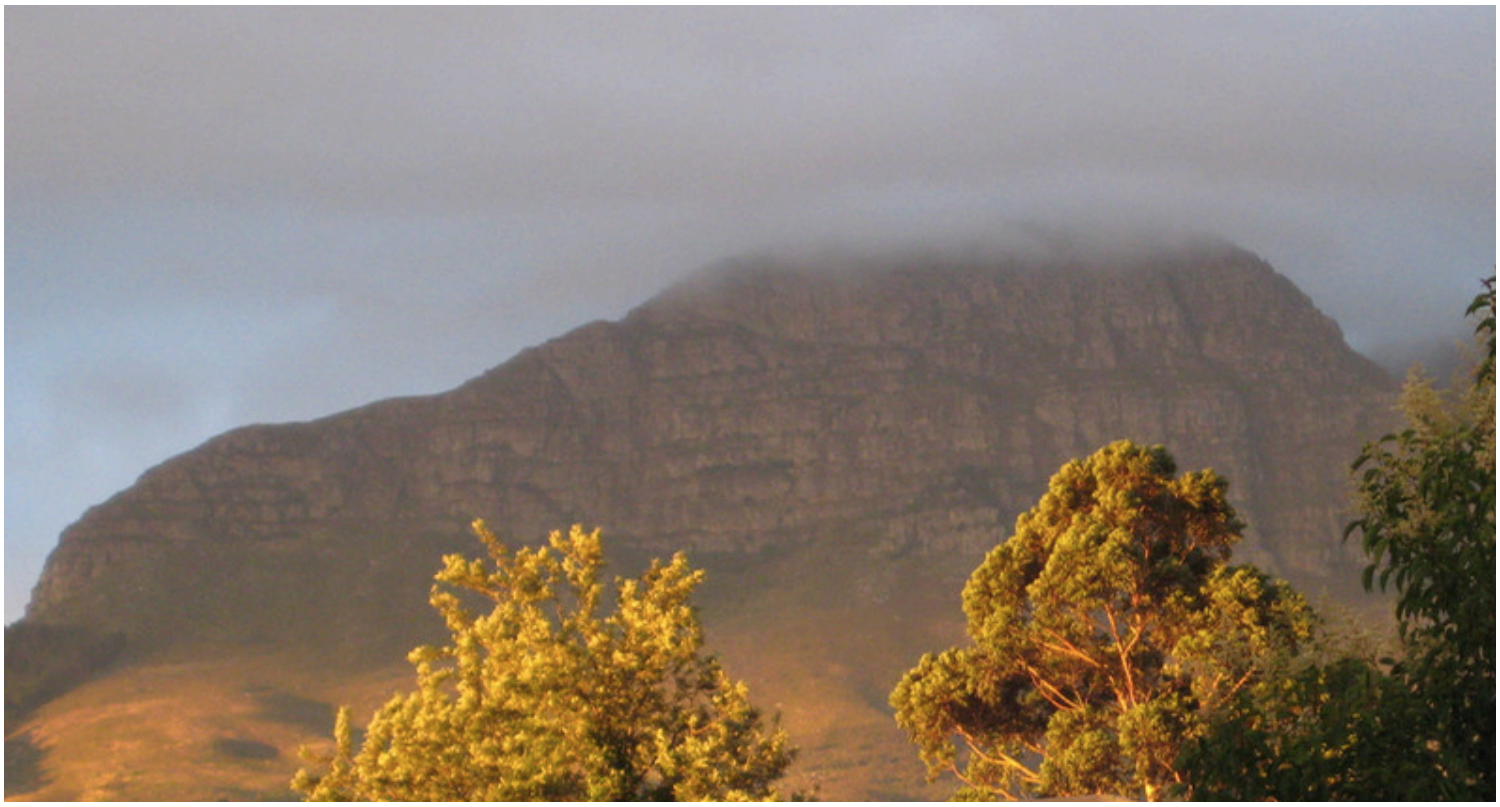


Author's backyard view

It has rained in the mountains, so...

Published on February 7, 2018 Edit article | View stats

MARCUS VAN DER ERVE
Author, Co-Founder Reality Review
25 articles

I don't remember how exactly I got hold of Herman Kahn's book, The Year 2000. It was published in 1967 at about the time I returned from a 12 month, post high school industrial traineeship in New York. I read it just before starting my undergraduate engineering studies in applied physics. Kahn's insights opened up my mind to the broader world, I mean, not just location wise or spatially but especially also time wise.

Founder of the Hudson Institute, Kahn was a futurist who got into the lime light as military strategist. Piercing our world, I learned, does not just mean interpreting a broad array of matters and making sense of it. It particularly also involves identifying unassuming events today that might change our world tomorrow. It requires, as Kahn formulated it, "thinking about the unthinkable".

Thinking about the unthinkable...

Two words that Kahn used, both beginning with an 's', have lingered in my mind since: "scenario" and "serendipity".

A scenario is what you get when you evaluate how such unassuming events may lead to a

series of other events that will change our world against the odds on the medium to long term. Of course, a scenario may not happen. It might happen. And, in that case, you know what to do, that is, if you prepared a plan to deal with it. Scenarios, in other words, help broaden and deepen our awareness of our world time wise - anticipating it.

Serendipity refers to situations where an haphazard combination of events produces other events that steer our world to a more fruitful destiny. It was odd to learn this from a man, who rode to fame on the back of his book, On Thermonuclear War. An unforeseen interaction of events may indeed also produce near-total destruction.

The Lebanese author and former derivatives trader, Nassim Taleb, became hooked by the doomsday equivalent of serendipity. Taleb, who started making serious money after anticipating the financial crash in 1987, popularized the "black swan" metaphor. An haphazard combination of events that produces mayhem, a black swan remains unthinkable and is even denied until it is actually seen. The quantitative world of derivative trading caused Taleb to evaluate the statistics behind black-swan forecasting. In the end, he concluded that these were rather useless.

In “The Big Short: Inside the Doomsday Machine”, Michael Lewis, vividly reports a similar story about Michael J. Burry, manager of Scion Capital, a hedge fund. Burry, a neurologist by training, identified the flaky foundations of the US housing market in the early 2000's. He made a fortune for himself and his clients by betting on its collapse (in 2007). So, as both Taleb and Burry had shown, likely scenarios of the future can be developed based on events today. The question is how to go about it.

In the mid eighties, I had the privilege of meeting Pierre Wack - the renowned inventor of "scenario planning" - when attending a management program at INSEAD, an international business school just south of Paris. Once the editor of a Franco-German philosophy magazine, Wack, a Belgian, had been hired by Shell in the early seventies to lead their planning activities. The process that Wack instilled enabled decision makers at Shell to deal with a then unthinkable increase in the price of oil, from $2 per barrel to $10 per barrel in 1973 and $37 per barrel in 1979 (during the Iranian revolution).

The crux of Wack's approach - Wack was very much into broadening his awareness by meditation - was to become more conscious of events and to evaluate how these might jog together to shape a possible future, a scenario, in other words. Wack would typically insist on identifying events at a global level to narrow these down to local events after assessing the impact of possible futures on the competitive positioning of the company. All the while, his idea was to create "options". What do you do if a scenario comes true?

It has rained in the mountains, so it will flood in the plains...

At the heart of Wack's approach at Shell was an overwhelmingly simple mantra: "It has rained in the mountains, so it will flood in the plains." At the time, Wack saw the proverbial rain in the shape of an Arab region that was changing, a region that had been stripped of its oil by oil companies for a quarter of a century. The future, he believed, cannot be in a

projection of a world that had been stable this long. As reiterated later by Taleb, Wack stressed that "it is foolish to try to forecast the future" by extrapolation.

Wack was not entirely happy with the effect of scenario planning. Its value is not really in facts, scenarios, and options - in the paper they have been written on. The true aim of scenario planning is to "change the mental models of decision makers" - to make them more conscious of the temporal conditions of our world. This is why he preferred to take decision makers on a virtual ride - having them identify likely futures themselves.

In more or less the same way as Kahn pondered the development of society and Taleb worried about the next financial crash, Wack evaluated temporal conditions that might destabilize economies downriver. Elsewhere, the search for conditions that might disrupt an established world of thinking went far beyond these three examples. Born in the same year as Pierre Wack (1922) and passing away just before Wack (1996), the American philosopher of science, Thomas Kuhn, studied temporal conditions that would eventually produce disruptive shifts in conventional scientific thinking.

One of Kuhn's favorite examples was Copernicus' disruptive model of the universe, in which the Sun displaces the Earth at its center. To calculate the position of planets, astronomers, at the time, still relied on a 1400-year-old system that had been developed by the Roman scholar, Ptolemy. Because Ptolemy assumed the Earth (rather than the Sun) to be at the center of the visible universe, his system needed a host of complex corrections to bring the calculated paths of planets in line with actual observations.

Kuhn discovered that, as the accuracy of the measurement of planetary positions gradually improved, more and more corrections were needed - making Ptolemy's system nearly unworkable. This, Kuhn argued, is what led Copernicus to revisit and redefine the basic premise of Ptolemy's system. These corrections, to use Kuhn's term, were "anomalies" that made Copernicus throw overboard the established view of the universe.

When it comes to science today, the parallels with Copernicus' time are tempting. The so-called Standard Model, which physicists use to identify and predict the fundamental building bricks of nature, is not unlike Ptolemy's. It needs to be tweaked every now and then to deal with particles that could not be detected, such as those that would explain gravitation and dark matter.

In scenario-planning terms, might this parallel represent the rain that has fallen in the mountains? Might a new view

$$\mathcal{L}_{SM} = -\tfrac{1}{2}\partial_\nu g^a_\mu \partial_\nu g^a_\mu - g_s f^{abc}\partial_\mu g^a_\nu g^b_\mu g^c_\nu - \tfrac{1}{4}g_s^2 f^{abc}f^{ade} g^b_\mu g^c_\nu g^d_\mu g^e_\nu - \partial_\nu W^+_\mu \partial_\nu W^-_\mu - M^2 W^+_\mu W^-_\mu - \tfrac{1}{2}\partial_\nu Z^0_\mu \partial_\nu Z^0_\mu - \tfrac{1}{2c_w^2}M^2 Z^0_\mu Z^0_\mu - \tfrac{1}{2}\partial_\mu A_\nu \partial_\mu A_\nu - igc_w(\partial_\nu Z^0_\mu (W^+_\mu W^-_\nu - W^+_\nu W^-_\mu) - Z^0_\nu (W^+_\mu \partial_\nu W^-_\mu - W^-_\mu \partial_\nu W^+_\mu) + Z^0_\mu (W^+_\nu \partial_\nu W^-_\mu - W^-_\nu \partial_\nu W^+_\mu)) - igs_w(\partial_\nu A_\mu (W^+_\mu W^-_\nu - W^+_\nu W^-_\mu) - A_\nu (W^+_\mu \partial_\nu W^-_\mu - W^-_\mu \partial_\nu W^+_\mu) + A_\mu (W^+_\nu \partial_\nu W^-_\mu - W^-_\nu \partial_\nu W^+_\mu)) - \tfrac{1}{2}g^2 W^+_\mu W^-_\mu W^+_\nu W^-_\nu + \tfrac{1}{2}g^2 W^+_\mu W^-_\nu W^+_\mu W^-_\nu + g^2 c_w^2 (Z^0_\mu W^+_\mu Z^0_\nu W^-_\nu - Z^0_\mu Z^0_\mu W^+_\nu W^-_\nu) + g^2 s_w^2 (A_\mu W^+_\mu A_\nu W^-_\nu - A_\mu A_\mu W^+_\nu W^-_\nu) + g^2 s_w c_w (A_\mu Z^0_\mu (W^+_\nu W^-_\nu - W^+_\nu W^-_\mu) - 2A_\mu Z^0_\mu W^+_\nu W^-_\nu) - \tfrac{1}{2}\partial_\mu H \partial_\mu H - 2M^2 \alpha_h H^2 - \partial_\mu \phi^+ \partial_\mu \phi^- - \tfrac{1}{2}\partial_\mu \phi^0 \partial_\mu \phi^0 - \beta_h \left(\tfrac{2M^2}{g^2} + \tfrac{2M}{g} H + \tfrac{1}{2}(H^2 + \phi^0\phi^0 + 2\phi^+\phi^-) \right) + \tfrac{2M^4}{g^2}\alpha_h - g\alpha_h M (H^3 + H\phi^0\phi^0 + 2H\phi^+\phi^-) - \tfrac{1}{8}g^2 \alpha_h (H^4 + (\phi^0)^4 + 4(\phi^+\phi^-)^2 + 4(\phi^0)^2\phi^+\phi^- + 4H^2\phi^+\phi^- + 2(\phi^0)^2 H^2) - gMW^+_\mu W^-_\mu H - \tfrac{1}{2}g\tfrac{M}{c_w^2} Z^0_\mu Z^0_\mu H - \tfrac{1}{2}ig\left(W^+_\mu(\phi^0\partial_\mu\phi^- - \phi^-\partial_\mu\phi^0) - W^-_\mu(\phi^0\partial_\mu\phi^+ - \phi^+\partial_\mu\phi^0)\right) + \tfrac{1}{2}g\left(W^+_\mu(H\partial_\mu\phi^- - \phi^-\partial_\mu H) + W^-_\mu(H\partial_\mu\phi^+ - \phi^+\partial_\mu H)\right) + \tfrac{1}{2}g\tfrac{1}{c_w}(Z^0_\mu(H\partial_\mu\phi^0 - \phi^0\partial_\mu H) + M(\tfrac{1}{c_w}Z^0_\mu\partial_\mu\phi^0 + W^+_\mu\partial_\mu\phi^- + W^-_\mu\partial_\mu\phi^+) - ig\tfrac{s_w^2}{c_w}MZ^0_\mu(W^+_\mu\phi^- - W^-_\mu\phi^+) + igs_wMA_\mu(W^+_\mu\phi^- - W^-_\mu\phi^+) - ig\tfrac{1-2c_w^2}{2c_w}Z^0_\mu(\phi^+\partial_\mu\phi^- - \phi^-\partial_\mu\phi^+) + igs_wA_\mu(\phi^+\partial_\mu\phi^- - \phi^-\partial_\mu\phi^+) - \tfrac{1}{2}g^2 W^+_\mu W^-_\mu (H^2 + (\phi^0)^2 + 2\phi^+\phi^-) - \tfrac{1}{8}g^2\tfrac{1}{c_w^2}Z^0_\mu Z^0_\mu (H^2 + (\phi^0)^2 + 2(2s_w^2 - 1)^2\phi^+\phi^-) - \tfrac{1}{2}g^2\tfrac{s_w^2}{c_w}Z^0_\mu\phi^0(W^+_\mu\phi^- + W^-_\mu\phi^+) - \tfrac{1}{2}ig^2\tfrac{s_w^2}{c_w}Z^0_\mu H(W^+_\mu\phi^- - W^-_\mu\phi^+) + \tfrac{1}{2}g^2 s_w A_\mu\phi^0(W^+_\mu\phi^- + W^-_\mu\phi^+) + \tfrac{1}{2}ig^2 s_w A_\mu H(W^+_\mu\phi^- - W^-_\mu\phi^+) - g^2\tfrac{s_w}{c_w}(2c_w^2 - 1)Z^0_\mu A_\mu\phi^+\phi^- - g^2 s_w^2 A_\mu A_\mu\phi^+\phi^- + \tfrac{1}{2}ig_s\lambda^a_{ij}(\bar{q}^a_i\gamma^\mu q^a_j)g^a_\mu - \bar{e}^\lambda(\gamma\partial + m^\lambda_e)e^\lambda - \bar{\nu}^\lambda(\gamma\partial + m^\lambda_\nu)\nu^\lambda - \bar{u}^\lambda_j(\gamma\partial + m^\lambda_u)u^\lambda_j - \bar{d}^\lambda_j(\gamma\partial + m^\lambda_d)d^\lambda_j + igs_wA_\mu\left(-(\bar{e}^\lambda\gamma^\mu e^\lambda) + \tfrac{2}{3}(\bar{u}^\lambda_j\gamma^\mu u^\lambda_j) - \tfrac{1}{3}(\bar{d}^\lambda_j\gamma^\mu d^\lambda_j)\right) + \tfrac{ig}{4c_w}Z^0_\mu\{(\bar{\nu}^\lambda\gamma^\mu(1+\gamma^5)\nu^\lambda) + (\bar{e}^\lambda\gamma^\mu(4s_w^2 - 1 - \gamma^5)e^\lambda) + (\bar{d}^\lambda_j\gamma^\mu(\tfrac{4}{3}s_w^2 - 1 - \gamma^5)d^\lambda_j) + (\bar{u}^\lambda_j\gamma^\mu(1 - \tfrac{8}{3}s_w^2 + \gamma^5)u^\lambda_j)\} + \tfrac{ig}{2\sqrt{2}}W^+_\mu\left((\bar{\nu}^\lambda\gamma^\mu(1+\gamma^5)U^{lep}_{\lambda\kappa}e^\kappa) + (\bar{u}^\lambda_j\gamma^\mu(1+\gamma^5)C_{\lambda\kappa}d^\kappa_j)\right) + \tfrac{ig}{2\sqrt{2}}W^-_\mu\left((\bar{e}^\kappa U^{lep\dagger}_{\kappa\lambda}\gamma^\mu(1+\gamma^5)\nu^\lambda) + (\bar{d}^\kappa_j C^\dagger_{\kappa\lambda}\gamma^\mu(1+\gamma^5)u^\lambda_j)\right) + \tfrac{ig}{2M\sqrt{2}}\phi^+\left(-m^\kappa_e(\bar{\nu}^\lambda U^{lep}_{\lambda\kappa}(1-\gamma^5)e^\kappa) + m^\lambda_\nu(\bar{\nu}^\lambda U^{lep}_{\lambda\kappa}(1+\gamma^5)e^\kappa) + \tfrac{ig}{2M\sqrt{2}}\phi^-\left(m^\lambda_e(\bar{e}^\lambda U^{lep\dagger}_{\lambda\kappa}(1+\gamma^5)\nu^\kappa) - m^\kappa_e(\bar{e}^\lambda U^{lep\dagger}_{\lambda\kappa}(1-\gamma^5)\nu^\kappa)\right) - \tfrac{g}{2}\tfrac{m^\lambda_e}{M}H(\bar{\nu}^\lambda\nu^\lambda) - \tfrac{g}{2}\tfrac{m^\lambda_e}{M}H(\bar{e}^\lambda e^\lambda) + \tfrac{ig}{2}\tfrac{m^\lambda_\nu}{M}\phi^0(\bar{\nu}^\lambda\gamma^5\nu^\lambda) - \tfrac{ig}{2}\tfrac{m^\lambda_e}{M}\phi^0(\bar{e}^\lambda\gamma^5 e^\lambda) - \tfrac{1}{4}\bar{\nu}_\lambda M^R_{\lambda\kappa}(1-\gamma_5)\hat{\nu}_\kappa - \tfrac{1}{4}\bar{\nu}_\lambda M^R_{\lambda\kappa}(1-\gamma_5)\hat{\nu}_\kappa + \tfrac{ig}{2M\sqrt{2}}\phi^+\left(-m^\kappa_d(\bar{u}^\lambda_j C_{\lambda\kappa}(1-\gamma^5)d^\kappa_j) + m^\lambda_u(\bar{u}^\lambda_j C_{\lambda\kappa}(1+\gamma^5)d^\kappa_j)\right) + \tfrac{ig}{2M\sqrt{2}}\phi^-\left(m^\lambda_d(\bar{d}^\lambda_j C^\dagger_{\lambda\kappa}(1+\gamma^5)u^\kappa_j) - m^\kappa_u(\bar{d}^\lambda_j C^\dagger_{\lambda\kappa}(1-\gamma^5)u^\kappa_j)\right) - \tfrac{g}{2}\tfrac{m^\lambda_u}{M}H(\bar{u}^\lambda_j u^\lambda_j) - \tfrac{g}{2}\tfrac{m^\lambda_u}{M}H(\bar{d}^\lambda_j d^\lambda_j) + \tfrac{ig}{2}\tfrac{m^\lambda_u}{M}\phi^0(\bar{u}^\lambda_j\gamma^5 u^\lambda_j) - \tfrac{ig}{2}\tfrac{m^\lambda_d}{M}\phi^0(\bar{d}^\lambda_j\gamma^5 d^\lambda_j) + \bar{G}^a\partial^2 G^a + g_s f^{abc}\partial_\mu\bar{G}^a G^b g^c_\mu + \bar{X}^+(\partial^2 - M^2)X^+ + \bar{X}^-(\partial^2 - M^2)X^- + \bar{X}^0(\partial^2 - \tfrac{M^2}{c_w^2})X^0 + \bar{Y}\partial^2 Y + igc_w W^+_\mu(\partial_\mu\bar{X}^0 X^- - \partial_\mu\bar{X}^+X^0) + igs_w W^+_\mu(\partial_\mu\bar{Y}X^- - \partial_\mu\bar{X}^+Y) + igc_w W^-_\mu(\partial_\mu\bar{X}^- X^0 - \partial_\mu\bar{X}^0X^+) + igs_w W^-_\mu(\partial_\mu\bar{X}^-Y - \partial_\mu\bar{Y}X^+) + igc_w Z^0_\mu(\partial_\mu\bar{X}^+X^+ - \partial_\mu\bar{X}^-X^-) + igs_w A_\mu(\partial_\mu\bar{X}^+X^+ - \partial_\mu\bar{X}^-X^-) - \tfrac{1}{2}gM\left(\bar{X}^+X^+H + \bar{X}^-X^-H + \tfrac{1}{c_w^2}\bar{X}^0X^0H\right) + \tfrac{1-2c_w^2}{2c_w}igM\left(\bar{X}^+X^0\phi^+ - \bar{X}^-X^0\phi^-\right) + \tfrac{1}{2c_w}igM\left(\bar{X}^0X^-\phi^+ - \bar{X}^0X^+\phi^-\right) + igMs_w\left(\bar{X}^0X^-\phi^+ - \bar{X}^0X^+\phi^-\right) + \tfrac{1}{2}igM\left(\bar{X}^+X^+\phi^0 - \bar{X}^-X^-\phi^0\right).$$

The Standard Model

of reality be in the offing, downriver? Is our perception of reality as a complex hierarchy of particles, parts, or people really right?

Universal temporal conditions

Having led many a planning workshop, I noticed - as the American psychologists, Bruner and Postman, had already observed long ago - that the views of participating executives were "powerfully determined by expectations built upon past commerce." Participants, in other words, would often come up with old ideas no matter how much their situation had soured. They seemed like prisoners of paled temporal conditions.

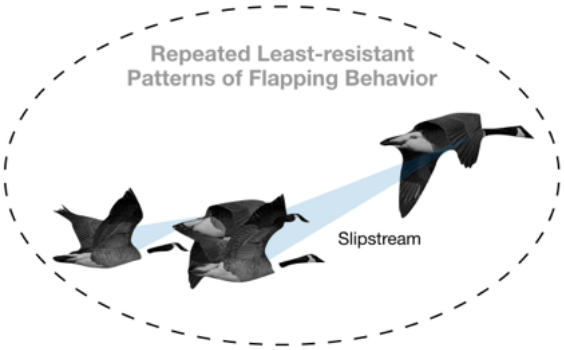
So, is there a way of identifying and predicting temporal conditions? My idea was to show these executives their present, time-wise perspective and how this, as their strategic premise, might have to change. Of course, if such 'universal temporal conditions' do exist they would facilitate the scenario-planning process because they would help point out when and where it might rain in the mountains.

Thinking the unthinkable

In the early 1990s, in preparation of my doctoral thesis, I formally started investigating sociological, if not socioeconomic conditions that marked the development of companies across industries. In the end, I realized that my search for 'universal temporal conditions' required me to redefine what companies are really about.

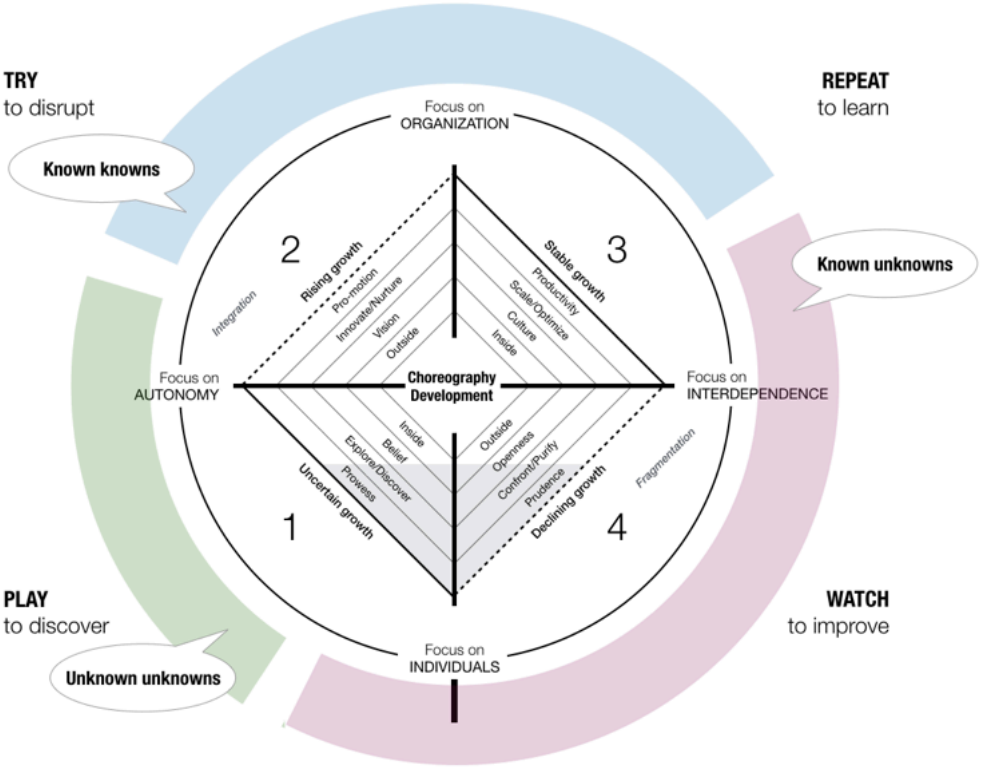
For one, they are not about outcomes, such as revenue, profit, or even products. The 'essence' is in what produces these. In point of fact, the essence of societal phenomena is in the repeated, least-resistant patterns of behavior - of people in different roles - that shape nations, regions, companies, organizations, departments, and so on.

This way of seeing reality does not only work for companies but also for physical phenomena. Convection cells as much as flocks of migrating geese are shaped by repeated, least-resistant patterns of behavior. Only the players differ.



This allowed me to depict universal temporal conditions as natural conditions that emerge in successive stages of repeated-pattern-of-behavior development. Underlying these stages are the entanglement of patterns of behavior, which fosters the division of labor. The latter, in turn, increases the complexity of what is being shaped.

Over a period of two decades, I identified the 'grammar' of temporal conditions and the 'sentence' of conditions for each stage. I came to call stages 'seasons' because, like seasons, the succession of stages might be repeated more than once during the lifetime of societal phenomena. As it spins, the 'wheel of seasons' thus illustrates how the rise and decline of repeated patterns of behavior shape companies and their organizations.



Note: I refer to pattern development as "choreography development" in the diagram.

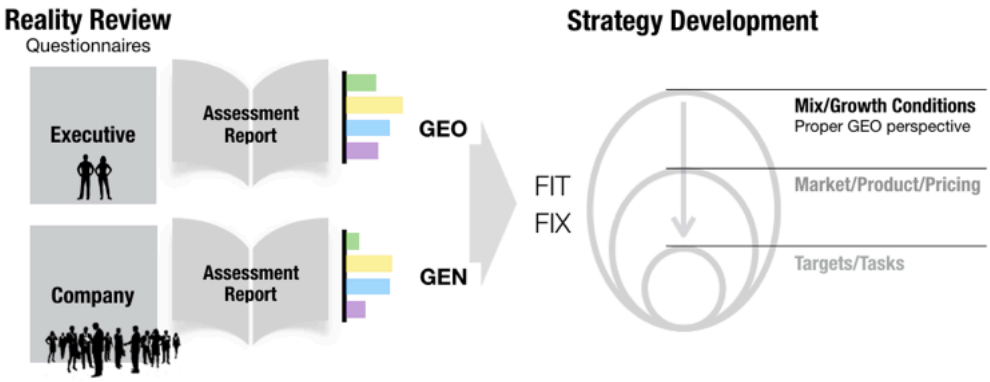
To close with the words of Pierre Wack, 'the wheel' helps us improve our "understanding of how a situation develops", that is, the situation inside a company, region, or nation.

> *As it spins, the wheel of seasons traces how the rise and decline of repeated patterns of behavior shape companies and nations.*

Using the wheel

The planning horizon (short-/medium-/longterm) depends on the speed with which the wheel spins. The wheel, for example, may spin slower for nations than for companies.

The idea is to identify in which season a company is by means of a so-called 'Reality Review assessment'. This will tell you what the current headset of leaders and executives is. It also tells you what the temporal conditions will be (or should be) in the next season - "unthinkable" to some of the executives.



Before developing strategic "options" that deal with the challenges in the next *Growth Environment* or *GEN* season, one should ideally improve the mix (if not, understanding) of executives that will do so - for example, by making sure they have a *Growth Environment Orientation* or *GEO* that fits the target season.

Preparing for the unthinkable

Pierre Wack was rather frustrated by Shell executives who did not sufficiently internalize the world's hidden forces, forces that might diminish Shell's chances. He told them to stop extrapolating. "You don't need forecasting anyway if you can change fast enough," he said. He begged them to move away from "output creativity".

Pablo Picasso, he reminded them, focused on output creativity - having successfully changed his style at least eight times. Wack encouraged them instead to focus on improving "input creativity" - their ability to identify and detect unthinkable events, unassuming temporal conditions that might change their world in the future.

With the identification of a wheel of seasons that shows the current and imminent state of conditions in companies (and, as I discuss elsewhere, nations), executives now have a guiding blueprint for scenario development. The conditions in each season tell them where to direct their "input creativity".

In fact, the wheel of seasons does not only depict the season or state of conditions of one's own company but also of the companies, nations, and regions that one deals with. It helps executives put themselves in the shoes of the proverbial fisherman and evaluate the state of the nations and companies they do business with.

The input creativity needed in each season is different not just because of dissimilar conditions. As the US Secretary of Defense, Donald Rumsfeld, reminded his audience during a news briefing on the Iraq War, the kind of events that one deals have varying decrees of transparency, if not opaqueness...

> *As we know, there are known knowns; there are things we know we know. We also know there are known unknowns; that is to say we know there are some things we do not know. But there are also unknown unknowns – the ones we don't know we don't know. And if one looks throughout the history of our country and other free countries, it is the latter category that tend to be the difficult ones - Donald Rumsfeld*

In view of the tensions across the globe today, preparing for the unthinkable requires identifying the season of each nation to see what they are up to and how seasonal differences may make their leaders collide.

Further reading:

- Marcus van der Erve, Reality Reviewed - Improving your chances...
- The Economist, Pierre Wack
- The Economist, Scenario Planning
- Pierre Wack, Strategic Planning: Discipline for an Art - Video
- Pierre Wack, Scenarios: Shooting the Rapids
- Art Kleiner, The Man Who Saw the Future
- Charles Roxburgh, The Use and Abuse of Scenarios
- Nassim Taleb, The Black Swan
- Thomas Kuhn, The Structure of Scientific Revolutions
- Herman Kahn, et al, The Year 2000

Report this

4 Likes

3 Comments

Amal AL Jashemi 3mo ···
International Business Adiminstration Graduate #Job Seeker

Your article always inspired me to think beyond my horizon. It is interesting what had you mentioned about the need for allocating different people in leadership roles in each season for the sake of readiness for future. However, would that mean that revolution in certain nations actually are just the accumulation of events that prepare for a new leader' ...see more

Like Reply | 1 Reply

MARCUS VAN DER ERVE 3mo ···
Author, Co-Founder Reality Review

Revolutions in nations (and companies alike) are indeed sorting out leadership. The problem is that revolutions are not very efficient or come at a great human cost. My work makes it possible to identify and anticipate the need for leaders with a different view of things - making the whole process more efficient, less wasteful an ...see more

Like Reply | 1 Like

Amal AL Jashemi 3mo ···
International Business Adiminstration Graduate #Job Seeker

Thanks Dr **MARCUS VAN DER ERVE** .I appreciate your response and your encouragement.

Like Reply | 1 Like

Add a comment...

MARCUS VAN DER ERVE
Author, Co-Founder Reality Review