Chapter 3
Integral Investing in the Disruption Era

3.1 The Foundations of a Paradigm Change

I think it would be fair to pronounce 2015 one of the most important years in the history of humanity to date. That year, several significant efforts to secure the future of humanity were made. For example, on September 27, the 2030 Agenda for Sustainable Development was adopted by all UN member states. The intention was to collaborate globally to work toward the implementation of the 17 SDGs, which include the eradication of poverty and climate change, and the provision of inclusive prosperity, good health, and good economic development on a stable planetary system. On December 12, the Paris Agreement was adopted by consensus between 196 nations. Its long-term goal is to keep the increase in the global average temperature to well below 2 °C above preindustrial levels and ideally to no more than 1.5 °C.

As with any reporting, of course, it is important that we read critically, looking beyond the headlines and scrutinizing the data. Scientific communities like the IPCC, for example, are not telling us the whole story in their reports—not because they are actively trying to deceive us but because they are working within the parameters of the scientific method. If you take the time to read the fine print and the footnotes in the IPCC special report on climate change, you will discover that the human-caused increase in greenhouse gases since 1880—from 280 ppm to 410 ppm—is contributing not only to the rise in the global temperature of Earth and the oceans but also to the significant rise in sea levels because of polar glacier melting and the subsequent release of methane from permafrost, which amplifies global warming with all its attendant consequences. What does that mean in real terms? Well, even if we stopped adding CO₂ to the atmosphere right now, it might

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1 https://plato.stanford.edu/entries/scientific-method/#DisSciMet
2 See, for example, https://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf
3 Gray (20 August 2018).
still be too late to turn things around. The heat produced by the existing greenhouse gases in the atmosphere is equivalent to the heat that would be generated by the explosion of an atomic bomb comparable in size to the one dropped over Hiroshima every couple of seconds. Because the oceans absorb the heat, the polar caps are melting, which means that sea levels will continue to rise alongside the overall increase in temperature on Earth. Our only real option at this stage may be damage control because, with increasing warming, oceans are losing their ability to absorb carbon dioxide and heat. In the September 24, 2019, special IPCC report on oceans and ice, The Oceans and Cryosphere in a Changing Climate, more than 100 scientists from 30 countries warn that the oceans’ warming rate since the early 1990s has doubled. This is caused by increasing CO₂ absorption, which leads to more frequent and more intense heatwaves, which in turn (1) promote more potent storms and flooding, (2) change underwater ecosystems, thus threatening the survival of fisheries (that could decrease by up to 25%), underwater biomass (marine animals whose population could shrink by 15% by 2100) and biotopes including coral reefs, and (3) a projected sea-level rise of up to 1.1 m by the end of the twenty-first century (and up to 5.4 m in the twenty-third century). It is important to note that these predictions are actually rather cautious and conservative because they depend to a large extent on what happens in the planet’s cryosphere—that is, the frozen parts of Earth’s system, including its mountainous areas with their glaciers, permafrost, Greenland, and the Arctic ice, to name a few. For example, it is expected that global warming levels will determine the rate and extent of further Arctic sea ice loss.

The UN’s SDGs are ambitious, transformational goals for global prosperity within planetary boundaries. However, as I noted in Chap. 1, they are also inherently contradictory, which increases the risk that achieving one goal will come at the expense of failing to achieve others. For example, if we pursue goal number 8—good jobs and economic growth—by burning fossil fuels such as coal, it will be impossible to achieve goal number 14—life below water—because we will still be emitting destructive CO₂ into the atmosphere, literally fueling the existing vicious cycle. These contradictions could explain why we have made so little progress toward implementing either the Paris Agreement or Agenda 2030 since 2015.

As is so often the case, though, bad things give rise to good things. The apparent lack of political will to date seems to have served as a catalyst for young people to step up and take widespread action. In 2019, following the lead of 15-year-old Greta Thunberg of Sweden, schoolchildren from developed nations throughout the world joined the Fridays for Future movement and called in no uncertain terms for emergency climate action. In Germany, a computer science student and YouTuber named Rezo posted a video in which he urged young voters to vote green and against the sitting coalition government, which appears to have done nothing to address

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4Zanna et al. (7 January 2019).
5IPCC (24 September 2019).
6See, for example, https://tinyurl.com/y7ehbjn2
7https://www.fridaysforfuture.org/
current existential threats during its time in power. Rezo attracted support from
dozens of other YouTubers, and his video subsequently went viral.8 Perhaps the
upcoming generations will prove to be better planetary caretakers than we have. On
September 23, 2019, Greta Thunberg issued an appeal to world leaders to act on
scientific data and to stop stealing her “dreams and [her] childhood.”9 Her appeal
was answered on December 11, 2019 by the European Parliament’s communication
on a European Green Deal10 to significantly increase its climate action and environ-
mental policies. On March 4, 2020, the European Commission went further and
proposed the first European Climate Law with the intention to “write into law the
goal set out in the European Green Deal—for Europe’s economy and society to
become climate-neutral by 2050.”11 For the sake of the planet and the future of
humanity, let us hope that the COVID-19 crisis marked a significant turning point.
Agenda 2030 and the Paris Agreement are both incompatible with conventional
economic growth, but there is hope—and investors can play a major role in turning
that hope into reality through concrete action starting today.

3.1.1 Transformation Is Feasible

When it comes to the urgency of addressing climate change and making available the
tools, technology, and resources required to mitigate it, the scientific community is
not only united but also has support from other sectors. A coalition of researchers
and scientists—currently composed of 70 Drawdown Fellows with an advisory
board of 120 prominent geologists, engineers, economists, policymakers, climatol-
ogists, agronomists, and businesspeople—has both expressed and offered hope
through the publication of Drawdown: The Most Comprehensive Plan Ever Pro-
posed to Reverse Global Warming,12 which contains 80 proposed solutions to our
current biggest problems. The solutions, all of which are possible to implement
today, are ranked by impact.13 The top five, as classified in Drawdown, are: refrigera-
tant management, wind turbines (onshore), reduced food waste, plant-rich
diet, and tropical forests (a superficially ambiguous term that refers to rethinking
restoration approaches for tropical forests). My personal favorites are ranked at
number 6—educating girls—and number 7—family planning. Why is girls’ educa-
tion singled out? Drawdown cites research that “the difference between a woman
with no years of schooling and with 12 years of schooling is almost four to five

8https://tinyurl.com/y89sjqnc; https://tinyurl.com/y9zn3qn
9https://tinyurl.com/y4pamvpg
10https://ec.europa.eu/info/sites/info/files/european-green-deal-communication_en.pdf
11https://ec.europa.eu/info/sites/info/files/commission-proposal-regulation-european-climate-law-
march-2020_en.pdf
12Hawken (2017).
13See also https://tinyurl.com/y7npu6d7
children per woman.”¹⁴ This suggests that increasing girls’ access to education and birth control will result in a significant population reduction and thus a smaller human footprint on the planet. The Drawdown authors calculate that, by taking steps toward universal education and investing in family planning in developing nations, the world could eliminate 120 billion tons of CO₂ emissions by 2050.¹⁵ (Note that they also acknowledge a need to improve access to family planning resources and birth control in certain developed countries). According to 2014 figures, this is the equivalent of roughly 10 years’ worth of China’s annual CO₂ emissions.

So, with the October 2018 and September 2019 IPCC warnings ringing in our ears and only one decade left to fulfill the Paris Agreement (and, at time of writing, with the USA still indicating its desire to withdraw from it), the big question remains: Can we implement Agenda 2030 with its 17 SDGs within the planetary boundaries?

In Transformation is Feasible,¹⁶ Jorgen Randers et al. say that we can achieve our goal of implementing Agenda 2030, but only if we act now and stay within planetary boundaries (see Chap. 1). For the report, Randers et al. worked with a team of scientists to produce four potential scenarios for future development. Johan Rockström, one of the leading scientists involved, explained at a talk I attended that, to do this, they built a complex system dynamics model,¹⁷ using socioeconomic data collected over the past decades. This allowed them to test, build, and simulate their four future scenarios up to 2050 with the aim of testing “four different answers to our overarching question: ‘How can the world achieve the Sustainable Development Goals within planetary boundaries?’” The four scenarios, named Same (business-as-usual), Faster, Harder, and Smarter (see Fig. 3.1), “are all based on the same historic facts but are shaped by different policy and investment choices made in the coming decade(s).”

Each scenario is therefore named for its predominant underlying formative policy:

- **Same** (red): Where will business as usual take the world toward 2050?
- **Faster** (orange): Will accelerating economic growth help?
- **Harder** (yellow): What if both governments and industry try even harder to deliver on SDGs?
- **Smarter** (green): What if governments and industry actually choose transformational actions?¹⁸

On the vertical axis are the nine planetary boundaries (PB), the nine factors that regulate the stability of Earth’s operating system. They include, for example, biosphere integrity, freshwater use, ocean acidification, ozone depletion, and climate

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¹⁴Hawken (2017, p. 81).
¹⁵Hawken (2017, pp. 78–79).
¹⁶Randers et al. (2018); https://tinyurl.com/y9epzlnk
¹⁷https://en.wikipedia.org/wiki/System_dynamics
¹⁸Randers et al. (2018, p. 13).
change. The figure 9 on the vertical axis means all PBs are in harmony with one another (the green area); the figure 1 means life on Earth as we know it is practically impossible (that is, humans would still exist, but life would be extremely challenging—the red area). The horizontal axis represents the number of UN SDGs that would be implemented collectively at any one point in time, with the intention being to realize as many of the 17 as possible, moving consistently toward the green zone. The figure 6 on the left of the x-axis means that 6 of the total 17 are being implemented at any one time, and the figure 14 on the right of the x-axis means that 14 of the 17 are being implemented at any one time. In order to successfully implement all the SDGs within planetary boundaries, humanity must operate within the green areas on both axes.

Looking at the red curve, representing the Same, business-as-usual, scenario, we see that in 1980, while the world was fulfilling only eight SDGs, it was still operating within the green zone of planetary boundaries. We moved fast, lifting millions of people out of poverty and hurtling toward lavishness, despite continued exponential population growth. Unfortunately, all the lavishness came at the expense of the planetary boundaries: by 2015 we had fallen into the red zone. The result as per the last IPCC report: global warming of more than 1 °C, moving fast toward 3 °C or even 4 °C. If we continue with the Same, twentieth-century-type of politics and outdated economics ideas, we will be able to deliver up to 11 SDGs by 2050, the Same scenario tells us, but the price we will pay is the compromised stability of Earth’s operating systems. The consequences for humanity would include severe global warming, costly weather events, and social instability with increased political insecurity, rising nationalism, and growing inequality and social unrest.

The second scenario, Faster, represented by the orange curve, simulates what would happen if we moved faster in a conventional way to realize the SDGs by increasing the average global economic growth from 2.8% per annum in 2018 to
3.5% per annum in 2050. With slightly less than +1% GDP growth per person per year until 2050, we would risk significantly destabilizing the planet without significantly moving forward with our aim of achieving the SDGs. The SDG success score would move only from 9 in 2015 to 11.5 in 2050, despite increased efforts to focus on this particular goal. We would increase investments, trade, and new technology development, but that in turn would increase social inequality, affect a much larger ecological footprint by weakening responsible consumption, and harm life both on land and in water.

A similar outcome would result if we tried Harder (yellow curve) at green and inclusive growth by increasing our ability to deliver on our promises by 30–50% across all global sectors of society, from climate to trade agreements. We would address each SDG separately with certain trade-offs whereby we would favor one goal over another (for example, education over sustainable agriculture or clean water over clean energy). Unfortunately, this scenario would not get us out of the danger zone with respect to planetary boundaries, and we would deliver unsatisfactory results on the SDGs, which would remain at 11.5, as in the Faster scenario.

But there is a Smarter scenario (green curve) that could solve the problem by 2050. However, in order to get there, we as a species need to undergo a radical transformation—starting with a significant mind shift. And to do that, we must disrupt ourselves by acting daringly and thinking outside the box.

Based on the approximately 100,000 data points provided by their real-world research data, the scientists working with Randers et al. identified five transformational actions that could lead to all 17 SDGs being achieved while keeping us in the green zone of the planetary boundaries:

1. **Energy: Accelerated renewables growth.** We would double our investments in renewable energy by scaling up solar and wind power through dispersed energy storage, electric vehicles, and distributed energy infrastructure. Existing power grids would be replaced by digitized and integrated smart grids to help replace fossil fuels with renewable energy sources. Renewables would begin to deliver higher profitability than fossils and be supported by governments pushing through stronger regulations. These measures would lead to emissions being halved every decade from 2030 onward and a global energy democracy being created.

2. **Differentiated growth: Rolling out new development models in the developing countries.** South Korea, Singapore, and China have all quadrupled their GDP per person in the past three decades through sustained economic growth. South Korea, China, Ethiopia, Japan, and Scandinavia are all identified in the Randers et al. report as “role models” for economic growth. Identifying and replicating the factors behind their successes would help deliver differentiated economic growth and stability with higher growth in developing countries. The authors insist that the problem is not GDP growth per person but humanity’s overall footprint growth.

3. **Food: Accelerated shift to sustainable food chains.** Sustainable agriculture would be achieved by “linking production to better logistics,” encouraging local food
production, reducing food waste, and reducing reliance on herbicides and pesticides. People would adopt plant-based diets and so lower their meat consumption. Embedded intelligence through new technology, digitalization, sensors, satellite monitoring, and the Internet of Things would make real-time big data available for better monitoring of food production areas, weather patterns, and water usage. The combined effects of these changes “would lower the footprint of the food chain by an extra 1% per year, relative to Same.”

4. **Active inequality reduction.** This would include addressing extreme unfairness created by wealth inequality, introducing “fairer wages and more progressive taxation,” increasing unemployment benefits, shortening the working year, creating more jobs in the face of growing automation and AI, and redistributing total output and wealth.

5. **Investment in education for all, gender equality, health, and family planning.** Radically increasing investment in girls’ and women’s education, gender equality programs, health, and family planning would lead to the stabilization of the world’s population. That in turn would improve general wellbeing and, in the words of Randers et al., “a sense of security” that would contribute to reducing the overall ecological footprint of humankind. And by empowering women to become world leaders, we would empower women in general to strive to attain leadership positions, thus setting in motion a self-reinforcing positive spiral that would benefit both developing and developed countries.

Randers et al. insist that these five actions hold “the promise of achieving (nearly) all 17 SDGs within (nearly all) the 9 PBs by 2050, although it takes some time before the Earth’s safety margins is back at acceptable levels, from its low of 4.5 in 2015.”

As investors, we can—we must—take action to redirect humanity from our current path toward destruction back toward the safe zones of our biosphere. We can and must overcome the extant barriers of corruption, nationalism, mistrust, skepticism, lack of global cooperation, and the idea that “free markets” work best without government oversight. *Transformation is Feasible* outlines how we can redirect ourselves, but it relies on our changing our current economic system, which is so backward it is not even financially sustainable in the long term. For as long as any of us can remember, making money has been used as the only measure of success—but this has come at the expense of the needs of people and the planet. Fortunately, as we saw in Chap. 2, investors are Waking Up to a world-centric reality and realizing that life is not all about becoming a billionaire.

We cannot eat, drink, or breathe money, diamonds, gold, or pieces of paper with dead notables printed on them (aka banknotes). We came into this world naked and we will leave it naked. It is time to push back against current economic norms. And the first step is a twofold one: to build a system that honors our very source of life, our beautiful blue planet, and the societies and cultures in it and to cultivate a unity mindset. Figure 3.2 shows how the economy could begin to support society and the

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19Randers et al. (2018, p. 39).
biosphere within the context of the SDGs. In order to do that, it must reverse its current course and put the biosphere at its foundation so it can serve society, not the other way around. It all starts with us, the people.

3.1.2 The Investment Turnaround: Our Moonshot

Tom and I had been seeking an investment model with appropriate metrics for integral sustainability since the beginning of the twenty-first century. When we first embarked on our search, we quickly realized that no matter how much we invested or what we did in our family office, little would change without political backing and collective action to trigger a paradigm shift in the overall economic, financial, business, and investing models. To this day, the brown economy persists because it is supported by market-distorting subsidies. Fossil fuel subsidies alone totaled US$5.3 trillion in 2015—that is 6.5% of global GDP. Additional subsidies for water, agriculture, and transportation also incentivize pollution habits and the

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20Coady et al. (2017).
abuse of natural resources. Tom and I believe that governments must abolish such
dangerous subsidies and introduce both pollution taxes and carbon pricing because
they would not only benefit global health and the environment but also stimulate
sustainable growth, especially among small to medium enterprises (SMEs), which
are a significant economic force in both developing and developed nations—with a
contribution of “about 90% of businesses and more than 50% of employment
worldwide. Formal SMEs contribute up to 40% of national income (GDP) in
emerging economies”21 and in Germany, for example, their “contribution towards
Germany’s economic strength, [represents] approx. 35% of total corporate
turnover... In terms of their contribution to GDP, these companies even account
for close to 55%.”22

This is why, encouraged by members of the Club of Rome, the Desertec Foun-
dation, and a dozen other caring organizations, in December 2012 I sent a position-
ing paper to Chancellor Angela Merkel requesting an investment turnaround.23 I am
still awaiting a response. Undeterred by the deafening silence, Tom and I launched
our moonshot, the investment turnaround (in German, die Investmentwende),
together with various other family offices, the Club of Rome co-presidents and
members, and organizations such as the Toniic network of impact investors. When
the Paris Agreement was signed in 2015 and the 193 Member States of the United
Nations approved the 2030 Agenda with its 17 SDGs,24 we knew that something
significant had occurred and that it would support our own endeavors. The world’s
most demanding list of universal requests ever posed to the global community had
been formulated, and we knew that the world was moving on up. The SDGs apply to
every nation, every sector, every business, and every profession. They address
everything we value collectively, and their successful implementation requires an
integral approach to transforming what we do and how we do it.

The SDGs present the ultimate investment challenge, and we realized with delight
that the SDG signatories and heads of state had given investors and businesspeople
an enormous opportunity—and, of course, a huge responsibility. We accepted the
challenge and began investing in and building companies to build an integrally
sustainable economy. We did not have all the answers, of course, but we know that
you only get the right answers when you ask the right questions.

The investment turnaround uses investing to implement integral sustainability,
the next paradigm in investing. Integral sustainability fulfills Gro Harlem
Brundtland’s call for sustainability by meeting “the need of the present without
compromising the ability of future generations to meet their own needs”25 and is
rooted in the essence of all existence, both the interior, such as culture, values, ethics,
and exterior realities, the material world. It is a reality in which financial

21 World Bank (n.d.).
22 Federal Ministry for Economic Affairs and Energy (2020).
23 See Positioning Paper at https://tinyurl.com/y9snzb4x
24 https://sustainabledevelopment.un.org/sdgs
25 World Commission on Environment and Development (2009/1987, p. 43).
sustainability is inseparable from a positive environmental, social, cultural, and ethical impact, as well as individual self-actualization, joy, and happiness.

Our Moonshot: The Investment Turnaround

Our moonshot is the implementation of the investment turnaround. It is the specific application of exponential technologies toward achieving Integral Investing, the next paradigm in investing, namely integral sustainability.

It aims at implementing an investing paradigm rooted in the essence of all existence, the exterior reality, the material world, as well as interior realities such as culture, values, ethics, and morals. It is a reality in which financial returns are inseparable from environmental, social, cultural, and ethical impact, including individual joy and happiness. Our first goal is the integrally sustainable implementation of the UN SDGs within planetary boundaries by 2050.

We are also fully aligned with, endorse, and support the implementation of the Club of Rome Planetary Emergency Plan26 launched on September 24, 2019, during the Climate Summit of the United Nations in New York City. The plan calls for “10 commitments for our global commons” to “stabilize the climate at 1.5 °C above pre-industrial temperatures, halt the loss of biodiversity, slow polar ice sheet melt and glacier retreat, protect critical biomes and store more carbon in soils, forests and oceans,” and “10 urgent actions for the transformation” to secure the health and well-being of people and the planet.

The 10 massive commitments are the following:

- Declare critical ecosystems as Global Commons by 2030.
- Set a universal global moratorium on deforestation by 2020 and triple annual investments in forest conservation and restoration by 2025.
- Sign an immediate moratorium on further Arctic oil and gas reserves exploitation by 2020 and develop a Cryosphere Preservation Plan.
- Massively upsurge public and private finance flows for the restoration of critical ecosystems by 2020.
- Stop the current decline of vulnerable ocean ecosystems and secure a New Ocean Treaty in 2020.
- Launch an ongoing public–private Planetary Emergency fund for the global commons in 2020.
- All sovereign wealth funds stop funding deforestation by 2020.
- By 2025 all companies shift to green investments and commit to science-based disclosures and reporting practices.
- Halt all conversion of wetlands, grasslands, and savannahs into agricultural lands and triple the annual investments in their protection by 2025.

26Club of Rome (24 September 2019, p. 4).
• Introduce financial mechanisms and regulations in 2020 to support local farmers to secure their livelihood through sustainable practices.

The 10 immediate transformative actions are geared toward (a) transforming energy systems, (b) shifting to a circular economy, and (c) creating a just and equitable society grounded in human and ecological wellbeing. They are summarized as follows:

• Halt fossil fuel expansion and fossil fuel subsidies in 2020.
• Double the wind and solar capacity every 4 years, and triple annual investments in renewable energy, energy efficiency, and low-carbon technologies for high-emitting industry segments before 2025.
• Introduce a global floor pricing and taxation on carbon (<US$30/t CO₂ and rising) immediately and no later than 2025.
• Halve consumption and production footprints globally by 2030.
• Introduce taxes and regulations to internalize externalities in unsustainable and high-carbon production and consumption by 2025.
• Develop global roadmaps to accelerate regenerative land use and circular economic policies.
• Introduce economic progress indicators for socio-ecological and human health and wellbeing by 2030.
• Provide legal tools that allow indigenous people to secure their land rights by 2025.
• Shift taxation from labor to the use of natural resources by 2020.
• Establish clear funding and retraining programs for displaced workers by 2025.

3.2 Integral Investing at Work

The COVID-19 crisis presents the most recent example of how the individual mindset (our own but also that of our leaders) and the collective mindset of whole populations are influencing our actions in response to the pandemic. It makes it obvious in the context of ethics and morals when contemplating the value of a human life compared with the financial impact caused by the virus. In The Great Mindshift, Maja Göpel, Secretary-General of the German Advisory Council on Global Change, shows how existing economic systems undermine not only communities and life on Earth, but also individual happiness and the ability to achieve a sense of fulfillment. To facilitate a mind shift, Göpel introduced the Socio-Ecological-Technical-System (SETS) as a foundation for transformative literacy. The foundation of SETS is five Ps: Paradigms, People, Purpose, Processes, and the Planet.

These represent three types of literacy:

27 Göpel (2016, p. 157).
• *Futures literacy*: Facilitates the understanding of the sources of reason behind systems and their transformation.

• *Institutional literacy*: Enables a multidimensional view of the drivers behind system dynamics.

• *Environmental literacy*: Regards human activity as part of the total web of life on Earth.

Including the entire “web of life on Earth” was Tom’s and my intention when we developed Integral Investing with the 6Ps as its motto, the Parity of People, Planet and Prosperity—with Passion and Purpose. A great mind shift is its foundational premise. We too considered it crucial to go well beyond the reductionism of current economic models and to honor complexity in its entirety by including consciousness evolution with its hidden dimensions of life (see the section on Integral Theory (AQAL) by Ken Wilber discussed in Chap. 2). Christian Arnspenger, Professor of Sustainability and Economic Anthropology of the University of Lausanne, Switzerland, is another adherent of Integral Theory. He built his full-spectrum economics framework using it, driven by his belief that today’s economics has robbed us “of our ability to reflect on ourselves and our economy” and has therefore become “a truly dangerous discipline.”²⁸ Inspired by Ken Wilber’s Integral Methodological Pluralism (IMP),²⁹ the methods of inquiry embedded in AQAL, Arnspenger argued that in order to fix economics, we must combine at least eight methodologies of knowing, namely, “structuralism and phenomenology for the study of consciousness, ethnomethodology and hermeneutics for the study of culture, brain science and autopoiesis for the study of organisms and brain, and systems theory and social autopoiesis for the study of social systems.”³⁰

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28 Arnspenger (2010, p. 229).
29 Wilber (2006).
30 Arnspenger (2010, p. 4).
Back in 1994, Tom and I had left California—and our corporate jobs—to pursue a more meaningful life through entrepreneurial endeavors while riding the Internet wave. Little did we know what we were letting ourselves in for. It all started well enough. We convinced fools, friends, and family to lend us money, and in December 1995, Tom started Cybernet, the first German ISP, and I established Infobahn International as a technology transfer company from Silicon Valley to Europe to start the digitalization process by bringing companies onto the Internet. But by the end of 1997, we were still struggling to pay our bills. At that time, few people in Germany knew what the Internet was, and the situation looked unlikely to change any time soon. A few days before Christmas 1997, work-related stress had led to my contracting flu, forcing me to take some much-needed time off. In addition to being physically sick, I was also experiencing anxiety because I had not made any sales that month, which meant my parents, Tom, and I were all living off my parents’ pension. That month, I had used my personal credit card to pay our employees’ salaries. But that afternoon, as I lay in bed mulling over our precarious financial situation, the phone rang. I smiled when I heard the pleasant voice of Aziz, the project manager from Andersen Consulting, now Accenture. I had been trying without success since September to persuade him to buy a license of NetDynamics, an Internet building application tool that Infobahn distributed from Silicon Valley. We had met several times, and my programmers had shown him that our Java-based Application Server was perfect for his project, but he had yet to commit to anything. Now he was calling with yet another technical question for me. At the end of my rope and feeling I had nothing to lose, I suddenly heard my croaky voice asking him to finalize a deal. He said, “Oh, yeah, I just signed the purchase order and you should find it in your fax machine before the end of the business day today.” And with those words, so began a turnaround in our fortunes. Six months later, Cybernet went public on the German stock exchange and our financial worries were eased for the time being—although we were both painfully aware that that could change at any given moment.

As I saw investing evolve from traditional to impact investing, I realized that IMP could also provide the processes needed in Integral Investing, and it became a fundamental aspect of my own dissertation research. (See the section on The Hero’s Journey in Chap. 2.) Thus, the Theta Model of Integral Investing was born.

3.2.1 The Inception of Integral Investing

Tom and I started our investment career as angel investors in the mid-1990s. To be successful, we joined first the Munich Business Angel Network and later the Silicon
Valley-based Angels’ Forum\textsuperscript{31} (TAF for short). Like most players in this field, we looked for (a) “hot” and disruptive ideas that would ideally be patent-protected and eventually revolutionize their particular industry; and (b) highly successful, brilliant, and preferably serial entrepreneurs who wanted to take their company public in less than 5 years. We knew that the venture capital industry existed due to the structure and regulations of the capital markets, which charged higher rates than those applied to traditional bank loans that required hard assets to secure the debt and were usually not available for entrepreneurs. We were young, well-educated, and dynamic. We took risks, the timing was right, and we became financially successful, returning an average investment multiple of 6.8 over almost three consecutive decades.

Yet, after a while, playing the financial-only game ceased to be fulfilling, especially as we could no longer overlook the increasing environmental degradation, loss of biodiversity, overpopulation, and other indications of a world gone slightly mad. We were building financially successful companies while simultaneously supporting more than 38 philanthropic organizations worldwide. On the one hand, we worked very hard to fulfill our dreams through the application of exponential technology. On the other, we felt a moral need to make a difference in the world, reduce humanity’s carbon footprint, and help the less privileged escape poverty through philanthropy and venture philanthropy. The disparity between traditional investing—with its regulated and legally mandated fiduciary responsibility to maximize profits—and philanthropy—which aims to do good and fix the damage inflicted by traditional investing—eventually became too difficult to ignore.

Ever since my emigration from Romania I have lived to give back and to make a difference in the lives of the less fortunate than I was. This was no different in Tom’s life whose parents barely escaped from East Germany prior to the construction of the Berlin Wall in 1961. Yet, we both realized early on that traditional philanthropy needs just as much reforming as traditional investing does if it is to respond to the needs of our time. Change is not a one-way street. If modern philanthropists are to fulfill their mission of making a difference, they must:

- Reconsider outdated risk-aversion tendencies in their endowment investments that sometimes act against the mission of the charitable organizations they are supporting
- Reevaluate their inertia and, perhaps most important, tendency to compete against each other even as they acknowledge their shared aims
- Learn how to address challenges in effective and efficient ways
- Enable an impartial transition for all
- Call for major reform at a legislative level, including the revision of existing legal structures that are occasionally abused by wealthy individuals in order to bypass tax regulations\textsuperscript{32}

\textsuperscript{31}http://angelsforum.com/
\textsuperscript{32}Fulton et al. (July, 2010).
Tom and I initially turned to impact investing as an alternative approach, but we soon realized that even within that field, investors are quite divided between those who are “financial-first” investors—that is, they will invest only if the financial return is appealing—and those who prioritize impact over ensuring that financial criteria are met (Fig. 3.3).

In order to respond to the growing imbalance between competing, contradictory needs, organizations such as Warren Buffett and Bill Gates’s Giving Pledge of Philanthropy, the United Kingdom’s Big Society Capital, the United States’ Overseas Private Investment Corporation, the Australian Government’s Social Enterprise Development and Investment Funds, and various other venture philanthropy initiatives, such as the LGT Impact Venture Fund and Toniic, were formed to show by example how traditional capital, government funds, and philanthropic capital could be integrated.33 They offer in part mixed investment structures to shrink the seemingly opposing differences between traditional capital, venture philanthropy, and philanthropic donations. The Acumen Fund,34 to offer another example, invests what it calls “patient” capital: “capital that provides startups with the flexibility and security to grow their business and reach as many poor customers as possible.”35 Their approach is nontraditional in as much as they do not expect high returns from their investment, but they do expect to have their capital returned. This hybrid concept has been shown to be much better at mitigating risk than using investment funds from the very beginning of a new enterprise’s life.

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33Ebrahim and Rangan (16 September 2009); Koh et al. (April, 2012); Saltuk et al. (2011); Toniic (2018).
34Ebrahim and Rangan (16 September 2009).
35See https://acumen.org/approach/
However, the more we explored these various approaches, the more confident we felt that our own Integral Investing philosophy was the way ahead. The future of investing, we thought, ought to be embedded in the authentic integration of traditional and impact investing and be measured appropriately (see Fig. 3.4).

Before you read any further, please note that what follows is a deep dive into our own application of Integral Theory in investing, company building, and our own lives. Some segments of our approach have been published previously in various forms, and I have included feedback from those publications here.

### 3.2.2 The Theory of Change

Wilber’s Integral Theory provides a post-postmodern framework of life that is based on the theory of evolution and integrates humanity’s irreducible value spheres, described by Plato as the True/science, the Good/morals, and the Beautiful/art (Fig. 2.5). It also draws on Immanuel Kant’s Big Three critiques: The Critique of Pure Reason, Critique of Practical Reason, and Critique of Judgment or subjective reality. Furthermore, it honors Jürgen Habermas’s indivisible three Worlds: the Objective, the Subjective, and the Cultural.

Having been informed by Wilber’s integral model, however, Tom and I could not help but notice that current efforts at creating a more sustainable financial system are rather one-sided and draw heavily from Wilber’s lower-right quadrant (Fig. 2.6) (see Sect. 2.4.1). This appears to be the case whether we consider traditional

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36 Bozesan (2010) & (2013) & (2016), to name only three.

37 Brown (2007, 20 February, pp. 19–28).
investing or more progressive forms of investing, such as impact investing, triple bottom line investing (TBLI), mission-related investing, Sustainable and Responsible Investing (SRI), value investing, blended value investing, or even venture philanthropy.

**Integral Investing: Honoring the Truth in All There Is**
The meta-theory and practice of integral investors based on Integral Theory, AQAL (pronounced ah-qwul), by philosopher Ken Wilber.

A closer look at traditional investing, business, and financial systems also reveals that not only are the evolutionary aspects completely missing, so too are the drivers behind the behavioral dimensions (shown in Wilber’s upper-right quadrant). Further interior dimensions such as human intelligences (upper-left quadrant) and cultural aspects (lower-left quadrant) are also hard to find. From economics and finance to neuroscience and psychology, the world of science appears to agree, however, that our behavior is influenced by our psyche. The various dimensions of consciousness are consistently co-arising and deeply influencing us and our decisions, whether or not we are aware of them.

This is why Tom and I have aggregated assessment tools, which integrate the AQAL dimensions, for our own due diligence process. Integral investing contributes to the future of investing by (1) honoring the truth in all there is, including people, planet, and prosperity; (2) appreciating diversity in culture and society; and (3) seeing reality as an indivisible whole. In this reality, every exterior—in not only the individual but also the social, political, and environmental contexts—has an interior, a hidden dimension, such as individual behavior and also culture and ethical norms that influence that behavior. So, if we are asking ourselves whether we need a new enlightenment or not, we do not have to go far to see that the integration of the interior dimensions of higher levels of consciousness—that is, a new mindset—could provide a much-needed framework for a more holistic paradigm.

**Our Motto: The 6Ps**
The Parity of People, Planet and Prosperity—with Passion and Purpose

From an early-stage investment perspective, we saw how our motto, the six Ps—the parity of people, planet, and prosperity—with passion and purpose all driven by the need to implement the UN SDGs within planetary boundaries—could be holistically integrated into the entire value chain creation shown in Fig. 3.5.

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38 Camerer and Loewenstein (2004); Yazdipour (2011).
39 Beauregard and O’Leary (2007); Kahneman and Tversky (1982); McCraty (2001); Newberg and Lee (2005).
As you will see, we apply an AQAL lens every step of the way, from deal sourcing and screening, all the way through to wealth actualization. (Please note that the entire process described below refers to early-stage investing as a particular asset class. Moreover, I assume readers are already familiar with traditional methods of venture capital and angel investing. My intention is to highlight the differences between Integral Investing and existing venture capital and angel investing models and not to write yet another book on early-stage investing.)

3.2.3 **Deal Sourcing and Screening**

The first phase in investing always begins with deal sourcing, identifying a potential investment opportunity (Fig. 3.6).

We have been in the investment market since the mid-1990s and receive several hundred investment requests (business plan, executive summary, pitch presentation, etc.) per year through various channels, including word-of-mouth, investment platforms, emails, conferences, and pitch-events. As soon as we receive an investment opportunity it gets registered, receives a ticket, and is entered in the deal pipeline (Fig. 3.7).

Our screening team evaluates the opportunity against the AQAL criteria and decides whether or not to pursue it further. Tom calls our initial laundry list for screening the “inevitable success criteria.” He compiles the list from answers to the following questions:

- Does the idea solve a real-world problem? Is it a solution looking for a problem or the other way around? Does the idea work? Is there proof of concept?
- Do the entrepreneurs *own* the idea(s)? Do they own patents? Have they licensed the idea(s)? What about exclusivity? Is the idea free of claims by others? Do they

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40For AQAL Generic Start-up Pitch Template, see [https://aqalgroup.com/extra-materials/](https://aqalgroup.com/extra-materials/)
I. DEAL SCREENING

Deal Sourcing

Fig. 3.6 AQAL deal sourcing and screening

All new deals, coming in through all channels, are collected here

At least one responsible screener is looking at the material and evaluates against AQAL criteria; includes pre- and post-pitch

The deal is actively worked and/or in incubation: dialog with founders, own market analyses, structuring, finding financing partners, biz dev,...

Legal, financial, IP due diligence; concurrently with contract negotiation

The deal is on hold; it may be reevaluated when a critical missing link is found, or when internal or external circumstances are clearing up.

Rejected, disappeared, and lost deals

Active holdings under management

Exited holdings

Fig. 3.7 AQAL deal pipeline and process
have “freedom to operate,” to build products based on the idea and then sell them?

- Does the idea/solution align with evolution (i.e., singularity/exponential growth)?
- Does the idea/solution align with possible responses to the world’s fundamental problems and global grand challenges (e.g., UN SDGs within planetary boundaries)?
- Does someone’s career or reputation depend on their finding a solution to the problem?
- How quickly do potential customers need to solve the problem? Do they have a budget to solve the problem? Will the problem become bigger and worse if they do not solve it? How bad can it get?
- Do they have an “unfair,” defendable advantage with their solution?
- Is there an underlying long-term mechanism that leads inevitably to success (e.g., Internet, AI, synthetic biology, etc.)? If so, what is it?
- Do they have a fundamental business strategy? What about cost advantage, unique technology, differentiation, network/platform effects, economies of scale?
- Are they among the top three in their industry? (Observe the power law of unfair distribution of gains—“the winner takes all”).
- Do they have a massively transformative purpose (MTP)?
- Moonshot test: Is the new product/service 10× better? 10% does not cut it, because over time entropy will have shrunk the initial advantage. After repeated hardships, the business proposition must still be significantly interesting.
- Execution ability test: Can they execute? Do the founders bring intrinsic motivation, personal development history, and industry and personal experience?
- Is there a team? Does the team explicitly develop a team culture?
- Do they systematically apply resources with strategy, tactics, and discipline?
- Is there a strong sense of urgency? Will they move fast? How “hungry” are they?
- Is their implementation capital efficient? Can they develop and make their product faster, more efficient, more attractive, and cheaper than their competitors?
- Can they distribute their product faster, more cheaply, and more efficiently than their competitors? How?
- Can they become cash-flow positive faster than their competitors? Does the financial market support it?
- Are there competing financing sources available for this particular asset class?
- Would regulations and regulators let them be successful? Do NOT wait for regulations to improve. Do NOT bet on regulated markets, for they may change overnight.

Once the deal has passed the AQAL screening process, it goes into the monitoring and development phases. A dialog with founders is initiated alongside our own market analyses, potential structuring, search for co-investing partners, brainstorming of ideas for further business development, and so on. If a critical success factor such as a CEO or CFO is missing, the status of the deal switches to on-hold/monitoring until the relevant circumstances have changed or the decision to drop
the case is taken. If the in-depth screening results are positive, we issue a term sheet, and then due diligence through the Theta Model is initiated.

As integral investors, we search, of course, for deals that are in line with our values and philosophy. Remember, integral investors are self-actualizing individuals who have Awakened to a unity-consciousness mindset at later stages of human development. We use AQAL as a map to help us navigate the exponentially growing complexity of the world and have an MTP and a moonshot. We walk our talk and have a daily integral wheel of life practice (see Sect. 2.5.4) that keeps us physically and emotionally healthy, focused, and on track. We are looking for exponentially growing technologies with the intention of building integrally sustainable organizations to successfully address humanity’s global grand challenges (GGCs), including achieving the UN SDGs within planetary boundaries. We have been investing for almost three decades now and have a rather long list of screening criteria (Fig. 3.8 shows a small selection of them), as well as a remarkable pool of potential candidates for our deal sourcing.

Our objective is, of course, to get access to an integrally impactful investment opportunity as early as possible, before the entrepreneurs have had the opportunity to present their idea to large investor audiences for fundraising purposes. Ideally, we are introduced to the new deal by a close and trusted friend and expert who has already prescreened the idea. We want to invest early and be leading edge, but not too early, which could take us to the bleeding edge. In order to identify an investment that fits our requirements, we start with negative screening. Our criteria, positive and negative, are dynamic and thus evolve regularly.

One example of negative screening, our exclusion criteria at this point in time, involves cryptocurrencies such as Bitcoin: On the one hand, cryptocurrencies have the potential to positively influence grassroots democracies, individual freedom, accountability, trustworthy authentication processes, and decentralized proof of work. On the other, their issuing process entails a shocking waste of energy. In a
research brief titled *The Carbon Footprint of Bitcoin*, published by the MIT Center for Energy and Environmental Policy Research. Stoll et al. show that as of November 2018, the annual energy consumption of Bitcoin was around 48 TWh. They call for regulatory intervention not only because of reasons associated with monetary control but also because of the huge carbon emissions associated with Bitcoin mining. They calculate that annual carbon emissions from Bitcoin production range between 21.5 Mt. and 53.6 Mt. of CO₂, equivalent to the annual CO₂ emission levels of cities such as Hamburg, Vienna, or Las Vegas. Such factors clearly violate not only our decision to not invest in ideas that require major regulatory interventions but also, and more importantly, our moonshot. Moreover, we do not see how Bitcoin actually offers today a significantly better solution to any real-world problem than existing options. In other words, as long as we do not see a positive correlation between, in this case, the benefits of Bitcoin outweighing the damage associated with the CO₂ emissions created in mining it, we will invest somewhere else.

If a potential investment passes our negative screening, we then look at the potential for positive impact, which usually addresses, in no particular order:

- The need for integral sustainability of the deal
- Our informal screening/assessment of the team and the individual founders and their biographies (Fig. 3.9)

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41 Stoll et al. (2018).
Our intention to have fun in the process

**AQAL Screening: A Tool for Value Alignment**

For us, screening is a nonlinear, fluid, very dynamic, and evolutionary process. We are not simply looking for a company into which we want to invest. We are looking for partners, people who want to join us in making the world a better place through their ideas, and a long-term relationship through building a lasting company that serves the greater good. We want to connect with the investees, and we want to see if our values align. We are interested in building a partnership that serves us collectively.

If the screening is positive, we issue a term sheet and move on to due diligence.

### 3.2.4 De-risking with the Theta Model

We named the process through which our Integral Investing philosophy is applied in the due diligence stage the *Theta Model*. It involves applying the tools and methodologies of Integral Theory, AQAL, to de-risk integral investments with the intention of building integrally sustainable companies from the very beginning (Fig. 3.10).

**Fig. 3.10** Integral investing due-diligence process
The Theta Model

The Theta Model is the due diligence process of Integral Investing. It integrates (a) traditional investing due-diligence criteria (financial, legal, sales due-diligence) with (b) sustainability criteria and impact investing metrics (UN SDGs within planetary boundaries, as well as Social, Environmental, and Governance (ESG) of the UN PRI) and (c) cultural, behavioral, and consciousness criteria as defined in Wilber’s integral framework.

The Theta Model makes the AQAL theory applicable within the context of direct investing in early-stage companies. It provides the necessary tools and processes to analyze, measure, and assess potential risks that could prevent us from achieving our target outcomes. The intention is to make sure that the intended goals are attained in all quadrants, levels, lines, structures, types, and other dimensions contained in the AQAL framework (see Chap. 2). Thus, the Theta Model navigates the entire AQAL and functions as a powerful de-risking tool that facilitates a differentiated view not only of investees as individuals and in terms of company culture but also of the context of investing, the exterior reality. This reality is composed of a complex web of interrelated and intra- and interconnected ecological structures, social and cultural systems, and behavioral determinants, all of which are subject to evolution.

For example, a start-up located in a postmodern society such as France or Germany has to deal with a different employee, or labor, legislation, environmental constraints, resources, and suppliers than one located in South Africa, and its founders and employees will, most likely, have a different view of the world, and therefore different behaviors and leadership skills, than players from an emerging economy such as Indonesia.

The cultural reality with its embedded and active world views, the interior dimensions, are intimately correlated with the social techno-economic structures, the exteriors because they occur together and influence each other. They are different sides of the same coin. Understanding and appreciating differences helps us invest much more sustainably and compassionately, because it acknowledges, honors, and celebrates diversity. The Theta Model helps us integrate the following de-risking characteristics of the due diligence process (Fig. 3.11):

- **Traditional criteria** that ensure financial sustainability and include financial due diligence as well as legal, sales and marketing, and other metrics
- **Sustainability criteria** including impact investing metrics such as the UN SDGs within planetary boundaries, and the social, environmental, and governance (ESG) of the UN Principles for Responsible Investment (PRI)
- **Cultural aspects**
- **Behavioral criteria**
- **Individual interior criteria** as defined in the upper-left quadrant of Wilber’s integral framework
The Theta Model is an accelerating process for decision-making as well as a vehicle for the speedy formation of integrally sustainable companies from the very beginning. It offers a five-step de-risking process that includes traditional due diligence and expands it with sustainability measurements as well as with integral investment performance measurements born out of Integral Theory.

**Step 1: Financial Due Diligence**
The first step of any due diligence process involves traditional financial, legal, and commercial assessments and reflects the lens of the lower-right quadrant of the AQAL. It requires a high degree of granularity and due diligence expertise in identifying as many unknown factors as possible and assessing the greatest potential risks. The purpose of validating a business plan is to uncover missing pieces and determine the financial and legal risks, as well as other risks associated with the market, competition, and intellectual property (IP) issues, to name only a few (Fig. 3.12).

There are plenty of books, systems, websites, consulting services, advice, and training options on traditional due diligence processes in VC investing, so at this point, I will say no more about them than that we hire experts to help us with this important process. Because Tom and I have lived in Germany since 1999, we observe German law. If you want to find out more about due diligence in traditional VC investing, we recommend *Venture Deals* by Brad Feld and Jason Mendelson, and, from a German perspective, Wolfgang Weitnauer’s *Handbuch Venture Capital*.  

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42 Feld and Mendelson (2019).
43 Weitnauer (2019).
Investment Example: Protection Through an Anti-dilution Clause

Experienced early-stage investors know how the extremely high risk in the seed and early stages can translate into low valuations. Founders do not like that, of course. However, new and inexperienced investors continuously enter the investment market, which enables founders to consistently find investors who will buy shares at overly high company valuation figures. Sometimes this can lead even experienced investors into a fear-of-missing-out (FOMO) situation where they either pay to play in a start-up that is overvalued or never get a deal at all. An anti-dilution clause can help reduce potential losses. We learned this the hard way.

Tom and I invested early on in Zonare Medical Systems, an ultrasound diagnostic imaging manufacturer, with our Angels’ Forum friends. Unfortunately, we were inexperienced at the time and thus did not pay enough attention to the valuation or the anti-dilution clause. Zonare did not grow as fast as projected, and new rounds of funding were needed at down-rounds. The later investors were issued stock at a lower price than we had originally paid because we were not protected enough through an option or the anti-dilution provision. Lesson learned.
It is important to note too that we see Step 1 as being just as important as the following four steps of the Theta Model. The reality is that without financial sustainability there is no overall sustainability. Every aspect of an investment affects the other aspects. It is no accident that our motto starts with “Parity”; it is there to highlight the equal importance we give to People, Planet, and Prosperity—with Passion and Purpose. If even only one of the six Ps were missing, it would indicate a world without sustainability. This is why we use the term integral sustainability.

**Step 2: Sustainability Due Diligence**

In the earlier discussion about the *Transformation is Feasible* report, I noted that there are five important action items that must be addressed in order to ensure our future. From the lower-right quadrant perspective of the AQAL framework, this is the purpose of Step 2 in the Theta Model. It uses various measurement criteria to assess to what degree the implementation of the UN SDGs within planetary boundaries is being addressed.

At this stage in the due diligence process, investees have the opportunity to show how they contribute directly to the achievement of the global sustainability goals. The intention in Step 2 is to:

- *Reduce the risk* associated with the potential violation of climate neutrality laws through their business activities.
- *Create an integrally sustainable company* from the very beginning.
- *Increase transparency.*
- *Identify the sustainability metrics* that apply to the particular business.
- *Prepare for sustainability reporting.*
- *Generate sustainability compliance* as defined by the Sustainable Stock Exchanges (SSE) Initiative of the United Nations Global Compact. Awareness of the SSE could help steer the efforts of the start-up and eventually lead to its receiving a good rating in the event of an exit through an initial public offering (IPO).

We are finding that the investment industry is still in the very early stages of providing quantitative and qualitative evidence and measurements of positive impact criteria that we require in Step 2 (Fig. 3.13). Yet, there are already several tools and/or key performance indicators (KPIs) that can be used to good effect. The Global Impact Investing Network (GIIN), for example, provides the IRIS catalog of metrics “designed to measure the social, environmental and financial performance of an investment” and Tonic, the “global action community for impact investors,” has even developed a direct correlation between GIIN/IRIS and UN SDGs. In order to contribute toward the further development of appropriate metrics, Tom and I became rather active on multiple levels. In 2012, I contributed at the Rio+20 Earth Summit in

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44 [https://www.unglobalcompact.org/take-action/action/sustainable-stock-exchange-initiatives](https://www.unglobalcompact.org/take-action/action/sustainable-stock-exchange-initiatives)
45 [https://iris.thegiin.org/metrics/](https://iris.thegiin.org/metrics/)
46 [https://www.toniic.com](https://www.toniic.com)
Rio de Janeiro,47 joined the consultations of the International Integrated Reporting Council (IIRC),48 and became involved in 2013 with the Social Impact Investment Taskforce, launched at the G8 meeting in London by the British prime minister at the time, David Cameron. The initiative was led globally by Sir Ronald Cohen,49 Big Society Capital and APAX founder, and comprised a selection of working groups and national advisory boards. The German advisory board was chaired by Dr. Brigitte Mohn, chairwoman of the Bertelsmann Foundation, who invited me to become a member of the national board.50 The Social Impact Investment Taskforce’s successes were down to its using its publications to establish a baseline for current developments and steering the future direction of social impact investing worldwide. It was replaced in 2015 by the Global Steering Group (GSG). Contributing to and being aligned with such work is important and lead Tom and I to became also active members of Toniic. Their report, Powered Ascent: Insights from the Frontier of Impact Investing, compares and contrasts investing practices and measurements that applied GIIN metrics with Toniic member investing practices that used mixed

47 https://tinyurl.com/y8mpajnz & https://tinyurl.com/ycr7zpaq
48 https://integratedreporting.org/
49 Cohen (2018).
50 National Advisory Board (NAB) Deutschland (2014); https://tinyurl.com/nkdb6lx
methods and tools. Both GIIN and Toniic respondents “report that their investments have either met or exceeded their expectations for impact (GIIN: 98%, TONIIC: 87%) and financial performance (GIIN: 91%, TONIIC: 82%).”

**Investment Example: The Energy Turnaround**
Out of our concern for climate change, and as our professional contribution to the Energiewende (energy turnaround) invoked by Chancellor Merkel after the 2011 Fukushima Daiichi accident, Tom and I invested in Entelios AG. It became another success story in our portfolio. Germany’s commitment to the Energiewende was an ambitious plan to shift its reliance from nuclear and fossil fuels to renewables. Feeding renewable energy sources such as wind and solar into the existing power grid is cumbersome, though, because these energy sources are not continuous like traditional energy sources. In order to guarantee a reliable and inexpensive energy supply in the future, new solutions are required. Thus, Tom and two of his friends started Entelios AG. It became Germany’s first demand-response aggregator and was acquired by EnerNOC in 2014.

Another aspect of metrics that is less commonly used, but which we find very important particularly with respect to carbon markets and the UN SDGs, is the concept of *additionality*. In our view, an investor cannot simply buy a field of solar panels or windmills, for example, and then credibly call themselves an impact investor. Shifting capital from one asset owner to the next (and pocketing the fees) does not change anything. *Additionality* helps identify and measure the exact increase in social (people), environmental (planet), and other values that would have not occurred without this particular investment. As integral (impact) investors we must significantly increase the progress made through the investment and be able to measure the real change in form—for example, carbon offsets, increased number of employees, or increased capital invested in additional sustainable assets and/or environmentally protected real estate.

**Investment Example: Social Impact and Mission Investing**
Two designers, moms who shared common interests in fashion, travel, and children, developed a plan in 2004 to create a new kind of clothing company for children that makes a difference. Tea Living, as the company was named, was concerned with ethical material sourcing and driven by the mission to ensure children live in a safe and prospering world. The company became successful and kept its promises. To this day, it gives 10% of the profits to “ensure a better world for kids everywhere” including children’s education.

(continued)

51 https://www.teacollection.com
We believe that the founders’ professionalism paired with their mission and purpose made this company integrally successful. We are very proud to be early-stage investors in this company that turned out to be a financial success as well.

For our early-stage investments, we often work with the GIIRS-based (Global Impact Investing Rating System) self-assessment offered by B Corp.\(^5\) We recommend it for the time being because it helps start-up companies get a deeper understanding of what is possible and what to prepare for while building integrally sustainable businesses. Therefore, we encourage our investees to perform a self-assessment. Doing so gives them an opportunity to select, and eventually commit to, certain criteria that they would like to measure and deliver.\(^5\) This could later become the foundation for the governance criteria of the company and part of the articles of association, the social contract between investors and investees.\(^5\)

An additional global framework that can be applied in Step 2 comes in the form of the 232 UN SDG indicators\(^5\) pertaining to the 2030 Agenda for Sustainable Development and adopted by the General Assembly of the UN. As we saw before, we need to implement the UN SDGs within the planetary boundaries in order to live the Smart scenario outlined in Transformation is Feasible. Therefore, we are looking forward to receiving the proper taxonomy and measurements that could help us as investors achieve these goals. We may also benefit soon from the European Green Deal\(^5\) of the European Commission and its sustainable finance efforts.\(^5\) In recognition of the role that the financial system can play in mitigating the current threats to the planet, the Commission created a 10-step action plan for implementing sustainable finance systems to transform the economy of the European Union to meet the goals of the Paris Agreement and implement the UN SDGs. This long-term strategy, which intends to achieve carbon neutrality by 2050, includes three points of particular note:

- **A green, unified classification system, or taxonomy**, described as “a list of economic activities assessed and classified based on their contribution to EU sustainability related policy objectives” and published in June 2019 by the Technical Expert Group (TEG) on Sustainable Finance, is designed to help assess an economic activity in environmental terms within planetary boundaries. To qualify as green, an investment has to “1. Contribute substantially to one or more of the [six] environmental objectives [laid out in the regulation]; 2. Do no

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\(^5\)https://bimpactassessment.net/

\(^5\)See a live example of a Bcorp Impact Assessment at https://aqalgroup.com/extra-materials/

\(^5\)See the example application of Governance Criteria at https://tinyurl.com/ycjmocem

\(^5\)https://unstats.un.org/sdgs/indicators/indicators-list/

\(^5\)https://tinyurl.com/vlplq51

\(^5\)https://tinyurl.com/ydhxzkp6
significant harm to any other environmental objective; 3. Comply with minimum social safeguards (under the draft regulation, these are defined as ILO core labour conventions); 4. Comply with the technical screening criteria.58

- **Sustainability-related disclosures** ensure that investors are fully informed by manufacturers and distributors of financial products about the impact of sustainability on investment decisions and financial returns.

- **Climate benchmarks and ESG disclosures** are two new benchmark categories that help inform and orient investors who want to adopt climate-related strategies.

The sustainable finance policy benefits investors by offering a greater choice of green finance products and projects and benefits businesses via new sources of funding from global capital markets and the global financial sector.

By following Step 2 as outlined in our due diligence process, traditional investors can get ready for change, all while benefiting from the green movement and contributing to making a difference to the planet and ensuring the future of life, albeit through an Integral Investing lens. From that perspective, we find the Anderson and Brown integral stakeholder analysis tool59 useful. It provides invaluable information on objectives, needs, resources, and potential opposition, helps give stakeholders a sense of ownership, and fosters healthy engagement between stakeholders.

**Investment Example: Good Ideas, Bad Timing**

Sometimes we did the right thing—picked the right investment, with an integrally informed and acting team—but the timing was off. This was the case with BioCee. It developed advanced biocatalytic reactor solutions for the production of clean fuels and chemicals based on a proprietary biocoating technology platform. At the time, we lived between California and Bavaria, but the company was based in Minnesota, in the heart of the United States and several hours away by air from San Francisco. This taught us to be very careful about choosing investments that are close to our home base—no more than a 1-hour flight away.

As fracking and other fossil fuels began filling the energy gap, clean fuels such as those produced by BioCee became too expensive to be viable. The company’s operations recently closed, although it still owns invaluable patents.

**Step 3: Individual Assessment**

As so often happens in life, we learned our first lesson regarding the eminent importance of people over ideas the hard way. It happened in 1994. Tom had finished his MBA at Stanford in 1993 and soon realized that staying with BCG, a

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58 EU Technical Expert Group on Sustainable Finance (2019, p. 10).
59 Anderson and Brown (2013).
consultancy, would not give him the professional fulfillment he sought. BCG had given him a sabbatical and paid part of the cost of his MBA, and Tom had gone back to the company to honor his side of the agreement. We lived in Palo Alto, the heart of Silicon Valley, but his work assignments at BCG were rarely related to technology. Thus, his particular expertise in computer science and AI was not being put to use and he was quite reasonably feeling frustrated. After seeing the Mosaic browser in early 1994, we felt compelled to ride the exhilarating Internet wave and looked for an opportunity to do so. We did not have to look far or for long. During a party hosted by some longtime friends of ours, Gabe and Kristy, the idea to bring real estate listings online was born. Gabe told us about a friend of his, Joe, whose wife was a real estate agent and made the necessary introductions. Joe and his wife decided the idea was worth trying, and the first presentation at Cornish and Carey, the leading real estate broker in the Valley at the time, was soon scheduled. Cornish and Carey also liked the idea and were willing to try it out by giving us a diskette (remember those?) with the data containing the new listings that were going to be published in the weekend editions of the local newspapers. All three friends put some money together to implement the idea. They needed a computer and a Web server that would be connected to the Internet 24/7 so people from around the world would be able to view Cornish and Carey’s listings. Tom bought a PC, installed Berkeley Unix (or BSD Unix, as it was known at the time), and began developing automatically generated, static HTML pages in the garage of our College Terrace home in Palo Alto, California.

**Investment Example: Team, Team, Team Makes Up 80% of the Risk**

BayNet World was a typical Silicon Valley start-up, founded by three people with an idea and a PowerPoint presentation. When Cornish and Carey made its first online sale of a house to a Japanese man who found it on the BayNet Internet platform, we all knew we were onto a good thing. The company was incorporated on October 28, 1994, with Gabe as the VP of Sales and Joe as the CEO. However, personal differences began to surface before too long, and soon after the launch of BayNet World, it became obvious that the team was not in sync. In fact, there was very little team coherence. The founders were very different from each other, and soon those differences began to cause problems. Tom’s idea was to get VC funding in order to grow quickly, but his partners wanted to go slowly by bootstrapping. The dissonance between the founders began intruding on our personal relationship with Gabe, and we decided that our friendship was more important than BayNet. Tom and I

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60 At the time it was called BSD Unix and was an operating system developed at Berkeley University based on the original Unix born at Bell Labs that later became the foundation of various Unix dialects. See [https://tinyurl.com/6aqforj](https://tinyurl.com/6aqforj)
eventually moved back to Germany to ride the European Internet wave. That had also a positive impact on our long-term relationship with Gabe and Joe.

BayNet World still exists,\(^6^1\) but it missed the dot.com boom completely. We exited in 2019 with a multiple of 240 and an IRR of 8% over 25 years. It was a financial success but an entrepreneurial failure.

We had learned a valuable lesson: *People are more important than ideas*. But how do you find the right people for your company? This is the purpose of Step 3 (Fig. 3.14).

In our experience, few investors use formal tools to assess individual investees. The reason for that maybe that formal tests are rather expensive and take time and effort to perform and evaluate. But when people are willing to risk their money in an investment, what is a few extra dollars? We believe that the importance of a formal test is generally, and erroneously, underestimated, even though such scientifically proven tools have emerged from elite universities including Stanford, Harvard, and

\(^6^1\)http://www.baynet.com/about-us
MIT. When we ask our peer investors what they base their investment decisions on, most of them refer to a “gut feeling” derived from personal meetings, interviews, and observations rather than the application of scientifically proven instruments. However, Tom and I are not alone in electing to rely on science rather than instinct. David Gladstone and Laura Gladstone, for example, describe their due diligence process, including their assessment of their entrepreneur of choice, in their book *Venture Capital Investing.* During their individual due diligence process, they focus on and try to assess the following aspects of a potential investee:

- **Physical appearance and behavioral aspects** such as “determination, resourcefulness, a sense of urgency to get things done, and a realistic approach to facts,” as well as “energy level, a better than average ability to speak and communicate, and mental stamina”; and
- **Mental factors and moral character traits** including “the need for achievement, need for power, belief that one is control of one’s own destiny, and risk preferences” but also “honesty, partnership orientation, and a desire for fair play.”

Traditionally, the assessment process for early-stage companies comprises individual interviews and discussions, background checks, personal history evaluations, and observations of body language before and during the due diligence process. “Personality or psychology tests, [occur] but this is not frequently done” by traditional venture capitalists, notes Lin Hong Wong in *Venture Capital and Fund Management.* This is unfortunate for both investees and investors because they share an interest in achieving a successful and fruitful affiliation. Wong points out the importance of not rigidly following standard checklists when assessing a CEO of a start-up, but instead customizing checklists to reflect the type of business, the company strategy, and the other team members as individuals. In addition to the mandatory domain and entrepreneurship expertise, he sees the most important prerequisites as integrity, total commitment to the company shown through an entrepreneur’s own cash injection and willingness to accept pay cuts if needed, and adaptability in terms of willingness to grow and take on other roles as required. It is also crucial to delineate certain functions in a start-up. For example, the nature of technology start-ups is such that more often than not there is no CEO in the beginning; instead, the CTO often fulfills that role. Therefore, the due diligence process must assess the suitability of the CTO to function as a CEO. Similar assessments must be made for the roles of CFO, COO, and so on prior to the investment, otherwise they could create a great source of contention and bring the company down. I speak from experience.

But if you can have due diligence processes that are less costly and produce the same reliable results, why would anybody want to spend more money on written psychographs? The rather simple answer has to do with the complexity of being human.

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62Gladstone and Gladstone (2004, p. 30).
63Wong (2005, p. 157).
These tests’ results can help assess the starting point of a relationship; help define individual and team coaching programs, and the road ahead; and serve as the foundation for the future success that both parties desire. They are instrumental in the building of a robust structure for and the culture of the start-up. According to research by Susanne Cook-Greuter, only 10–20% of adults demonstrate high standards of ethics and high levels of ego development. Identifying those people in a start-up setting would help ensure that what is being promised on the outside is authentically true on the inside.

Beginning with Step 3, the Theta Model goes beyond the due diligence process of both traditional and impact investing. It includes additional aspects of reality—for example, interior, evolutionary, behavioral, interobjective, and intersubjective—that are constantly co-arising and affect us whether we are aware of them or not. The fundamental premise of Integral Theory is that leaders can be developed through vertical learning. Key to vertical learning is identifying the psychological baseline of an individual through the psychograph (see Chap. 2). Vertical learning is currently the number one trend in leader development because it plays a very important role in the success, or otherwise, of early-stage companies in particular. Although the main thread of this discussion concerns vertical growth through vertical learning, I would like to emphasize the equal importance of healthy horizontal growth and integration across all four quadrants of the AQAL model. The intention here is not to imply that later stages of human development are better. As we will see in the discourse on hierarchy and the notion of holons, a healthy evolution presupposes both a healthy vertical growth and the healthy horizontal integration of the cultural, social, environmental, behavioral, and experiential perspectives/lines at each evolutionary altitude/level in all AQAL quadrants (see Chap. 2).

But let us get back to vertical learning. Growth occurs naturally through the evolutionary process when the circumstances are right, but within the context of a company, Barrett Brown states that under the right conditions it can be accelerated significantly. Implemented correctly, self-development work undertaken through vertical learning can broaden our world view and heighten our awareness. Leaders with vertical development skills are perceived as more effective, more complex thinkers, and more capable of addressing complex challenges. Brown’s research and hands-on consulting expertise shows that leaders who have mature skills and work on their vertical development appear to:

- Develop a more complex mindset that helps significantly expand their world views.
- Perform better across several mission-critical domains.
- Inspire vision and better lead transformational change.
- Think better strategically, systemically, and contextually.

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64 Cook-Greuter (2004).
65 Bozesan (2013, June).
66 Brown (2018, p. 19).
• Build better relationships and become better collaborators and problem solvers.
• Make better decisions, reframe challenges, and create more innovative solutions.
• Have an enhanced capacity to tolerate ambiguity and navigate complexity.

In our portfolio companies, as well as within our own investment team, we have applied various tools as we worked through Step 3 of the Theta Model. LDMA (Leadership/Lectical Decision-Making Assessment), for example, is a leadership development tool that focuses on three aspects of decision-making. It grew out of research performed at Harvard University Graduate School of Education, and was created by Kurt W. Fisher and later enhanced by Stein et al.67 Lectica,68 an organization with which we worked closely describes these three aspects as:

• **Collaborative capacity**: the ability to integrate diverse perspectives with the intention of developing all-encompassing, pioneering, and successful solutions.
• **Contextual thinking**: the ability to reflect on and analyze problems in terms of the larger systems and contexts to which they belong.
• **Cognitive complexity**: the ability to think in a multi-perspectival manner about complex issues.

In their evaluation forms, these three wide-ranging skills are evaluated through eight lenses:

• Developmental level
• Perspective-taking skill
• Perspective-seeking skill
• Perspective coordination
• Collaborative capacity
• Contextual thinking
• Cognitive coherence
• Decision-making process

### When Not to Invest
Several years ago, we applied the LDMA individually to a leadership team in a hydrogen fuel car start-up. The results showed beyond doubt that the CEO and CTO would not be able to work together to help the start-up succeed. While the CTO claimed otherwise, he was neither willing to grow personally nor ready to let go of his “baby” and allow the CEO to do his job. This reality was revealed via the LDMA test, and the results confirmed that the differences between the CEO and CTO were insurmountable, a fact pointed out by other members of the leadership team prior to the LDMA tests, although they had “tried” for more than 12 months to make it work. We ended up not investing.

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67Stein et al. (2010).
68https://lecticalive.org/about/assessments
and several other potential investors also opted out, although the business idea was both brilliant and timely.

We have also successfully applied Cook-Greuter’s Sentence Completion Test (SCT) (see Chap. 2), which has since evolved to become the Maturity Profile (MAP). Cook-Greuter’s seminal work is based on her research on adult development and the recognition that the language people use is potentially a direct reflection of their level of consciousness. In her work, she addresses the phenomenon of comprehensive language awareness and analyses the ability of individuals to reflect on the language they use habitually. The SCT is a collection of 30 or so sentence stems—such as “I am . . .”, “my father . . .”, “work is . . .”—for the testee to complete. The evaluator can then determine an individual’s leadership style based on how each stem is interpreted and responded to. In our investment practice, we assess language usage not only through formal tests such as the SCT but also in regular conversation with investees and/or each other. After some practice, your awareness of your own awareness and that of your counterparts will increase. But only a formal scientifically robust test can help identify the disconnect between what people say and how they actually behave. As integral investors, we invest only in people whose mindset is at the world-centric level of development and beyond because, in our view, only at that level of consciousness is there the necessary understanding to make transformation feasible.

Step 4: Team Assessment

Anyone who has ever rented or purchased a piece of real estate would agree that “location, location, and location” are the three most important aspects of a good real estate investment. Similarly, any experienced early-stage venture capitalist or angel investor would agree that the quality of a company’s management team is arguably the best indicator of the potential future success of a start-up. A high-quality management team is also key for a successful partnership between all stakeholders, including investors, employees, the community at large, suppliers, and other stakeholders. This is why we maintain that more than 80% of the investment risk could be addressed by conducting an integral due diligence assessment of the team. This is beneficial not only for the team itself but also for investors and other stakeholders (Fig. 3.15).

Barrett Brown, a global authority on Integral Theory, coaching, and academic testing, has both coached us and performed numerous assessments for us and our portfolio companies since 2012. During one of our last workshops, he drew my attention to research by Marcial Losada and Emily Heaphy. Losada and Heaphy discovered that one of the best predictors of team performance is the ratio between positive interactions—mutual support, encouragement, and appreciation—and

69http://www.verticaldevelopment.com/
negative interactions—disapproval, sarcasm, and even cynicism.\textsuperscript{70} In other words, teams who care about one another work well together, which makes sense, really.

Possessing this type of data about the entrepreneurs in whom you plan to invest could significantly increase mutual trust and the likelihood of success and reduce the investment risk related to the team. Fortunately, there are myriad tools for conducting team assessments. The five dysfunctions of a team tool, for example, based on the 2002 book of the same name by Patrick Lencioni,\textsuperscript{71} is one that we have successfully applied at various times. The eponymous five dysfunctions identified by Lencioni are the absence of trust, fear of conflict, lack of commitment, avoidance of accountability, and inattention to results.

We were once approached by a young Austrian entrepreneur who had developed a rather interesting software application using AI technology. After several screening activities during which we performed preliminary due diligence including several discussions with the founders about the company story, vision, market environment, business plan, reference calls, and industry interviews; and verification of the

\textsuperscript{70}Losada and Heaphy (2004, p. 759).
\textsuperscript{71}Lencioni (2002).
business model and other document reviews, we invited the entire team of six to our offices in Munich. They were all very capable men and women, and all well prepared. However, during the first meeting, the founder dominated every conversation we initiated with each of his team members as if he did not trust them. For example, we would ask the CFO a question about a detail in the Excel spreadsheet but the founder, the CTO, would step in and answer instead. A second meeting unfolded in the same way. All three of our screening people were united in their opinion that we should drop the deal because the CTO would continue to disempower his team and we did not want to invest in a “king.”

In a 2008 Harvard Business Review article titled “The Founder’s Dilemma,” Noam Wasserman writes about the dilemma of every entrepreneur in search of capital: overcoming the fundamental tension that arises from a founder’s wish to be simultaneously “king” and “rich.” Investors do not invest in “kings” for two main reasons: they do not want to be his vassals and the attitude of the “king” makes investors fear that it will be difficult to recover their investment.

Investments Examples: Why Culture Eats Strategy for Breakfast
SafeView is a good example of an investment we made in exponential tech and security that suffered from cultural misalignment. In 2003, exponential development in semiconductor manufacturing and computing power made it possible to capture and analyze microwaves in a way not thought possible before. A founder team from a government research facility spun off their idea to build a security body scanner that would be able to detect weapons, even if they were made of ceramic rather than metal. In fact, anything worn on the skin, hidden under clothing, would be visible to security inspectors. It signaled a big improvement in the effectiveness of scanners used in airports, border checkpoints, prisons, and public arenas. The team made great progress in developing the technology into a marketable product. However, they reacted negatively when the first customer feedback from trials came in: The device displayed a picture of the person who was scanned. On a purely functional level, it worked, as anything worn underneath the clothing was clearly visible, but airline customers felt their privacy was being violated and that the body in the scan looked “awful.” The engineers wallowed in denial for quite some time. Instead of changing their target market and selling to less customer-oriented markets such as prisons and the military, the founders continued to promote their product to airports and in doing so wasted valuable years. In time, a software was developed that displayed a generic stick figure with the potentially dangerous objects marked on it, and the airports started buying. The company was eventually exited to a global security company and the product is now used at airports worldwide. The delay of 1 or 2 years in market ramp-up (continued)

Wasserman (2008).
costs the investors a lot. Fortunately, there was still a financial return, but it could have been a major success if the engineers had listened to customer feedback and addressed the “cultural misfit” earlier.

Infobahn Romania, a technology transfer company we founded in the late 1990s, is yet another example of a start-up company that was perfect in terms of technology, timing, and market need but failed due to cultural misalignment of various international teams involved across various countries and continents. At the time, we unfortunately lacked the proper individual and team development tools and skills to fix these cultural misalignments.

**Step 5: Decide: Gap Analysis and Report**

Step 5 represents the summary of the integral due diligence process of the Theta Model (Fig. 3.16).

It offers a gap analysis and report and makes the final recommendation for the investment.

The integral radar (Fig. 3.17) is the result of the due diligence process and signifies the differences in terms of integral outcomes along the entire value chain creation. The yellow line marked with “0” defines the absolute no-go area and
contains characteristics that we do not want to deal with in an investment—for example, the entrepreneurs do not care about sustainability, the focus is on making money only, there is no team, and the mindset of team members is egocentric or ethnocentric. The blue line marked with “1” describes the current state of the investee in all areas of the due diligence process, including the traditional due diligence aspects such as financial, legal, business plan, sales and marketing, GIIRS or other sustainability metrics, individual psychographs, and team assessment. The green line (“2”) represents our due diligence team’s assessment of the potential to grow in all areas. We also look at the additionality factors that determine what would happen if we did not invest. The decision to invest or not takes time and effort, but skimping on the process invariably leads to failure.

**Investment Example: The Power of Market Forces**

In 2004, we invested in an exponential tech start-up called Clairvoyante. The founders had a background in the physiology of vision and came up with a very clever way of optimizing computer displays. They discovered that the conventional method of placing small red, green, and blue rectangles (pixels) on a screen is not the best way to produce a high-quality picture. Instead, they patented a new technology to create a brighter, sharper image without increasing the energy consumption or production costs. We were so excited about the (continued)
exponential drivers in technology growth that we completely underestimated the market forces that often resist change.

What was the problem?

There are only a handful of display manufacturers in the world, and they are heavily invested in expensive manufacturing plants. When a new technology comes along, it must wait in line for the next investment cycle. New entrants, like Clairvoyante, must still battle Porter’s five forces and have little negotiation power over a few large potential customers. For an early-stage investor, that can mean the difference between success and failure.

Eventually, Clairvoyante brought its technology to market through Asian manufacturers, but it took much longer than projected. Luckily, we recovered our investment, but we learned not to invest again in a monopolized market with relatively few potential clients.

3.2.5 Investment Execution

The investment execution, Phase III in the value chain creation (Fig. 3.5), is largely a traditional investment activity for which we hire professional lawyers, accountants, and other experts. The details of this particular aspect are beyond the scope of this book, but in summary, the deal execution contains three steps geared at the formal legalization of the integrally sustainable alignment identified during the due diligence process of the Theta Model:

- **Deal negotiation**, which includes pricing, risk reward, and structuring the deal to reduce risk as much as possible.
- **Writing commitment letters and investment memoranda**, which include the terms of commitment and investment, as well as security and collateral, representation aspects, and so on.
- **Legal closing** (Fig. 3.18).

To execute the closing, we work with experienced lawyers, accountants, and partners who can help us navigate the intricacies of local law. Important aspects of AQAL that may deviate from traditional processes are highlighted in Fig. 3.19.

Within the application of the AQAL model at this stage, it is important to make sure that the investee commits legally to the implementation of the Integral Investing criteria previously discussed. This includes the governance aspect of the company. In other words, how do we make sure that the investee company will, for example, truly implement the UN SDGs within planetary boundaries to reduce CO₂ emissions while the team continues to grow collectively and individually? The answer to that is that we can only achieve what we measure. This is why these criteria must be part of

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73 https://en.wikipedia.org/wiki/Porter%27s_five_forces_analysis
the company’s governance documentation and remuneration of its leaders must depend fully, or even in part, upon these criteria being met.74

Coming up with integrated measurement criteria (multiple bottom lines) (see Step 2) is the premise for a successful investment. However, an organization will only stay on track with this via meaningful integrated reporting based on the multiple bottom-line metrics. The International Integrated Reporting Council (IIRC), a “global coalition of regulators, investors, companies, standard setters, the accounting profession and NGOs . . . that shares the view that communication about businesses’ value creation should be the next step in the evolution of corporate reporting” has been working on this for several years now.75 The European Commission’s sustainable finance strategy discussed earlier should bring us multiple bottom line reporting guidelines relatively soon.

### 3.2.6 Investment Monitoring

To be successful, a good investor must also have access to and be able to monitor and influence key company decisions, create milestones for the raising of future capital rounds, and stay close to the investee until the exit point (Fig. 3.20).

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74See the example application of Governance Criteria at [https://aqalgroup.com/extra-materials/](https://aqalgroup.com/extra-materials/)

75IIRC (2013).
Fig. 3.19 Integral Investing closing top-down checklist
From an Integral Investing perspective, the core goal of monitoring, Phase IV of the value chain creation (Fig. 3.5), is to help build an integrally sustainable company from the very beginning. But what exactly does that mean?

The components related to building integrally sustainable businesses are manifold and include aspects connected with hierarchical or network/matrix organization models, management style, conflict resolution models, modes of communication, leadership models, feminine versus masculine principles, sustainability, and so on. But what is the governance structure? And more importantly, what role do people play in such organizations?

**Hierarchy, Holarchy, Heterarchy?**

Throughout our pre-investor careers, Tom and I experienced organizational structures that were mostly hierarchical but also showed matrix or networking tendencies. Therefore, we were looking to invest in and build more integral and holistic organizational frameworks that would support our Integral Investing framework, including an organizational, leadership, and cultural style based on later stages of consciousness as described in Chap. 2. We soon learned that hierarchies and heterarchies/non-ranking structures each have their raison d’être and are an integral part of reality.\(^{76}\) Nature is full of self-organizing hierarchies—quarks, atoms, molecules, cells, and organisms—that build on one another to create increasing levels of complexity. You cannot destroy a cell, as a biological construct, without destroying

\(^{76}\)Wilber (2000a/1995, pp. 22–39).
a molecule and an organism, and any change in an organism will affect all its component parts. Subsequently, Wilber argues that “reality as a whole is not composed of things or processes, but of holons [my italics]”.  

“Holon” is a term coined by Arthur Koestler, which Wilber explains as being used to “refer to that, which being a whole in one context, is simultaneously a part in another [my italics]”. This gave rise to the term “holarchy,” which Wilber uses interchangeably with hierarchy.

If such hierarchies are so important in nature, why do people sometimes reject them? As a generalization, when people reject hierarchies, they often refer, of course, to pathological social hierarchies such as “ontological fascism (with the one dominating the many)” as experienced in Nazi Germany, former Eastern Bloc countries, or traditional corporate structures.

In some modern hierarchical organizations, we can find inside one level of a hierarchy—for example, within the sales and marketing department—so-called matrix/heterarchical structures. In those, we find players who co-opreate with each other, with no element seeming to be more important than another. Think about biology: All the cells in an organism, say the leg, contribute, under normal conditions, to keep the leg healthy. When the brain wants to move the leg, all the cells support the move; but the reverse is not true: a single cell cannot decide to move the whole leg. In a simplified way, we can say within each level of a biological hierarchy, we find a heterarchy, and between each level we find hierarchy.

Pathological heterarchies can, of course, also happen when fusion—where some people lose their own identity—instead of union and indissociation instead of integration occur. In social structures of this type, for example, all values become regulated in a “flatland devoid of individual values or identities; nothing can be said to be deeper or higher or better in any meaningful sense; all values vanish into a herd mentality of the bland leading the bland.” This pathological hierarchy “is a type of ontological totalitarianism (with many dominating the one)”.

We can see the results of this for ourselves today. As technology has made it easier for us to express our opinions to a global audience with little oversight and few boundaries, a privilege that was previously restricted to the chosen few, so too has it become easier to disseminate hatred and nourish populism, which will, ironically, ultimately challenge the very notion of democracy that made it possible. In a 2014 article in the New York Times titled “How Social Media Silences Debate,” Claire Cain Miller looked at how user behavior on many social media platforms can render people with dissenting opinions reluctant to express those opinions for fear of backlash. In

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77 Wilber (2000a/1995, p. 43).
78 Wilber (2000a/1995, p. 26).
79 Wilber (2000a/1995, p. 32).
80 Wilber (2000a/1995, p. 32).
81 Miller (2014, 26 August).
summary, “systems theorists tend to say: within each level, heterarchy; between each level, hierarchy.”\textsuperscript{82}

But what in the world does this analysis have to do with investing in and building integrally sustainable organizations? Everything, because we can learn from nature, including human nature. In many ways, companies represent a micro-cosmos of our societies and how successfully we govern ourselves. This does not mean that we have to reject or favor one structure over another, but that we must realize that both are important and together can safeguard the health of an organization if properly implemented. Business organizations operate like complex organisms with a brain. While the brain exerts a leading function within the body, each organ and tissue has its own intelligence and ability to communicate and to adapt and control its own function. This occurs in correlation and coordination with the brain, the CEO of the human body. All cells support and work in total unison with and support each other because every “cell transcends but includes molecules, which transcend but include atoms.”\textsuperscript{83}

As Tom and I continued building integrally sustainable organizations riding the wave of exponentially growing technologies, we kept applying our Integral Investing framework and the Theta Model. At the same time, we stayed alert for other forms of building progressive organizations that we could model. In 2014, we came across two emerging organizational models that have inspired us and whose models we have adopted in part: the exponential organization and the teal organization.

**Exponential Organizations**
The term *exponential organization* (ExO) was popularized by Salim Ismail, Michael Malone, and Yuri Van Geest via their book of the same name, in which they define an ExO as “one whose impact (or output) is disproportionately large—at least $10^2$ larger—compared to its peers because of the use of new organizational techniques that leverage accelerating technologies.”\textsuperscript{84} Note that the word “impact” in this definition is understood in terms of the overall output of a company and not in terms of the social and/or environmental impact, or effect, a company has, which we discussed earlier within the context of impact investing. ExOs are relevant because of the speed with which exponentially growing information technologies are driving companies all over the world to grow and to gain billion-dollar valuations within a short period. Some tech start-ups such as Uber, WhatsApp, and Airbnb have achieved “unicorn” status, with valuations higher than US$1 billion.\textsuperscript{85} As of January 23, 2019, an extraordinary avalanche of capital had funded about 310 unicorns that have been collectively valued at US$1052 billion and have raised a combined total

\textsuperscript{82}Wilber K (2000a/1995, p. 28).
\textsuperscript{83}Wilber (2000b, p. 11).
\textsuperscript{84}Ismail et al. (2014, p. 113).
\textsuperscript{85}Erdogan et al. (May, 2016).
of close to US$257 billion. In 2018 alone, 112 new unicorns joined the global Unicorn Club, a 58% increase from 2017. Fifty-three of them came from the USA, 37 from China, and 14 from various European countries. Within this investor landscape, WhatsApp, whose annual revenue was worth about US$20 million in 2014, had been valued at a jaw-dropping US$19 billion by Facebook, which acquired it in October 2014. The US$19 billion represented 0.03% of the world economy and was more than Iceland’s GDP in the same year.

In our view, something has really gone wrong if the value of a messaging company such as WhatsApp, which at the time of its acquisition employed 55 people, is almost double that of Fiat Chrysler, a US motor company that employed 225,587 people in 2014, and almost half the market capitalization of BMW, a German motor company that employed about 116,324 people in 2014. Regardless of how we feel, though, we need to deal with this trend, because it is real. How did it happen? It is the result of many factors, the most important of which is exponentially growing information technologies. Ismail et al. note that they found major overlaps between unicorns and ExOs. While it took a regular Fortune 500 company more than 20 years to reach a market capitalization of US$1 billion, it took the unicorns less than 3 years from their founding date. They posit that the basic metric of ExOs is related to the speed with which management has learned to scale not only the technology but also the organization so they can achieve a minimum of $10^x$ the results of traditional organizations—from an idea to a ready-made product—with a fraction of the resources. An ExO is characterized by 10 points in particular:

- It has a massively transformative purpose (MTP).
- It has an MTP peer group and community.
- It has an exponentially thinking and acting founding team.
- It has a breakthrough idea that delivers an improvement of more than $10^x$ over traditional ones.
- It has a simple but powerful business model and delivery process that is able to compete with traditional businesses (e.g., Netflix vs. Blockbuster).
- It has a minimum viable product (MVP) that can get to market quickly.
- It has a quick validating system for marketing and sales.
- It has an exponentially thinking and acting culture.
- It has a core mission-critical team that questions everything regularly but resides outside the organization in order to avoid attacks by the organization’s immune system.
- It is building an entire platform (compare Amazon’s success in this area versus Yahoo’s).

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86 See https://www.cbinsights.com/research/unicorn-startup-market-map/
87 See https://www.tradingeconomics.com/iceland/gdp
88 See https://www.bloomberg.com/quote/FCAU:US
89 Ismail et al. (2014, p. 15).
90 Ismail et al. (pp. 147–180).
Let us take a brief look at the *external* and *internal* characteristics of an ExO.

The *external* characteristics are summarized as SCALE, an acronym that stands for five key tools or success factors: **Staff on demand**, **Community and crowd**, **Algorithms**, **Leveraged assets**, and **Engagement**. In a global world driven by exponentially growing technologies, SCALE is key to staying lean, moving fast, and developing smart products quickly. It makes it possible for organizations to modify their workforce to accommodate particular requirements for niche knowledge and skills that may not be otherwise immediately accessible to them, thus enabling organizations to train their core team; increase learning, loyalty, the flow of fresh ideas, and a sense of playfulness; and contribute significantly to the goals of the company—all without managing additional assets or straining the bottom line.

The *internal* characteristics of an ExO are summarized by Ismail et al. as the IDEAS framework: **Interfaces**, **Dashboards**, **Experimentation**, **Autonomy**, and **Social Technologies**. Interfaces are “algorithms and automated workflows that route the output of SCALE externalities to the right people at the right time internally.”  

Dashboards manage, measure, and optimize the capability of the organization to handle and address the huge amounts of information and data that flow into it. Experimentation keeps internal processes aligned with constant change and ensures the organization remains lean and flexible. It tests potential risks, as well as the organization’s ability to handle failure, in a controlled manner. Autonomy is the process through which “self-organizing, multi-disciplinary teams [are] operating with decentralized authority,” have higher morale and increased agility and are more accountable vis-à-vis their customers. As an example of the application of Autonomy, the authors refer to holacracy, a self-management organizational method that empowers its employees to take decisions that are in line with the overall purpose of their organizations. Among the 1000+ companies that have successfully adopted the holacracy’s self-management practice are online retail unicorn Zappos.com, game developer Valve Corp, and agribusiness Morning Star Company. The term holacracy was coined by Brian Robertson, a brilliant integral thinker whom I met in 2013. Brian was a software developer who took the Agile programming methodology and applied it to create holarchy-based organizations (see “Hierarchy, Heterarchy, and Holarchy”). Holacracy “is a new way of structuring and running your organization that replaces the conventional management hierarchy” whereby the top-down, command, and control power is

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91Ismail et al. (2014, p. 86).  
92Ismail et al. (2014, p. 102).  
93Robertson (2015).  
94https://www.holacracy.org/resource/holacracy-adoptions/  
95https://www.zappos.com/  
96https://www.valvesoftware.com/en/  
97https://www.morningstarco.com/  
98https://en.wikipedia.org/wiki/Agile_software_development  
99https://www.holacracy.org/what-is-holacracy
distributed throughout the various levels of the organization. The Social technologies characteristic of ExOs aims at increasing social interactions in organizations by nurturing team stability during periods of rapid growth, encouraging faster decision cycles, and leveraging the community to further develop ideas.

In summary, Ismail et al. have drawn on in-depth research to develop a blueprint for creating ExOs that enable companies to ride the wave of exponentially growing technologies. These ExOs are characterized by having an MTP and implementing five internal attributes (IDEAS) to successfully SCALE five external characteristics to achieve exponential growth.

Can you imagine what would happen if ExOs decided to make their MTP addressing GGCs such as climate change? Can you imagine what would occur if they decided to measure their success not by their financial bottom line alone but by a multiple bottom line (for example, the 6Ps)? What if they decided to set their sights on implementing the UN SDGs within planetary boundaries by 2030? What kind of world would we have?

**Investment Examples: Rethinking Measures of Success**

In addition to investing in exponential information technology, biotechnology, and clean technology, we continue to invest in other megatrends such as innovation, lifestyle, and medical devices. Penumbra, for example, is a medical device company that develops and manufactures innovative and minimally invasive medical devices for patients who have had strokes or various neurovascular diseases. Penumbra exited after 11 years and delivered a rather successful integral return not only financially but also impact-wise. We are thrilled about the technology of course, which addresses a huge medical need, but we are especially thrilled with the main founder, a serial entrepreneur and former founder of Smart Therapeutics (now Boston Scientific), and his team. Even if Penumbra, or any other of our still-active medical portfolio companies, never returns our investment, we are proud to be part of such medical advances.

NeoGuide is an example of an investment whose story we like to share although it was a complete financial loss. The founders came up with the idea of building a colonoscopy device that would make the procedure easier, faster, and less painful. They wanted to use the latest technologies in robotics in order to build a “camera on a snake” that could follow the bends of the colon. Since the snake would know how to bend itself, it would not exert pressure on the colon walls. Great idea—but too early. The company tried long and hard to make the complicated mechanics work, and after a while, they changed their approach completely, but the tech just did not work out well enough in clinical trials. We still like to talk about the team and their idea, though.

Now let us take a closer look at teal organizations, an organization form that is much more aligned with our own Integral Investing framework.
Teal Organizations
The term *teal organization* was introduced to the world in 2014 by former McKinsey consultant Frédéric Laloux in his book *Reinventing Organizations*. Drawing on research performed on 12 organizations, ranging from nonprofits to businesses, healthcare organizations, and schools, Laloux concludes that there is a new shift in company “consciousness evolution” that has given birth to what he called the teal organization. Why teal? It references the color used by Ken Wilber in his AQAL model, as Laloux built his entire teal organization model on Wilber’s Integral Theory. It is embedded in the second tier of the AQAL framework (see the “Spiral Dynamics” section in Chap. 2 and for a direct comparison between Wilber’s stages of development with the stages of development identified by the Spiral Dynamics model, see Altitudes of Development, on Jeff Salzman’s Daily Evolver website, at https://tinyurl.com/y5eogejt).

All the case studies Laloux presents reveal three major breakthroughs in their organizational structures and cultures that are very much in line with the characteristics of the integrally sustainable companies Tom and I are building:

- **Self-management:** The first breakthrough is the creation of structures that go beyond the constraints of traditional hierarchical, command and control power structures and are able to operate, even at large scale, as flexible, collaborative, and self-organizing systems. They have interlocking sets of structures and practices that:
  - Are based on trust
  - Encourage effective and individual decision-making and problem-solving
  - Support progressive ways of sharing information so it is universally available
  - Make self-management possible through proper training and coaching of teams and individuals
  - Lead to quick conflict resolution
  - Assign responsibility and accountability to both individuals and the collective

- **Wholeness:** Showing up fully and as a whole human being, not just as a rational and emotionless individual, is highly encouraged and represents the second major breakthrough of teal organizations. Wholeness means that people in such companies can let go of the traditional “professional masks” that must obey top-down chains of command and control strategies and tactical implementation plans and instead bring in their full emotional, intuitive, and spiritual manifestations of themselves and contribute to innovation, creativity, and nourishing wholesome relationships at work. They honor diversity, are invited to create safe and caring workplaces, overcome feelings of fear and separation, and create a culture of learning and holistic growth. Feedback and respectful confrontation, requests for accountability, and a can-do attitude are explicitly encouraged.

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100 Laloux (2014).
Evolutionary purpose: The collective purpose of a teal organization is developed through the people by the people. It is a direct manifestation of their own levels of consciousness and is maintained through integrally informed corporate practices rather than being imposed and determined by top-down strategies, plans, and budgets. Individual purposes are as highly regarded as the collective purpose. The evolutionary purpose of the organization includes profit but is not limited to it, because there are no trade-offs between people, planet, profits, and purpose. The teal organization is rooted in the belief that “everything will unfold with more grace if we stop trying to control and instead choose to simply sense and respond.”

The Integral Investing framework both includes and transcends models such as ExOs and teal organizations. We build teal organizations that implement exponentially growing technologies, Ismail et al.’s ExOs, with the intention of making the transformation toward addressing the global grand challenges within planetary boundaries feasible.

Teal Organization or Exponential Organization (ExO)?

It is interesting but not at all surprising to find an overlap between companies that are categorized as teal organizations and have also been identified as ExOs by Ismail et al. (2014) (e.g., Zappos, Morning Star, Favi).

Companies represent structures and do not have a consciousness of their own, of course. However, as the people in an organization evolve both individually and as a team, they appear to create organizational structures that reflect the later stages of consciousness evolution discussed in Chap. 2. In applying several developmental models from Clare W. Graves, Don Edward Beck, Chris Cowan, Susanne Cook-Greuter, and Ken Wilber, Laloux comes to the conclusion that organizations, as a living system, also evolve to later stages. He assigns the teal stage, the second tier, to the ones he analyzed.

3.2.7 Wealth Actualization: The Exit

Phase V of our value chain creation is the exit or wealth actualization, which is what we like to call it in reference to the integral return and not only the financial one (Fig. 3.21).

By applying the Integral Investing philosophy in early-stage investing, we not only achieve a significant integral return (as measured by the 6Ps) but also reduce our investment risk.

When our investments have been successful it was because we invested in the best teams, we knew what we were doing and were close to them, the technology

\[101\text{Laloux (2014, p. 232).}\]
was perfect, and the timing was right. In short, we applied the integral investment framework to the letter—and we were lucky. The most important component, however, was the team. By “the team,” I mean the whole team of stakeholders including co-investors, suppliers, start-up teams, coaches, and other contributors. Together we built a structure and culture based on trust, integrity, transparency, caring, passion, and fun in addition to the desire to implement integral sustainability. And it paid off.

**Investment Example: A Tale of Success**
Cybernet AG, a German ISP, went public and became the first Internet stock traded on the German stock exchange before PSINet acquired it at the end of 2002. Its founders and the visionary and progressive culture they built personified the characteristics of higher ethical values.

In Germany, it is relatively easy to implement high standards with respect to environmental, social, and ethical governance (ESG) criteria. Many ESG criteria are mandated by law and are therefore relatively easy for any investor to measure and any start-up company to implement and report.

Some of our portfolio companies did an IPO, such as Cybernet, or were exited in less than 4 years, such as Entelios (see Box “Investment Example: The Energy Turnaround”). Others took more than a decade to become wildly successful, such as Penumbra (see Box “Investment Examples: Rethinking Measures of Success”). But
they all had one thing in common: They built a culture based on higher values and aimed to serve the world.

When an investment failed, the reasons were manifold and included a selection of the following:

- We failed to see the lack of team alignment, including a lack of common values, early on or arising over time.
- The investees were both geographically and culturally too far from our circle of influence.
- The technology was the bleeding edge.
- The company ran out of money before it could become successful. Undercapitalization is a common problem for German start-ups, for example. The venture capital market in Germany is significantly underdeveloped compared to the USA and China.
- We were too idealistic and invested in a regulated market in hopes of changing the regulations before running out of funds.
- We invested in “kings”: the founder(s) did not want to exit and so we could never retrieve our investment.
- We were too hands-off.
- We did not have an anti-dilution clause to protect us and lost out even though the companies became eventually successful.
- We invested against our intuition and gut feeling and found out too late about formal assessments and tests.
- We did not have the proper scientific tools to assess the entrepreneurs’ morals and ethics and so took them at face value.
- We underestimated the importance of proper legal advice and paperwork.
- Perfection became the enemy of the good: alternative solutions caught up faster and came to market before our investees did.
- The timing of our investment coincided with global crises.

Early-stage investing is not a science, it is an art. Yes, there are all kinds of tools and lists, and ways to make sure you cross all the Ts and dot all the Is, but in the end, it is your track record that speaks the loudest. If you measure success in an integrally sustainable way like we do, there are many ways to be fulfilled by your investment activities, including the financial return. In conclusion, Tom would like to share with you one more secret about Integral Investing based on a Bayes-informed strategy on screening.

3.3 The 360-Degree Track Record

As we have seen, being a seed and/or early-stage investor (business angel or VC) is like fishing in a muddy pond. There are a lot of fish but very few of them are worth catching. The probability that a new start-up will develop and eventually provide a large, integrally profitable exit to its investors is minuscule. In our experience, only
about 10% of start-ups in a fund portfolio have a chance of becoming successful exits. Investors, therefore, use assessment tools to screen investment opportunities that are presented to them. These tools, in our case the Theta Model, try to predict “winners” and “losers.” The essence of the Theta Model strategy is to identify the losers as early as possible by identifying the winners with a high sensitivity and exposing the losers with a high specificity. Let us explore this in more detail.

Figure 3.22 shows a 2×2 matrix that represents our process, which we call the 360-degree track record. The matrix shows four possible investment cases, all of which begin with the same likelihood of succeeding or failing (represented through the equal size of the quadrants):

- **Lost money** (upper left, in red) represents an unsuccessful investment.
- **Won money** (upper right, in green) represents a successful investment.
- **Avoided loss** (lower left, in dark gray) represents a passed investment that would be an unsuccessful investment.
- **Lost opportunity** (lower right quadrant, in light gray) represents a passed investment that would have been a successful investment.

When assessing a track record, it is important to include the entire pool (360 degrees) of investments, not only the true positives (green) and false positives (red), but also the true negatives (lower left) and the false negatives (lower right). As we will show, the true negatives (lower left) in particular are often neglected; that is, money not invested, and resources saved. When applying the Theta Model with its five de-risking steps discussed earlier, the 360-degree matrix (Fig. 3.22) translates into Fig. 3.23.

In terms of expected financial return, the passed investments would have no impact, the false-positive investment would lead to a 100% loss, and a true positive
investment would return a $10 \times$ ROI (because it would have to compensate for all the other statistically failed investments) (Fig. 3.24).

In a world where winners are very rare (Fig. 3.25) the investment scenario is similar to that of medical testing and diagnosis.
To grasp the analogy, let us see how Bayes’ theorem\footnote{https://en.wikipedia.org/wiki/Bayes%27_theorem} can be applied for both drug testing and investing. For example, in a world where only maybe 0.5% of the population are using illicit drugs (or using drugs illicitly), a drug test with 99.0% sensitivity and 99.0% specificity is almost useless, because a positive drug test would only label 33% of the tested people correctly as drug users. However, 67% of positive testers would be false positives (not drug users)! In order to avoid false positives, the test must be extremely specific—for example, 99.9% or 99.99%.

The question then becomes: How can both the sensitivity and the specificity be enhanced? In other words: How can the track record be improved?

### 3.3.1 How to Improve the Track Record

There are many ways to improve the track record, but here are four that we find helpful:

- *Fishing in a better pond* (increase the overall prevalence of winners) by, for example, making sure you get access to a higher-quality deal flow (increase the true positives (Fig. 3.26)).
- *Developing better ways to pick the winners* (Fig. 3.27): Increase test sensitivity, reduce the false negatives by, for example, adopting better testing methods for team selection (see Steps 3 and 4 of the Theta Model discussed earlier).
Finding better ways to avoid the losers (increase test specificity, reduce the true negatives, Fig. 3.28) by, for example, applying Step 2 of the Theta Model to avoid risks associated with negative environmental and/or social impact.

Optimizing payouts (chasing unicorns, Fig. 3.29) by, for example, riding the wave of exponentially growing technologies and investing early in climate adaptation (using the Smart scenario presented in Transformation is Feasible).

Fig. 3.26  Increase access to a better deal flow

Fig. 3.27  Picking winners
On a per deal basis, losses are limited (you cannot lose more than the investment), but payouts, especially for unicorns, can be huge in integrally sustainable terms. However, in a world where winners are very rare, the investor needs to narrow their focus by improving the quality of the deal flow and applying tests that are extremely high in specificity (see the Theta Model). The latter may seem counterintuitive because success is not so much about finding the winners as it is about avoiding the losers, but it is important.

What has this to do with an investor’s track record?

When investors, business angels, VC partners, or asset managers talk about their track record, they are quite selective about what they communicate. They always talk about the winners, rarely about the losers, and never about lost opportunities or

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**Fig. 3.28** Avoiding losers

![Diagram showing the relationship between specificity and avoiding losses.]

- Test +: Higher specificity avoids more losers
- Test -: Lower specificity results in more losers
- True Positives
- False Positives
- True Negatives
- False Negatives
- Losers
- Winners

**Fig. 3.29** Chasing unicorns

![Diagram showing the追杀独角兽的策略。]

- Invest: -100% loss on a unicorn
- Pass: == on losers and winners

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When investors, business angels, VC partners, or asset managers talk about their track record, they are quite selective about what they communicate. They always talk about the winners, rarely about the losers, and never about lost opportunities or
avoided losses. Experience shows that few angel investors or VC firms have a long-term positive track record, a fact that makes authentic performance statistics rare. This is so for several reasons including the low frequency of winners in the deal flow, and the mediocre accuracy of industry’s average prediction. The traditional screening tests and processes are rather unpredictable and muddled, and depend in large part on investors’ “gut feelings.” Such tests yield only a few successful investments (true positives). Many failed investments (false positives) lose money and occasionally the winners (false negatives) are wasted. In other words, the tests have low sensitivity and low specificity. However, it is through the avoided losses that a consistent long-term integral investor can shine. It pays to filter out opportunities as early as possible. The Theta Model, with its five steps and assessment tools for individual founders and the team culture, does exactly that: It shines a light on the dark areas, highlights red flags early in the due diligence process, and keeps the screening pipeline thin and the process low-cost.

Early-stage investing is a risky business, but if investors do their homework properly, there should be no regrets. The reality is that we can no longer exclude from investment performance metrics the interior dimensions such as cultural values, behavior, joy, and personal happiness. If we choose to ignore the interior aspects, we choose to ignore the fact that reality has both an interior and an exterior. In investing jargon, this means that financial measurement criteria must be correlated with social, environmental, cultural, and behavioral factors, as well as individual interior development factors (i.e., ego, needs, values, emotions, moral standards). These interior factors can be measured, as we now know. All four AQAL quadrants are tetra-arising; none can be privileged or ignored without repercussions. The Integral Investing practice advocates, and therefore actively encourages, a healthier horizontal integration in terms of cultural, social, environmental, behavioral, and experiential perspectives, no matter which evolutionary altitude is considered.

Within the context of exponentially growing technologies, the next question is: How can we use, for example, artificial intelligence to support the application of Integral Investing to address grand global challenges in the future?

### 3.4 Scaling Integral Investing with Human-Centered AI

We saw that Integral Investing facilitates the fishing in a better pond which addresses the following three levers of increased prevalence for true positive investments (Fig. 3.30): integral sustainability, scalability, and explainability.

The overall explainability of the investment decision can be increased by explicating it using notions that human experts comprehend. For example, “the founder team is missing industry experience, is not complementing each other, and the market opportunity is too small.” The overall scalability of the investment process can be increased by making the screening and due diligence process more focused, and more efficient.
The main question is one of execution: How can the insights from the 360-degree track record be scaled and accelerated? How can the sensitivity and specificity be increased, while still recognizing a Unicorn when it is showing up? How can better decisions be made more efficiently and how can the process be scaled?

This is where human-centered and collective intelligence AI comes in handy.

One way to improve the decision-making process of investment managers is described by James Surowiecki in his book *The Wisdom of Crowds*. As it turns out, a well-managed group of experts can make better decisions than any single member if certain guidelines are met. These are the following:

- **Diversity of opinions**: Each individual group member must be an expert in his/her field and come from different backgrounds.
- **Independence**: Individual group member looks at the presented information asynchronously, anonymously, and independently from one another in order to form their own opinion. This elicits opinions from every participant including the shyest member of the group and avoids the premature building of herd mentality led by the most dominant individuals.
- **Decentralization**: Groups can collaborate even without meeting in one room (physically or virtually, which presents an advantage in today’s post-COVID-19 world).
- **Aggregation**: A designated moderator elicits input from all experts anonymously and summarizes the whole picture. Sometimes this can be as simple as calculating a mathematical mean or average.

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*Fig. 3.30* Three levers of increased prevalence for true positive investments: integral sustainability, scalability, and explainability

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- **Aggregation**: A designated moderator elicits input from all experts anonymously and summarizes the whole picture. Sometimes this can be as simple as calculating a mathematical mean or average.

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103 Surowiecki (2004).
The obvious technology to automate and scale such a process is Artificial Intelligence (AI). However, the current automated learning algorithms need large datasets for their training. And, even if they arrive at a solution, they are often unable to document, explain, or defend their results. Early-stage investing cannot apply such applications of AI because of a lack of data and the difficulties posed by the knowledge acquisition process from experts. Moreover, in order to support a decision-making investment group, an automated tool must be able to document and explain the reasoning behind a decision to “invest” or to “pass.”

Because we are dealing with human experts, we need tools that help moderate and manage a group decision-making process in an asynchronous and anonymous manner. We find these in a new branch of Artificial Intelligence called human-centered AI, also known as AI-assisted Collective Intelligence. In our forthcoming paper, *An Integral Approach to Sustainable Investing Using Human-centered AI*, Tom and I, together with Tom Kehler, the inventor of such an application, we describe how that works. Tom Kehler built AI systems already in the 1980s. He was the founder and CEO of IntelliCorp, one of the first commercial AI companies and makers of KEE, an object-oriented Knowledge Engineering Environment, and is an expert in the symbolic, constraint-based flavor of AI. Using modern statistical methods, such as Bayes’ Theorem for big data sets, Kehler’s latest company, CrowdSmart, built a collective knowledge acquisition method that uses Natural Language Processing (NLP) to generate as output a Bayesian Belief Network that associates propositions and quantitative scores to a predictive score. In the context of a start-up screening, it generates a representation of the collective judgment on whether the asset has the opportunity to create sufficient business results to support future investment and company growth or not. Kehler reports an impressive track record of CrowdSmart with an 85% prediction accuracy compared with the 20–30% prediction accuracy of traditional VC funds.

In conclusion, early-stage investing appears to be the ideal field of application for human-centered AI because:

- There is too little historical data available to train a deep learning algorithm.
- There is too little data available per test case.
- The know-how stands with the human experts and cannot yet be extracted and formalized efficiently.

The screening process is designed to identify innovative solutions, so-called “black swans,” and the evaluators must be a diverse group of industry experts, with “skin in the game” who care deeply about addressing the grand global challenges we face. Moving forward, human-centered AI can help accelerate, digitalize, and scale the implementation of Integral Investing and the Theta Model.

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104 Bozesan et al. (2020)
105 https://www.crowdsmart.io
3.5 Principles of Integral Investing

Tom and I acknowledge the severity of humanity’s global grand challenges (GGCs), particularly the existential threats such as climate emergency, biological and thermonuclear weapons, and unsafe exponentially growing technologies. The COVID-19 crisis has proven to us that current systems, including the political, economic, financial, and educational, to name only a few, are not well equipped to address the current GGCs in time to save humanity or the planet. This is unfortunate, as time is of the essence. Nonetheless, we believe that transformation is feasible, and that the necessary resources, knowledge, technology, leadership, and capital exist to make it happen. A mind shift toward world-centric levels of consciousness is, however, a mandatory requirement and a premise for immediate, united, and adequate global action. We are totally committed to doing our part to ensure the future of life and are guided in doing so by the following 21 key principles. Note that a repetition of what has previously been said is sometimes unavoidable.

**Principle 1: Have a Massively Transformative Purpose (MTP)**

We take an integrated view of the world and address the grand global challenges (GGCs) through our own integrally sustainable form of investing as described in Chap. 2.

**Our Massively Transformative Purpose (MTP)**

Our MTP is to inspire and empower other investors and company builders to join us in ensuring the future of life and wellbeing on our beautiful blue planet.

We believe, furthermore, that the development and deployment of safe and ethically sound exponentially growing technologies are crucial for the future of humanity and invest in those that address GGCs (Fig. 3.31).

What is your MTP? What keeps you motivated and driven? What makes you happy? What gives your life meaning that is uniquely yours? Why do you invest?

**Principle 2: Have a Moonshot**

We believe in the critical role that investing and company building can play in solving the GGCs. Our current, collective path needs steering in a different direction; we need a turnaround. The Oxford dictionary defines “turnaround” as “a situation in which something changes from bad to good.”[^106] Although we do not believe that the current investment, economic, and financial systems are bad, we do believe that they must evolve and transform to adequately address the GGCs in a timely manner. This is why we launched the investment turnaround, our moonshot, to achieve the next paradigm in investing.

[^106]: [https://tinyurl.com/y288jsj5](https://tinyurl.com/y288jsj5)
Our Moonshot: The Investment Turnaround

Our moonshot is the implementation of the investment turnaround. It is the specific application of exponential technologies toward achieving Integral Investing, the next paradigm in investing, namely integral sustainability.

It aims at implementing an investing paradigm rooted in the essence of all existence, the exterior reality, the material world, as well as interior realities such as culture, values, ethics, and morals. It is a reality in which financial returns are inseparable from environmental, social, cultural, and ethical impact, including individual joy and happiness. Our first goal is the integrally sustainable implementation of the UN SDGs within planetary boundaries by 2050.

Aside from our Integral Investing model for early-stage investing, another contribution to the implementation of our moonshot is the climate endowment initiative. Originally born out of conversations with members of the Club of Rome, the climate endowment aims to be an “urgent response to the climate crisis and to the European voters’ outcry for a green revolution. The aim of the climate endowment is to enable institutional investors to allocate more of their huge capital stock in renewable energy, new mobility, and related cleantech assets.”

107 https://aqalgroup.com/climate-endowment-fund/
It is important to keep in mind that the implementation of a moonshot requires a world-centric level of consciousness (see Chap. 2). We remember that according to evolutionary psychologists like Loevinger and Kegan, human beings evolve over the course of their lives from an egocentric level of consciousness to an ethnocentric/tribal, world-centric, or later mindset. At the egocentric level, the individual mindset is focused on the individual’s own success and the thinking is either winning or losing. The ethnocentric/tribal mindset is focused on the success of an individual’s own group. The world-centric mindset is focused on the healthy development of all humans whereby everybody wins. The next evolutionary level of consciousness is the Kosmos-centric mindset, which is focused on the healthy development of all life on Earth and committed to the flourishing of all life everywhere.

What is your perspective, your own world view? What is your own center of gravity? Where do you live most of the time?

**Principle 3: Make Transformation Feasible**

We are confident that humanity will muster the necessary political will, capital, mind shift, and resources in time to implement the Smart scenario outlined in *Transformation is Feasible*. If you look closely at the scientific research presented in that report, it becomes obvious that the implementation of the UN SDGs hinges on the successful return to safe planetary boundaries. As investors, we continue to contribute toward this critical transformation, just as we did with Entelios AG.

The 2011 Fukushima Daiichi nuclear disaster prompted Germany’s government to commit to and allocate significant capital toward the energy turnaround (*die Energiewende*). The energy turnaround represents a long-term structural change in energy systems and is a very ambitious plan to shift our reliance on nuclear and fossil fuel energy sources to a reliance on renewables. One major hurdle to moving forward with this is that the existing power grid that supplies our economy was designed to handle continuous energy produced by fossil and nuclear energy sources, rather than renewables, such as wind and solar, which are intermittent in nature. If we are to have a reliable and inexpensive energy supply in the future, we need robust solutions to the problems that are slowing us down. Thus, to provide a software solution to the problem, Tom and some friends started Entelios AG, which became Germany’s first demand response aggregator and was eventually sold to global leader EnerNOC, only 4 years after being founded. The climate endowment and our ultra-energy-efficient, sustainable NDC data centers are additional examples of our contribution to making transformation feasible.

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108 Loevinger (1977).
109 Kegan (1982).
110 Randers et al. (2018).
111 https://www.entelios.de/en/
112 https://ndc-datacenters.com/
What contribution are you making? What contribution could you make? We want to hear from you. Join us.

Principle 4: Follow an Investment Strategy

Tom and I are serial entrepreneurs turned investors who continue to build sustainable companies. Drawing on hands-on expertise that has evolved significantly since 1994, we have developed our own investment strategy (Fig. 3.32).

For every action we take and investment we make, we apply in-depth financial, economic, and thorough business know-how. We identify and apply our comparative advantage because we must protect our limited resources from being wasted. We consider financial sustainability to be as important as social and environmental sustainability. This is why we speak about integral sustainability. We have experience; we know what we do and do what we know. We have a stellar track record in investing and company building. We believe that humanity’s current challenges also present extraordinary opportunities—which we want to seize for the greater good. We believe in creating abundance through technology by addressing the GGCs and through the implementation of the UN SDGs within planetary boundaries. In an
exponentially growing complexity, we use Wilber’s AQAL map to simplify complexity in order to better understand and navigate the world. Our collective global challenges can only be addressed collectively and not individually.

What is your core investment strategy? How do you determine your comparative advantage?

**Principle 5: Have an Investment Philosophy**

When we started our investment and serial-entrepreneurship careers in 1995, we did not have an explicit philosophy for investing. We were excited about life, the future, and the opportunities we saw everywhere around us. We simply wanted to do what we do best and what felt right. We were both sick and tired of corporate life and often disagreed with internal politics and decisions. We also disagreed with the prevailing top-down control and command management styles and did not feel fulfilled in our executive roles. The time had come to move on and do something else. We focused on what would make us happy and started several companies, and the resultant extrinsic markers of success proved us right. Tom and I had been “personal-growth addicts” and “seminar junkies” since our early twenties, and we wanted to continue our path toward self-actualization. But this time, we wanted to include our interior growth in the process of exterior growth through company building and investing. Our exterior investment activities also had to be a direct reflection of our interior, vertical growth, our heart and soul. We wanted to self-actualize through the integration of all our activities, not just the financial, business, or philanthropic ones, but also our consciousness evolution. We called it consciousness leadership. In our investment and company-building activities, we wanted to use technology to fix the existing social and environmental damage and prevent more from happening, and we saw investing in integrally sustainable businesses as a unique vehicle to pursue that goal. Thus, we began investing in and building businesses that were sustainable in all ways: financially, socially, ethically, environmentally, and also in terms of team development and vertical growth.

We believe that the term *work-life balance* is a misnomer in twenty-first-century advanced societies. We are integral human beings, and we believe that we cannot really separate our work from our lives without serious consequences. In our experience, that is a recipe for unhappiness. Thus, we searched for a philosophy that would allow us to integrate all aspects of life and facilitate our individual evolution toward later stages of human development as well as higher stages of consciousness. Lo and behold, during one of the seminars we attended with Tony Robbins, he introduced us to Integral Theory, AQAL, and the work of philosopher Ken Wilber. Our search was over (Fig. 3.33).

We had found our investment philosophy, a *theory of everything*, an integration vehicle for all our endeavors. Rooted in evolution, it helps us integrate all of reality—the exterior as well as interior dimensions—in our investment decisions. It is a map that helps us simplify and navigate the complexity of reality while maintaining multiple world views and honoring the evolution of human consciousness from premodern to modern, postmodern, and post-postmodern structures of consciousness.
Have you found your investment theory? Does it align with your values and represent all aspects of your lived reality?

**Principle 6: Have a Proven Investment Framework**

After identifying an investment philosophy, we developed our own investment framework, which we call Integral Investing. This framework both includes and transcends traditional investing, traditional philanthropy, and impact investing alongside their theories, measurements, processes, and practice (Fig. 3.34).

We believe that the Integral Investing framework can provide the next evolutionary step for the future of investing because it provides a meta-theory and practice of investing based on consciousness evolution. It has worked well for us. Our track record speaks for itself.

What is your investment framework? What is your theory of change? What is your logic model? How do you map your theory of change in order to understand the impact of your investments? What is your focus/differentiation? What is your additionality? How is investing serving your own personal growth? How is investing serving the greater good?

**Principle 7: Communicate Your Ideals Efficiently**

We believe that doing good and doing well are not contradictory aims but rather reflections of an indispensable mindset that ensures the future of life and wellbeing in short, integral sustainability. We summarize and communicate this conviction
through our motto, the 6Ps: The Parity of People, Planet, Prosperity, all of which we integrate with our own Passion for life and in line with our ultimate life’s Purpose. We believe that equality, the parity of all five other Ps, is key to successfully leveraging the power of investing to ensure the future of life. We view ourselves as the custodians not only of financial capital but also, indirectly, of natural and human capital. That includes recognizing interior values such as purpose, joy, and happiness.

Do you have a motto for your investment activities? What is it? Psychologist Paul Watzlawik stated, “You cannot not communicate.” How do you communicate your investment thesis? Is it sticky? Is it fun?

**Principle 8: Be Smart About De-risking**

We de-risk our investment using the proprietary Theta Model that we have developed, refined, and successfully applied since 1995.

**The Theta Model**

The Theta Model is the due diligence process that applies the tools and methodologies of Integral Investing to de-risk investments with the intention of building integrally sustainable companies from the very beginning.

It is represented in Fig. 3.35 and is described in more detail in Sect. 3.2.4.

De-risking begins with the screening of the investment opportunity. However, once we have issued a term sheet, we begin the due diligence process with in-depth de-risking as described above. Figure 3.36 shows a summary of the risk considerations for each AQAL quadrant.

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113 http://scihi.org/communication-paul-watzlawick/
How do you de-risk your own investments? What tools do you use to de-risk teams and individual investees? Do you have your own de-risking model?

**Principle 9: Invest in the Advancement of Scientifically Proven Technology**

During the 2017 Upfront Summit, American investor and entrepreneur Mark Cuban insisted on the role of exponential technologies for our future by stating “Artificial Intelligence, deep learning, machine learning—whatever you’re doing if you don’t understand it—learn it. Because otherwise you’re going to be a dinosaur within 3 years.”

We could not agree more and this is why we invest

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**Fig. 3.35** Smart de-risking with the theta model

| RISK FACTORS DESCRIPTION |
|--------------------------|
| **Financial and legal risks** (LR quadrant) |
| Risks may occur through |
| • Timing (typical early stage/VC risks) |
| • Capital (hybrid sources of capital with different return requirements), currency risks |
| • Technology, market/country risk (political), competition, operational risks, exit risk |
| • Legal, regulatory (incl. political), transference/change of ownership through growth |
| • Combined risk and combined returns, unquantifiable risk |

| **UN SDG within PB Risk** (LR quadrant) |
| The risk criteria include |
| • Lack of standardized criteria for measurement and reporting |
| • Mission drift, reputation loss through failure to meet the impact mission, or |
| • Failure to balance UN SDG in PB/Impact criteria with profit-only criteria, moral hazards |

| **Team Risk/Corporate Culture** (LL quadrant) |
| Research shows that 80% of the risk is associated with dysfunctional teams including: |
| • Absence of trust |
| • Fear of conflict |
| • Lack of commitment |
| • Avoidance of accountability |
| • Inattention to results |

| **Individual Risk** (UL & UR quadrant) |
| Key people risk associated with personal profiles, levels of consciousness including |
| • Collaborative capacity |
| • Contextual thinking |
| • Handling cognitive complexity and coherence |
| • Developmental risk (perspective-taking, -seeking, -coordination) |
| • Decision-making process and abilities |

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Fig. 3.36 Risk factors by AQAL quadrants in early-stage investing

How do you de-risk your own investments? What tools do you use to de-risk teams and individual investees? Do you have your own de-risking model?

Principle 9: Invest in the Advancement of Scientifically Proven Technology

During the 2017 Upfront Summit, American investor and entrepreneur Mark Cuban insisted on the role of exponential technologies for our future by stating “Artificial Intelligence, deep learning, machine learning—whatever you’re doing if you don’t understand it—learn it. Because otherwise you’re going to be a dinosaur within 3 years.”

We could not agree more and this is why we invest
in scientifically proven solutions to real-world problems. We do not invest in “shoulds,” “nice to haves,” or “solutions looking for a problem.” Instead, we invest in real-world assets (Realwirtschaft) and scientifically proven ideas. Moreover, we invest in highly qualified and integrally acting people who advance technology in the service of humanity. We believe in the ingenuity of the human mind to solve critical problems, even if it takes time. And we believe in the evolutionary process that brought the universe and humanity to where we are today, which, as discussed in Chap. 2, humans initially thought was linear and local. As we conquered space and the moon, humanity began thinking and acting globally, supported by exponentially growing technologies. And as more and more of us Awaken to the global impact of human activity, smart and wise actions are required. Tom and I are exponential thinkers, yet we act locally for the greater good. We believe that thinking exponentially and globally is crucial for empowering ourselves to address the current existential threats.

As discussed in Chap. 1, exponential growth is rather difficult to comprehend, but we cannot afford to not comprehend it. Our very survival depends on it—the COVID-19 crisis has proven it to us. Another, much more complex example is the rise of sea levels. These levels have risen an average 3.31 mm/year between 1993 and 2017 due to thermal expansion, ocean warming, and melting of the glaciers in Greenland and Antarctica, which trap about 64 meters of sea-level rise. A closer look at satellite data reveals that we are actually dealing with a doubling of the rise in sea levels: from 1.5 mm/year in 1993 to 3.2 mm/year in 2005 and 5 mm/year 2017. This is exponential growth. This means that sea levels could continue to rise by a couple of meters by the end of this century alone even if we stop the emission of greenhouse gasses right away. Bio-hacking and unsafe AI hacking (see Chap. 1) are another example of problems we must address before it is too late. These two examples may seem superficially divorced from each other, but as integral investors, we must leverage scientific proof and technical advancement to address each of them. But those advancements must be safe and beneficial and support the future of life. In short: We must invest in caring cultures and societies.

How do you use scientific proof in your investments? How important are, for example, patented technologies to you? Are you a signatory to the Asilomar AI Principles? How do you protect your privacy, freedom, and your human rights from the unmitigated invasion through unsafe AIs?

Principle 10: Act Boldly Now
We are arguably living through some of the most exciting times in human history, and Tom and I believe that we are very privileged to be alive in this day and age. Conversely, we have never previously faced such pressing challenges. To preserve what we, humanity, have, we must act now. As a species, we have never before faced such necessity or obligation. As investors and company builders, we act boldly now because we feel deeply responsible for the integral impact of our portfolio companies. Therefore, we intend to build integrally sustainable companies that fulfill our MTP from the very beginning and are in line with our moonshot (Fig. 3.37).

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115See https://cnes.fr/fr/climat-laltimetrie-spatiale-scrute-la-montee-des-eaux
Our Integral Investing framework, together with the Theta Model as a de-risking process, helps us act now so we:

- Ensure the future of life on our beautiful blue planet.
- Make the transformation feasible by implementing the UN SDGs within planetary boundaries.
- Implement innovative business ideas that solve real-world problems.
- Provide solutions in specific sectors that reflect our expertise, including exponential technologies, climate change, health, wellbeing, lifestyle, cultural innovation, and megatrends.
- Have the ability to massively scale into a worldwide marketplace with a positive impact.
- Attract dedicated, resilient, and integrally acting partners, players, company builders, and management teams.
- Ensure high morals and ethics for the greater good.
- Help create corporate cultures and societies based on higher values and later stages of consciousness.
- Support the development of integrated taxonomies as well as transparent measurement criteria, and integrated reporting.
- Have fun, experience joy, and can self-actualize through our activities.

How do you act boldly now? What is your guiding light? What emboldens you to act?
Principle 11: Never, Never, Never Give In
During a 20-minute speech at Harrow School on October 29, 1941, Churchill encouraged his audience to “never give in. Never give in. Never, never, never—in nothing great or small, large or petty—never give in, except to convictions of honor and good sense. Never yield to force. Never yield to the apparently overwhelming might of the enemy.” The particular enemy Churchill was referring to was Nazi Germany, but Tom and I think his advice applies in general to a life well lived. This is why we have adopted and followed it even when our circumstances were less than ideal. We imagined, believed in our vision, and persevered.

Relatively early in our careers, we worked closely with Larry Ellison, Oracle’s founder and a great visionary whose dream was to ultimately sell all Oracle’s products via the Internet. Today this is normal; back then it was just a vision. Oracle’s German managing director at the time did not share Larry’s vision. He not only lacked an understanding of the importance of the Internet for the future of humanity, he also was afraid of cannibalizing his current business. He was not willing to disrupt his own business to make room for the future and did not see that the Internet was inevitable. (This attitude can be seen in many of today’s traditional industries, such as the automotive industry, which is transforming too slowly from internal combustion engines to hydrogen or battery-driven ones.) As I had already experienced first-hand the impact of this kind of lack of vision and flexibility with a previous employer, I knew that I had to follow my convictions, my beliefs, my intuition, and my dreams. They pushed me over the edge and were ultimately pivotal in my decision to become an entrepreneur myself. I could never give in, and thus I dived into the Internet wave into which humanity as a whole was eventually catapulted in the twenty-first-century exponential tech era.

Tom and I are convinced that now more than ever, we must believe in our vision, imagine the future, and disrupt ourselves before circumstances or other people do it for us. We can do that by imagining new technologies and how they will create new jobs. In the mid-1990s, few people could have imagined the new jobs that have been created by the Internet—becoming a web designer or an Internet entrepreneur by selling programming skills, books, software, clothing, furniture, etc. over the Internet—the new ways of working created by the Internet—video conferencing with colleagues on the other side of the world or working from home while maintaining contact with clients and colleagues working either from home or in a brick-and-mortar office—or the prevalence and social impact, both negative and positive, of social media, which can both harm and enhance lives. This was all previously possible only in science fiction movies. In a similar way, Tom and I feel a responsibility to continue to imagine, create, and invest in new companies that contribute to addressing our global grand challenges. During a commencement speech at Princeton University in 2010, Amazon founder Jeff Bezos asked his audience if they would follow their passion after graduation or if they would let inertia be their

116https://www.youtube.com/watch?v=L90BCEVH41U
guide through life. He wanted to know what kind of life they planned to choose. Will it be a life of ease or a life of service and adventure, he asked? Will they guard their hearts against rejection, or will they continue to fall in love no matter what, he inquired? Will they be kind, relentless, and the architects of their own future, or will they play it safe, give up, and be cynical, he wanted to know.

What do you believe in? How do you imagine your future and that of humanity? What will you never give up? What will you never surrender to protect your convictions about “honor and good sense”?

Principle 12: Provide Certainty Where There Is Doubt
As humanity’s elites are riding the waves of exponentially growing technologies that are transforming human life as we know it, it is easy to worry about the future. Predicting the future is essentially impossible because there are so many unknowns. The ascent of more oligopolistic market structures could potentially replace the current more liberal economic world order and lead to rising inequality, higher unemployment, and labor displacement at large scale. The truth is, we do not know what will happen or how it will happen. We cannot know. Forecasting the future of work, for example, would be like asking a Neanderthal to predict the profession of a pilot or website developer. And yet, there is so much we can do based on the knowledge and intuitions we already have. As investors and company builders, we are in a position to ease the way into the future by creating not only new technologies and better solutions to global problems but also more employment and new jobs. Research performed for the Obama administration identified four job categories that could be positively influenced by the growth of AI technologies, for example. They include areas where people could:

- Actively engage with existing AI technologies to undertake tasks such as cancer detection, communication, and therapy;
- Have the opportunity to develop new AI technologies, including training AI systems to conduct liberal arts, social sciences, and ethical evaluations, to name only a few;
- Supervise AI technologies at work, including for quality control, evaluations, avoiding AI divergence from original tasks, and resolving competing priorities; or
- Facilitate societal shifts that accompany new AI technologies in response to evolving paradigm shifts, including, for example, dramatic shifts in the design of infrastructure and traffic laws.

In all four categories, humans could perform tasks in areas where we are much better than AI systems. As exponential investors and company builders, we invest in entrepreneurs who can solve real-world problems and bring their ideas to life by experimenting, reinventing, and disrupting themselves. Such exponential

117 https://www.youtube.com/watch?v=vBmavNoChZc
118 https://obamawhitehouse.archives.gov/sites/whitehouse.gov/files/documents/AI.pdf
entrepreneurs understand the importance of quick action, rapid iteration, and constant experimentation to come up with breakthrough solutions to formerly impenetrable challenges. They push tirelessly to reinvent and disrupt themselves, focusing on the future and leveraging the exponentially growing technologies in the interest of achieving even greater goals.

This is how we try to provide certainty where there is doubt and hope where there is despair. We are mindful optimists, use scientific research, leverage exponential technologies, empower exponential entrepreneurs, and apply our lifelong investment and company-building expertise to show the path to a sustainable and abundance-filled future for us all. We put our money where our collective mouth is. You too have the ability to materialize your dreams.

How do you offer hope where there is only despair? How do you point a way forward?

Principle 13: Recognize the Critical Role of Capital in Transformation

Henry Ford is known for his ambition “to employ still more men, to spread the benefits of this industrial system to the greatest possible number, to help them build up their lives and their homes. To do this we are putting the greatest share of our profits back in the business.” His socially oriented attitude was not universally endorsed by his shareholders, least of all the Dodge brothers. They won a suit they brought against him when in 1919 the Michigan Supreme court upheld the order of the lower court that an extra dividend of US$19.3 million be paid to Ford’s shareholders. This court decision is often cited in “support for the idea that corporate law requires boards of directors to maximize shareholder wealth.” One hundred years later, profit remains the main driver and generally sole measure of success of an organization. But times are changing—and so is our collective mindset, as we saw in Chap. 2.

We believe in the critical role of traditional capital to address the GGCs. However, to achieve that, we work hard at extending our understanding and definition of capital, which is reflected in our Integral Investing framework. Our notion of capital transcends financial capital and includes natural capital, human capital, and social and cultural capital, but also, for example, cognitive, emotional, and psycho-spiritual capital. For example, Sean Esbjörn-Hargens’s current research and MetaImpact Framework foresees four types of impact, ten types of capital, three types of data, and four bottom lines all of which could help advance this field in the future.119

What is your understanding of capital? How do you apply it to serve yourself and others?

Principle 14: Invest in People, Not Ideas

Bill Joy, co-founder of SUN Microsystems, is attributed with saying “No matter who you are, most of the smartest people work for someone else.” This is why attracting brilliant people is critical for anyone starting a successful company. The team is key, and it is one of the main features of our Integral Investing framework (Fig. 3.11).

119Esbjörn-Hargens (2018); See https://www.metaintegral.com/
Netflix is a good example of an integrally acting organization whose core philosophy supports a culture that values “people over process” and honors “integrity, excellence, respect, inclusivity, and collaboration.” They built a culture that encourages “independent decision-making by employees, [who] share information openly, broadly, and deliberately, are extraordinarily candid with each other, keep only our highly effective people, [and] avoid rules.” Netflix’s philosophy was inspired by Antoine de Saint-Exupéry’s *The Little Prince*, in which we are told that someone who wants to build a ship should inspire a longing for the sea in people instead of giving them orders to gather materials and get to work (Fig. 3.38).

In a similar way, Tom encourages our teams “not to tell the time, but to build the clock.” He learned that from his professor Jim Collins when he took Jim’s class on entrepreneurship at Stanford Business School in 1992/93.

To do that, we invest compassionately and primarily in people, not in ideas. Our experience has reinforced the old adage that “ideas are a dime a dozen” and taught us that 80% of the risk in any endeavor lies with the people involved. Therefore, we invest first and foremost in people because good people can always implement a good idea whose time has come. We identify them using our Theta Model and the tools described in Chap. 2.

How do you define a good team member? How do you find the right people? More importantly, how do you develop a good team member? What about a good team?

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120 https://jobs.netflix.com/culture
121 https://www.jimcollins.com/concepts/clock-building-not-time-telling.html
Principle 15: Build Integrally Sustainable Organizations

The World Economic Forum runs a poll where people can post a video to express their own perspective on some of the most pressing questions associated with current global grand challenges. Some of the questions posted to date are: How do we save the planet without killing economic growth? How do we make sure technology makes life better not worse? Can you be a patriot and a global citizen? How do we create fairer economies?

The suggestions and solutions offered by people like Jacinda Ardern, prime minister of New Zealand; Christine Lagarde, managing director of the International Monetary Fund; and naturalist Sir Richard Attenborough are as diverse as the individuals themselves. As you watch the videos, it soon becomes obvious that the determination, solutions, and resources are available to bring about the necessary change at systemic levels, whether they involve continued growth while addressing inequality, safe AI, or ensuring the future of work. In A Finer Future, Lovins et al. show how “an economy in service of life” can be created to enhance human wellbeing and transform our systems—running the gamut from agriculture to transportation to finance—through a circular and regenerative economy, enlightened entrepreneurialism, innovative policy, and, of course, technology.

As investors and company builders, we focus less on macro-economics and top-down systemic change and more on the micro-cosmos of economics. We experiment with and build the progressive types of organizations that get the results Lovins et al. refer to. We build teal-type organizational structures and cultures that use exponentially growing technologies, Ismail et al.’s ExOs, with the intention of making the transformation required to address the GGCs feasible (Fig. 3.39). Can you imagine what would occur if every start-up or regular company decided to measure their success not only by their financial bottom line but also by a multiple bottom line (for example, the 6Ps) to implement the UN SDGs within planetary boundaries by 2050?

We build integrally sustainable organizations from the very beginning by making sure that the UN SDGs are applied within planetary boundaries to ensure the future of life and wellbeing. We focus on building integrally sustainable companies that are led by integrally informed management teams. We believe that trust and wisdom are foundational to ensuring the future of life. We build integrally sustainable structures, systems, practices, and processes, as well as cultures of trust and wisdom in our investees’ and our own organizations.

How do you ensure sustainable abundance creation through your investments? What type of structures, processes, and practices do you build in the organizations in which you invest? What kind of corporate culture do you support? How do you measure success and how do you ensure organizations stay on track?

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122 https://www.weforum.org/globalization4/
123 Lovins (2018).
Principle 16: Take Pride in Long-Term Investments
The Dutch Golden Age spans roughly the entire seventeenth century, when the Netherlands became one of the most prosperous nations in Europe, if not the most prosperous, after gaining independence from Philip II of Spain. Increased trade development during this time was accompanied by the development of a portrait culture, as wealthy merchants began commissioning painting jobs to painters who had previously struggled to find work. It is estimated that during the Golden Age, between 750,000 and 1,100,000 portraits were painted, with Rembrandt being one of the more famous artists of the time. The culture of portrait painting was eventually disrupted by photography in the early nineteenth century. That in itself rendered many painters jobless, but without the technological advancement of photography, there would be no Van Gogh, no Impressionists, no Picasso, no Expressionists, no modern painters, I dare say. It took a long time, but once photography was producing more accurate representations of reality, painters found themselves surplus to requirement—unless they could transform what they did and how they did it. Art lovers who were open and progressive recognized this change in direction, and those who had the confidence and foresight to purchase a Picasso, for example, in the early days, ultimately made a fortune. In a similar way, we recognize today where the trends are going and invest long term (Fig. 3.40).

In their January 2019 Huffington Post article, “This Could Be the Biggest Scandal of the Climate Change Era,” Sandrine Dixon-Declève and Anders Wijkman request

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124 Ekkart and Buvelot (Eds.) (2007, p. 228).
125 https://en.wikipedia.org/wiki/Nic%C3%A9phore_Ni%C3%A9pce
that investments be made in order to transform energy systems and “stop excessive waste by promoting reuse, recycling and reconditioning of products and materials, and [to] scale up ways to use land to absorb rather than emit carbon dioxide.”

Their investment recommendations favor, for example:

- Tripling investments in large-scale reforestation in developing countries
- Incentivizing farmers to sequester carbon in their lands
- Encouraging research, development, and innovation of low-carbon solutions
- Promoting broad-based collaborations between industrial sectors, local and national governments, and investors
- Advocating disruptive technologies that provide solutions “for sectors where emissions are most difficult to eliminate, such as agriculture, aviation, shipping, aluminum, steel and cement”
- Building new infrastructure, retrofitting buildings, and decarbonizing energy grids

This call for investment opportunities is very much in line with programs being invoked by progressive community leaders. By July 29, 2019, for example, more than half of local authorities in the UK had declared a climate emergency. In their investment plans, they state that they intend to:

- Retrofit buildings to make them more energy efficient
- Decarbonize the power grid
- Introduce low-carbon heating
- Electrify transportation

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126 Dixon-Declève and Wijkman (2019).
127 https://tinyurl.com/y4mnfyqu
• Address excessive waste and encourage recycling and overhauling of products and materials
• Use land for carbon sequestration

Needless to say, such investments provide extraordinary business opportunities. According to research by PricewaterhouseCoopers\textsuperscript{128} and the Business and Sustainable Development Commission,\textsuperscript{129} the implementation of the UN SDGs “opens up US$12 trillion of market opportunities in the four economic systems . . . [including] food and agriculture, cities, energy and materials, and health and wellbeing.”\textsuperscript{130} These industries represent about 60\% of the real economy, but in order to make the transition feasible, they would have to implement the UN SDGs within planetary boundaries.

As integral investors acting in the exponential era, we try to unlearn the old; keep an open, beginner’s mind; expect big surprises; and put ourselves in a position in which we can identify and harvest the world’s best ideas to help us make the transformation feasible. Within this process, we invest long term and look mainly for ideas that:

• Are small but exponentially impactful in an integrally sustainable way
• Have the potential to accelerate change in a significant manner
• Are innovative
• Are disruptive and push institutions and systems to change significantly for the good of all
• Can blend with others to deliver massively compounded solutions that can be distributed in a sophisticated manner
• Have the potential to be applied in new ecosystems as a catalyst for reinventing new institutions such as education, infrastructure, banking, finance, government, healthcare, and other key organizations, etc.

We take pride in making long term, meaningful investments that generate abundance for all and ensure the future of work and the future of life.

What types of investments make you proud? In what do you invest long term?

**Principle 17: You Can Only Achieve What You Measure**

To fulfill our self-imposed Integral Investing mandate, we measure the activities and outcomes of our investments on an ongoing basis. We provide sustainable integration between traditional investing criteria that ensure financial sustainability and impact investing measurements. We have adopted the impact investing definition employed by the Global Impact Investing Network (GIIN): “Impact investments are investments made into companies, organizations, and funds with the intention to

\textsuperscript{128}See https://tinyurl.com/y2xrk2kz
\textsuperscript{129}See https://tinyurl.com/y5jpffxa
\textsuperscript{130}See https://tinyurl.com/y5jpffxa
generate measurable social and environmental impact alongside a financial return.”

Tom and I use existing measurement criteria and also develop our own metrics as needed. Very early on we began to integrate rigorous financial and legal due diligence criteria with social, environmental, governmental (ESG criteria of the UN PRI) criteria, in addition to cultural, behavioral, ethical, and psychological factors. When the UN SDGs were launched in 2015, we added those too; and following the Transformation is Feasible report to the Club of Rome in October 2018, we started focusing on the implementation of its Smart scenario. Implementing the UN SDGs within planetary boundaries makes sense on many levels. But finding the best way to measure integral impact is hard work, especially while building integrally sustainable companies that are successful and thrive on a global scale. The current work of the European Commission on sustainable EU policies is a step in the right direction. But it is only a step. We need to move fast and begin to eliminate the current linear, slow response to the exponential threats coming from climate change and exponentially growing technologies including unsafe artificial intelligences.

As we looked more closely at the world through an integral lens, we realized we need multiple bottom-line measurement criteria. What exactly does that mean, you may be asking yourself.

Not too long ago, I spoke at a women investors’ conference in San Francisco about measuring and de-risking early-stage investments. The speaker before me had talked about the weak overall performance of angel investing and venture capital in general. She gave a good overview of her own expertise, offered a few tips on the due diligence process, and ended by saying, “I hope you are not scared” while projecting a final slide portraying a frightened-looking comic figure. The audience, made up of mostly novice investors, was very attentive and took lots of notes, but the panic in their eyes was obvious. When I took the stage, I felt compelled to ask the audience: “What if today was the last day of your life? What would you rather do: continue to sit here, or do something radically different from this?” Immediately, the room fell silent. After a short pause, I said, “If you are still sitting here, then I assume that you are living a life of purpose and there is no other place that you would rather be than here. If not, get up and go do what fulfills you, because it is very likely that you will not find your fulfillment here in this context.” My own radical departure from traditional investing started with a call for answers to essential questions that are key to measuring success from an Integral Investing perspective. Why? Because these are the hidden determinants for success and they must be brought into the open as early as possible: the interior factors, both individual and cultural, are the most important driving forces you will encounter (see Chap. 2) (Fig. 3.41).

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131 https://thegin.org/impact-investing/
132 So and Staskevicius (2015).
In our view, success is first and foremost an inside job—the only legally acceptable form of insider trading, if you like. Nobody but you can decide whether you are successful or not.

Due diligence in investing starts with inner due diligence, which for us is expressed via three questions: (1) Am I having fun with what I am doing? (2) Am I making a difference through my work? (3) Am I creating abundance for all, or am I just making money, which I can neither eat nor drink?

**Principle 18: You Cannot Not Invest**

As we saw in Chap. 1, daily life appears more complex every day, despite the conveniences of modernity. Between exponentially growing technologies, political polarization, overpopulation, refugee crises, and the climate crisis, we are constantly faced with the need to balance our time between making a living and ensuring we have a life worth living. It can all seem overwhelming, even impossible, and it is easy to fall into the negativity trap set by mass media reports about instability, disasters, and uncertainties, all designed with advertising revenues in mind. Negative news seems to sell better than positive, which makes sense if you are familiar with the concept of negativity bias,\(^{133}\) and so negative stories form the bulk of daily broadcasts and drive apocalyptic deliberations. Rather ironically, negativity bias evolved as a survival mechanism.\(^{134}\) In modern times, though, it can lead to psychological disempowerment, fear of the future, hopelessness, aggression, political and economic powerlessness, and eventually assault on democracy. But if we

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133See, for example, Kahneman and Tversky (1982).
134Kolb and Whishaw (2003, pp. 238–239, pp. 532).
consciously decide to look at and honor reality, we can circumvent negativity bias and apply a more constructive lens.

After our first IPO, Tom and I, who were in our late thirties at the time, began asking ourselves what we should do with the rest of our lives and we should use the gifts that were bestowed upon us to serve humanity? We decided that the sky was the limit in terms of what we could do, and we knew that we had to make different choices about how to live from then on. We had worked so hard to get to where we were, and changing our old habits was no easy task. Up until that point, we had been driven by a need to make money; now we also wanted to start making a difference. We could no longer compartmentalize our lives into working hard during the week and donating money, outsourcing our philanthropy, at fundraising events on evenings and weekends. But how could we rationalize our dual existence? Remember Watzlawick’s assertion that “you cannot not communicate”? Drawing on this, Tom recognized that “you cannot not invest.” Investing is very personal: It all starts with the individual. Subsequently, Tom and I believe that everybody is an investor because we all influence the economy through our purchases, votes, work, commitments, knowledge, preferences, love, and caring, etc. Consequently, the market has no intentions—only people do. We are the market. The free market does not really direct or control everything. Concepts and systems like investing, finance, trade, economics, politics, or money have no raison d’être or intrinsic value in and of themselves. They have been created by people for people. They reflect the zeitgeist and what people treasure. And what people treasure changes continuously.

We believe that the GGCs are the result of outdated systems created by outdated mindsets. We believe these systems no longer serve humanity and that Earth needs us to have world-centric mindsets. Because “you cannot not invest,” join us and let us together lead the way in creating new investment and business systems that reflect the new zeitgeist. Like Peter Diamandis, we believe that the best way to make a billion dollars is to positively impact “a billion people.” Our means to impact a billion people is to pave the way toward integrally sustainable investment and business systems that ensure the future of life and wellbeing for all.

How consciously do you invest to ensure the future of your children, their children, and humanity as a whole?

**Principle 19: With Privilege Comes Responsibility**

On World Water Day in March 2017, Tom and I participated in the Watershed Conference. It was jointly organized by the Vatican’s Pontifical Council for Culture and the international Club of Rome. An audience with Pope Francis was included. Watershed was a global dialog inspired by the Pope in order to secure fresh water for future generations at a time when diminishing safe water supplies threaten economic development, political stability, and public health due to high demand from agriculture, industry, and expanding cities. We all gathered around 6:30 in the morning at one of the main towers of the Vatican and were ushered into the Piazza San Marco,

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135Diamandis (2018); https://tinyurl.com/ya7kbeq5
where we were assigned seats close to the Papal chair. When the popemobile appeared in the piazza, people became very excited. The Pope motioned the driver to stop and stepped out of the vehicle, walking toward a bunch of kids who greeted him very enthusiastically. Pope Francis invited about eight of them into his white popemobile, and the convoy moved on, the people inside the vehicles waving while the crowd continued cheering. Then the Pope stopped again, this time in front of two rows of people in wheelchairs, whom the Pope blessed individually. And so on. Later we learned that much to the horror of his security guards, Pope Francis values connecting with and blessing people more than he worries about the safety of his own life. Why? Because the values that he stands for never die; they only increase. Pope Francis keeps an open heart and an open mind because he knows that his values are as old as humanity and cannot and will not end with his own life. Through our actions, we hope to contribute toward the evolution of consciousness. We believe that higher ethics and morals pave the way for us to do this.

We are part of the post-postmodern generation that seeks to ensure the future of life and to integrate financial sustainability with the ideals of the so-called Cultural Creatives of the late 1960s. The integration of sound financial, economic, environmental, governance criteria with geopolitical sustainability for the benefit of all has thus become a must. But at the dawn of artificial intelligence, we must not lose sight of the need to safeguard our privacy. At a recent conference in Silicon Valley, I heard Peter Diamandis say that “privacy is gone.” I reject that and I will fight to protect my human right to privacy until my dying day. Having grown up in communist Romania where “the walls had ears,” I struggle greatly with the prospect of my life being laid bare to Alexa, Siri, and their siblings. People must earn the right to be privy to my innermost life. As we saw in Chap. 2 there are various stages of evolution and levels of consciousness. Yet, it appears that any cognitively smart AI programmer can begin to develop AI systems without any due diligence checks on their levels of consciousness or moral and ethical understanding. We must take charge to ensure that a Gandhi, not a Hitler, takes the decisions about humanity’s future. Elon Musk has repeatedly stated his worries about the dangers and implications of climate change, a potential third world war that could alienate human civilization, and the negative impact of AI, which he, an intimate insider, considers more dangerous than “nuclear warheads.”

I could not agree more, because I know what it means to live in fear. As an emigrant who was born and raised in communist Romania under Ceausescu’s dictatorship, I am amazed to be living in a society now where people willingly subject themselves to constant surveillance. Users have allowed Siris and Alexas to listen in through their smartphones and other devices. We have given them the right to listen to our lives. We have agreed to give them our data in exchange for some service we want. Many of us recognized that the only way to improve the technology was to expose it to more and more human conversation. But what we did not know, certainly in the early days, was that not only are they really listening in, but they are

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136 https://www.reuters.com/video/watch/idNJw?now=true, min 0:42.
also using our information without our permission. And even now that we do know more about what is going on behind the scenes in terms of surveillance, we are still blithely using the technology.\footnote{https://tinyurl.com/y687h4fx}

AI truly has the potential to create an Orwellian system, and we should be very discerning about how we use it. The vast amounts of personal data currently being generated by new medical technology are already challenging the way we think about privacy and data sharing. I demand to be asked whether or not I want to share my data with anyone—or anything. Moreover, if we do decide to share our data with some company or individual, we should be paid for it, because they use it to make money and we should share in that abundance. High ethics and morals take on an unprecedented level of importance if we want to achieve a proper balance between maximizing the potential of these technologies and safeguarding against the privacy and security risks that come with them.

I truly believe that we are living during some of the most miraculous times in human history, but, as we all know, it is not without its challenges. Our biggest task, therefore, is to avoid sliding into contentment and to get involved in co-creating an ethically and morally sound global society in which we all want to live.

What is the biggest global problem that you want to solve, change, and bring an end to because you can? What do you value? How do your investments reflect and support those values? How do you use your talent, resources, and technology to solve the problems that inspire you and give your life a purpose? How do you ensure the highest possible standards of ethics and morals?

**Principle 20: Self-Actualize Through Investing**

Tom and I have lived in Silicon Valley on and off for more than 30 years since 1984. We began our investment activities with the launch of Mosaic in 1993, with BayNet World becoming our first investment and start-up activity in Silicon Valley. With its multiple of 240× and its IRR of 8% over 25 years until its final exit in 2019, for many reasons BayNet World did not become what it could have, a tremendous dot.com success. It taught us a lot. BayNet World started our investment career in exponential technology. It was a wonderful launchpad for a life well lived in line with our talents and preferences. Today we look at investing not as a profession but as a way of life. We intentionally seek the good in everything. We try to live an integrally informed life guided by an integral life practice (see Chap. 2).

Over the years, we realized, and learned “on the job,” that investing is a tricky trade; if done properly and professionally, it can be life-changing and extremely rewarding not only financially, but also in terms of personal growth. Investing and company building can be a wonderful platform for self-actualization, as it has become for us. We love exponential technology and we love to invest in the frontiers of innovation. Investing is a path toward self-actualization, and we seek short-term flow and long-term meaning through our investment activities. This is why we do what we do. We believe that there is always a solution to a problem when you are
committed to a positive outcome, even if it takes time. The question is how much you want to contribute. Imagine you are 80 years old and reflecting back on your life. What kind of life will you have lived? In the end, we are the sum of our choices. We decided to follow the advice of our dear friend Tony Robbins to make our lives a masterpiece that we will be proud of, regardless of what anyone else thinks of it.

What gets you out of bed in the morning and keeps you up at night? Why do you invest? What makes you happy long term? What gives you pleasure? Who do you want to be at the end of your life? How do you want to be remembered?

**Principle 21: Practice Humility**

Chinese sage Lao Tse, author of the *Tao Te Ching*, one of the wisest books ever written, wrote that “the more you know the less you understand” and insisted that “not knowing is true knowledge.” This is why he taught only three things: simplicity, patience, and compassion. We could not agree more. For example, Einstein demonstrated through his special theory of relativity that mass and energy are interchangeable and formulated it as $E = mc^2$. This theory is one of the most advanced in the history of physics, and yet it has become a symbol for simplicity. In a similar way, Tom and I find Ken Wilber’s Integral Theory provides a map of reality that helps simplify its complexity. This is why we apply it within the context of investing and company building. It helps us to understand, navigate, and address investing through a multi-perspectival lens, and to invest patiently in an exponentially evolving universe. If you have ever watched a plant, a tree, or a child grow, you will know that nature is the manifestation of ultimate patience. While witnessing the GGCs and the immense suffering in the world, we cannot help but feel deep sadness and pain in our hearts. Caused by fear and greed, the “suffering seems often cruel, unnecessary, and unjustified—reflecting a heartless universe . . . but then our hearts open . . . [and] we want to help.” This is compassion. This is the willingness to become vulnerable, to open the heart to pain and other sufferings, both our own and others’. And so, Tom and I practice compassion. Not because it is easy, but because it is hard. We believe that living in the unknown keeps the door open to new insights, new developments, and new wisdom. More importantly, while we trust science and scientific research and allow ourselves to be guided by progressive models of the world, we do not follow anyone, because “the moment you follow someone you cease to follow truth.”

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138 Lao-tzu (1988, #47, #71, #67).
139 Dass and Bush (1992, pp. 3–4).
140 This quote has been attributed to Krishnamurti. Retrieved 1 August 2019, at https://tinyurl.com/y554peme
How do you open your own heart? How do you show compassion to yourself and others? How do you integrate the wishes of your head with the desires of your heart? How do you remain humble?

3.6 Summary of Chapter 3: A Look at the Future

In a conversation on artificial intelligence with Elon Musk in late 2019, Alibaba’s founder Jack Ma stated that he is “quite optimistic” about the future. Ma insisted that only “college people are scared of AI, street-smart people [like him] are not.” AI, Ma continued, can help people gain more self-confidence because it will allow them to begin to understand themselves and each other better: When “people know themselves better they will be smarter and will be wiser” and with that they can begin to improve the world and “make life more sustainable.” Musk countered by proclaiming Ma’s statements to be “famous last words.” In spite of Musk’s own innate optimism about AI and his “pro-Earth” attitude and action to make life more sustainable through electric cars (Tesla), sustainable energy (SolarCity, Gigafactory), and sustainable housing (Tesla Solar Roof), he also warns that we should not underestimate the future capabilities of AI or the potential impact of those capabilities. He emphasized that humans are failing to fully grasp the full extent of AI’s power and ability due to the exponential speed of its development. Musk views humanity as a “biological bootloader for digital superintelligence” in that human biology was essentially the small but crucial piece of code required to jump-start the AI revolution. He also believes that we must take action to ensure the continuation of human consciousness in the future, even if that means humans becoming an interplanetary species. On the surface, their arguments may sound radically different, but in my view, both Ma and Musk basically agree on the fact that we require a shift in mindset if we are to address global challenges—a mindset that has outgrown the current ego- or ethnocentric center of gravity and that operates from a global, world-centric, or even integral view of the world. The COVID-19 pandemic is undoubtedly teaching all of us a hard, and overdue, lesson. Will we heed it?

The Future Is in Our Hands

With or without digital superintelligence and other exponential technologies, it is very possible that we as a species will neither develop a world-centric mindset soon enough to change our damaging behaviors nor have time to begin acting collectively in a SMART way, as Transformation is Feasible recommends. Of course, humanity does not have sole control of the fate of our planet. But we do exert significant influence on its continued existence, and to give in to the current grand global

141 See World Artificial Intelligence Conference 2019. Viewed 12 September 2019 at https://tinyurl.com/yxkc6vma (Jack Ma quotes at minute 6:18 and min. 44:20; Elon Musk quote “biological bootloader for digital superintelligence” at min 8:50).
142 https://tinyurl.com/jxly59 & https://tinyurl.com/y7ylgxxg & https://tinyurl.com/m86j3hk
143 https://youtu.be/f3lUEnMaiAU?t=530
challenges without a fight would be irresponsible and ill-advised. That is why this book has been designed to inspire investors—money owners and managers alike—as well as business people, entrepreneurs, company builders, and others who care deeply about the future of our planet to fight back in the way they know best: via their financial and business savvy.

By providing employment, security, wealth, and abundance, investing, company building, and entrepreneurship are essential vehicles for making transformation feasible. They also have the potential to contribute to the grand global challenges. Therefore, in this book, I have shared Tom’s and my way of making investment an integrally sustainable practice. The investing paradigm I have presented is rooted in the essence of all existence, the interior culture—values, morals, and personal joy and happiness—but also the exterior reality, the world we see when we open our eyes. In this paradigm, financial returns are inseparable from environmental, social, cultural, and ethical returns, as well as individual self-actualization, joyfulness, and bliss. This translates into a life well lived.

My husband and I choose to abide by the advice of Sir Winston Churchill and to “never, never, never, never—in nothing great or small, large or petty—never give in, except to convictions of honor and good sense.” We support Elon Musk’s opinion that it is better to be rather “optimistic and wrong than pessimistic and right,” and to do anything and everything we can to contribute in our own way. We call for large-scale, significant action not only because self-actualization and knowing that investments are having a positive impact feels good, but also because Integral Investing helps us act in a SMART way, avoid losses, and protect our investments—and it makes good business sense. For example, a September 2019 report by The Global Commission on Adaptation notes that investments of US$1.8 trillion made between 2020 and 2030 in five areas in particular could result in more than US $7 trillion total net benefits: “early warning systems, climate-resilient infrastructure, improved dryland agriculture crop production, global mangrove protection, and investments in making water resources more resilient.”

And remember, these are only five options—there are innumerable other investment options out there with the potential to offer more than simply financial returns.

As we saw in Chap. 1, most of the technologies and resources we need to act are already available, and the current work of the European Commission’s high-level expert group on sustainable finance is rather encouraging—if they decide to stick to it and not allow COVID-19 to deter but instead encourage them. Technology is crucial in helping us undo the mess of the Anthropocene whether we use drones to plant trees or undersea robots to plant corals. But given the (double) exponential growth of technology we, the people, need to catch up quickly so it does not become

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144 Sir Winston Churchill, [https://www.youtube.com/watch?v=L90BCEVH41U](https://www.youtube.com/watch?v=L90BCEVH41U)
145 Podcast interview, Joe Rogan Experience #1169 with Elon Musk, minute 47:15. Viewed 31 August 2019 at [https://www.youtube.com/watch?v=ycPr5-27vSI](https://www.youtube.com/watch?v=ycPr5-27vSI)
146 [https://cdn.gca.org/assets/2019-09/GlobalCommission_Report_FINAL.pdf](https://cdn.gca.org/assets/2019-09/GlobalCommission_Report_FINAL.pdf)
147 [https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance_en#hleg](https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance_en#hleg)
more intelligent and more powerful than we are. Early in this book, I asked why we need a new Enlightenment and wondered what went wrong with the first one. I do not believe that we need a new Enlightenment. The old one is good enough if applied fully. The original focus of the Enlightenment era on rationality has taken us to the Moon, helped us send probes outside our solar system, and brought us modern medicine, the Internet, smartphones, AI, and biotechnology, to name only a few everyday advances. But now it is time for us as a species to take responsibility for and control over the technology we have invented. It is time for us to “fight for the light of consciousness.”

Yes, the denial of scientific facts lives on in some quarters, but evolution moves on. This is why we have decided to counteract the regression to the pre-scientific, pre-Enlightenment era and contribute to the elimination of what the Economist calls “a severe contest between intelligence, which presses forward, and an unworthy, timid ignorance obstructing our progress.”

Yes, it will take time; no, it will not be easy; and yes, there will be massive resistance because change is difficult for most people. But the first step has been taken toward closing a yearly investment gap of almost 180 billion euros in order to achieve EU climate and energy targets by 2030. Our children have already stepped up to the challenge as we saw earlier in the discussion about the Fridays for Future movement. I think it is fair to say that they have finally got us moving through their climate strikes and refusal to go to school on Fridays, by speaking up at conferences such as the World Economic Forum and the United Nations general assemblies, and most recently by supporting the necessary measures to address the COVID-19 pandemic. They give me hope for the future and if there is one thing the COVID-19 pandemic is currently teaching us, it is the need for the application of more wisdom, compassion, love, solidarity, and global collaboration. In short: higher human values harmoniously integrated with scientific achievements. The novel coronavirus is teaching us how to achieve global unity within pluralism—a unity that manifests our humanity, the holistic integration between the head, the heart, and the soul, or in Plato’s vision: the True, the Good, and the Beautiful (or Science, Morals, and Art).

The Art and Science of Change

The call for the integration of the Platonic values, the full spectrum of consciousness, is not new and one way to detect it over time is through art. In fact, we can see it embodied in a 1514 painting by Flemish painter Quentin Massys (sometimes spelled Metsys or Matsys): The Money Changer and His Wife (Fig. 3.42).

It is possible to interpret this painting as moralizing, satirizing, or as a simple representation of economic activity at the beginning of the sixteenth century in Antwerp, which was one of the richest cities in the world at the time. I have chosen a Platonic interpretation.

148 Elon Musk, https://www.youtube.com/watch?v=f3lUEnMaiAU (min 46)
149 https://tinyurl.com/ufyzwq4
150 https://tinyurl.com/yauy94kp
151 https://www.fridaysforfuture.org/ and https://tinyurl.com/yx845a3v
In this symmetrical composition, a money changer and his wife are leaning toward each other, radiating a delicate balance between the feminine and the masculine. Their positions mirror one another, their congruence builds a harmonious unity, and their serene and unassuming expressions inspire trust and peace. The man is counting money, weighing valuables, and appraising rings (a symbol of relationships) and pearls (a symbol of purity, loyalty, generosity, and integrity); his wife is holding a religious text open at a page depicting the Madonna and child. The light falls onto the wife not by coincidence but by design to highlight the religious values (in the form of ethics and morals) that ought to govern the depicted activity, also represented by the man who holds the balance (between valuables and morals) represented by the scale in his left (from the heart) hand. This may also explain why the treasures on the table are in the shade. The convex mirror, albeit tiny, in the front seems to invite us to look at ourselves, while the church tower in the back is a reminder of higher values. The wooden box on the shelf behind the couple symbolizes the Divine, the apple represents the original sin, and the extinguished flame of the candle signifies death. Created at the onset of the Renaissance, this painting is a religious allegory in which Massys is reminding us of the impermanence of things, including our own mortality, and that we will ultimately be judged by our deeds.
Six years later, in 1520, he painted *Suppliant Peasants in the Office of Two Tax Collectors* (Fig. 3.43).

In this painting, the balance has disappeared, replaced by grotesque and disagreeable caricatures of four men surrounded by money and ledgers. The men’s wild eyes, anxious looks, and blank faces collectively express greed, anxiety, and mistrust. The toothless, hooded tax collector on the far left appears to be haggling with the two haggard, desperate-looking men on the right. His expression emanates suspicion and avarice, a notion reinforced by his ringed index finger pointing to the pile of coins in front of him, as if he is refusing to give the desperate pair any more time to pay what they owe. In the center of the painting is another tax collector. This one appears to be rather well fed, but I see only emptiness in his eyes. All four men seem totally absorbed by their exchange, albeit for different reasons, and lost in their money-only world dominated by mistrust, angst, and desperation; thus, the need for protection through the tall, stone wall that can be seen on the right. If we look beyond that wall, we can catch a glimpse of a church tower—a reminder of Christian values, but too far in the distance to exert any significant influence.

In *The Money Changer and His Wife*, Massys presented with great subtlety a banking and economic system based on serving the needs of people through higher values, the Platonic values: the True, the Good, and the Beautiful. Only 6 years later, in *Suppliant Peasants in the Office of Two Tax Collectors*, he makes room for money...
only, and places ugliness at the forefront. Apparently disillusioned with the direction the financial system was taking, Massys let his brush speak out with candor, warning against a financial system that is devoid of human values and detached from beauty, soul and spirit, and moral contemplation.

During the past 500 years, humanity has more or less mastered the requisite balancing act between scarcity and abundance, evolution and regression, and wisdom and folly. The COVID-19 crisis has shown us that we are not ready to handle a “simple” pandemic let alone an existential threat. Climate change, unsafe AI, or nuclear threats are just as real but not in our face just yet.

Moving forward, we could potentially “see a true heaven on Earth for virtually all human beings . . . inducing [a] system that results in a full Enlightenment for each”\(^{\text{152}}\) while making the \textit{Transformation Feasible}.

As an investor and/or entrepreneur you can do your part. Will you join us in making this \textit{transformation feasible}?

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\(^{152}\) Wilber (2017, p. 608).
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