

Chapter 01: **WHEN HISTORY TURNS A CORNER**

We are at the moment history turns a corner. Behind us we see the age of mass manufacture and industrial might, represented by large multinational corporations, giants that could bend steel and transform it in airplanes, ships, trains and bridges. Those were impressive days; the days in which we built the infrastructure of the world, as we thought these variables would be a constant of civilizations to come. We covered the ground with asphalt, redefined communities around the automobile, and redefined the way we connected people to people, and people to goods and services. These were physical manifestations of a moment in history, but we regarded them as history itself, having a hard time imagining how things could be different.

All we have defined so far as the indispensable infrastructure for our way of life might simply not exist in the industrialized world 50 years from now. Because just around the corner we are seeing the first signs of a life in which everything is *social*, everything is *augmented* and everything is *autonomous*.

A convergence called *life subscribed*. In this new context, life becomes a subscription to moments, curated invisibly by virtue of our past actions, and our sets of preferences.

It happens almost every time I meet someone new, in social situations or on the golf course. Anytime I get to spend time with someone, for more than ten minutes. The invariable question 'What do you do for a living?'. This leads to a deep pause on my part, as I have to weigh the answer, trying to make it sound normal, and as clear as possible without being pretentious. 'I future-proof organizations' I offer. 'What do you mean?' is the next natural question, which forces another explanation. The future is not as ambiguous as we are told to think. The future is already present, in the behaviors we see every day, and in the use of technologies developed under our eyes, changing us in predictable ways. Predictable because we are human – and we tend to react in predictable ways when encountering any new medium, any new tool or extension of ourselves – and also predictable because we know the story of technology. In time, everything becomes smaller, more efficient, cheaper and exploited into everyday life.

Human invention in the form of technology has always become a condition of our existence. In this, we are not different than any other animal, as we appropriate as ours the tools, machinery, and shelters we have developed over the years and which by now have all become conditioners of our life, the infrastructures that dictate what and when, we do what we do. This is how we arrived to being conditioned by Facebook, Google, Amazon, WiFi, Blue Tooth, GPS, mobile phones, all unthinkable even by science fiction standards as recent as 20 years ago, and all part of everyday life now. In this process, our tools as extensions of ourselves have transformed human life, society and the economic system.

And this is how the present always contains the future, as humans grow understanding how these technologies will transform them and, allow them to achieve a new level of becoming. Every experience is a bridge to another new experience, and technology functions the same way: as a bridge to the next technology. Foresight does not future proof by determining which technology is next, but by painting a comprehensive picture of the human experiences we might want to engage with next. Once we know that, we can build the technology.

Beware Before: Foresight vs. Forecast

Future proofing – foresight - is not about Forecasting but about foreseeing. The difference is in the starting point: Foresight deals with what has *already happened*, a phenomenon that is active and manifest, but has yet to make its full impact. Foresight deals with the possible consequences of the phenomena in a variety of situations, and subjected to a variety of external forces. It is common on a golf course to warn fellow players of a ball that was miss-hit, and is on its way to perhaps hit someone in the head. Once the ball has left the club, and the trajectory is clearly not the intended one, the player shouts 'FORE', terminology that has its roots in the military, where artilleryman will warn infantry of shells overhead by yelling 'beware before'¹. This is precisely what foresight methodology does: it makes organizations beware *before* the full impact of a disruptive behavior or technology. The critical aspect is the recognition that the ball – projectile- *has left the golf club*. That is the FORE part. Through multiple scenarios we can then imagine the forces that will be unchained – the series of events – if the ball lands on

¹ Available at: [https://en.wikipedia.org/wiki/Fore_\(golf\)](https://en.wikipedia.org/wiki/Fore_(golf))(accessed: December 15, 2016)

different impact areas. That is the SIGHT part. We can imagine the projectile landing on a tree, a cat, or on someone's head, with totally different consequences. If the foresight practitioner is wrong about what is around the corner, organizations don't have to worry about anything. But if he/she is right, they have to worry about everything.

In foresight, the same attributes that created the thing/phenomena are the forces moving it forward – the scenarios just imagine a maximization of use and users. By contrast, in forecast the forces are extrinsic to the phenomena (wind extrinsic to the clouds, social and political forces extrinsic to the corporation and possibly affecting outcomes).

Corporations are anxious about the future because people – users which were formerly their consumers- are now connecting with life in a different way, and consuming less and less of the goods and services that defined life in the past 120 years, since industrialization. The infrastructure we built - minus telecommunications – does not make sense anymore, in a life cycle where we try to connect deeper with others and ourselves. Just 'being human' does not consume in traditional ways. We consume less material things while consuming more and more experiences; and experiences are not supported by physical infrastructures, but are dependent on a narrative framework that engages us in both breadth – the duration of the experience – and depth. So the challenge is on: how do we create a deep experience, how do we connect users with moments of surprise and delight, engaging them intellectually and emotionally?

By seeking deep experiences we seek a deeper life, and this is the role technology-through augmentation, sociality and autonomous features – is starting to play: maximizing humanity, by reassigning repetitive tasks from users to their devices, freeing humans from habitual chores, and creating a new relationship between objects, places and people, transforming society and culture. This is the emerging context; a brand new canvas for rethinking what human life can be about, mediated by new tools and re-symbolized by new concepts. What frameworks do we need to construct these new concepts? To answer this question we have to look around and find what has already happened that has yet to reach its full effect, what behaviors and technologies are unquestionably converging in transformative ways, affecting our quality of life and the providers of the goods and services we depend on. The framework I propose as an answer is *Everything Social, Everything Augmented* and *Everything Autonomous*.

Now: Everything Social

Our interactions, our activities and our information are now shared with a larger audience than ever before, in a context that converges the physical and the real world. We are presenting to this world a social self at the core of every interaction, at the core of every daily transaction, as a projection of the ideal self, an entity constructed through our actions everyday, in front of our virtually real audience. At the same time, we have deployed technologies that have added this social layer to objects and places, which in turn are now becoming social. A social entity behaves, engages in manifest actions that leave a trace and compounded, transform the economic system into a behavior economy. We, together with our objects and

places behave, and the result is a dynamic and synchronic economic system. In his seminal work 'The Wealth of Nations', Scottish economist and moral philosopher Adam Smith called *the human activity the human economy*. We exist in the measure in which we engage. The more we engage, the more we exist, and nowadays engagement being possible in a passive way – our location and activities being tracked by our wearable devices– we are now passively participating in the economy of behavior.

Passivity in this context is not a disadvantage but an opportunity, as it gives us more time to pursue an enhanced purpose for the self, in a transparent environment, where we can measure our purposes against our peers, giving our pursuit more meaning and more authenticity, while at the same time maximizing our humanity. Everything Social means an economy in which everything is shared – crowd funded social commerce, Airbnb, Kijiji, Etsy, Kickstarter, Indiegogo – and it also means virtual identities – Facebook, LinkedIn, SnapChat, Twitter, Tumblr, Tinder, YouTube, Amazon. The social layer is the connectivity we seek with the world that surrounds us.

The Internet is a Behavior

The social nature of our interactions on the Internet defines what the Internet is and what it is *not*. The Internet is not a *technology*; the Internet is a *behavior*. And the Internet was a behavior from the very beginning: people connected to the issues that define them, to the ideas they want to explore and expand, and to the people they care about. The behavioral product we know as the 'Selfie Stick' is not about the stick, but about *the self*; the self-memorializing for others. The self and its desire to participate in the life of others, by sharing moments. People behaving, and creating the new economic engine of the behavior economy.

One could argue that we always lived in a behavior economy, as it is human behavior that generates economic transactions: our desires, wants and needs, motivating our actions.² But what we are witnessing today is passive behaviors originating in *intrinsic motivation*— passive in the sense that no material value is exchanged between a user and a social media platform —triggering vast economic transactions between multiple parties.

Google Earth typifies the behavior economy³, by being a platform for intellectual engagement, continually upgrading its value for the user, and involving the user at all times in its growth. It is a knowledge platform with multiple layers of information that can be turned on or off. In one's control, at any time. This is value delivery in its most intrinsic form, as the motivation for using has an urgency residing and originating deep within the individual. A platform for behavior, on which value is dynamic and increases with a number of behaviors possible. In the behavior economy, engagement platforms are value variable. The growth of companies that develop behavior platforms is not connected to how many platforms they make, but to how many users are connected to this platform. Growth is also connected to the depth of engagement; to the relationship a user has

² Manu, A. Value Creation and the Internet of Things. Farnham: Gower Publishing. 2015. P.9

³ Manu, A. Value Creation and the Internet of Things. Farnham: Gower Publishing. 2015. PP.2-3

to the platform, and the multiple layers of experience that one can participate in while on the platform. Summing up: in the behavior economy, *growth is conditioned by behavior, not by technology.*

Next: Everything Augmented

Augmented products and services as well as augmented places add value through nonphysical elements, by providing new layers of insight and new dimensions of experience. Augmentation gives us the ability to extend our perception and deepen our understanding of reality, giving it a new dimension into a mixed reality, in which technology plays the role of translator of meaning without interference. This is the augmentation of experience and the opportunity to create deeper experiences through meaningful interactions. Experience is about 'how' something makes you feel. Interaction is the reciprocal action(s) you engage in in order to acquire that feeling. Reciprocity means that the device you interact with 'behaves', prompting further user actions.

Users are becoming participants in the stories they watch, with multilayered experiences in 360 degrees. As of February 1st, 2017, YouTube archived over 56 million videos in 360/Virtual Reality. The Discovery Channel uploaded about 2 million of these videos with content rich in the experience of places, transforming travel into the experience of a new place from one's own place.

A virtual experience relies on the ability of the imagination to glean meaning from an intangible event, and humans are starved for meaning as experience. This is what makes virtual reality so compelling and addictive. Within a few minutes one can fly to the edge of space, be surrounded by sharks under the Pacific Ocean or stand at the edge of a 400 ft. canyon. Digital technologies have created platforms that invoke interactive and immersive virtual experiences that are connecting users with epic moments in unprecedented ways. The importance of these virtual experiences increases and becomes more acute as these digital platforms become increasingly connected. These new, persistent platforms represent a split not between reality and virtual reality, but between the real and virtual manifestation of self.⁴

Augmented Reality had a breakthrough year in 2016 with the success of Pokémon Go, with revenues of over \$600 million in revenue in the first three months⁵. Every large technology company is now fully invested in AR and VR, with Facebook's Oculus Rift, HTC's Vive and Microsoft's HoloLens setting benchmarks for this new behavior space⁶. With the success of Pokémon Go, the app development community has received the signal it was looking for: users are ready to engage with augmented reality on a daily basis. Once Apple Corporation enters the augmented reality space, app developers will focus on this opportunity, expanding it to experiences not imaginable just ten years ago. Tim Cook, Apple's CEO is quoted as

⁴ Manu, A.. The Imagination Challenge. New Riders/ PeachPit Press. Berkley. 2006. P.210

⁵ Available at: <http://www.digi-capital.com/news/2017/01/after-mixed-year-mobile-ar-to-drive-108-billion-vr-ar-market-by-2021/#.WHkng7EZORt> (accessed: December 13, 2016)

⁶ Behavior space is a multidimensional construct⁶ that includes time, rhythm, motion, attention, retention, a variety of stimuli and a variety of responses.

saying in October 2016⁷ *'AR is going to take a while, because there are some really hard technology challenges there, but it will happen in a big way, and we will wonder when it does, how we ever lived without it. Like we wonder how we lived without our phone today.'*

Eventually: Everything Autonomous

Autonomy means existing independently and separate from external forces, leading to self-sufficiency. Objects can react and can adapt to their surrounding context without any outside control, thus reducing the participation of humans in the shaping of an object's actions, and freeing that human from daily chores, allowing him or her to pursue a deeper lever of life experiences. Searching for the *deep human* in humans, what we might be really about when we remove the preconditions for survival imposed by the chores of everyday life. Autonomous objects present themselves to their owners only when needed, and perform tasks with fluidity and efficiency. They adapt to the surrounding context, and continually learn and upgrade themselves, through constant uploads and downloads of data.

Autonomous everything will find its first impact felt in the eventual loss of jobs, primarily jobs that can be automated. There is a lot of discussion about what will happen to the people presently holding these jobs, and proposals for a basic universal income abound. The impact on the economy of knowledge, skills, and jobs can be creatively addressed by understanding the elements needed in a transition to the deep experience economy; a transition from quantity to quality, from objectification to the dematerialization of experience, via mixed reality and augmented reality.

Autonomous everything also means deep learning taking over. It means sensors and cameras everywhere and in everything, obstacle detection technologies and of course, robotics. More than just autonomous vehicles, it means unmanned aerial and underwater vehicles, guided objects with vision aided navigation, it means autonomous production in agriculture, self generating objects, self-aware objects, self updating news and reporting, human machine collaboration and emotionally responsive robots. Rapid factories producing assistive devices, biosensors for health monitoring, biomimetic machines and autonomous medication, regulated by the quantitative and qualitative data we collect and evaluate every day. Adding sensors to every interface as well as machine learning would result in new social playgrounds and new value; new forms of action, as autonomous everything results in the *fluidity of everything*.

When everything is autonomous, every experience is connected to another experience: this is the value of social technologies. Platforms for a connected world create a new deep reality, new means for economic parity and participation, means by which the self becomes an economic agent at both ends of the system: creation and consumption. The autonomous forces of reality create the means for the economic self, a human economy that defines life by its attributes, as well as by new means to experience reality.

⁷ Available at:<http://www.forbes.com/sites/markkrogowsky/2017/01/10/new-rumor-suggests-apples-augmented-reality-future-may-be-coming-into-focus/#7b5278501b33> (accessed: January 12, 2017)

Augmenting Life with Deep Experiences

Anyone that drove for nine and a half hours between Toronto and New York can tell you that there is nothing more monotonous and no greater waste of time, than driving an automobile for such a long interval. It is simply a condition that we did not yet challenge, as what we are after is not the in-between – the transit time between two destinations – what we are after is arriving at our destination. The value of personal transport devices lies in the freedom to go when and where we want to go. Point A to point B in zero time, ideally. Humans are not meant to be driving vehicles; human life is about purpose and purpose is not in the driving activity (with the obvious exception of people for whom this is a profession), but in the arrival, the ultimate benefit, bridging the gap between two points of equal purpose.

Most adults in the industrialized world are in some form of transit every single day, for an average of 106 minutes (about one hour and a three quarters). Going to and coming from work, either in active transit (driving) or passive, being driven in public transport, taxi's, etc. Multiplying 220 working days in a year with 106 minutes per day, we get a stunning 23,356 minutes of unproductive time per year. This means 389 hours, or 16.22 days. Over a median working life of 45 years this means 729 days, or two years of one's life. Is it any wonder why we seek autonomous driving vehicles? We seek to recapture our life and its purpose by getting rid, when and where technology permits, of all the chores – such as driving and shopping - that have become restrictive and time consuming conditions of our life.

With the rapid adoption of emerging technologies, we are learning that these chores are a *variable*, and life is about managing variables. And the same applies to any business organization: the variables are a constant that organizations must respond to, in order to remain relevant.

Around the corner: Convergence

We are at the moment history turns a corner. Behind us we see the age of mass manufacture and industrial might, represented by large multinational corporations, giants that could bend steel and transform it in airplanes, ships, trains and bridges. Those were impressive days; the days in which we built the infrastructure of the world, as we thought these variables would be a constant of civilizations to come. We covered the ground with asphalt, redefined communities around the automobile, and redefined the way we connected people to people, and people to goods and services. These were physical manifestations of a moment in history, but we regarded them as history itself, having a hard time imagining how things could be different. Search the Internet for images of the 'city of the future' and see the overwhelming majority showing vast landscapes defined by buildings and roads. After all, who needs paved roads if the future was that of the flying car? Or a future with no cars at all, but delivery drones instead? Autonomous mobility is not about cars. It is about the coming together of all social and convenience technologies on a single platform and the transformation of everything.

Life Subscribed

Humans in organizations often think they are building for history, but history has a funny way of making humans feel inadequate. It turns out that the industrial world was just looking for a bridge to take us from 1900 to the second decade of 2000's. All we have defined so far as the indispensable infrastructure for our way of life might simply not exist in the industrialized world 50 years from now. Yes, that means roads, cars, shopping malls, transportation companies, parking lots, gas stations, insurance and financial institutions, as we have known them over the past 120 years. Because just around the corner we are seeing the first signs of a life in which everything is *social*, everything is *augmented* and everything is *autonomous*. A convergence called *life subscribed*. In this new context, life becomes a subscription to moments, curated invisibly by virtue of our past actions, and our sets of preferences.