



# SuperPosition

L'Innovation Inspirée  
de Jeanne d'Arc

Extract - Introduction

Philippe Cartau

Extract  
from  
Introduction

With the support of

IPSIDE

IP consulting firm

## Extract - Introduction

The ideas expressed in the following pages are those of the author and do not commit in any way the persons and/or companies mentioned or interviewed.

Cover: montage by the author from a painting by Albert Lynch and an image by Gerd Altmann

Back : Sketch of Clément de Fauquembergue, Clerk of the Parliament, May 10th 1429

Superposition, Innovation inspired by Joan of Arc

V5.4.4

Philippe Cartau

2020 All rights reserved

ISBN : 978-1-71651-805-8

<b>ACKNOWLEDGEMENT</b>	<b>5</b>
<b>PREFACE</b>	<b>9</b>
<b>INTRODUCTION</b>	<b>19</b>
WHAT IS INNOVATION?	26
WHY INNOVATE	29
WHO INNOVATES	33
HOW TO INNOVATE	36
<b>PART I - ARCHITECTURE</b>	<b>40</b>
<b>1- MATTER</b>	<b>44</b>
<b>2 - ENERGY</b>	<b>76</b>
<b>3 - MISSION</b>	<b>102</b>
<b>PART II - ACCEPTANCE</b>	<b>123</b>
<b>4 - THE UNKNOWN</b>	<b>128</b>
<b>5 - INTROSPECTION</b>	<b>162</b>
<b>6 - HINGE</b>	<b>185</b>
<b>PART III - ACCELERATION</b>	<b>227</b>
<b>7 - AMBITION</b>	<b>231</b>
<b>8 - SPACES</b>	<b>258</b>
<b>9 - DECOHERENCE</b>	<b>295</b>
<b>CONCLUSION</b>	<b>322</b>
<b>EPILOGUE</b>	<b>326</b>
<b>AFTERWORD</b>	<b>328</b>
<b>GLOSSARY</b>	<b>332</b>
<b>NOTES</b>	<b>336</b>

## Introduction

Jeanne d'Arc<sup>30</sup> would have created a beautiful startup. Combining Vision with Pragmatism, her entrepreneurial destiny would have been great. In modern times, her perseverance would have allowed her to reach the great Convergence, this incarnation of the incredible, where an innovation seems normal and its diffusion takes place without hindrance. The populace would have acclaimed this venture, its success would have resounded on social networks, its destiny would have been announced as inevitable.

The success of an innovation however is extraordinary, just like Jeanne's real adventure, the one that led her from her village of Domrémy to Rouen where her days would end. Starting from nothing, young and full of doubts, she let herself be carried by this urgency to live. Luck smiled on her, bad luck as well, all in the right order perhaps. She dreamed of mastering her destiny instead of mastering the elements, her thirst for power was exercised on the future instead of on the past. She could not read, she could not code, she could not even fight. Yet she knew how to galvanize the troops and give them hope.

That it would be a young virgin, of spirit and body, who had to shake the inertia of seasoned leaders and councils full of certainties and bitterness, invites us to reflect upon the dynamics of change. She was lucky, of course, but without courage or ambition, luck would always be waiting on the side of the road, Charles VII at its side. Sooner or later the English would surely have been kicked out of the continent, or would have left it voluntarily, just as sooner or later on the continent of the web a social network or another would have imposed itself with a narrative *à propos*<sup>31</sup>.

Is she the only one to have shown courage, to have hit the road to save France? To be convinced of this reinforces the poetry of great destinies but distracts us from a truth that is not well served, namely that numbers often steal our reason and sometimes even the limelight<sup>32</sup> without us

knowing exactly when or how<sup>33</sup>. Joans describing their Visions, displaying themselves next to the notables and princes, there was a plethora of them<sup>34</sup>. Her courage certainly had its role, but so did the numbers.

Some will refuse this version, preferring to keep the idea of a force a thousand times greater, of a divine will belonging neither to Jeanne nor to the Dauphin. However, the Joans were numerous. Prophecies proliferated back then like the announcement of revolutionary projects today. To each crisis its savior: a Maid for the Hundred Years' War, innovation and its progeny against the weakness of modern growth.

Two thirds of innovative projects do not succeed. Who's fault then? Let's dare a conjecture, and hold probability as a ransom rather than the divine, and let's add practice to it, because there is only art that does not play dice<sup>35</sup>. The implication is significant. As soon as we leave a well-trodden path, it is the multiple and varied iterations that strongly contribute to bringing us closer to the goal.

The first use of the cannon in France goes back to 1339<sup>36</sup> in Puy Guillem at the limits of modern Occitanie. It was not until 1453 and the battle of Castillon that artillery showed its effectiveness on the battlefield. What happened during all these years? Attempts, tests, furtive successes or dazzling disappointments, but nothing decisive. Time has accelerated since then, but innovation still requires time and iteration. The art is to reduce the number of iterations and therefore first of all to renounce the mechanistic<sup>37</sup> fairy.

Did Jeanne, in love with adventure or any other motive, get bogged down in the handling of the cannon to carry out her ambition? Not at all. She knew nothing of the tactics of engagement, the technology was beyond her and she lacked experience in the art of war. The gunpowder spoke on the banks of Orleans but she was not the instigator.

To what glory can she then claim? Simple. That of having stepped in the mud and grease of human interaction, to the same glory to which can claim the entrepreneurs having confronted the nodal point of all tension, to that of having gone down in the arena to confront her Vision with reality, more unpredictable than a jackal and more terrifying than a lion.

How many Joans never went beyond the edge of the woods, how many never crossed the limits of their village? Is she the only one to have been blessed with a Vision to which she gave her body and her soul? To be convinced that she was the only one gives us all a sense of power. «

« There is no chance, there is no contingency! We are chosen by a higher power! » This certainty lifts an immense weight from our shoulders. What a relief it is to leave this burden to an external creature who embodies supernatural power, one which we could never imagine devolved upon an ordinary being. « The redeemer, the savior, the messiah!»! The immense force of destiny advances like a steamroller before which we offer our bare chest so that we may receive the grace.

Icons are necessary, but you also have to know how to kill them, because the battle that is offered to us is one of the greatest and most epic. It calls on us to plunge into the depths of ourselves to confront the very foundations of our beliefs and our hopes. To innovate is to confront the unconscious, to put our hands in the slime of our emotions and the roughness of our needs. It means going up and down in the elevator of motivations, confusing and untangling levels doorways, discovering the less glorious aspects of our being. Oxygen is scarce up high and free electrons always go back down to the lowest vacant floor.

Yet it is by facing this Minotaur that we come back stronger, sometimes at the risk of being unrecognizable, more human, sometimes even at the risk of losing those who seem so close to us. We oscillate between the pressure of our surroundings and the call of our Vision, this intimate feeling that the story told does not fit the weak signals, these almost imperceptible messages that we detect in the hesitation of the wind or the flight of sparrows.

To persevere in innovation is to face the Minotaur and his labyrinth. It means convincing ourselves that beyond our victory there is still more to discover, more material to go further, it means convincing ourselves that we must go to the end of the earth. To pursue this quest is to renounce the comfort of a low entropy without variation that would last an eternity in a world without shapes nor colors, where beauty is as rare as a sand rose. It is to believe that it is possible to maintain this state of constructive tension, in suspense between the attraction of a lazy gravity and the draughts of our anxieties and of our violence. It is to wander through this stratum with enough lightness to stand up to gravity, but without forgetting its importance. A kite explores because we hold it. It is nothing flat on the ground or *à contrario* abandoned to the skies. To innovate is to flirt between the two, between the earth and space.

Jeanne persevered. But she did not throw herself into the battle without support or restraint, even though this is what she wished for, as she arrived on the banks of the Loire, eager to fight. Fortunately, Dunois



Le Bâtard<sup>38</sup> and La Hire were watching like guardian angels. They would give her leeway, but always keep her anchored to the realities of engagement. Every night after each battle and each wound, she would dive back into her Vision, feeding off her wounds. Every morning she would return to battle, imbued with the image of her saints and gorged with her Mission.

Meanwhile, by the candlelight, an unknown called Jehan perfected and cleaned his culverins of various lengths and diameters. Unaccustomed to such small objects offering so much brilliance, people would hurry to the window of his makeshift workshop, surprised that so much precision and agility could emerge from such laughable tubes barely bigger than a flute. The wise men of war swore by the bombardes<sup>39</sup>, large and virile with unquestionable attributes. It took the king to give Johan permission to practice on the Englishman. It took again the king's courage to concede, in the wake of a maiden, the right to war to a badly mounted fabulator.

To convince, we must appeal to the quota of credulity that resides in each of us. Before the technological upheavals of these last centuries, this credulity was abundantly granted to all kinds of fine talkers, bearers of prophecies and other well-crafted soothsayers. With Jehan, technology seems to have taken on a part of this burden, granting a convenient blank check to credulity, especially that technology will save us, nothing else.

Technological innovation obsesses us, it is omnipresent. In the depths of our psyche it poses as a miracle. Its appeal is akin to the power of Mesmer. Each CES<sup>40</sup> brings us its share of new features, exciting functionalities, radical increments and revolutionary gadgets, not to mention sweet prophecies. But all too often the big announcements obscure its cruel fate: to be fiddled with for entertainment before being tossed into oblivion. As long as it only distracts us, it remains transient.

Certainly, technology destructures, offering the chance to build something beautiful and fresh. It multiplies, it connects, it compensates. But without usage, by human being may I specify, it is nothing. Without discernment it loses us. Technological innovation is essential, but remains incomplete without will. To devote oneself to it without restraint is like walking on a stilt, it gives nothing but a spectacular fall. Technological innovation requires fearlessness and commitment on both sides, on the part of the inventor and that of the user.

In Jeanne's time, the cannon and the powder with which it was fed, struggled to find a position worthy of the name. In the hands of

individuals not well trained in the scientific method, progress took its time. When maturity, by dint of tireless trial and error, finally came to fruition, it was the use by individuals and the commitment within a community that was lacking. It would now be a matter of thinking about aligning them and using the weapons in concert. Collective usage would finally happen, a generation after Jeanne's death. It would take a long time precisely because it would be human.

However, technological innovation is running out of steam in some fields, it is struggling to claim its benefits in others. Its intentions are unclear. We no longer (really) innovate in aviation, combustion engines are running out of steam, drugs are as often as detrimental as they are curative and we wonder about the usefulness of 5G when we are already streaming movies. Technological innovation is still necessary, but it cannot claim to be the savior by itself. Often a small effort to change behavior, a behavioral innovation in short, can be much more profitable. What is better? Spending billions to create a "cost-effective palliative" for Type II diabetes or investing some of that money in prevention such as exercise and nutritional awareness? We could innovate for example by applying the notion of business model to food, and consider that the ROI is more interesting by investing in information or by subsidizing visits to a nutritionist!

Technology contributes to *scalability*. If technology is one of the most attractive attributes, it is not the only attribute of innovation. Beyond discovering the origins, going back to the sources allows us to understand what awaits a large number of startups where only the uncertainty part remains to be defined, the exponential aspect of growth and fund raising having disappeared. Just like Jeanne's prophecy, Chris Anderson's prophecy mentioned in the introduction has been partially fulfilled. The supply has increased, the breeding grounds for innovation have multiplied. But the ubiquitous platforms are not the intermediaries of discovery. Curiosity, openness, Meetups<sup>41</sup> and a crazy feeling that there is nothing to expect from ourselves are symptoms sprouting all around us. The baker innovates, he offers chocolate bread. The restaurant owner innovates offering fresh daily cooked meals in fast-food packaging. In general, creativity seems to embrace us and with it innovation, because the latter, in order to live, must feed the former. The major axes of diffusion today may restrict our choice, but the total part of

our day allocated to the new, the beautiful and the local seems to be called to increase<sup>42</sup>.

Isn't innovation, above all human, destined to become more and more so? Industry is declining, innovation is less profitable, we are reaching the limits of physics in some instances<sup>43</sup>. The great digital revolution continues to bring opportunities, including *scalability*, which will continue to nourish the hopes of future generations, because this world is in constant mutation. Artificial intelligence will have its say, brain interfaces will shake up titans, new social networks will appear. Defense, a major instigator, will continue to push the borders of the possible. Energy in search of renewables will not stop its evolution either.

As far as distraction is concerned, when obesity reaches us, whether it is of food or information, won't we be more inclined to work on quality? The progress of quantity touches the limits, if only because of resources. Tired of making trips to the dump, isn't the time now for experience and quality?

Innovation and its risks affect social responsibility, Rémi Demersseman is well placed to talk about it. The founder of Lab'Oïkos and its physical space Momentum went through several iterations before finding a viable base, capable of sustaining his insatiable appetite for collective progress. Four years after laying the first bricks in an old Renault garage nestled in the heart of the Saint-Aubin district of Toulouse, his vision is taking shape, that of a social and solidarity-based dynamic that feeds, regenerates and spreads itself. His Grand project is progressively extending to journalism in search of a serene path between lack of financing and overused postures. It extends to financing, still too timid in front of intimidating dreams. It comes to nibble the ankles of political fashions still too anchored in obscure and clientelistic systems.

All aspects of daily life are susceptible to the scalpel of the innovation process which is then within everyone's reach; not necessarily with the aim of disrupting, but that of revitalizing slumbering habits, of polishing faded postures, of maintaining a healthy distribution of power.

The implications are important in this field where *scalability* is the unconscious foundation of an entire generation. This implies accepting high risk on a limited probability basis. There will not always be millions of euros to absorb the countless iterations, but only the patience of passionate individuals, their time and the enthusiasts who follow them. Innovation will be based on service, hardly duplicable and certainly deviant, far from any sigma-compliant measure<sup>44</sup>.

Perhaps it is this inability to be measured that will save us from a moribund and perhaps even obsolete<sup>45</sup> productivity. The fact that unemployment is decreasing<sup>46</sup> while industry and its measurables are in retreat should not go unnoticed. Innovation, the engine of growth, is multiplying and becoming the prerogative of all. The human element and the uncertainty - both intrinsically linked - are immensely important and therefore require investment with latitude. This may explain why some are groping after the next big thing, comfortable in their beanbags<sup>47</sup> with their laptops shimmering, while others are toiling on production lines where every move and breath is measured.

It is the intangible that nourishes innovation and is in fact its beauty. Jeanne made a prediction and the population eager for the extraordinary believed her. If her words were inevitable, what pleasure would they have found in them? Then, even stronger, she innovated by launching herself into battle. Innovation creates movement between what we do and what we are called to do.

The Oscillation and the form we give it are the foundation of the progression. Too wide and the Vision detaches itself from Reality and loses itself in the darkness of time or of the web. Too weak and it falls back into the current of well-honed inertia. Without a vector to support the weak signals, there is no exchange. Oscillation is the meeting between two worlds, that of Vision and that of Gesture, that of our desires and those of the other, between the technical and the human, between math and poetry, between the past and the present and in this case, between the present and the future.

Building new and lasting things requires a healthy tension between these opposing forces. They would like to live their own lives but cannot survive without one another. We talk about Jeanne, but never about Jehan, we talk about one Steve but never about the other<sup>48</sup>. However, if we were to consecrate a hero, it is the third player who should be raised to the applause of the crowd. This third one is Superposition, an interaction so fast between Vision and Gesture that one does not distinguish the two states between which the spirit of innovation navigates. It lives from the tension that binds the two opposites, a mix of invisible gravity that brings them together and magnetic opposition that pushes them apart, all of this at the risk of either pushing Vision and Gesture apart forever or, on the contrary, of leading them to implosion.

This tale is about this state of grace of Oscillation and all that makes it live, giving birth to a living dynamic able to raise us to new heights

without losing us to the depth of space. Jeanne is one of the heroes, as are all the entrepreneurs of Occitanie and elsewhere, who one day have embarked or will embark on the human adventure of surpassing themselves.

### What is innovation?

Jeanne innovated. Ordinarily, the prophets of these times spoke their Vision, collected their pittance and then disappeared. Jeanne, however, became a part of her Vision. She joined the soldiers, stepped over inert bodies and put own her life on the line. The step itself was a novelty. Prophets did not participate in their Vision, it simply happened. In this case, she made it happen.

Among her own people she aroused doubt and skepticism, among the Burgundians, insults. The populace adulated her, the court distrusted her. She amazed or disturbed by her impetuosity, her determination and her desire to fight. To top it all off, she was Pucelle, a virgin, fighting with men. The occurrence of such a step was rare, as much as to see a woman nowadays at the head of the french republic.

To innovate is within everyone's reach. *To introduce something new into something that is well established*, according to the CNRTL<sup>49</sup> . Technology accompanies innovation but does not have a monopoly on it. Everyone can innovate in their everyday life, in their sofa or at work, by bringing the television to the dump or by reading emails only once noon passed: it's changing something that is well established.

In Jeanne's time, the cannon had been around for a long time. However, it was not its technological use - it was still rather inefficient - but an organizational innovation that marked the battle of Azincourt in 1415<sup>50</sup>, where the entire French nobility was routed. The archers did much more harm than the noise of the cannons. It was a question of behavior that sealed the fate of the battle, the nobility convinced that courteous warfare would never yield to the pragmatism of the foot soldiers. Hence, we always come back to the human being who initiates<sup>51</sup> or resists innovation.

Outside of the battlefield, beyond borders, space and time, it is less the effort than the objects, that hold our attention. They parade like flags and remind everyone of their proud filiation. They impose themselves by restructuring the reality, they change the cards and shake up habits. We

only have to think of the smartphone. But without a deep conviction to invest and give life to research or a fierce resistance to fear it, the history of innovation would be quite different. The innovation in thinking that Darwin proposed is a glaring example.

Alas, Effort sells itself badly. It comes upon us and disappears just as quickly, leaving the recognition to the carcass that it has animated the time of a campaign. We do not remember the effort necessary to understand and accept the new object. History retains above all the object. Without a coat of arms, a form or a figure like Jeanne, the effort and its behaviors are forgotten by history, even though they are the vectors of change.

Meanwhile, technology perpetuates this bad reflex of easyness and takes all the glory. It allows us to postpone the effort until tomorrow or gives us the means to dispense with it. The apostle of progress can always dispense with sport by explaining to himself that in any case, a pill will be developed, or machines to treat overweight, even though a change in behavior would bring much more. Innovating in the way we approach the sugar lobby or drastically reducing sugar-sweetened beverages would surely be much more profitable. If we could make a business plan, calculated on the benefits for society<sup>52</sup>, we would have a budgetary surplus! Despite what even a specialist on the matter can say<sup>53</sup>, or maybe even because of that, innovation must remain an option, especially technological innovation.

To add to my argument, the variable geometry of innovation reinforces its anthropocentric character. For whoever says they are *introducing something that is well-established asks the* question of for whom a habit is well-established. What is established for a 50-year-old is not established for a young person in his 20s. Traveling around the world means innovating, with its share of unusual practices disrupting our habits, most often culinary, then behavioral. It's to remake the old, like arboriculture, or when we decide to replace an electric coffee grinder by a manual version, even if it is built on a concept dating from 1840<sup>54</sup>. We innovate with the new habits that this entails. Whether it is a progress or not is another question.

In a way, innovation is an atrocious act that leads us from the incredible to the common, that transforms the dream into the usual, the untouchable into the palpable. We only desire what we cannot reach, said Goethe. In this case we are condemned to oscillate between an

unattainable dream for which we deploy all the efforts and a day of disillusionment after having converged and consumed the object of desire.

To innovate is to forge from the spontaneous, the new and the fresh, a process, a well-marked path that ensures that we always go by the same way at a lower cost. The very accomplishment of such an act seems murderous, so much it stifles the new and runs against its own essence. Fortunately, the antidote is in the poison and the combination of all the changes creates a permanent dissonance that calls for adaptation and thus innovation. To innovate is to stay in tune with the times; eventually, it is to be ahead of them.

To innovate is to believe in the unpredictable, the impossible or at least the indeterminate, because the rest by definition is possible or foreseen. Anyone who says that it won't work doesn't understand the dynamic. If everything were predictable, the world would come to an end because the energy needed to calculate the future would end up consuming the object of the calculation, the future itself.

Innovation is what makes us human, because it also frees us from a narrow and incomplete reasoning, from a timorous cerebral capacity too often subjected to its impulses and to habits that get tangled up in dusty and unhealthy webs. It is to *reinject* freshness, to compensate for the ravages of petty entropy and feeding us every day a micro-trauma which avoids the internal accumulation the tectonic tensions and the ensuing ravages.

To innovate is also to create junk, a lot of rubbish. In itself, this is essential. What we want to avoid is waste. The exercise consists in finding a balance between hopeless iterations and a path too narrow to discover. The expertise lies in the ability to reduce error by taking the right actions at the right time. Doing web marketing to engage with quality is trash. Not transforming this amount of information is waste. To make the same mistake again is selfishness, maybe even irresponsibility.

We are faced with a question of perception. And what is more human than perception? Once the technological question has been asked, it is the work of perception that begins. As the physical world is called upon to shrink, the intangible has its place in this future of behavioral innovation that is on the horizon.

We must pursue technological innovation. From the aqueducts to the culverin, it is obvious it must be pursued, but it cannot remedy all the hopes for glory. It will only be more useful and relevant if we take the full

measure of its human character, in particular by improving the Oscillation between matter and spirit.

To innovate is to go beyond ourselves, it is renewal, it is to find the right<sup>55</sup> Kelvin balance, somewhere between a well-established rite and a let-it-all-hang-out party. It is to converge a dream and a reality, to adapt the Vision and stretch the world of the physical. It is finding a new pretext for hope, it is reinjecting entropy to shake up the inertia of behaviors and realign them with the changes in the world. It is also to move away from the other for a while to come back and propose something strange. It is not always going in the same direction. It is an adventure full of uncertainties and doubts, full of discoveries and joys, which is offered to all regardless of rank or origin. It is to redistribute power by changing the framework of its exercise, allowing with a little luck to avoid through a thousand uncomfortable or shimmering evolutions, a revolution with bloody consequences. To innovate is to live in a superimposed state that oscillates between two possibilities. It is to believe in the impossible as Jeanne did and to convince oneself that the cannons are not the toys of the devil, as others did. It is to be deeply human, whatever the epoch.

## Why innovate

Because it is our trademark, to open ourselves to the world and to open it to others. Because it is our state of bliss, the one towards which we progress in community without confusing the next step with the destination. Because it pushes us to rise, even if it is not always our first choice.

Charles VII let La Pucelle give form to her prophecy. Eager for a solution, he received her after a month-long due-diligence<sup>56</sup> in Poitiers. The dauphin sounded out his close councils who were reluctant to accept this threat to their monopoly of influence. Then he decided: not in favor of immobility and the existing, but in favor of the unknown. He gave free rein to Jeanne, leaving to his lieutenants the task of curbing her ferocity for life. The Loire conquered, he resisted the injunctions of Jeanne, he slowed down with prudence, then finally let himself be convinced to go brave the Burgundians on their own territory until Reims. He favored the conditions of novelty. He offered himself a chance to sovereignty.



Jeanne advanced into unknown territory. She knew neither the Orleanais, nor the use of the pen, and even less the use of the sword. Yet she projected herself outside her sphere of comfort, beyond the boundaries of reason, both fluctuating and at times overlapping. She opened the way to her spirit, as well as to the hope of thousands of souls weary of an endless war. She would surely have preferred the soft shadow of the beech tree to the arid voices of the warrior's truculence. She too found herself cornered before finding the courage to give substance to her Vision.

Creative destruction<sup>57</sup> is at work, the kind that challenges the status quo and allows us to end the unbearable dissonance of the absurd. For too long, the lines of conflict have wavered and fluctuated without ever settling or satisfying anyone. The fixed certainties of the warlords are unable to stop the undulation of the borders. To the same tactics fate responds with the same results. Habituation had taken up residence on the banks of the Loire, a fresh wind was needed to unblock the situation. With Jeanne infiltrated in the enclosure of Orleans, the certainties were put back into play.

Besides keeping us alert and competitive, innovation keeps our actions fresh, giving them the shine of market vegetables. It gives vigor to our words by shaking up insubstantial phrases and faltering words. It infuses energy in the entropic collapse as it would give a good kick in the dull balloons of a long past party, inert and tired, unmovable from their impregnable positions: one in the hollow of the sofa, another between two chairs, a third perched on the lampshade. The others, of course, spread out on the floor, only dream of chaos, such a child's kindred race among them to redistribute positions. It is a good remedy against entropy which has this annoying tendency to empty a system of its energy, to let the balloons fall to the lowest point and not move anymore. The ideal then is to instill novelty, in the right places, enough to keep the system viable and alive by destructuring wisely.

There is little room for maneuver. An Oscillation adapted to constant adjustments is a healthy approach. Human life oscillates between 305 and 312 degrees Kelvin<sup>58</sup>. This is a thin stratum on the scale of possibilities. Below that it doesn't move enough, above that it is too hot. A fine and constant Oscillation allows for a day-to-day adjustment, with tolerable discomfort balanced by persistent benefits. Let this Oscillation go beyond the tropics, on either side a monster is waiting for us. Too

much crystallization downwards entails sooner or later an opposite reaction whose effects, more than shaking up the habits, comes to destabilize the systems. Whether they are ideological postures or dominant positions, any inertial structure moving without possible deviation will not see the parameters of the world deviate from its imaginary line. On the contrary, a total destructuring without attachment or leash, invites disaster. Political, energetic or food anarchy are the witnesses of it.

Hasn't nature found the best way to innovate by restarting the learning cycle with each generation? The elders following the path of inertia leave it to the next generation to correct the dissonance between a new reality and outdated practices. Generations are like sparkling water and with time they lose their bubbles. Who wants a stale bottle? Each generation comes from its share of light new bubbles carrying high hopes.

In Jeanne's time, the boys of the family quickly found their destiny. The most tumultuous joined the army, the most dreamy joined the orders and the wisest ploughed the land, mostly. But the professional army is no longer there to give free rein to the energy of the most rebellious. Innovation, on the other hand, proves to be a fertile ground where he can spend his energy to change the world, a perfect place for the passing of the torch where destructive innovation can express itself without restraint.

Something similar could have happened to Jeanne. Could she have left to get away from her mother, to escape her stifling character or her refusal to give up her youth to her daughter? Nothing is said of this, but it isn't impossible. In any event, this is the heart of innovation, its inevitable association with the change brought upon us by time. The youth with its cells still volatile like agitated pollens twirling in the wind will know much better how to find the pistil of the new times and realign the perception with the changing wefts of the world.

Thus, innovation allows us to redistribute the cards, to take power or to resist it. By its unpredictability, it sets limits to what a machine can learn. In a convergent world, the machine wins. Perhaps this is why we did not wait for AI to develop divergence, this capacity to open a narrow question to an infinite number of possibilities. Of course, this spoils productivity, but it creates jobs and saves us from atrophy by injecting the unexpected.

When you go through the security gate at the airport, it isn't said that the alarm goes off for a specific reason. You don't need to be carrying any metal or suspicious substances. It can be random. Why then? Why were you chosen? Because if there is a logic, it can be understood, by triggering the portal. And whoever can understand it can then master it and use it to his or her advantage. By setting up a startup, we create a similar environment, by injecting the unpredictable into a well-honed routine, something we can't do when assembling, for example, an aircraft engine.

From an economic and social point of view, this is the whole interest of innovation. Anything that is measurable and predictable leads, at worst, to relatively poorly paid jobs where we can focus on constantly reducing costs, at best to structures bogged down in dehumanized processes<sup>59</sup>. Take your pick. Innovation on the other hand, made of iterations and uncertainties, requires slack. This margin gives more latitude to work in a beanbag or to relax around a game of *baby-foot*. This may disturb a generation of MBAs, but the economy begs to be energized, not just administered.

Innovation is the surprise effect, an essential element of conflict, whether economic or military. It gives the advantage by destabilizing the adversary and her well-organized cohorts. But it carries risks<sup>60</sup>, its introduction lends itself to learning by the enemy as well as to his attacks. To innovate well, mastery of the introduction is essential, as is the option not to innovate, or of choosing one's preferred terrain, or of letting someone break in the cask. Even the most brilliant strategists<sup>61</sup> can be caught short, leaving innovation to redistribute the cards, sometimes to the most reckless.

The English innovated in the use of their archers. They arranged them in such a way as to surprise the French cavalry. Perhaps still satisfied, fourteen years later, with their dazzling victories, they did not see Maître Jehan pacing the roads leading from Chinon to Orleans. Without Kool-Aid at that time, it would be garter snakes he would make them swallow<sup>62</sup>. If Jehan's name says nothing to us, the variations of his firearms continue to resound across the centuries.

Innovation is about learning to deal with waste or playing with dissonance. It is to create a process that stands on its own two feet, or just to have a good laugh. It's about reinvigorating meaning and words, learning to adapt to the changing world and what it throws at us. It is to resist the easy way out and to preserve what saves us, these small efforts of every day and their batch of discovery.

We are at the beginning of a new era of innovation, of the art of capturing energy and going beyond ourselves, from more to better. Beauty has no end, while as the flight envelope of an aircraft does. The exhilarating part of innovation is to access the intimate desires of others, to give up a part of ourselves so that they accept a part of us. It is the result of perseverance and discipline in research, far from a so-called self-standing intuition which, in its power, decrees absolute knowledge and to be followed without challenge. It is to remain humble and open to what is yet to come.

To innovate is to cut the Gordian knot of entangled reasoning. We like technology, we retain the heroes; we see the objects coming, we remember the courageous of the past. The established kings did not have to conquer anymore, simply to contain. Sooner or later, however, inertia deviates from reality and the newcomers, eager to take their place on the throne, rush into the breach and seize the opportunity. Jeanne saw the breach and rushed into it.

### Who innovates

Only couples innovate. Without action there can be no reaction, there cannot be novelty without something established. Some innovate for the better; others for the worse, until a balance is struck or the bond collapses or is torn apart. The innovation is not in one, nor the other, but in the link that binds them. It is the existing tension that binds two forces with an elasticity oscillating between rupture and implosion. Those who innovate are those capable of sustaining this tension.

This does not prevent one from talking to oneself, one moment mocking one's conservatism, the next laughing at one's ingenuous eagerness. Self-deprecation can surely help, at least to see the dissonance in the mirror. But talking only to yourself has its limits. A conversation in twosome has its advantages.

We could argue that the English-French couple was among the most stimulating. As soon as a fixed identity such as that of the nation was forged in the wake of Charles VII, thus consolidating the capacity of memory and that of transmission, an optimal competition could be established. Neither too close to the point of lacking comfort, nor too far away to be able to ignore each other, a tough competition settled for the centuries to come. Sometimes one introduced the culverin, sometimes

the other improved the cannon; sometimes one developed a naval force, sometimes the other improved its own; sometimes one laid the foundations of parliamentarianism, sometimes the other prepared for revolution. Certainly there were infidelities, with the Habsburgs in particular, but the channels of exchange were never broken, so much so that the exiles found refuge with its foe, the French with the proud Albion or the English with the Bloody Frenchie. The Concorde is a startup<sup>63</sup> before its time, born from two antagonists!

Jeanne innovated because Charles gave her the opportunity. Jehan innovated because the Dauphin gave him *carte blanche*. Certainly, he had nothing to lose and everything to gain. Nevertheless he did it, as he could have done nothing.

Considering that one innovates alone leads to the biggest mistake of all, that of not integrating the reaction into the action. It seems obvious, even trite, but many people create without ever confronting each other. To innovate is to convince another to adopt an invention. Without anyone to convince, it remains an invention.

Not only is it necessary to be two, but it is also necessary to have a channel of exchange, so that one may be seduced and that the other make the effort to seduce, and ensure that between the two the channels of communication are maintained. The small distances of Europe lent themselves well to the exchange of ideas, they did not have time to wither on the way between regions. Other parts of the world are<sup>64</sup> less suitable for this, and even the contact between two borders is not always synonymous with exchange<sup>65</sup>. Innovation therefore belongs to those who are willing to accept it.

Between those who try everything and those who hang on to the past, there is a whole range of innovation skills, as many as the fingers of one hand<sup>66</sup>. Based on this simple rule, it has been established that those who are willing to submit themselves to novelty at first sight are one in five, at the most. Unless you know how to recognize from afar those who are willing to play this game, the implications are harsh, especially that the effort will need to be multiplied. It is those who are willing to sacrifice a part of their time or resources, sometimes even their image, who fuel innovation. Unfortunately, they are not easy to find, even if we could help them<sup>67</sup>. Time is always available, money can be found, but once the image has been tarnished, it is difficult to recover, especially if the general atmosphere consists in shooting down any unsuccessful attempt.

Among the innovators, there are those who believe it, those who know it, and those who don't even realize it. A startup may not be innovative. An application to organize your ironing doesn't revolutionize anything. Replacing your mother with an application is not necessarily an innovation<sup>68</sup>, especially if it is to maintain a cozy status quo that avoids going out into the world.

Jeanne innovated by leaving Domrémy. She gave herself a destination as well as the imperious mission to lead the king there. Since she did what no one else had done before, she innovated. But she didn't know it, and it didn't matter; what's more, so much the better! Between innovating and pursuing a mission, the choice is sometimes difficult: it is difficult to run two hares at the same time.

Quiditmiam<sup>69</sup> was writing prose without knowing it. At the very least, if Aurélien, its founder, didn't know that his project would qualify as a startup, perhaps he had a vague idea of doing something new, but that remained an anecdote. The main thing for him was to offer parents and employees a visibility on the lunch menus offered by canteens and company restaurants. It was during the Save the Food Hackathon organized by TBS<sup>70</sup> that he understood the potential of a startup and the richness of the data collected. The jury, relying on the understandable and the shimmering, just missed to honor Aurélien and his team.

Jypher, on the other hand, was innovating while knowing it. My team and I knew that by embarking on this project, in the field of clothing recommendation, we were moving from an incremental innovation to a disruptive innovation. We were aware of the increased risk as well as the increased benefits that could be derived from it. Awareness of the innovative process was an integral part of the approach.

But the exercise does not lend itself easily to observation. Watching oneself innovate, the process seems to lose its uncertainty with the risk of turning into a statue.

Thus, the innovation evades those who chase it and offers itself to those who flee from it, or to those who, like Jeanne, pursue their Vision. It is offered to those who open a path, to those who brave the mockery, to those who listen to the rumor without necessarily responding to it. If a young Pucelle can innovate, everyone can innovate.

## How to Innovate

Jeanne gave herself time while also imposing herself urgency. These two states were intertwined. She saw what was necessary and without interruption drew the path. From large meshes at her beginnings, rough as blurred and hesitant sketches straddling fields of possibilities, he venture progressed because she held back from depriving herself of one path or another in search for smooth consensuality.

There are as many paths to innovation as there are prophets. The one that is revealed in the story to come is articulated around a Superposition, a duality to be conquered, uncertainties to be nourished, entwined suppositions or intertwined gestures. It begins with a glance posed beyond the horizon, a resistance to the comfort of certainties. It takes the shape and the coherence of a playful Oscillation as well as a provocative tension. Occupying all the space, it seizes the horizontal as well as the vertical, bringing the Gesture closer to the Vision and the urgency to the patience.

The sustained tension and its vector of exchange nourish innovation. Too much tension and the exchange becomes sluggish, the Oscillation wallows in a senseless slack. Too much tension and the medium breaks down, ending all communication. Innovation thrives on healthy dissent, starting with the dissent between the spirit of demand and the spirit of supply, whether it concerns the partners of an expedition, the patrons to be conquered or the crowds to be seduced. Adventures deprived of this dynamic sink or melt into the ordinary.

Without Oscillation, there is no salvation. So it is with Vision without Practice, Effectuation<sup>71</sup> without strategy or Lean without poetry. It is like clapping with one hand. It is not indulging in the Vision that allows us to access it, it is arriving at its gate with the Gesture accomplished, equipped with the most discreet as well as the most flagrant impressions and learnings. We seek the state of Superposition where two dynamics intermingle without merging, in the quest for the paroxysm of their unification while dreading their conclusion.

Just as Jeanne's story requires an ending, the Oscillation must converge. The intrigue in this case is whether the Vision and the Gesture will converge. If so, is this the end of innovation? If not, what happens to Jeanne and her companions? Some develop for the sake of developing, others dig a furrow of habits and hopes so deep and dark that they don't see their directionless efforts endlessly reshuffled without *dénouement*.

Without deadline, decline. Progression, on the other hand, is imposed by a rhythmic evolution, the art is to find the tempo, temporal triggers in place of an outdated perfection. An impossible quest if ever there was one, as it is impossible to think of everything at the same time in a moving world.

Because the challenge is not so much to know everything at once but to know the right thing at the right time. It is difficult to devote oneself to more than seven friends at the same time: it is not because we know a myriad of them on social networks that we will give them the same attention, even if they are important<sup>72</sup>. The same goes for knowledge in innovation, except that in this case, of this myriad, we must focus on the most important. But importance changes with time, and this is where mistake come from, wanting to focus on all of them at the same time.

Most entrepreneurs understand the concepts, are familiar with the implementation but miss the point, too busy playing the wrong instrument at the wrong time. Innovation is like an opera in several acts, each with its own sequence and combinations of strings, percussion and winds. The important thing for the conductor is to know which one to play.

The work facilitates its task by structuring the narrative. Listening to its melody and its rhythm, three times are revealed, each one depending on its own dynamics, each one calling for a combination of knowledge and depth that belongs to it. A place for each thought, a thought for each place.

Listening to needs gives Architecture, listening to expectations gives Acceptance, listening to demands gives Acceleration.

Architecture, Acceptance and Acceleration are intertwined, linked and followed one another. Just like Jeanne, the modern adventurer confronts these three phases which will situate the questions to be asked and the precision of the answers to be given.

As it is in no way a question of going in circles but of converging, the progression engages in a funnel which narrows down rather than leaving us protected by a never-ending closed circle. The concept invokes a smooth pyramid. The experience, on the other hand, will recall a Ziggurat with its discouraging plateaus and sudden advances, the levels multiplying, laminating the successive and always impatient iteration phases. In any case, we are looking for a convergence and each stage must impose its deadline.



But how do we know when to move forward, knowing that no divine sign will come to whisper to us the right moment? It is not the attainment of the objective alone that dictates progress, but its alliance with the imperative of time, with which it negotiates, discusses and jostles. If the objective is praiseworthy and necessary, it is also fickle and imprecise in its goodwill. By waiting too long for its desires, it takes advantage, dodges deadlines and gains time. And speaking of time, it is impatience that must win her over. Without her sword held at arm's length, ready to flinch, there is no tension, no Oscillation between our absolute desires and the resources we can give them. Would we be able to live without awareness of a certain end? Would we live better with a thousand years of life to spend? It is the threat of an end that incites us to make the best of things, or for a startup to progress<sup>73</sup>.

So, held in suspense between the imperatives of time and matter, we progress like Jeanne in search of a commitment that will open the doors to the next step. If we don't get it and time runs out, we turn back and try a new approach. The progressive and growing commitment will be the proof, each step anchored to its imminence. Failing that, never be satisfied with the enthusiasts until the evidence overwhelms us. In the meantime, let Jeanne show us the way.

Find Superposition on  
[Amazon](#)