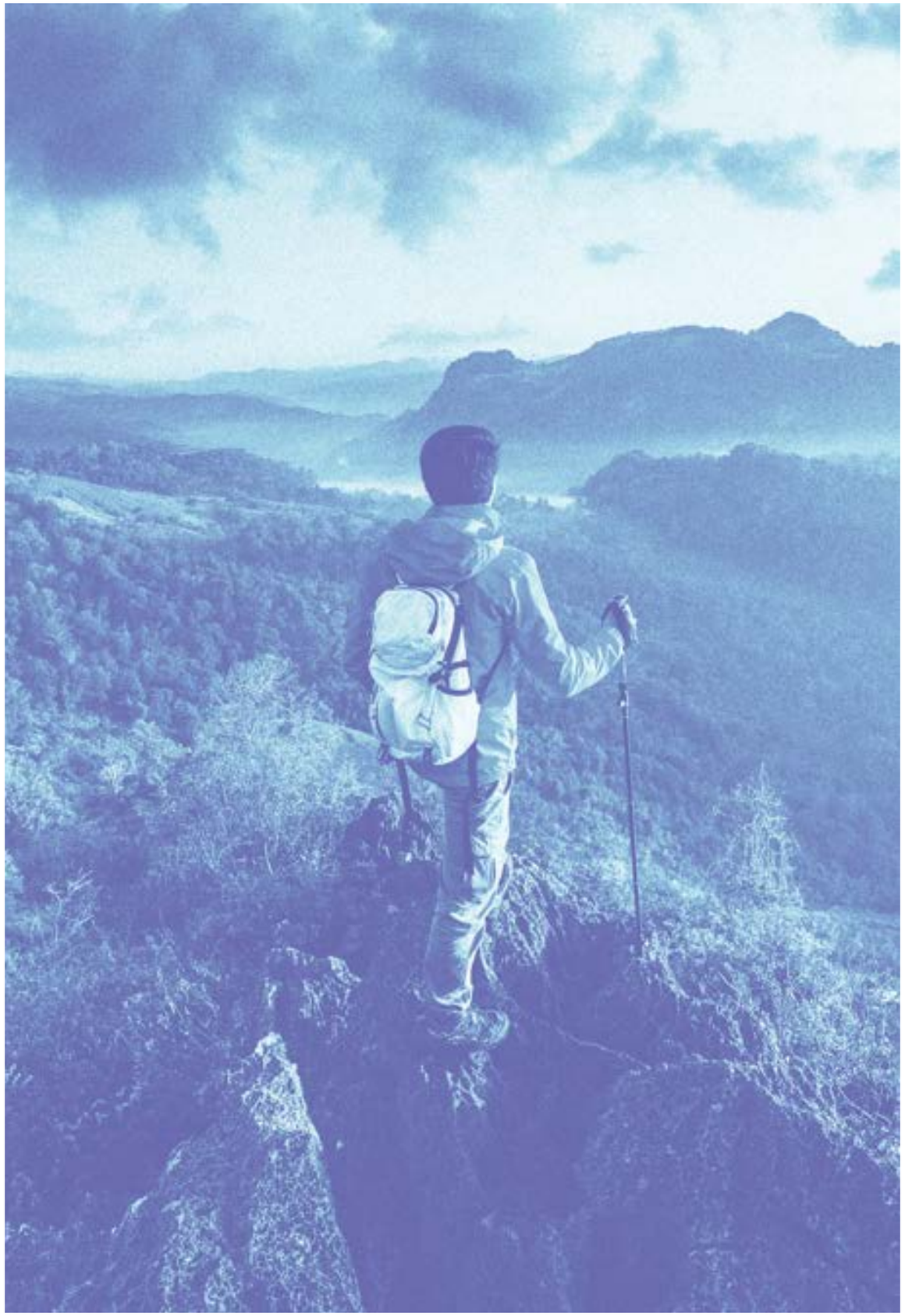
The ability to discuss, make informed decisions, formulate careful opinions, and determine where the middle ground lies depends on our ability to access and discover a wide range of information and possibilities. Having access to only one type of information (i.e. what algorithms think we're interested in) or only a few sources of information restricts our ability to see the full range of options and to make sound decisions that entail some understanding of their potential impacts. This is true for both a simple online purchase and an online opinion. What if we could choose to have recommendation systems switched on only when we thought it would be useful to us? So we can truly be curious?

Of course, having access to more information also means needing more time and (sometimes, computing) capacity to study, analyze, and integrate all that information. We also need other people to discuss things with, to fine-tune our decision-making and to form our opinions. So the ability to discover depends not only on the information systems we have but also on the demands on our time and on the circle of people we can talk to, be they family, friends, or colleagues. However, in a digitized world, there is hardly any time to talk, hardly any time to digest. The emphasis is on speed and efficiency, on convenient individual opinion- and decision-making.

What if we had time to explore? If we could let go of this focus on hyper-convenience? We've become so accustomed to instant gratification that we're increasingly becoming incapable of doing very human things like reading, debating, writing, drawing, cooking, or driving. In an AI-/tech-driven society, will we ultimately reduce our human abilities to content consumption and ChatGPT prompts? In addition, to open another can of worms, whose content is this? As an example, researchers analyzing GPT-3, a previous version of ChatGPT, found that the tool predominantly reflects US values because of the way the language model has been trained.[19] As a result, it is not doing justice to the plurality of human diversity and cultural values. Did the later versions take this into account? Does Microsoft take this into account when integrating ChatGPT into Bing?[20] After all, Bing is used globally. What about Google? Meta?

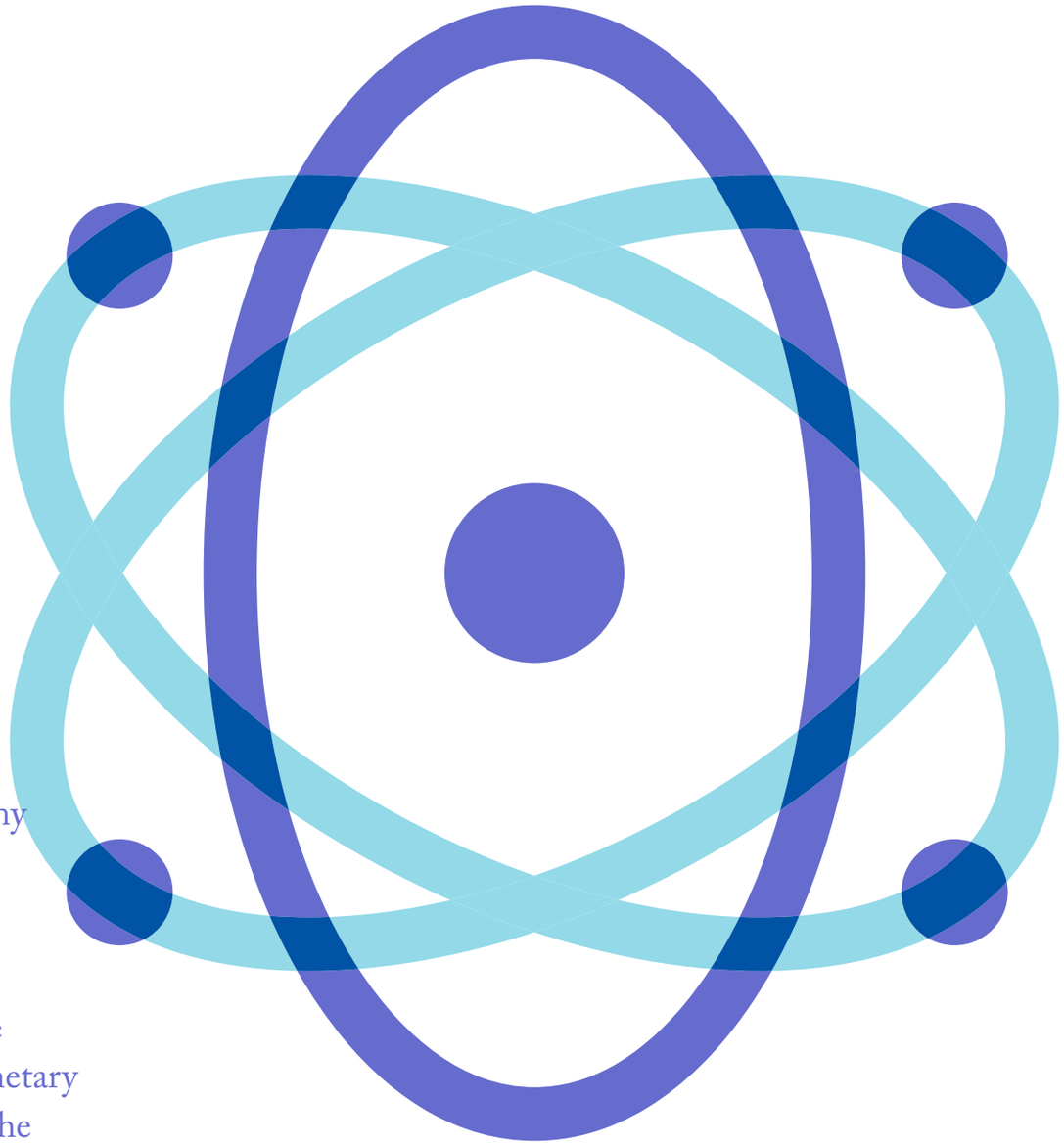
Are we willing to slow down in order to make better decisions and think through opinions and to involve different demographics and backgrounds when developing tech?

Technology should enable and not prevent discovery of knowns and unknowns. It should allow us to see the full picture with no built-in presumptions so that we can discover the world ourselves rather than be locked in based on our user profiles – based on who the machines think we are. It should be possible to turn it off, and it should be monitored over time, continuously, to recalibrate when needed, just like the principle of Care & Compassion.



3. HOLISTIC THINKING

Leading with Holistic Thinking means an appreciation for direct and indirect stakeholders of the technology, and an awareness of the public good. Activating this value means conducting a holistic risk assessment before products or services are brought to market, thus involving direct and indirect stakeholders such as the climate, the flora, fauna, other human beings, and the societal impact.[21]



Q5

What is the worst thing that can happen if my technology is operated with an evil purpose?

Q6

What will our grandchildren think about the impact of this creation on such things as planetary boundaries, the universe, and the dignity of the earth's inhabitants?

Holistic Thinking is a value that requires us to think beyond our narrow self-interest and to understand that our own well-being is ultimately embedded in the well-being of the entire planetary system. The practice of thinking holistically is ultimately a recognition that the individual is a part of a greater whole that cannot be fully seen or comprehended. It is recognizing that we have private and public interests that need to be considered.

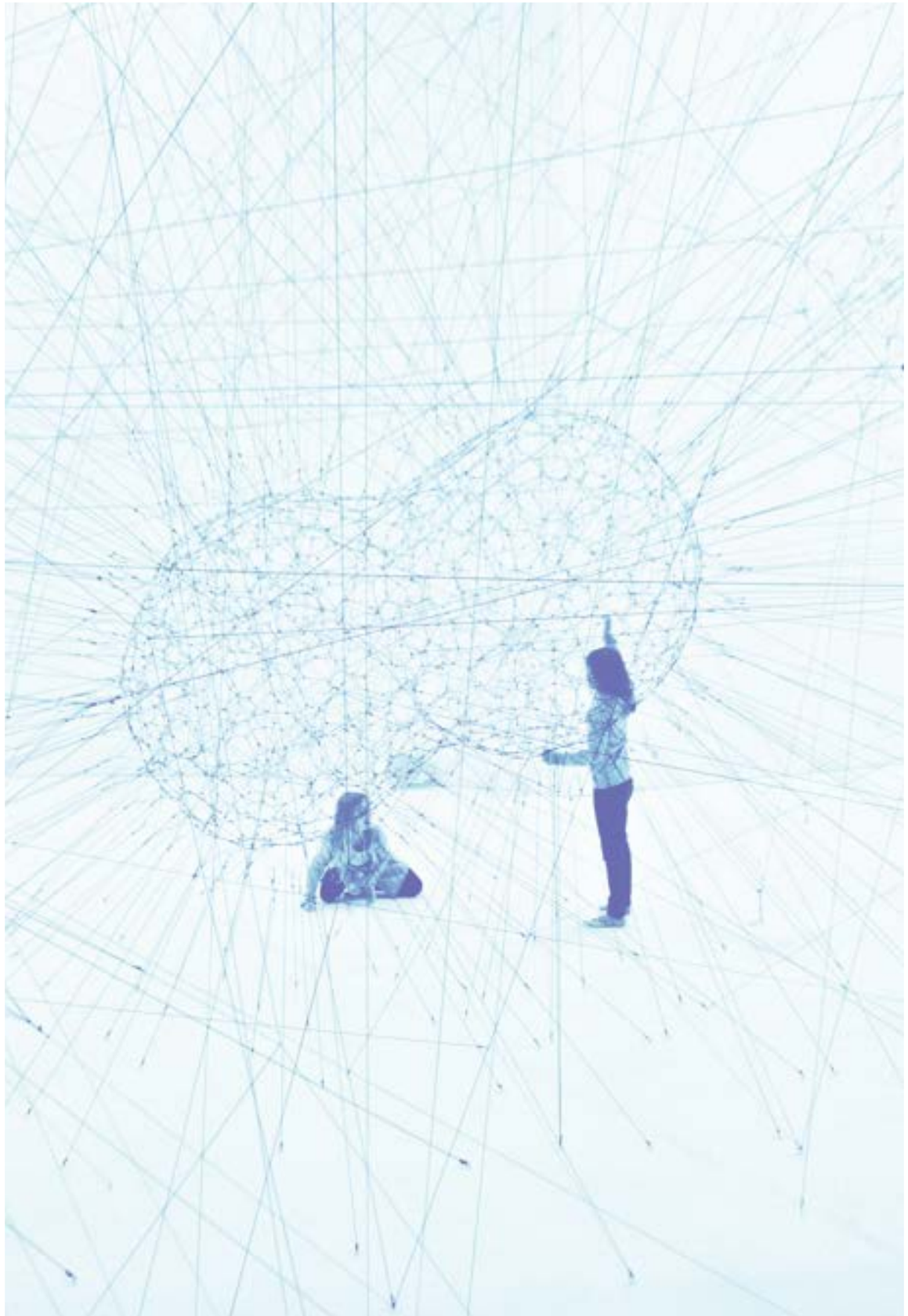
We know there is more to what we know, but we don't live it because we cannot see, hear, feel, touch, or even imagine what *that which we don't know* might be. In post-Enlightenment times, we threw out the baby with the bath water; we learned to trust only empirical facts, but not everything of value can (at this time) be measured or known. Holistic Thinking requires a recognition of our own ignorance, which demands that we act from a place of humility. It means constantly holding a space for what we cannot and do not yet know. This seems to run against modern technology beliefs, where a new service or product often exists for the here and now only. Perhaps, by analogy, we can look at it as the need for continuous software updates. Can we align our product or service in a way that permits it to be updated with something we did not know then but that we have since learned?

An example is the use of bots to influence public opinion through fake news. Although using bots to spread fake news was definitely not part of the design of social media, it has become a reality. Few would currently deny its negative impact on society and on democracy. The Brexit-referendum and the 2016 Trump-Clinton election are our witnesses. What can we do to remedy this? The current approach of fact-checking after a message has gone viral is bypassing the goal. What if social media took real ownership? What if social media embraced this as an issue and committed to no longer being a bystander in the deterioration of newsgathering? Or perhaps more disruptive:

What if social media companies were redefined as independent public news organizations[22] that offered news from a wide variety of sources to their users and with an emphasis on independent newsgathering? With a clear role concerning journalistic ethics and where fact checking supports a healthy public debate? Whichever way we choose, the value of Holistic Thinking extends corporate objectives to serve both the private and the public good, in this case, the need to restore a healthy public debate that is so fundamental and necessary in a democratic society.

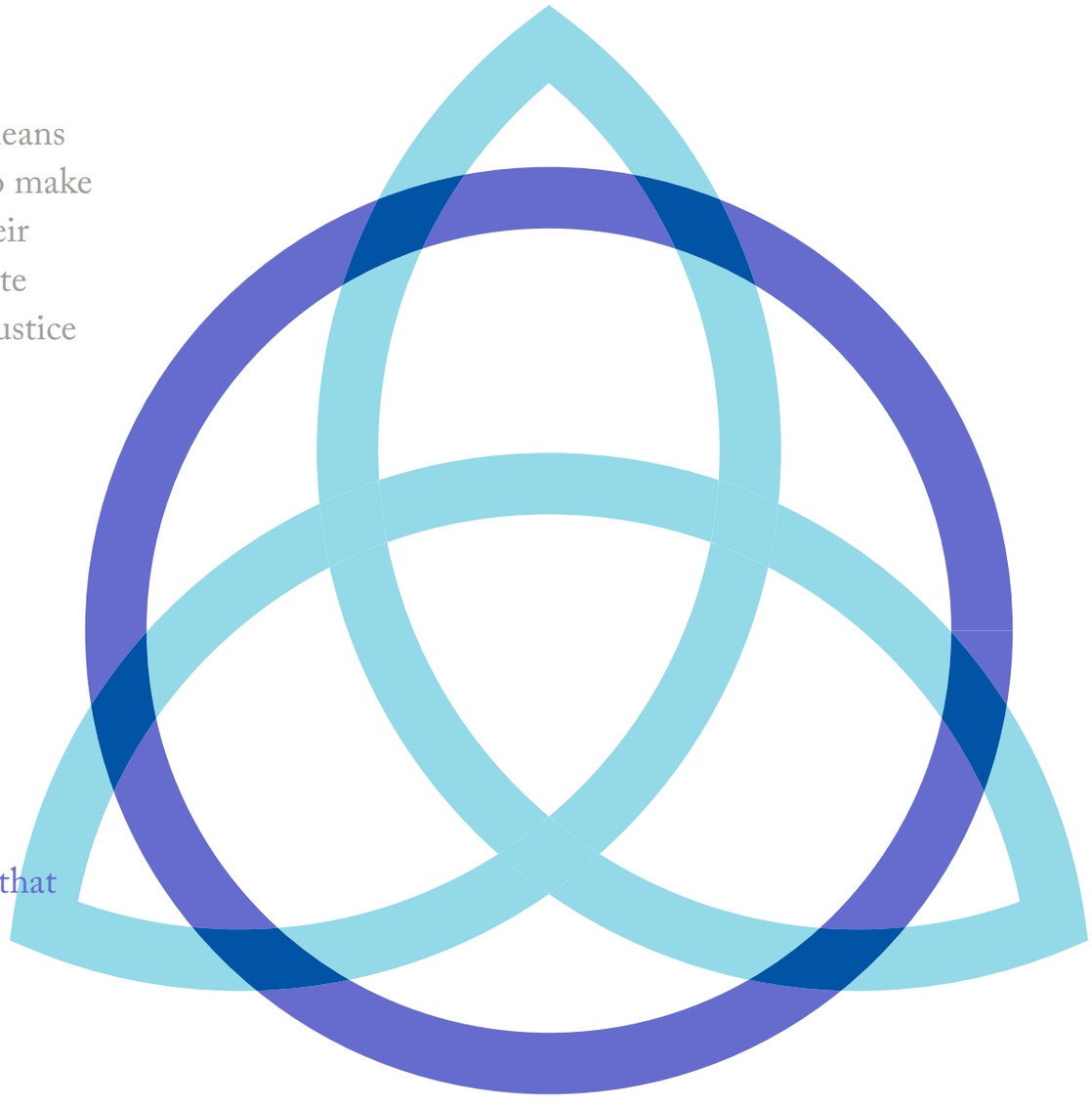
In designing and deploying new technologies, acting from a place of humility requires everyone in the ecosystem to question assumptions and to avoid being blinded or driven by our "best intentions." We need to understand that humans are a plurality and the systems that we inhabit are also interconnected pluralities; there is a public sphere, not just private interest to care for. It is one thing to design against bad actors, but there is more: it is also about designing for older adults or people with impairments, designing to limit environmental harm or to ensure the safety of children, and designing to safeguard democracy. Ultimately, our individual interests are entangled with the interests of others in other geographies and in a non-linear relationship to time.

As human beings, we are constantly running up against multiple layers of opacity and black boxes. It is impossible to know everything we need to know or even should know the moment we launch a new product or service. It is possible, however, to keep our eyes and ears open throughout its lifespan and to take responsibility for adapting the product if something unforeseen occurs. It is crucial to design "fool-proof and evil-proof," and to think about future generations. The question, "What will our grandchildren think about the impact of my technology?" is a great way to start a conversation. Technology should aim to serve both private and public good, now and in the future.



4. TRANSPARENCY & INTEGRITY

Leading with Transparency and Integrity means that users have the information they need to make a moral assessment for themselves about their use of the technology. It means that we create technology that serves human dignity and justice for everyone.[23]



Q7

Do I truly understand how my technology works and am I willing to invest in making that transparent in order to educate all stakeholders?

Q8

How does my technology creation encourage people to interact with integrity?

Transparency & Integrity as a value is a natural add-on to the value of Holistic Thinking. Many systems seem to quickly evolve beyond the capacity of the original designer to predict and control them; just consider Facebook, Twitter, and TikTok. Thus, being transparent, allowing users and non-users (who are also potential users) alike access to how devices and systems are designed, funded, and deployed, is very important. It allows us all to know that we are being treated fairly and prevents actors from being able to game inefficiencies (such as information asymmetry) for their own gain.

Also at stake is Integrity. If, for the sake of argument, we remain with the Facebooks, Twitters, and TikToks of this world, their algorithms do not encourage us to interact with integrity – to the contrary. Fake news is everywhere, filter bubbles come and go, conspiracy theories flourish. Politicians are threatened when they speak about something that is deemed controversial or simply not "liked" by another person.

In an age of AI, Transparency & Integrity have gained even more importance. The claim is that it is impossible to understand what these tools do. For example, Sundar Pichai, the CEO of Google, has admitted that his company does not fully understand how its AI technology (in this case, Bard) produces certain answers.[24] When asked why the company had released something it did not fully understand, he answered, "I don't think we understand how a human mind works either." Now how does this sit with the value of Transparency & Integrity?

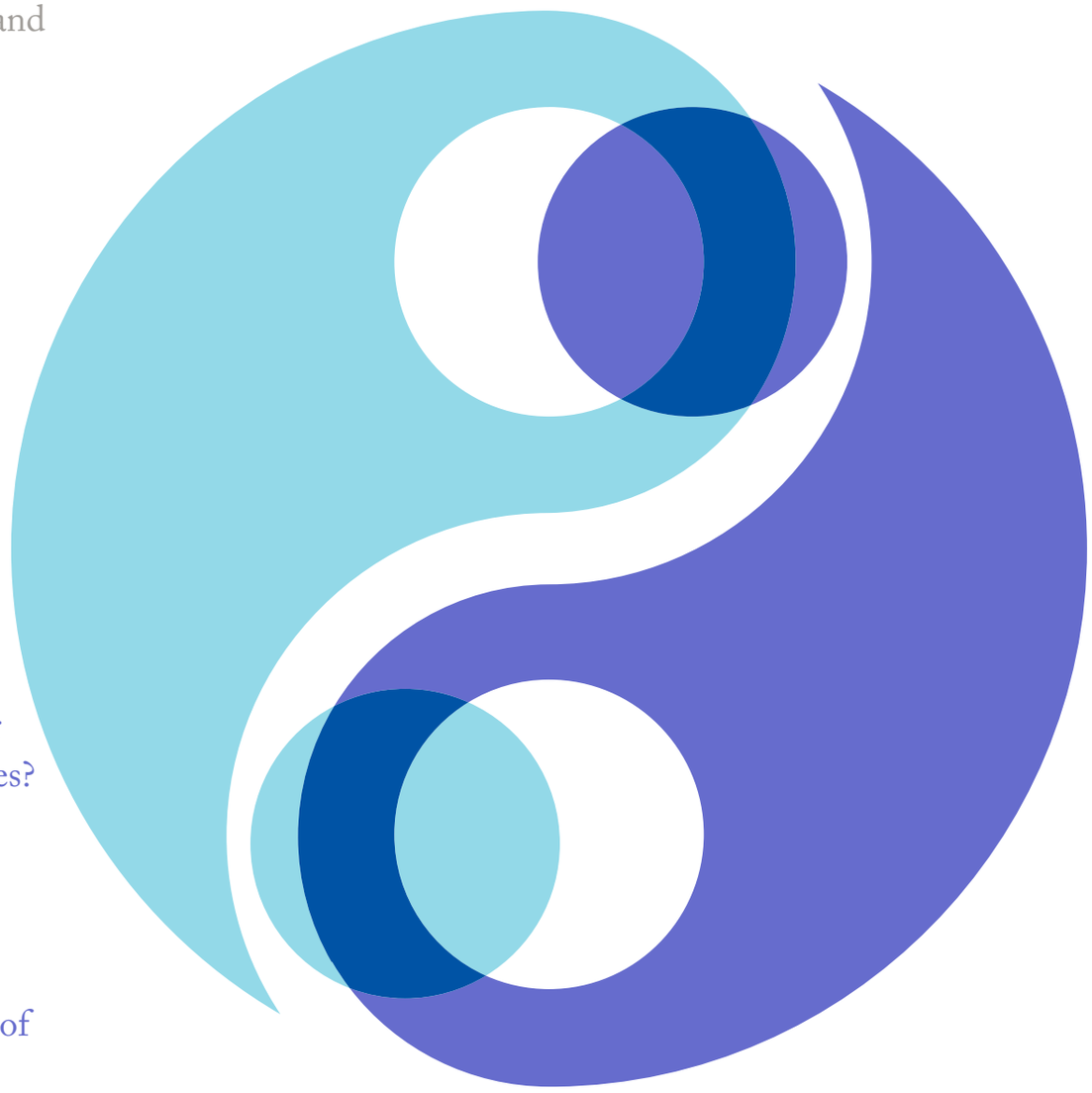
Granted, we don't know exactly how the human mind works, but we have a whole system in place with the aim of humans being able to peacefully coexist. Through tools like education and legislation, we aim to create communities and social cohesion and to stop humans from being harmful to each other and to, instead, act with integrity. We want and expect humans to do no harm. Should we not expect the same from AI? What tools then will we employ for AI to prevent it from causing harm? Most products we use in our daily lives are only allowed on the market with safety certification (think about your washing machine, your PC, the toy your child plays with, your food, medication, water). What makes AI so different that its use should be allowed without such safety provisions?

Transparency instead of black boxes not only supports the integrity of our systems and the various actors within these systems, it also acts as an incentive for seeing and understanding more of the entire ecosystem, which, in turn, feeds into the value of Holistic Thinking. The problem is that we can't see the whole as we are embedded agents. For this reason, we should temper our actions whenever we seek to make systemic changes.

Technology should permit a whole and unclouded view of all of itself. It should encourage people to interact with integrity and invest to make it transparent for all stakeholders.

5. BALANCE

Leading with Balance means that technology both enables equity and promotes planetary and human sustainability.[25]



Q9

Have I designed my creation to avoid further inequity and fragmentation of needs or desires?

Q10

Are ethics and sustainability an integral part of my creation?

Our understanding of the concept of balance, of keeping an equilibrium, originates from when two pans attached to an apparatus were used to scale goods.[26] This device was used to give a contextual value to two different types of materials to account for trade value.

The blindfolded Justitia, holding a scale in her hand to promote fairness and justice when two opponents searched for equity, expanded the meaning in almost all matters of life for us humans. And in modern times, Newton's third law – which states that when two bodies interact, they apply forces to one another that are equal in magnitude and opposite in direction – is important in analyzing problems of static equilibrium, where all forces are balanced.[27]

Nature though, our real world, is never in balance, is never static – but in constant change. What keeps it stable is when all movements and forces of the entire system are brought into a state of continuity.

Therefore, if we as humanity want to live sustainably, we will have to adopt and use technology with the purpose of engaging all dynamics in favor of our coexistence – in nature, society, and business.

Leading with Balance means that technology both enables optimal (i.e. equitable) outcomes from businesses and promotes planetary and human sustainability.

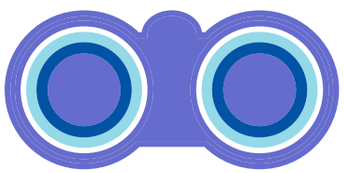
The Buddhists and Taoists seek to stay on the "Middle Way" by avoiding extreme actions and seeking evolution through small, consistent steps and tweaks, rather than engaging in revolutions that create whiplash for many people. Many platform-based businesses praise themselves for being "disruptive." Yet something may be good for a large group of people and not for a smaller group of people. It is important to ask which groups, no matter their size, are being harmed or left behind. Conversations need to take place. Decisions can then be made consciously and communicated with transparency so that users are free to discover and decide for themselves whether they consent to outcomes made according to a certain calculus. Depending on the level of disruptiveness, people and governments may need time to prepare. Just look at the impact of ChatGPT on the education sector. Is it best practice to launch overnight because of competition and leave society to deal with the fallout? The value of Balance will most likely suggest a more subtle approach, a step-by-step approach. How will we align competition with Balance?

THE 5 VALUES

1.Care & Compassion

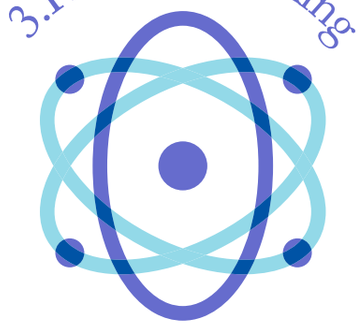
Leading with Care & Compassion when creating new technology means that every time we build a new technology, we create it as an extension of ourselves – of our humanity. A humanity that is underpinned by our unique ability as human beings to love one another, to care for others and other things and to stand up for those who cannot stand up for themselves.

2.Discovery



Leading with Discovery when creating new technology means that technology enables human beings to continue to experience the joy of learning and discovering new possibilities. It means that as we add ease of choice to our lives, we don't unwittingly weed out opportunities to revel in mystery and serendipity, the very experience of what it means to be human, the essence of life.

3.Holistic Thinking



Leading with Holistic Thinking means having an appreciation for the direct and indirect stakeholders of the technology and an awareness of the public good. As a value activated, this means conducting a holistic risk assessment before bringing products or services to the market that looks at direct and indirect stakeholders such as the climate, the flora, fauna, and other human beings, and also includes an assessment of the societal impact.

4.Transparency & Integrity

Leading with Transparency & Integrity means that users have the information they need to make a moral assessment for themselves about their use of the technology. It means that technology is created so that it serves the dignity of human beings and promotes justice for everyone.

5.Balance

Leading with Balance means that technology both enables equity and promotes planetary and human sustainability.

Q1

How is my technology beneficial for the world at large?

PRINCIPLE AIM
Technology should facilitate care for others/ the collective

ONE WORD
ONE WORLD

Q2

To what extent is my awareness of our interconnectedness built into this technology so as not to cause anyone or anything suffering?

PRINCIPLE AIM
Technology should facilitate care for others/ the collective

ONE WORD
INTERDEPENDENCY

Q3

How does my creation nurture the freedom of discovery?

PRINCIPLE AIM
Technology should enable and not prevent discovery (of the known and unknown)

ONE WORD
CURIOSITY

Q4

Am I (or is someone) able to shut it off?

PRINCIPLE AIM
Technology should enable and not prevent discovery (of the known and unknown)

ONE WORD
ACCOUNTABILITY

Q5

What is the worst that can happen if my technology is operated with an evil purpose?

PRINCIPLE AIM
Technology should serve both private and public good

ONE WORD
(AB)USE- or FOOL- PROOF

Q6

What will our grandchildren think about the impact of this creation on such things as planetary boundaries, the universe, and the dignity of the earth's inhabitants?

PRINCIPLE AIM
Technology should serve both private and public good

ONE WORD
TRANSGENERATIONAL

Q7

Do I truly understand how my technology works and am I willing to invest in making that transparent to educate all stakeholders?

PRINCIPLE AIM
Technology should permit a whole and unclouded view of all of itself

ONE WORD
TRANSPARENCY

Q8

How does my tech creation encourage people to interact with integrity?

PRINCIPLE AIM
Technology should permit a whole and unclouded view of all of itself

ONE WORD
INTEGRITY

Q9

Have I designed my creation to avoid further inequity and fragmentation of needs or desires?

PRINCIPLE AIM
Technology should help to create equality and embrace business models for planetary well-being

ONE WORD
INCLUSIVENESS

Q10

Are ethics and sustainability an integral part of my creation?

PRINCIPLE AIM
Technology should help to create equality and embrace business models for planetary well-being

ONE WORD
ETHICS & SUSTAINABILITY

1.4 FROM THEORY TO PRACTICE

Translating the 5 Values and 10 Moral Questions into action is a challenging task, especially when most technology advancements require significant funding, highly skilled talent, and profitable commercial use cases. In this context, our framework of 5 Values and 10 Moral Questions could be misinterpreted as merely imposing business leaders with additional work and demands for attention, with little commercial benefit. However, this narrative could not be further from the truth – and we must reject the view that tech, business, and morality cannot coexist.

Business leaders and corporations are often the first to speak out on social and environmental responsibility yet often neglect to walk the talk. For instance, a study by BCG and the MIT Sloan Management Review (which will be explored in further detail in the next chapter) found that while over 80% of business leaders believe that ethical AI technology practice should be a top priority for businesses, only 1 in 4 companies have developed any ethical guardrails to guide their tech decision-making. Lately, we have seen high-profile resignations by AI experts for moral reasons: Timnit Gebru, Geoffrey Hinton, Jack Poulson, Margaret Mitchell, and Ilya Sutskever, among others. Yet the study found that those who do implement tangible ethical guardrails for their AI development reap nearly three times more benefits than those who do not.

We need business leaders who engage in this dialogue and take charge in order to ensure an ethical implementation of technology. BCG's story in the next chapter, Chapter 2, explores the ambiguity of tech and morality through their latest studies on responsible AI – providing leaders and all of us with actionable insights and recommendations. Chapter 3 takes a deep dive into our 5 Values and 10 Moral Questions. In Chapter 4, we put four existing market offerings "to the test": What happens when you ask the 10 Moral Questions? What insights do you gain? In the final chapter, Chapter 5, we provide some ideas on how to start conversations on responsible tech development with the help of the 10 Moral Questions.