Pro Edu. International Journal of Educational Sciences
No. 12, Year 7/2025
https://www.ifiasa.com/peijes e- ISSN 2668-5825, p-ISSN 2668-5817

https://doi.org/10.26520/peijes.2025.12.7.5-41

PAST LITERACY'S TRIKIRION, BORNET'S HUMICS & GENAI'S DICTATED ORDER

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ABSTRACT

In our modern digital, GenAI, and AI-Agent world, we need to become literate, autonomous, and endowed with self-learning sustainability in three domains, autonomous yet articulated together. SYMBOLERACY is the symbolic value of images, hence imageracy, then, the symbolic value of words, semantic references, and syntactic constructions, in one single word, utterancy, and finally, the symbolic value of sounds, hence sounderacy for music, intonation, and tempo, and LITERACY for the symbolism of language. NUMERACY is numbers and numerical operations, thus counting, percentages, fractions, and mathematical calculus and computation. TECHNERACY used a stone to chip marks on a durable medium at the beginning and tools to write down data, long before writing systems made it simpler, from stylus/brush inscriptions to the printing press. Then came machines transmitting oral messages like the telephone, telegram, Morse code, radio, and television, before the machine had its own self-managed processing way. Now, we are developing deep human learning and enhanced human intelligence.

WHAT COMES NEXT? Pascal Bornet slams onto our desks his three humics: genuine creativity, critical thinking, and social authenticity. We are not dispossessed of our intelligence or creativity, mind, or empathy. We are yet challenged to make this GenAI a tool that we must use symbiotically to develop both communication and collaboration to learn and teach, which implies, in tomorrow's controversial no-work world, moving from traditional routine or submissive work to self-development, self-learning, and self-implementing our enhanced, augmented, and upgraded human intelligence to work with the GenAI tools so many people fear. The target is a new type of not yet specified symbolic literacy that would enable us to differentiate true human contact and exchange from deep-fake or even not-so-deep-fake controlling manipulation. And the ethical challenge of good and evil has never been so profound and awesomely frightening. What will we do, split as we are between adoption and rejection?

Keywords: Symboleracy; Literacy; Numeracy; Techneracy; GenAI, Humics;

INTRODUCTION

This article will focus on Pascal Bornet's recent book *Irreplaceable*, seen as the continuation and amplification of the presentation I proposed in Kyoto at the 2024 Conference on Education and Social Change, Hestia Autumn Conference at Ryukoku University in Kyoto, Japan, October 19-20, 2024. My presentation was entitled "The Trikirion of Literacy."

The first characteristic of Pascal Bornet's book **(Reference 1)** is that it contains a deep contradiction between the fact that this irreplaceability does have a phylogeny in itself, in its process and procedure. Yet, all the preceding phylogeny is assumed to exist, but is never considered. It all starts with the concept of digital literacy that brings to our world, our science, our technology, our culture, and our society (Note it is seen as global and does not fall into the trap of the anti-Chinese demagogy and propaganda, and the author often uses an

inclusive "we, us, our," the way I have just done and this is supposed to propel his text and ideas into a global and universal cloud) something like a revolution (a term that is too often used in the field of Artificial Intelligence) with a before, a now and a future, though the before is limited to something like 20 years and the future is not really specified. We are enclosed within a large present that covers about ten or twelve years, if not less.

Before entering a deeper review and critique of the book and its ideas, It is necessary to see the vast phylogeny of symboleracy, the symbolic power of Homo Sapiens starting from the development of a fully articulated language and reaching today the level of Generative Artificial Intelligence. If we want to understand what will come next, what the future is going to be for Homo Sapiens, definitely more than the simple symbiosis of GenAI and what Bornet calls the Humics, the three uniquely original human competencies or mental dimensions: "genuine creativity," "critical thinking," and "social authenticity."

This phylogeny was explored in my article "The Review of the Trikirion of Communication: Symboleracy, Numeracy, Techneracy," published by BP International. **(Reference 2)**

I am going to give a quick survey of this phylogeny of Symboleracy. This is essential because there is no possible GenAI if the simple facts and concepts of "language" and "communication" are not set at the very core and root of GenAI that does not come from nothing, a simple revolutionary introduction of a new technical invention or contraption (Grammarly suggests "gadget"), but the simple emergence of a new configuration of mental and physical communication based on the use of language in such communication, and what's more on the use of Large Language Models without which GenAI cannot even emerge, and these LLMs are multimodal as Bernard Marr published on LinkedIn on November 4, 2024. He meant dealing with and processing

(1) oral language and written language, both constituting text, including all sorts of literature,

(2) then, images covering photography, drawings, paintings, cinema, and video-TV,

(3) then again, all kinds of sounds, including music, rhythmic sounds, what is called "noise" in the musical field,

(4) plus, 3D volumes like sculptures, architecture, bas or high reliefs, engravings,

(5) and many other items.

"But multimodal AI isn't just about input; it's equally adept at output. These systems can generate text, produce images, synthesize speech, and even create video content, all while considering a complex array of inputs. This dual capability of understanding and creating across different modalities is what sets multimodal AI apart from its predecessors. (Bernard Marr)[1]

This surprising neglect, by Pascal Bornet, of language, linguistics, and their phylogenetic essential role for the emergence of digital technology around 1952[2], then some

[1] Announcement on LinkedIn, Bernard Marr, "The Next AI Frontier: How Multimodal Systems Are Reshaping Our World," https://www.linkedin.com/posts/bernardmarr_the-next-ai-frontier-how-multimodal-systems-activity-7252552843381862400-Ofq6/ and link to the full text in Forbes, https://www.forbes.com/sites/bernardmarr/2024/10/17/the-next-ai-frontier-how-multimodal-systems-are-reshaping-our-world/. Note on Bernard Marr's site, this sentence or paragraph is not mentioned at all in the text, https://bernardmarr.com/the-next-ai-frontier-how-multimodal-systems-are-reshaping-our-world/

[2] The IBM 701 Electronic Data Processing Machine, known as the Defense Calculator, while in development, was IBM's first commercial scientific computer and its first series production mainframe computer, announced to the public on May 21, 1952. It was designed and developed by Jerrier Haddad and Nathaniel Rochester and

fifty years later, ca 2000, Artificial Intelligence[3], and twenty years later, GenAI[4] between 2016 and 2022, is in full contradiction with his concept of "explainability" that should always be considered with AI. Check the section "Clarifying AI Through Explainability" on pages 217-219. "Explainability allows users, developers, and stakeholders to understand how AI models arrive at their conclusions, ensuring transparency and trustworthiness." (p. 217)

The languages we use today in everyday life carry the full at-least-300,000-year-long phylogenic history of the linguistic performance of Homo Sapiens' communication, and even this is not enough because Homo Sapiens inherited some communication from previous Hominins and beyond from less evolved Hominids known as big apes or monkeys from whom Hominins all descended. This heritage was worked upon by the linguistic environment of the fetus from the 24th week of pregnancy (when audition becomes possible), and then by the social life into which the child had to integrate, a linguistic, cultural, and communicational environment that shaped his linguistic competence. Think of the child of a Neanderthal mother who integrated the Homo Sapiens community of the father with her child. The fetus was in a Homo Sapiens environment, hence with their language. Then the child had to integrate the Hominin language and social community, just the way his or her mother did when pregnant and after delivery. The child will inherit the languages of the mother and the father. Note I assume the relation to the father was dominant for the choice of the Homo Sapiens community, whereas the relation to the mother would only be essential for five or six years of the child's life.

That's why in the most analytical Indo-Iranian (merging both Indo-European and Indo-Aryan) languages, you will find, in English for example, surviving though often marginal characteristics of all the stages of the phylogenic development of language from the

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was based on the IAS machine at Princeton. The IBM 701 was the first computer in the IBM 700/7000 series, which was IBM's high-end computers until the arrival of the IBM System/360 in 1964. The business-oriented sibling of the 701 was the IBM 702, and a lower-cost general-purpose sibling was the IBM 650, which gained fame as the first mass-produced computer. https://en.wikipedia.org/wiki/IBM_701

[3] In 1997, Deep Blue became the first computer chess-playing program to beat a reigning world chess champion. In 1998, Dave Hampton and Caleb Chung created Furby, the first domestic or pet robot. In 1998, Yann LeCun, Yoshua Bengio, and others published papers on the application of neural networks to handwriting recognition and optimizing backpropagation. In 2000, MIT's Cynthia Breazeal developed Kismet, a robot that could recognize and simulate emotions. In 2000, Honda's ASIMO robot, an artificially intelligent humanoid robot, could walk as fast as a human, delivering trays to customers in a restaurant setting. In 2001, *A.I. Artificial Intelligence* was released, a Steven Spielberg film about David, a childlike android uniquely programmed with the ability to love. https://www.forbes.com/sites/gilpress/2016/12/30/a-very-short-history-of-artificial-intelligence-ai/

[4] WaveNet (2016): DeepMind's WaveNet marked a significant advancement in generative models for audio. WaveNet could generate realistic-sounding human speech, which opened doors for more human-like AI assistants and highly accurate text-to-speech synthesis. Progressive GANs (2017): Progressive GANs, developed by NVIDIA, were a milestone in producing high-resolution, photo-realistic images. These GANs were able to generate images with unprecedented detail and clarity by progressively adding layers during the training process. GPT-2 and GPT-3 (2019, 2020): OpenAI's generative pre-trained transformer (GPT) models marked a significant leap in the field of GenAI for text. They demonstrated the ability to generate coherent and contextually relevant sentences, making them useful for a wide range of applications, from writing assistance to the chatbot population. DALL-E (2022): OpenAI launched DALL-E to the public. DALL-E is a deep learning model that can generate digital images from natural language prompts. ChatGPT (2022): OpenAI released ChatGPT, a conversational chatbot based on GPT, and the platform reached one million users within five days. GPT-4 (2023): The latest GPT model is reportedly more accurate and has advanced reasoning capabilities. Premium ChatGPT users now have optional access to GPT-4 within the chatbot. https://bernardmarr.com/a-simple-guide-to-the-history-of-generative-ai/

very beginning of linguistic articulations in Hominin language to the most advanced final phase of articulated language. Hence, it has kept its roots (the roots of Semitic root languages) and some root functioning. The same root “fly” can be a transitive verb (“Paul flies the plane over the city.”), an intransitive verb (“The hawk flies over the forest.”). With some (oral or written) modifications, it can become a noun (“the flight was nice”), a past tense (“The swallows flew away yesterday back to South Africa.”), a past participle (“Have you ever flown on the Concorde?), or even, without any change in spelling, e noun designating a flying insect. And I could go on with many more forms derived from the original root.

These derivations are both simple inflections by some play on the vowels of the root, and morphological derivations with suffixes and prefixes, both verbal and nominal. This is the second articulation of the morphological categorization of the linguistic units. Yet the third stage is already emerging, that of syntax like transitive and intransitive constructions, but also the complex syntax of phrases like: “Fly me over the moon, and then fly me back home, and land me in bed.” Or “Stop talking of you flying me over to the moon, just fly off to the first dump, and fly yourself back into the trash.” And I have only played with the verb. *Oxford Language* provides nominal uses of “flight” like “Yesterday I saw an eagle in flight,” Or “In the fall we can see many flights of whooper swans." Yesterday, I actually saw a flight of geese on their migration to the south. Furthermore, this *Oxford Language* gives "He flighted a free kick into the box," which is simple to understand. However, "Shafts of wood flighted with a handful of feathers" is an elegant metaphorical way of describing a Native American arrow. Migrating people, even if it is only through one century of history in one single place, keep in their memory and linguistic practice all they have understood and encountered in their life, and it is transmitted to the next generations, just as much as it has come from myriads of anterior generations. The way we speak or write our languages today reflects the way our Paleolithic ancestors spoke and accompanied their oral language with entoptic geometric elements and representational paintings or engravings.

Let me be clear on this point. Phylogenetically, all languages contain characteristics of all the stages of this phylogenetic development anterior to the particular phylogenetic stage of development of each language concerned, as a heritage, but also characteristics standing in prefiguration of the next phases of this phylogenetic level of development reached by any particular language. What is inherited is part of the deeper “langue,” whereas what is a prefiguration of the future is discursive, carried by the discursive situation and the linguistic marks necessary to be discursively pertinent. To really assess the phylogenetic level of development of one particular language, we have to question the initial migration out of Black Africa that brought these people speaking this language from Africa to where they are now.

All the languages that will descend from this migration will have the characteristics of the level of phylogenetic development reached by the communicational language and discourse of the participants in this migration, hence the communities in Black Africa at the time of the migration. The migrating communities will not step out of this level of development and will go on developing based on this level, whereas, in Black Africa, the communities will go on developing their languages and discourses beyond this particular point reached when this or that migration out of Black Africa took place. This double dynamic bothers a lot of anthropologists or archaeologists who have not been deeply trained in the phylogeny of language, the linguistic dimension of these various phylogenetic families

of languages according to their level of articulation (1st, 2nd, and two-successive-wave 3rd articulations, respectively Semitic 1st-aericulation root languages, then, 2nd-articulation isolating character Sino-Tibetan and Tibeto-Burman languages, and finally, 3rd-articulation agglutinative Turkic languages on the one hand, and 3rd-articulation analytical-synthetic Indo-Iranian – to become Indo-Aryan and Indo-European – languages on the other hand.

To pretend, the way some do, that Indo-European (at times Celtic or Gaulish, and at other times Slav languages) descend(ed) from some Eurasian proto-Turkic language(s) is not that phenomenal since all Turkic and all Indo-European (and Indo-Aryan) languages left Black Africa when language and discourse had reached the third – and so far last – articulation and they remained in contact in South-West Asia for some 30,000 years (from 45,000 to 15,000 BCE) while the Turkic people who arrived in the Middle East some 15,000 years earlier moved to the whole Central Asia, Mongolia and Siberia where they encountered the people who arrived in Asia 60,000 years before with the 2nd-articulation migration (Sino-Tibetan and Tibeto-Burman languages). The agglutinative Turkic language-speaking people went on to the Urals, where they must have met some of the last Denisovans, then Eastern Europe, Scandinavia, and as far as Ireland. In the same period, these Turkic language-speaking people from the Middle East crossed the Caucasus and Anatolia and continued into Central and Western Europe, where they coexisted with the Neanderthals for some 20-30,000 years.

The Indo-Iranian language-speaking people arrived around 45,000 BCE, but they stayed on the Iranian Plateau till 3,000-5,000 years after the Peak of the Ice Age (19,000 BCE). The languages of these two waves of this last migration out of Black Africa were in contact and had reached nearly the same phylogenetic level. So, exchanges, and even more than exchanges, were possible. Keep in mind, Europe was, after the Ice Age, still entirely speaking agglutinative Turkic languages, Saami, Estonian, and northern Russian old Turkic languages are the remnants of this confrontation with the incoming Indo-European people after the Ice Age. Note that Basque is the surviving language of these agglutinative Turkic languages spoken in Western and Central Europe from 45,000 BCE to 15,000 BCE. **(References 3 & 4)** Keep in mind that the incoming Indo-European people were a minority when compared to the Turkic-speaking people, who had been in Europe for more than 35,000 years. **(Reference 5)** Some people seem to forget that these Indo-European migrants entered Europe via four particular routes.

The one through the Russian plain coming from Central Asia is only one problematic route (first route), which partly ignores the Caucasian route (second route) and totally ignores the Mediterranean and Mediterranean coastal (third route) migration from Anatolia, just the same as the Danubian Corridor (fourth route) from the same Anatolia West around or across the Black Sea.

Phylogeny of Homo Sapiens From Oral Communication to GenAI				
Pre-Sapiens Hominins	Walker, Slow runner	Bipedal	Before 300,000 BCE	Limited number of calls, no or nearly no rotation of vowels and consonants
Mutations selected for long-distance fast bipedal running				
Foot architecture	Deep larynx, Diaphragm	Pulmonary Respiratory system	Subglottal structure & heart	General Coordination with Body; Broca area
Homo Sapiens, long-distance fast bipedal runner				
Homo Sapiens	Runner Long-distance, fast, bipedal	Modified bipedal feet for long distance and fast running	From 300,000 BCE minimum	Collateral increase of vowels & consonants + rotation
Emergence of language				
Vowels and consonants: CVC-VCV clusters	Attached to items around and in the community	Symbolic values of these clusters & Conceptualization	Literature, including science, religion(s), philosophy & politics	Simultaneous coordinated emergence of the mind
SYMBOLERACY				
Oral Literacy As soon as 300,000 BCE	**Numeracy** Numbers & Operations, ca 45,000 BCE at least. **Counting Techneracy**	**Written Literacy** Technical tools. From geometric signs to numbers, numeration, & "alphabet." **Literacy** and **Numeracy**.	**Techneracy** all along now: inks, pens, brushes, ca 3,500 BCE. Printing Press ca 1450 CE	Hydraulic power, ca 1,000 CE. General **Techneracy** & **Symboleracy**. Mechanization of work. Proto-Industry, right to GenAI. McLuhan's Extensions
PHYLOGENETICALLY GROWING HOMININ COMMUNICATION FROM THE VERY "START," AND EVEN BEFORE WITH ANIMAL AND HOMINID COMMUNICATION				

The authors and researchers dealing with Artificial Intelligence do not go back to old times like those, and they miss the phenomenal roots the language someone speaks today has in these deep past periods, not so much as language but as communication. This communication lasted for millennia in languages that were constantly evolving in direct coordination with inner and outer communication, which the people had to practice every day or so with all the communities around them, hence with various dialects or even maybe languages, though all with the agglutinative architecture. It has left in the "langues" of each and all languages and in the discourses of each situation confronted with each language, all sorts of reflexes, at times impulses, to use this form and not that one for, at times, totally evanescent reasons that no one can explain. An AI machine being super-intelligent could maybe understand and explain or use such knowledge, especially when linguists disagree on the reasons for it. For example, try to find a real pertinent, and shared-by-all explanation why the "passé simple" tense in French is disappearing from daily language and is being replaced by the "passé composé," a compound tense similar to the English "present perfect," but definitely not equivalent. And English is not losing its preterit, showing it is a typical French evolution. This having been said, let me first give a fast-overflying survey of this Hominin phylogeny of language before entering the "Three Humics" of Pascal Bornet.

1. THE TRIKIRION OF LITERACY (REFERENCE 2)

The Pre-Sapiens Walker, a simple bipedal walker or slow bipedal runner, could articulate a few vowels and a few consonants, but he only had a limited consciousness, if any, of the rotation of vowels and consonants. The limited numbers of both were in line with the vowels and consonants of great apes, who only had some calls because they did not have the rotation of vowels and consonants. We are speaking here of two or three vowels and four or five consonants. Without their rotation, they could produce a dozen calls. Those limits could be compensated for by body language, intonation, and other elements at the sole level of the utterance of the calls.

Nevertheless, **Homo Sapiens** inherited this competence from Homo Ergaster or Homo Erectus and probably shared it with Homo Neanderthalensis and the Denisovans who had both gotten it from Homo Erectus, with or without an intermediary sub-species.

But **Homo Sapiens** changed their habitat and had to change their hunting techniques, and so, they became long-distance fast bipedal runners. This implied the adoption of mutations, making it possible (architecture of the foot, the breathing apparatus, the architecture of the mouth, tongue, and glottis, and the coordinating nervous system).

And **collaterally** these mutations provided Homo Sapiens with the possibility to articulate **five-six vowels**, or more, and **twenty-twenty-five consonants**, or more (clicks have to be considered as consonants, or consonantal phonic elements). They then developed **the rotation of vowels and consonants**, and these new vocalic and consonantal possibilities provided them with the ability to produce thousands of simple VCV or CVC clusters, or smaller and bigger ones. That was for Homo Sapiens, as a species, a real change, an evolution that shifted him from calls and body language to articulated language.

But this transformation had another consequence.

Homo Sapiens used their emerging **symbolizing power**, their **Symboleracy**, and attached these numerous clusters to items around and in their community. These clusters became words that could only have meaning in a context, and when accompanied by intonation, body language, and other non-linguistic elements. Then this attachment became some simple type of pragmatic **conceptualization** that opened the door to the emergence of **the mind** in Homo Sapiens' brains. If we dare say so, it all started when Homo Sapiens became genetically able to expand their inheritance of very limited language into the conceptualizing articulated language we still have.

This opened the door to a level of **communication** never reached before, conceptual communication that would evolve fast over the millennia and the centuries from 300,000 BCE to the next stage of written language, writing, and written communication around 3,500 BCE, then printed communication around 1,450 CE for the West, and a lot more beyond this point to reach digital symboleracy around 1,950 CE, and Artificial Intelligence around 2,000 CE. And that is where we have a fundamental question. Every stage in the phylogeny of language and communication enabled Homo Sapiens as a species, and their ever-growing educated elite to reach higher levels of intellectual competence. What will happen in McLuhan's perspective **(Reference 6),** now the extension of human intelligence is proceeding in its development all by itself, or nearly so?

What new mental articulation is going to emerge? Or will we have to go through a Butlerian Jihad like in the Science fiction novel *Dune*, a science fiction novel by Frank Herbert (1920-1986) published in 1965? **(Reference 7)** No author or researcher working in artificial intelligence can avoid the link and reference to this science fiction book. In 1965,

the Arabic term “Jihad” was attached to a very English name, Butler, which did not have too much resonance since the big Jihads had not really started then, except maybe in Algeria, where it had been victorious in 1962. Today, the word is extremely powerful, and it appears in this context of *Dune*, to be extremely racist since the Arabs are thus considered and characterized as being against any kind of scientific or technological progress, which is at least historically false. But here is a simple presentation of this Butlerian Jihad.

“As explained in *Dune*, the **Butlerian Jihad** is a conflict taking place over 11,000 years in the future (and over 10,000 years before the events of *Dune*), which results in the total destruction of virtually all forms of 'computers, thinking machines, and conscious robots'." ***[Note 8**, Herbert, Frank (1965).*

*"Terminology of the Imperium: Jihad, Butlerian". Dune. Jihad, Butlerian: (see also Great Revolt)—the crusade against computers, thinking machines, and conscious robots begun in 201 B.G. and concluded in 108 B.G. Its chief commandment remains in the O.C. Bible as 'Thou shalt not make a machine in the likeness of a human mind.'**]* With the prohibition "Thou shalt not make a machine in the likeness of a human mind," the creation of even the simplest thinking machines is outlawed and made taboo ***[Note 9**, Lorenzo, DiTommaso (November 1992).*

2. PASCAL BORNET, *IRREPLACEABLE* (REFERENCE 1)

Pascal Bornet is not for the destruction of these machines. He is, in fact, for their legitimization and multiplication, but he knows about the *Dune* argument and explains why they can be seen as dangerous. In the 13th chapter, "Overcoming AI-Generated Addictions," he explains how such a negative vision is the result of the Distorted Thoughts some people cultivate in their emotional self or psyche. Yet, for you to understand how deep the idea goes, let me quote an important passage on page 172.

“**Step 2: Identify the Distorted Thought.**

The second step consists of identifying the distorted thoughts that lead to this emotion *[addiction to AI]*. The following are some common distorted thoughts to help you identify yours:

- **All-or-nothing:** You view situations in binary terms, such as “always” or “never,” ignoring the shades of gray in between. Example: ”Since I didn’t get the promotion I wanted at my company, I’ll never get promoted.”
- **Overgeneralization:** You draw wide conclusions from specific, limited instances. Example: “If one person thinks I’m not smart, then everyone does.”
- **Disqualifying the positive:** You invalidate the positive elements of an experience without reasonable justification. Example: “If my teacher praises me, it’s probably just out of pity.”
- **Jumping to conclusions:** You prematurely conclude negative outcomes without evidence. Example: “If this Tinder match hasn’t responded to my message today, they must not be interested.”
- **Catastrophizing:** You magnify the negative implications of a situation or anticipate the direst outcome. Example: “Not getting this promotion means my career is doomed, and I’ll never secure another job.**”**

This reveals, in Pascal Bornet's thinking, a strong hostility to binary thinking. I could only agree with him, and I could only, like him, systematically look for more diverse answers to a situation or a question. “Three” is then the first step to this diversity. I must say here that Pascal Bornet seems to have a ternary fixation since most of his by far too numerous numbered lists, bullet lists, or tables seem to lean towards favoring ternary patterns.

But this reveals something else in Pascal Bornet’s way of thinking. If a negative phenomenon develops, it has to be the result of your bad or even distorted thoughts. “Distorted” is not the proper word. These thoughts that might seem unreal, unrealistic, even perhaps surreal, are the result of a long experience, at times even an educational experience. Even in the most reckless and aggressive person, this recklessness and this aggressiveness come from “HIS or HER or THEIR” past. And what’s more, the statistical or probabilistic functioning of LLMs is frighteningly binary since there is a statistically and/or probabilistically dominant element, which is then the "truth" with all other solutions or elements rejected as false altogether without any distinction. That's the result of the training these machines get. They are required to give the proper answer and proper solution, and yet they are not required to propose one favored solution (with justification for this favorable status) and an alternative solution, maybe even two alternative solutions. When such unilateral choices are presented in some science-fiction films or even detective stories, we all know this is not real life because in real life, we do not want only one solution. “I did not have any other choice!” Not even a simple choice between A and B. One suggestion and only one, and then obey, comply, submit, and execute.

But this way of thinking, despite all efforts, is deeply ingrained in Pascal Bornet's mind, like on page 84:

Complex ethical decision-making: Humans have **the innate ability to navigate ethical dilemmas**…” (My emphasis)

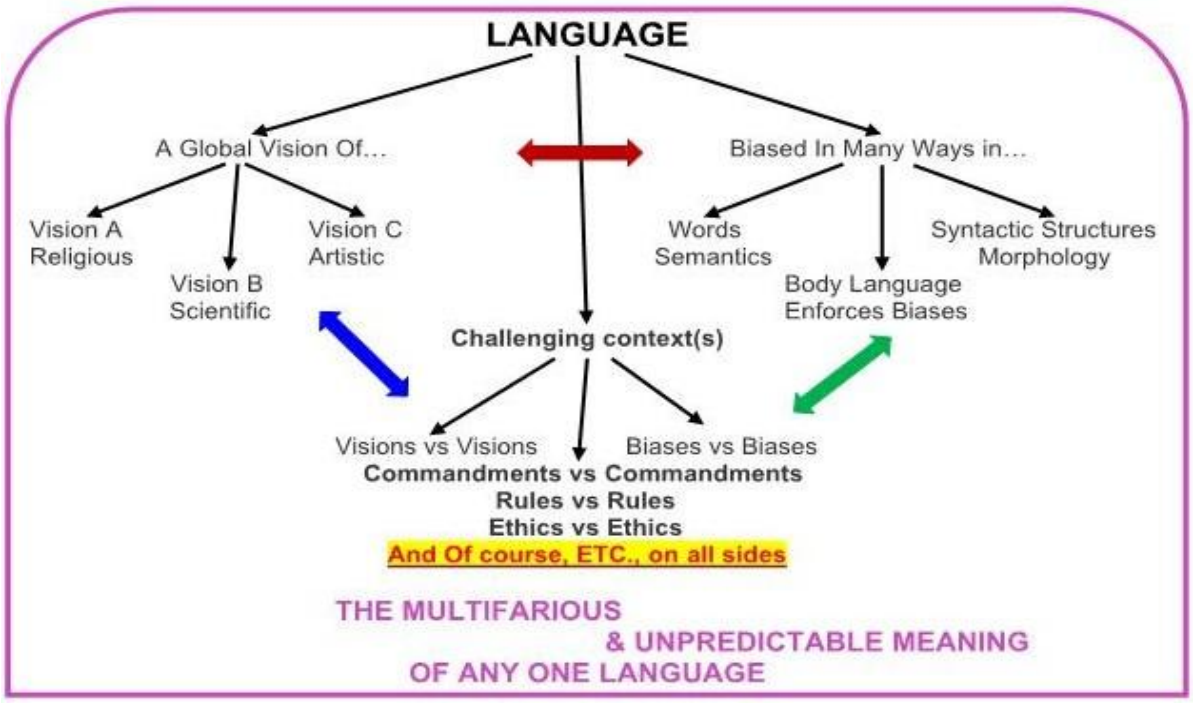
Nothing is “innate” except the genetic heritage, and yet this heritage is “innate” from at least two main sources within a general environment that intervenes before, during, and after the genetic fertilization, at times due to some incident or accident during the pregnancy of the mother that may disturb the normal genetic functioning. The famous literary “Elephant Man case” of congenital deformity has little to do with the basic DNA of the mother or the father. That’s probably why Pascal Bornet does not really envisage the ethical risks of Artificial Intelligence. The term “intellectual property” **is not even listed** in the Index, nor “**copyright”** and “**author’s rights**.” When we know the global debate on the topic, particularly in Europe, in China, and other Asian countries, with lawsuits happening regularly on the question, we wonder why Pascal Bornet is not more open to the topic. The Russians have just this week fined Google with a single digit followed by so many zeros, though without any decimals (that would have been humorous to have a “.point 27” after the enormous number of zeros). Note in the quote that the “innate ability” is reinforced in its unavoidable depth by the term “dilemmas.” We are here dealing mostly with questions about copyright, authors’ rights, intellectual property, patents, and brand protection. They are ethical because they challenge the rights of billions of people. Yet Pascal Bornet does not get into the details and the dilemmas that are always “either-or” Gestalten or patterns that remain vague questions that do not deserve, in Bornet’s approach, a fair and detailed presentation AND discussion.

3. LANGUAGE

But when he speaks of communication, he does not even try to qualify the tool without which communication has not been possible for a very long time: oral language since 300,000 BCE, then written communication since 3,500 BCE, and then printed, recorded, and broadcast language. There is NO communication WITHOUT language. **(References 2,3,4)** And what's more, the language he assumes behind his discourse is English.

A few hints at other languages and yet no serious consideration on translating machines, these barbaric, homogenizing, but totally unconscious language-grinders. These machines do not translate from meaning (finely understood) to meaning (finely understood) but from statistical correspondences drawn from the statistically dominant meaning of the word in L1 translated by the word in L2 that has the same statistically dominant meaning if this meaning is properly understood in L1 and L2 and thus is the same.

But the paradigmatic environment of each meaning of any word is so great that translating is NOT possible without experience and consciousness, hence the ethics of a translator or translatress. Even children know that. They do not find it very funny if you call their dog a cat. Let me represent this first level of word-semantic-diversity.



But what is a bias? Pascal Bordet is extremely clear on this point. Biases have to be eliminated. However, he considers biases only within "Making Your Company AI-Ready" (Chapter 16). The intention is absolutely praiseworthy, but I do not see how it will work if some basic elements are not taken into account. From the start, he only considered English as the default language by never considering a company in which several languages have to be understood: The first step in Table 16.2 "Responsible AI implementation plan" (pages 213-215) is for him "to establish AI Ethics Guidelines" and his advice is "My Tips: Make guidelines public to build trust with users and stakeholders. Regularly updated to adapt to new challenges." The second step is: "Form a Diverse AI Team." We expect this reference to diversity will take into account the language or languages spoken in the company, and the

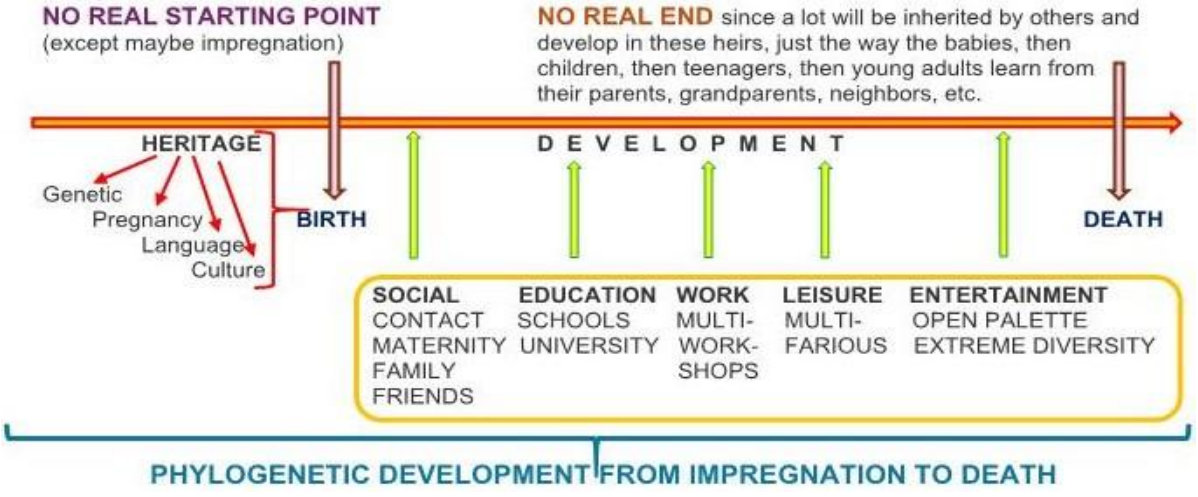
various dialects of any one language spoken in the company. For larger and smaller companies, he refers to "diverse backgrounds and perspectives to work on AI projects" and even "to ensure diversity of thought." His advice is: "My Tips: When hiring for your AI team, include members from different disciplines, cultures, and genders to provide a wide range of insights and identify potential biases in AI systems."

That's exactly where the problem is encountered. Diversity does not go beyond "scientific, technical, and institutional backgrounds" on the one hand, and beyond "disciplines, cultures, and genders" on the other hand. Some will tell me that culture includes language. Probably, but you do not deal with a difference in culture between two people, religion, for example, and the fact that two people speak two languages that are absolutely different, like the agglutinative Finnish and the root languages Kabyle or Arabic. They are 300,000 years or so apart in phylogeny. They might have in a professional context an in-between common language like French or English, but can we trust their levels in these foreign languages, and the differences in the linguistic competence of the two persons, the Finnish-speaking person and the Kabyle- or Arabic-speaking person? To guarantee diversity, language is central, and then you have to introduce in the company, as a consensus among all the employees, some working groups that can certify the level of each employee in the languages used in the company, and in the default language or languages accepted by all (which does not mean spoken by all). That means working within a multilingual context, and that deserves many chapters in a book with Bornet's objective: to make companies AI-Ready, Human-Ready, or Change-Ready. The book does not even mention this linguistic diversity that is so important in any company that mostly employs people under or even with a college degree, amplified out of proportion by today's migratory movements of various populations in the world. You can only be irreplaceable if your company is multilingual, if you are multilingual, and English is not the universally global default language in any working world. In an international pharmaceutical company in French-speaking Geneva, the local default language will be French for local business (even with the WHO or OMS). But in the branch of the same company in Germany, the default language will be German for local business, and it will be English in the British or Irish branches of the company, still for local business. But as soon as we move to international business. The relations between the Geneva Swiss branch and the German branch might not be in English, but might be in German because German is a standard language in Switzerland. If the connection is between the Geneva branch of the company and the Chinese branch in Beijing, the company may have been swift enough to hire in Geneva a few native Chinese to control and develop this Chinese enterprise. They know that, in Asia (and that is not only true of Asia), people also prefer using the local language as a default language for international business. And in this case, the Chinese language concerned would be the Han dialect of Beijing, not that of Shanghai or Hong Kong. Pascal Bornet never considers these problems. We may be right to wonder if he is not primarily writing for the USA and a handful of countries that speak English as a native or official language.

The acquisition of one or more language(s) is a long process. 300,000 years ago, Homo Sapiens was discovering the new possibilities the mutations he/she was going through provided him/her with. Today's children are going through a similar process if we assume that basically, the physiology of Homo Sapiens has not changed drastically for impregnation, pregnancy, delivery, etc. The child starts hearing in his/her 24th week of his/her mother's pregnancy, and he/she hears his/her mother's voice, along with the voices of people close by.

Hence, he/she hears the language of his/her mother and he/she records clusters of sound and probably the moods in which the mother is, when and if these moods are echoed in the mother's body by the heart's rhythm, the blood- and oxygen-flows, and other endocrine glands' hormonal secretions. The child is not born with no linguistic baggage. Yet the child will learn essentially after his/her birth and a lot faster than we may imagine. The child is a tremendous recording machine and he/she records sounds, clusters of sounds, referential designations becoming meanings, patterns in what is being said leading to morphology and syntax, and always within some communicational situation in which the child listens and then responds, at times, with the child calling for something, and the response comes from the environment. We do not know the connection between an angry mood in the pregnant mother, the various hormones, and physiological responses to this mood in the mother who includes the fetus of the child. After the child's birth, what is the connection between what the fetus experienced and the child's response to a live situation after his/her birth when he/she is angry or in dire need him/herself? Does the baby's body reproduce the hormonal response of the pregnant mother, or is the response purely instinctual? That kind of study is very delicate, especially with the pregnant mother and the fetus she carries. But we have to assume it has not changed, at least not a lot, and we can assume then that what we observe or study in present-day children is similar to what happened 300,000 years ago. A visual representation is necessary to show what Pascal Bornet alludes to several times but never specifies: he says a Generative AI machine cannot have the real experience a child goes through when he/she learns a language or any "cultural" element in his/her environment. Pascal Bornet does not even consider the mother's pregnancy as if it had no importance at all, since the child has not been born yet.

This graph does not mention (they are included under other terms like "language" and "culture," and a lot under "education") religion, ethnic affiliation (what some call race), political affiliation, philosophy, etc. Using the word "diversity" a few times is not enough because it does not have the same meaning for everyone, which is far from it. There are so many types of diversity that for every person concerned, one particular type always counts, at least more than the others. It is time now to consider two triads of concepts that Pascal Bornet uses all the time in his book. First, the three HUMICs, Genuine Creativity, Critical Thinking, and Social Authenticity, on the one hand, for individuals (chapter 5), and then the similar triad for businesses, on the other hand, AI-Readiness (chapter 16), Human-Readiness (chapter 17), and Change-Readiness (chapter 18).



4. THE THREE HUMICS

The three humics are the skills and competencies any individual, and eventually, any group of individuals, has to develop to become irreplaceable when confronted with AI, GenAI, and Agent AI (or AI Agents). These humics can only be human and, according to Pascal Bornet, will never, or at least not for a long time, be learned or imitated by AI, GenAI, and Agent AI (or AI Agents). Pascal Bornet even goes one step further and suggests the symbiosis between normal humans who have developed their humics, and GenAI, with all its competencies imitated from the standard behaviors of human individuals or groups of individuals. For Pascal Bornet, this imitation of the three humics can only be unsuccessful: GenAI cannot develop these humics by simple imitation. The symbiosis Pascal Bornet suggests should avoid a confrontation that cannot lead to anything positive: GenAI versus humans (with or without humics), if it becomes confrontational, will lead nowhere. This suggested symbiosis seems to be the only way out. We should discuss this concept of "symbiosis" because humans and GenAI machines can work together if both sides agree and work along the same line of being productive together. But there might be – and I am sure there would appear – strong and powerful disagreements between the machines and their humics-endowed operatives, hence a possible conflict. Bornet does not consider the possible and necessary problem-solving procedures.

If humans cannot reach this symbiosis, then they will not be irreplaceable. Then, they will be replaced. The conflict would have been solved by the elimination of human operators. But that solution would also mean the elimination of the human side of things that had not been developed by the operatives who had not developed their humics and learned how to symbiotically invest them into working with the GenAI machines. This way of thinking is definitely difficult to accept. Let me be clear here: it is at least culturicidal, the total elimination of one cultural entity, here humans, by a non-ethical and non-accountable machine. If something goes wrong, and we can be sure something will go wrong, in such a confrontational situation, how can we "punish" the culprit? And who is the culprit? The machine, or the badly trained operator?

But what are the three humics, and why are they so difficult to develop?

First of all:

"**Genuine creativity** is the ability to generate new and original ideas, solutions, or artistic expressions. While AI can mimic patterns and generate novel combinations based on existing data, Il lacks the intrinsic human spark of genuine creativity." (page 68)

What we feel at this moment is that we need examples to really materialize the problem. Is Chomsky's famous "Colorless green ideas sleep furiously" a creative or even a genuinely creative sentence? Chomsky rejects it because it is nonsensical and contains contradictions and impossible characteristics. Can ideas have a color and be colorless at the same time? Can ideas sleep? Can anything or anyone be said to be sleeping furiously? In fact, it is Chomsky who is wrong, and this sentence is quite acceptable within the syntax and the semantics of Lewis Carroll's "The Hunting of the Snark." **[Reference 8]** Just one short sample:

The loss of his clothes hardly mattered, because
He had seven coats on when he came,
With three pairs of boots—but the worst of it was,
He had wholly forgotten his name.

He would answer to "Hi!" or to any loud cry,
  Such as "Fry me!" or "Fritter my wig!"
To "What-you-may-call-um!" or "What-was-his-name!"
  But especially "Thing-um-a-jig!"

While, for those who preferred a more forcible word,
  He had different names from these:
His intimate friends called him "Candle-ends,"
  And his enemies "Toasted-cheese."[5]

The main point here is that creativity is not the same thing if we consider it at the level of the sounds, the morphology, the syntax, and/or the semantics of the language, the way Shakespeare uses English in his plays and poems. We should then consider all this creativity within the context, the surrounding culture, and the surrounding existential backdrop. What does it mean to be genuinely creative with your neighbors in your neighborhood? Is John Singleton's film *Boyz'n the Hood* (1991) **[Reference 9]** creative? Maybe, but how can a boy in this cultural, ethnic, and violent neighborhood be genuinely creative? There are many solutions there: get a machinegun, get a bazooka, start a new drug cartel or distribution circuit, whiten oneself if one is black or colored, run away, start a new prostitution club, both girls and boys, underage, if possible, shoot at least one cop dead, and we could go on for one full page. All these solutions have ethical sides (in the plural for each one). Think of the same question with Tony Kaye's film *American History X* (1998) **[Reference 10]**. Pascal Bornet's idea is that a GenAI can produce a film "à la" John Singleton, or "à la" Tony Kaye, but it cannot produce a film that would be "genuinely" creative. What makes Shakespeare's *Titus Andronicus* (1594) **[Reference 11]** creative as compared to the standard historical report on this character? What makes Pasolini's film *Œdipe roi* / Edipo *re* (1967) **[Reference 12]** "genuinely creative" as compared to Sophocles' play **[Reference 13]**, and the latter as compared to Greek mythology? The answer is obviously "Yes," but it would require many pages to show all the creative elements in each comparison I have suggested.

Second then:

"**Critical thinking** is the ability to analyze and evaluate information by applying independent judgment and ethical reasoning. It involves critiquing the validity of information, using intuition to make decisions, and engaging in self-reflection to understand one's biases, purpose, and underlying motivations." (page 68)

One thing is clear: the person using critical thinking can submit what he gets from outside as having to be critiqued, but the person concerned here, the critic, can have his own biases and consider what comes from outside to be biased because his own biases reject the data proposed to be critiqued. Pascal Bornet will come to this idea later in the book, but this search for "my own" biases has to be performed by "myself" with no help from outside. He speaks of this when he considers how people can develop addiction in real life to TV (or

[5] Lewis Carroll, *The Hunting of the Snark* (1876), Poetry Foundation, https://www.poetryfoundation.org/poems/43909/the-hunting-of-the-snark

alcohol, porn, and so on), and why not GenAI? In isolation and solitude, you let yourself be carried by the addictive cycle:

> "[1-] external input…
> [2-] Distorted thought…
> [3-] Emotional reaction…
> [4-] Addictive behavior…" (pages 170-171)

Pascal Bornet suggests a three-step procedure to get rid of the addiction:

> "Step 1: Identify the Undesirable Emotions…
> Step 2: Identify the Distorted Thought…
> Step 3: Strike Back Against Distorted Thought… with a rational counterpunch…" (pages 171-173)

But in this procedure, the person concerned is all alone and must do this search and hunt alone, with no help, or at least no help is envisaged. I have to get rid of my distorted thoughts that are biased, for example, but how could I trust anyone not to try to impose their own biases unconsciously onto me? Both for this "anyone," who is not conscious of his biases, and for me, who is not conscious of the biases unconsciously imposed onto me by this "anyone." Why should I be the only one with biases? This is an antisocial bias of its own. Take the case of alcoholism. Alcoholics Anonymous (A.A.) **[Reference 14]** always advises a new member to get some support from one person, an ex-alcoholic, who will be his/her advisor or sponsor.

The procedure is in 12 steps and 12 traditions. Here, Pascal Bornet only proposes three steps, and without any help, anyone should be able to do it, to get rid of their addiction to whatever it may be, including racism and domestic violence. The only way is then to push away that addiction to technology, or whatever else, and replace it with another positive activity. Your simple liberation by simple substitution. I have seen that so often with standard hospitalized externalized procedures. One half-hour session a week, maybe two, and the slow shifting from one alienating addiction to another less alienating addiction, like an energy drink (R** B*** for example) instead of alcohol. There was a time when the Soviet Union started a campaign to replace vodka with wine, beer, or cider, just because they were substitutes that were lighter in alcohol.

Third Humic finally:

> "**Social authenticity** is central to engaging harmoniously with people. It encompasses the ability to understand and manage emotions, communicate effectively, empathize, and exercise leadership to guide and positively influence people… Social authenticity requires an understanding of complex social cues and emotional subtleties that AI, lacking real emotions and consciousness, cannot fully comprehend or authentically replicate." (pages 68-69)

This is the most obtuse element of the triad. It is not for everyone at all. It is for those who can assume some leadership toward other people and lead them to the new world that Pascal Bornet suggests in this symbiosis with GenAI. It is revealed in "the ability to

understand and manage emotions, communicate effectively, empathize, and exercise leadership to guide and positively influence people" (Page 68)The deeper meaning, an intellectual bias, is easy to capture if we follow the verbs of what such a symbiotic man has to do: "understand… manage… communicate… empathize… exercise leadership… to guide… positively influence people." (Page 68) Pascal Bornet is speaking to an elite who will lead the society he is dreaming of to the goal of symbiotic peace-&-quiet.

Then, it is time to move to the second triad, the one concerning businesses, and this triad will lead us to the society of NO WORK imagined, if not dreamed of, by Pascal Bornet.

5. AI-READINESS

In chapter 16, "**Making Your Company AI-Ready**," he states the three objectives of this general orientation: "Achieving three objectives:

[1-] Embrace AI's capabilities to augment your business operations,

[2-] ensure your company's use of technology respects ethical boundaries,

[3-] and protect your company against the new threats from AI." (page 203, the numbering is mine)

The first objective is suggested to follow three steps:

"1- Foster an AI mindset. … How can companies build the right mindset (step 1)? … shift from outdated mindsets to a more integrated, human-centric, and data-driven approach… [He specifies this in Table 16.1 in **five** entries.]

[a-] Leadership Involvement.

[b-] Not Tech, but People First.

[c-] Cross-Functional Data Collaboration.

[d-] Need for a Product Mindset.

[e-] Synergizing Technologies." (pages 203-206)

He considers that such a shift must come from, if not be directly imposed by, strategic business goals. The point is that Pasal Bornet speaks here from the point of view of the boss of the business, the management's general objectives. The various examples he takes either do not try to develop this mindset, or the objective and method come from "you," i.e., the boss. Only the case of Toyota leaves some initiative to the workers who can propose changes, but these are limited and positioned within the company's general strategy. This is what can be criticized: There might be good bedside manners from everyone assisting the company that needs some development; hence, some repairs before it is too late. But what real involvement in the building up of the company's strategy do the workers enjoy, and the same for the customers or clients? There is also the problem of making sure AI does not get rid of workers and does not replace them with AI machines, or what is now called AI Agents. The question behind this is that those who will not be able to work with AI as the main manager of the general functioning of the company will have to be retrained or fired. We go back to the triad of learn-unlearn-relearn.

"The ability to learn is one of the most critical competencies we possess. And not only learning but unlearning and relearning too." (page 148)

And if some will have to be retrained, who will provide the retraining and cover the expenses of this new training session, and will there be a guarantee that the workers concerned will keep their jobs when they have gone through this retraining procedure? And what about the workers' salaries while they are being retrained? Pascal Bornet does not use a unionized approach to such problems. The third point [1-c] is more interesting because it brings up the idea that all services and departments of the company must work in symbiosis, sharing all their data and procedures. This basic idea will be brought up again with the fifth point [1-e]: crisscrossing technologies with and within GenAI. The fourth point [1-d] is surprising here. It sounds as if companies today are still devising a product exclusively to satisfy technical and cost considerations. It has been a very long period now during which many top companies in the world have understood that the SAME product has to be customized to any group of customers within the widest diversity possible, and that to customize a product for the Arab Muslim public requires the participation of Arab Muslim people who are the best experts on what their market, their audience, their public wants. And that prevents all sorts of fake language produced by non-human translating machines. This means AI has to be customized to the public it targets. We are far from that. This customization I am speaking of is absolutely universal, global. It concerns any product you can imagine, even shoes and socks. Unluckily – and that would support Pascal Bornet's remark – if they are considered, the "mechanical" procedures used to conceive this customization are far from perfect. Translating machines might become trustworthy in fifty years, maybe, but certainly not to translate Shakespeare's sonnets.

2- Develop and sustain AI literacy through the workforce. … How can companies build and maintain AI talent (step 2)? ... We often debate whether to recruit externally or nurture talent internally and how to keep our talent up to date… [He specifies this in **five** bullet entries.]

[a-] Building and nurturing talent early: … Diverse skill sets are needed, from program managers to data scientists…

[b-] Internal recruitment: … Leaders can unveil hidden talent within their teams… 60% of the required talent for the AI initiative can be found and developed internally.

[c-] External acquisition for rapid skill enhancement: … external recruitment or acquiring specialized companies [may] become necessary…

[d-] Empowerment through learning and tools: empowering your workforce. Providing tools for self-learning and development like low-code platforms is essential…the transformation is holistic and deeply ingrained.

[e-] Incentivizing talent: … incentive programs… bonuses, fast-tracked promotions, or educational opportunities like executive programs or MBAs… (pages 204-207)

This is essential, and these suggestions are to the point, but he does not specify the negative side. For instance, the business has 100 employees who are concerned about the introduction of GenAI. 60% will be upgraded and will manage this introduction of GenAI (if 60 are needed after this introduction). What happens to the 40% that cannot be retrained? The former 60% will benefit from it. The latter 40% will be fired, with maybe some compensation. In any firm in the ILO territory (International Labor Office, UN agency, Geneva), this has to be negotiated with the workforce concerned. "Concerned" has, then, two meanings: Those who will have to adapt to and accept the change (concerned = involved),

and those who will have to get out (concerned = distressed, the victims of the change). If you announce to a department that 40% of the employees will have to go after the reform, I am sure there might be some negative and unionized reactions.

That's where the book is very deficient. It works in a non-unionized world. But Trade Unions are a fundamental right and freedom for ALL workers. When you consider the suggested incentives, they all concern the members of the workforce who are willing to go through the change, who volunteer to do it, and who already have enough training or self-training, plus experience, to be successful with the MBA incentive. It is not anyone who can go through an MBA. I taught in such a structure dealing with Intellectual Property at Paris University 2-Panthéon-Assas in 1999-2000. That year, I had a 45-year-old gentleman among the students. He had negotiated with his boss the upscaling of his job and salary, in other words, a promotion. The boss had accepted that if he graduated with this particular MBA, he could then deal with the Intellectual Property problems of the company. But the gentleman was a commercial Engineer and had some legal qualifications as a lawyer. An MBA was in his field of competence and academically within his intellectual, professional, and personal reach.

That's a shame, in a way, because these problems are fundamental. The launching of GenAI in the professional economic or industrial field is confronted with the resistance of

(1-) those who do not want to change,

(2-) those who cannot change, and

(3-) those who will be dropped on the side, the shoulder, or in the ditch of the road, to become unemployed.

Those elements are basically human. Machines do not protest if you put them away in a cupboard or a warehouse. Human workers do. Pascal Bornet has little empathy for the "victims" of the change. He does not envisage any negotiated solution. He proposes a technical reform that is technically possible and economically, first of all financially, necessary for the company and its shareholders because it is highly profitable.

Check how Samuel Altman, the CEO of OpenAI, the company that launched ChatGPT two years ago, was fired by the board of the company because he wanted to reorient the company from non-profit to profit-making. Within two months, he was rehired, and he got the resignations of all his opponents. He then transformed the company from a non-profit venture to a normal profit-making business, and the value of the company and its products are now at the top of his field, at least until the emergence of the Chinese DeepSeek AI. "Non-profit" is no longer possible for Artificial Intelligence. Most Western politicians and concerned (does it have two meanings here?) CEOs consider that it has to remain technically secret for the Chinese not to steal it, as if the Chinese cared and needed to steal ChatGPT. They had started using face recognition, emotional recognition, and Artificial intelligence in all their schools to monitor and follow the students on the path of their guided self-learning, before COVID-19. We are not yet using all that technology, five years after COVID-19, in our schools. Some states in the US are already banning all telephones and tablets from schools, and some schools have special depositing areas and cupboards for students to deposit their phones when entering the school.

As for the point of buying some small technical companies to enhance your own company with advanced technology, the best case I know is France Telecom, founded on January 1st, 1988, within the French nationalized group Poste-Télégraphes-Téléphones (PTT). In difficult negotiations requested by China on the standardization of smartphones in

1998-1999, France Telecom opposed the move that aimed to amplify the spreading of smartphones (portable telephones at the time in their already active first-generation, and second-generation coming). The reform went through, and everyone, except the USA, which refused to take part, accepted the request to develop successive generations of smartphones all built on one standard that would enable future developments to be introduced. Android was born from this decision. On the day after, Lionel Jospin, the French Prime Minister, had France Telecom denationalized, in other words, privatized, with no guarantee from the state. France Telecom changed its philosophy and reoriented itself to smartphones. They bought up the English company Orange, a small, more or less surviving business, but they were all in smartphones. France Telecom introduced this technology at once in their business, and Orange became a partner, then a subsidiary, and it was finally integrated into France Telecom, which became Orange on July 1st, 2013. It is one of the best telecom companies in the world nowadays. From being punished by Lionel Jospin, it became one of the most important companies in France and the world. The change was drastic. The Trade Unions negotiated every single detail, and it took at least ten years before the balance between the older personnel (with a privilege statute similar to that of civil servants) and the younger new personnel working on standard work contracts with no privileges was reached. There were a whole lot of suicides among the older personnel, and the case was taken to court by unions and families. The court ruling recognized that the CEO of Orange had been slightly ruthless and did not propose any psychological or even psychiatric help to the suffering personnel who had to shift from retiring at 52 to retiring at the normal age of 64 today. It took about ten years for this technical change to be fully implemented, and some could still retire at 52, though their pensions were reduced. Then, Trade Unions are essential from this perspective. The mayor, Roger Dubien, of Le Brugeron, a village next to mine in the Central Mountains of France, was a France Telecom local agent in Ambert. As soon as he retired, he accepted his retirement conditions negotiated by the main Trade Union at the time, CGT, and he was elected Mayor of Le Brugeron in 2014. There were two France Telecom agents in Ambert at the beginning of the century. Both negotiated their early retirement, keeping some advantages of their quasi-civil-servant statute, and the France Telecom agency in Ambert was closed. The two jobs were made redundant. We could enter into the details of such negotiations. The people concerned are still alive, and the files are not unreachable. But that does not concern us here. I will just say Pascal Bornet is definitely short and light on such topics. Dealing with a unionized workforce is one of the most difficult things for a business, and no GenAI will in any way replace real human negotiators.

3- Implement AI to its fullest potential… How can companies fully leverage AI (step 3)? … the AI *virtuous* cycle … creating a self-sustaining loop of growth and innovation… [He specifies this in **five** numbered entries.]

1- Data accumulation: … amassing a comprehensive dataset from a variety of sources… client data… online purchases, customer feedback, and social media interactions. … customer preferences, buying patterns, and feedback on product quality and design.

2- Enhancement and insight generation… scrutinize this data, deriving actionable insights that inform service innovation and refine decision-making processes…

3- Elevated customer experience: … tailoring experiences to lead to a better shopping experience for customers…

4- Client base expansion: … Happy customers share their positive experiences on social media… word-of-mouth marketing… new customers…

5- Data enrichment… an augmented pool of data, enriching the company's insights and ability to innovate further… (pages 207-208)

This is the basis of all advertising you get on the Internet when you navigate these troubled waters. You bought a vacuum cleaner from brand B yesterday. You can be sure that within one day, you will be bombarded with ads for various vacuum cleaners, of the brand you bought itself, and other brands. In the same way, you will be bombarded with ads for various accessories and necessary products connected with using a vacuum cleaner in a private home, or cleaning up your home. These AI advertising "agents" have no limits in their creativity, which is only scanning the particular products and bringing up everything you may want in this field, including advertisements for the very same model of the very same vacuum cleaner you just bought yesterday. There is no logic in that. Obviously, if I bought a vacuum cleaner yesterday, I would not buy a second one today, especially the same brand and model. I just wonder what kind of customer is constructed in the "mindless mind" of the AI machine. If someone buys a second vacuum cleaner today just because they bought one yesterday, I will say this person is not sane, and you could even say he/she is insane. But it is done over and over every minute of every day. This AI machine generalizes what it has recorded in a very strange way. You must not be surprised if, after watching Pasolini's *Canterbury Tales* **[Reference 15]** or *The Decameron* **[Reference 16]**, you are bombarded by YouTube with videos that are openly erotic and even pornographic, provided (really, parental guidance?) YouTube knows you are an adult. Or just one small loincloth away from pornography. That AI machine considers the films I just quoted as erotic, following in that most critics who nonchalantly assert that most viewers are only watching them for the sexy elements. Therefore, they are voyeurs. Hence, let's take them to something slightly more advanced in the genre. Pascal Bornet considers that "excessive generalizations" can lead to some kind of addiction because it reduces thinking to a binary choice of yes or no, white or black, either-or, true-false, horizontal-vertical, etc. And that is normal for binary thinkers since we have two hands, two feet, two eyes, two nostrils, two lungs, two ears, and so many other pairs of organs and physiological elements that make us think in binary ways. The world, the universe, is binary: night and day, sun and moon, north and south, east and west, etc., ad infinitum and ad nauseam. "God provided us with two feet to be able to wear shoes that only come in pairs." Black humor is guaranteed since Blaise Pascal authored a whole book on the "proof of God" that contains the fact that fleas are black for us to better see and catch them on our white skin. And that must mean no fleas are jumping on and biting black skin, which would prove God is racist since he created racist fleas. And there is no distance-building from this advertising practice. And then, the black humor gets so dark that we may have a heart attack at the shock of meeting someone who considers that advertising bombardment is normal and has to be accepted because it is proof that Artificial Intelligence is very productive. Indeed! In cauda venenum! The basic danger of GenAI is in the abusive use of it to enslave the audience to constant advertising, this audience becoming as mindless as the Artificial Intelligence that is manipulating their minds.

Pascal Bornet tells us we have to make the audience trust the AI machine that is serving them, and the only "responsible AI" he suggests is an AI free of biases. All the discussion he proposes to control and eliminate biases is basically wrong. The LLMs from

which GenAI learns its intelligence contain millions, even trillions, of biased statements, and GenAI cannot notice them and discriminate against them, and why should it? Then, it can only reproduce them, and biasing creativity is the most important generator of biases in the LLMs used by our AI machines to train themselves. And remember each group of individuals, social, religious, political, philosophical, or whatever, has their own biases against one or two or three other groups. Catholics are biased against Protestants. You can make a three-page-long list of such binary biases, or biased groups, by replacing "Catholics" and "Protestants" with anything you want, including "cats" and "dogs," just proving it is natural since animals have biases one species against another, like spiders versus gnats or flies.

I will jump over Privacy and Safety. Every day, I get three or four phone calls from who knows who, since I do not know who is talking at the other end. They recommend themselves from the government's decision on this or that problem (solar panels, heating, insulation, etc.), and they try to get data about our insurance companies, homes, and habits. It is purely commercial if it is honest, and it might be a phishing exercise by some hacker who needs some easy money if it is not honest. People are even encouraged to answer since our phone companies and banks provide us with insurance against such money extortion. Phishing is easy to recognize and deal with, but hacking can be a lot more complicated and dangerous. Without a totally liberated Generative Artificial Intelligence, such practices are not possible. But Pascal Bornet does not really provide us with any urgent campaign to put some life-saving barricade around our freedoms to keep such trolls and clowns out of our lives. Maybe that's extreme, like the Trumpian wall between the US and Mexico. But there is something to be done along this line. Trolls and clowns are good enough for a free circus.

6. HUMAN-READINESS

In chapter 17, "**Shifting to a Human-Ready Business**," Pascal Bornet deals with what should be the starting point of his approach, and yet it is not. He advocates that the best way to control AI is to integrate it into our daily practice or practices, but at the same time, to totally separate the three uniquely human elements, the humics, that GenAI cannot replicate, and to invest these humics into some symbiosis with GenAI that would thus keep or rather get a human dimension. These three humics that are uniquely human are notions or skills that we already have and have developed. Very often, most people have forgotten them, and even still forget them. It is good to bring them back out of their cabinet, closet, cupboard, or down drawer in these enclosed little windowless and stuff-accumulating extensions of a bedroom or drawing room, the scullery or pantry of a kitchen. But for me, the real question is to imagine or discover what GenAI is about to help generate, that does not exist yet, in human beings, except it may be or for sure exists as a promise, a potential future, or a future potential. Not to enhance already-existing human qualities but to bring up a new human dimension that has to develop to absorb GenAI into a real human policy and culture. The three Humics already exist. What will come next? Otherwise, we are bound for a Butlerian Jihad.

But let's look at Pascal Bornet's Human-Readiness in business, knowing it is only making GenAI Human-Ready.

"Can you prove that the human touch has a higher business value than the AI touch?

In an age where we are using more and more machines, human components are becoming rarer and hence increasing in value. In a world shaped by algorithms, the

companies that prioritize human connection will be the ones that endure… What does Human-Ready mean when implementing AI in my company? … a human + AI team… challenging… due to the "+." … "Value and Innovation Principle" … We should focus human efforts on activities that

[1] drive core value,
[2] spark innovation, or
[3] require emotional intelligence …

Table 17.1… Table 17.2… Table 17.3… Table 17.4… Table 17.5… [Note the triads proposed here yet expanded in five figures.] … [These] table[s] illustrate[Ø] that while AI excels at

[1] processing large volumes of data,
[2] providing decision support, and
[3] handling routine transactions,

AI does not replace the

[1] creative insights,
[2] complex problem-solving abilities; and
[3] interpersonal connections

that humans bring to these functions... our three Human-Ready Humics…:

[1] critical thinking,
[2] genuine creativity, and
[3] social abilities… "

[The order is different from the order in the book's first part, page 68. Is it significant? The wording is also different: "social abilities" instead of "social authenticity." Is watching people crossing a street on a zebra crossing more or less authentically social than I crossing a street on a zebra crossing or jay-walking, or more or less socially authentic than helping an old lady cross the street on the same zebra crossing while carrying her bag of groceries? But Pascal Bordet comes back to "social authenticity page 233] (pages 225-235) [Notes and numbers in square parentheses are mine. JC]

The most striking element here is the systematic use of triadic presentations. The varying wording for the third Humic is problematic. The two wordings are not equivalent. Just wonder what "authenticity" means. Then, with "social authenticity," we are dealing with some authenticity in the social field. But with "social abilities," we are dealing with abilities in the social field, but these abilities have absolutely no reason to be authentic. Good, or well-intended, yes, but authentic? The systematic use of triads (not numbered in the book) is significant in itself.

The systematic reference to "three," or a "ternary" pattern, has a significant value in our cultures, and it is not necessarily the same in all cultures and fields. For Shakespeare, anything ternary is simply disruptive of equilibrium, binary like any iambic rhythm, is regularity, or even boredom), and perfection comes with a quaternary pattern like the four marriages or arrangements in *The Midsummer Night's Dream*, or *As You Like It*. In other cultures "three" is representative of the perfection of the Christian God, and the inescapable fate of the Greek and European Triple Goddess, Demeter bringing together Diana, Selene, and Hecate, and it even can reach a fantastic level of fatality and divine escapism in Norse or Scandinavian, even Germanic mythology that accepts the ternary vision of life and death but that makes death a sacred act, be it by voluntary human sacrifice, dying on the battlefield or

dying of human *natural-unnatural-hence-divine* death. Pascal Bornet is beyond such interpretations, but he should admit that this ternary reference will speak to Christians a lot. Is he writing essentially for a Christian audience, meaning countries like the British Isles (including Ireland), North America (including Canada), the Catholic Mezo- and South America, Australia, New Zealand, and maybe a few countries in Europe where the Christian religions are still strong enough to have some social dimension? But in the Buddhist culture, "three" is life with all its troubles and mishaps:

(1) *anicca* (everything is always changing),

(2) *dukkha* (life is a constant cycle from emergence to living and then disappearing. The term "suffering" the Pali Text Society insists on, is not what it really means in Pāli. And it has nothing to do with the suffering in the Christian valley of tears that life is for some Christians who believe in the original sin to be an irreversible and unforgivable universal fault that has to be punished forever), and

(3) *anatta* (since nothing lasts more than a blink of an eye, there is no essence or soul, no transcending being or creator, no conceptual or systemic stability. This dimension is really disquieting but leads to quite different visions from "who cares about anything, since anatta," to "Who gives a damn about other people or whatever and whoever, since anatta.").

This triad may lead to enlightenment with a lot of meditation and a lot of *kamma* in Pāli, *Karma* in Sanskrit, which is the positive-negative balance of one's life, individually summarized, a form of perfection that is one power higher than Shakespeare's perfection: 2 power 3 = 8 in Buddhism as opposed to 2 power 2 = 4 in Shakespeare, and it is *nibbana* in Pāli, *nirvana* in Sanskrit.

Maybe Pascal Bornet is not that philosophical, that cultured. He should meditate – in the Buddhist meaning – on the defeat of Kamala Harris in the US election. She lost because she did not confront several issues that alienated her chances to get elected: the quasi-genocidal policy of Israel, the absurdity of the Ukrainian war entirely caused by the imperialistic cultural pretension of the Ukrainian president who wanted to make Ukrainian the only language used in the public sphere, even in schools that had more than 70% of Russian speaking children and youths. Even Stalin did not do that against Ukrainians. Check Stalin's article "Marxism and the Problems of Linguistics, On Marxism in Linguistics," published on June 20, 1950, in Pravda, following a debate that took place in the paper on the problems of linguistics in the Soviet Union. It constituted a response to the questions that a group of Soviet students put to him on this subject and to the essays published in the columns of the newspaper, which were mainly: "On the Path of Materialist Linguistics" by Bulakhovsky, a member of the Ukrainian Academy of Sciences, "The History of Linguistics in Russia and the Theory of Marr" by Nikiforov, "On the Class Character of Language" by Kudriavtsev." Stalin's article asserted language is neither an infrastructure (basis) nor a superstructure, but only a specific social phenomenon to be seen as part of the society that speaks the concerned language, hence defending local vernacular languages and multilingualism, which, by the way, sounds normal since Stalin's native language was not Russian but Georgian. **[Reference 17]**

Pascal Bordet summarizes his vision in **Table 17.4** (Creativity: typical split of roles between AI and humans) and **Table 17.5** (Social authenticity: Typical split of roles between AI and humans). The basic idea is that AI and Humics are supposed to work together. However, it is never clear if the coordination and collaboration are managed by humans or AI machines. It may be with this condition: provided the humans have the last word, but in what,

on what, for what reason? When you work with a word processor that integrates a spelling corrector or even a syntax corrector, you may make the corrections automatic, so the machine does not ask you about them, and you have no control. That's the worst decision because then all the corrections are mechanically determined in agreement with what the machine knows and has learned, hence a pure knowledge that is statistical and probabilistic, and this will erase and flatten any specificity, any style, anything original. Remember Chomsky and his green ideas? It may also produce some non-understandable gibberish. If you prevent that automatic correcting, you keep control of yourself and your text, but unluckily, you find, very fast, each correction might be a real battle against the machine, which is stubborn. A few lines above this point, I had written "You may make the corrections automatic," and the machine suggested "automatically," although I had told it to dismiss the suggestion. The meaning is not the same, and the meaning I wanted was with the predicative adjective "automatic," not the manner adverb "automatically." With my adjective, it is the corrections that are "automatic," whereas with the adverb, it is making the corrections that would be made automatically, hence twice removed from the meaning I am targeting. The subtle difference of meaning disappears. The result would be the same: the corrections will be invisible since the changes are made automatically, and you will obtain gibberish text.

If we do not like the way the machine works, we can, of course, get into its program and change a few coded instructions. But basically, you have not changed anything. The machine cannot accept any original construction or any original word. It will try to bulldoze anything original with its statistics and probabilities, it may even make you doubt what you want to say. Go one strung higher and consider the meaning of the text you are producing, the way these ideas are arranged, and the type of intuitive, deductive, or subductive reasoning you want to use. Even a thinking pattern that will systematically create textual oxymorons, between the words, between the sentences, between the most abstract ideas, you may juggle with it on the stage of your keyboard. Compare the sentence "The baby died his birth" (you may tell me it means nothing, but it may be the fictional story of a mistreated fetus who decides to die when it is being born. Can a fetus in this situation decide on living or dying? Plain science fiction) and the translation by Google Translate, "le bébé est mort à la naissance." The difference in meaning is clear. Reverse translation, "The baby died at birth," which is not what I started from. Compare the following attempt at translation with a translation machine. First, my English original.

"And the monstrous fiery dragon of the freedom of speech will contract a syrupy oxymoronic alliance with the right to use firearms in the streets of the virtual digital clouds of your evening soup sprinkled with the GUIs of sleepless nights nightmaring in colorless colors and shapeful shapelessness of shapes that makes you fall in the baked apples right in the middle of Place de la Concorde, sitting on the impaling top of the "Obelisk from Luxor," stolen and never given back. Alienating Rosetta Stone that blows up the gates and doors, windows and skylights of any logical "Let's kill time" and then we will try doing the opposite, contrary, and antonym of death to some inconsistent concept of eternal damnation in the Garden of Eden, reduced to a diet of apples and figs, or fig leaves of modesty and blushing flesh vanity to be consumed every day and regenerated every night on the sulfuric tongue of some bare-ass demon devouring my brain to digest my science-fictional delirium more than tremens. "

Just ask a translating machine, or even two translating machines, to translate this text and compare the results given below without ANY correction.

DeepL (Traduit avec DeepL.com, version gratuite, November 11, 2024). « Et le monstrueux dragon de feu de la liberté d'expression contractera une alliance sirupeuse et oxymorique avec le droit d'utiliser des armes à feu dans les rues des nuages numériques virtuels de votre soupe du soir saupoudrée d'interfaces graphiques de nuits sans sommeil aux couleurs incolores et aux formes informes qui vous font tomber dans les pommes cuites en plein milieu de la Place de la Concorde, assis sur le sommet empalant de l'« Obélisque de Louxor », volé et jamais restitué. Pierre de Rosette aliénante qui fait sauter les portes, les fenêtres et les lucarnes de toute logique « tuons le temps » et ensuite nous essaierons de faire le contraire, l'opposé et l'antonyme de la mort à un concept incohérent de damnation éternelle dans le jardin d'Eden, réduit à un régime de pommes et de figues, ou de feuilles de figuier de la modestie et de la vanité de la chair rougissante à consommer chaque jour et à régénérer chaque nuit sur la langue sulfurique d'un démon au cul nu dévorant mon cerveau pour digérer mon délire science-fictionnel plus que tremens. »

Google Translate (version gratuite, November 11, 2024). « Et le monstrueux dragon de feu de la liberté d'expression contractera une alliance oxymorique sirupeuse avec le droit d'utiliser des armes à feu dans les rues des nuages numériques virtuels de votre soupe du soir parsemée des GUI des nuits blanches cauchemardesques dans des couleurs incolores et l'informe informe des formes qui vous fait tomber dans les pommes cuites au four en plein milieu de la place de la Concorde, assis sur le sommet empalant de l'« Obélisque de Louxor », volé et jamais rendu. Aliénante pierre de Rosette qui fait exploser les grilles et les portes, les fenêtres et les lucarnes de tout « Tuons le temps » logique et puis nous essaierons de faire le contraire, le contraire et l'antonyme de la mort à quelque concept incohérent de damnation éternelle dans le jardin d'Eden, réduit à un régime de pommes et de figues, ou de feuilles de figuier de pudeur et de vanité de chair rougissante à consommer chaque jour et à régénérer chaque nuit sur la langue sulfureuse de quelque démon au cul nu dévorant mon cerveau pour digérer mon délire de science-fiction plus que tremens. »

And I will not ask them to translate a sonnet by Shakespeare. If you know some French, you can see all the mistakes and incorrect renderings. You can start from the same English original and ask the same translation machines to translate it into any language you practice, and you'll see how far from anything trustworthy we are. If you want to prove the point a second time, you can use either one translation, or then ask the same translation machine to translate it back into English.

7. CHANGE-READINESS

In chapter 18, "**Making Your Business Change-Ready**," Pascal Bornet "delves into a critical challenge far beyond just safeguarding your company from AI's ethical and security risks. [I, Pascal Bornet speaking, confront] the threads spawned by a rapidly accelerating world – a world more unpredictable and volatile than ever." (page 237)

To support his very pessimistic vision at this moment in his book, Pascal Bornet becomes nearly apocalyptic.

"Global natural disasters have increased sevenfold [600%] since 1990, with climate change a significant driver. Single-day stock market crashes have become more common and severe over the past decades. Before 1987, declines over 20% were extremely rare, but since then, four such crashes have occurred – Black Monday in 1987, the dot-com bubble in 2000-02, the financial crisis in 2008-9, and COVID-19 in 2020… In this relentless tide of turmoil, where challenges strike with unprecedented frequency and ferocity, the imperative is clear: our companies must fortify their resilience, steeling themselves against the rising adversity. (pages 237-238)

In this last chapter that concerns companies and not individuals, but it, of course, concerns individuals who are officers of any type in companies, Pascal Bornet concentrates on what is described as war. It is not only competition but rather competition without any collaboration (except as an alliance against a common enemy, most of the time by subsidiarization). Pascal Bornet does not call the adversaries enemies but only, at worst, competitors, although they should and could be potential partners, and yet not after conquest and destruction. After all, that's the phenomenon Karl Marx identified a long time ago. If an enterprise does not widen its base regularly, the profit rate will decrease. The only way in a militaristic type of capitalism is commercial war: defeat the challengers, destroy the competitors, and conquer their commercial clientele. Of course, there are other ways, particularly to negotiate with the competitors, and get to terms with a strategic or tactical alliance. That goes on all the time. Financial crashes may be caused by some absurd manipulation of the market, some under-the-table and behind-the-partitions speculation, or, of course, the refusal of any alliance that is always identified as "being vampirized." For these CEOs and other economic bosses, including the politicians who implement such a policy into the relationships between and among countries, the choice is between being vampirized by "jealous and greedy" competitors or vampirizing them, greedily and jealously. Listen to his wartime discourse.

"The stakes are higher, the speed is greater, and the need for a 'more solid car' – more resilient business – is not just an advantage, it's a necessity for survival and success." (page 239)

That kind of reasoning was used in so many war situations. Indochina, later reduced to Vietnam, was just the result of such a state of mind among the military people who managed these wars. They both ended in full collapse in 1954 and 1975. In Algeria, the French were also reduced to accepting their defeat in 1962. And what about Iraq and Afghanistan? The invaders have left, running when they could. We should meditate on the case of Mandela in South Africa. It took a long time for him to get to the final victory, but Mandela was released from detention, and he ended up being elected president of his country. That's what Pascal Bornet ignores, I mean willingly does not take into account. The examples he suggests in the last pages of this chapter are all twisted and trapped.

All of them succeeded because other businesses were defeated. The first streaming service took refuge in Australia, far from the USA. And yet it was chased and hunted by American justice. It was finally forced to disappear because it could not pay the royalties it had stolen from all the stakeholders of the music, film, and TV industries. Netflix is just honest, and streaming is not free with them since it has to cover the various royalties attached

to commercial and intellectual properties. They have several competitors like Amazon Prime and YouTube, among others.

Microsoft is, with others, constantly under some kind of lawsuit, in the Americas, in Europe, and in Asia, because of its monopolistic or quasi-monopolistic position with Windows and some other derived software. They are not alone in this field. They have to confront the same requests of openness as Apple, in this case, with the FBI, Interpol, and other police and judicial institutions that want to track some criminals who use the encrypted Apple iPods. Kodak, Blockbuster, and Tower Records are the defeated businesses. Indeed, not defeated. The rats left the ship in time to board other ships passing by or roaming around close by. The case of John Deere is one example of a good industrial business that follows the trends and scientific-technological progress stampeding in our society (global society, so singular in its vast diversity); The reference to Ant-Group is surprising since it is Chinese, and it is only some generic company covering the retailer Alibaba from Hong Kong. It is then surprising that Pascal Bornet did not take the case of Alibaba itself and compare it with Amazon. The two mostly cover the same field of retailing. It would be interesting to compare the two competing companies, how they compete, why they compete, and eventually, how they may collaborate. Alibaba was an essential technical partner for the Paris Olympic and Paralympic Games. But Pascal Bornet did not take such an approach, and – probably smartly – the case of these two retailers. It would have been interesting to bring up the extremely resilient company TikTok and the way all political attempts at blocking it out of the USA were defeated by the tremendous audience of the company and by the simple lawsuits in the name of the First Amendment of the US Constitution that deals with freedom of speech, freedom of expression, etc. In other words, a full chapter on Artificial Intelligence and Intellectual or Commercial property would have been welcome. The author could then have explored the case of Mickey Mouse, which was coming to the end of its Intellectual Property protection and was transmuted into a trademark logo, which is protected as long as the trade whose trademark it is lasts. And in this case, it is Walt Disney. The other Walt Disney characters might one day be included in the trademark that will shift from one Mickey Mouse to a whole banner of the Walt Disney characters, added one by one as they approach the deadline of falling into the public domain.

The last example is Toyota, and this time Pascal Bornet is back in the industrial field, where three levels of impact of Artificial Intelligence can be seen in the process of producing a car.

1- The engineering behind it and a whole set of patents, or licenses for already existing patents, in the first place.

2- Then all that is attached to the design of the car, outside and inside, and all these elements are also protected this time as patented Intellectual Property that cannot be imitated except if you have the proper license that enables you to use the patented invention or design and eventually modify it, provided the modification is patented. Then the profit is shared with the original patent's owner, in the second place.

3- And finally, in the third place, the trademark that protects the name and the various logos attached to Toyota.

It would have been interesting to go beyond Toyota's New Global Architecture (TNGA) and consider the way Artificial Intelligence, particularly Generative Artificial Intelligence, can help with the conception, the designing, the building, and then, only then,

the commercializing of the product, of the car. But Pascal Bornet remains superficial. Let's take one example, **Hydrogen Fuel Cell Vehicles**. There is no mention of what exists on the market: the patents covering such technology, the possible licenses available or negotiable, the possible designs of the car, outside and inside with the volume of this new engine for example, and how the space thus saved, if any, is used for the comfort of the passengers. Pascal Bornet's conclusion on this point is too general to have any value: "This move is part of Toyota's long-term vision for sustainable mobility, anticipating future market shifts toward alternative energy vehicles." (page 245) It would have been interesting to explore where the Chinese are on this topic because they have announced they are in the real experimentation phase.

8. THE MARXIAN DREAM

At first, it sounds reasonable.

"If AI takes over repetitive tasks, could it lead to a shorter workweek?

Yes, in theory… AI gives us a precious opportunity to reconsider our relationship to work.

What do you mean by reconsidering our relationship with work?

Humans have spent less than 5% of their existence engaging in what we today consider work. Work is a recent invention." (pages133-134)

If for him "work" is an activity you perform for someone else in exchange for an income, he is right. Money has not existed very long in its present form, but means of exchange have existed for many hundred thousand years, in the form of beads, for example. Some of the oldest known beads were found in Morocco and were dated as going back to or rather coming up to us from 300,000 BCE. We believe these beads were connected with the concept of value, and they were used for various exchanges in very ancient societies, like establishing some "marital" relationship or exchange. Such exchanges do not look like what we call salaried work in modern times. But if you define "work" as any activity that creates some added value to the material or item it is applied to, that too has existed for even longer than Homo Sapiens. Many Hominins had to have such activities if they wanted to survive, for example, hunting (it turned a wild animal into food), gathering (it turned some fruits or other vegetal elements into food), building a fire (after having discovered how to start a fire) that transformed raw food into cooked food, and that is only one application. Producing stone weapons and stone tools, and all the activities made possible with and by these stone tools and weapons. Paintings in caves, or engraved inscriptions with entoptic geometric signs in caves or on portable durable media, all such activities were adding value, at times a lot of value, to ordinary simple activities, particularly with spiritual or ritualistic text recited along with the contemplation of the paintings or the inscriptions. All that was work, and imagine an artist (75% chances for that artist to be a woman) painting deep in a narrow cave with no light or just a small torch, with no real ventilation, hence with less and less oxygen – and we don't seem to have found the skeletons of the artists at the foot of such paintings – so the artist must have survived. All that is work. It is a set of activities that add value to objects, items of any sort, and particularly to the lives of these people who are enriched with a spiritual world of beliefs, imagination, and spirits residing just behind the surface of the rockface of the cave.

Sorry, but these Homo Sapiens and other Hominins before them did not have a punching clock, did not have alarm clocks (and didn't need one). Every single one of them knew exactly what they HAD TO DO on the following day if they survived the night, or on the coming day when they woke up in the morning, or even at times in the few coming days. They looked at the moon, the sun, or the stars, and they knew what was coming. All that is the value added to their life by their activities. And all these can then be called work.

Yet, Pascal Bornet comes back from this trip into utopia and goes back to a more reasonable perspective:

"In essence, the conversation isn't just about working less; it's about fostering a society where work is more meaningful, balanced, and conducive to overall well-being…

If we work less or not at all, what would we do?

[… suggestions in five bulleted topics]

[1-] **allow individuals** *[Why allow? Who is the "boss" that allows individuals to do what they want? Why not let them do what they want and then coordinate these activities to guarantee the survival of the community? As you can see, I am shifting from today and the time of GenAI to Homo Sapiens between 300,000 BCE, the emergence of Homo Sapiens, and 14,000 BCE, after the Peak of the Ice Age.]* to explore and invest in their interests…

[2-] Individuals could **dedicate time to learning** new skills, languages, or subjects they're curious about, fostering a culture of continuous personal growth… *[Like learning how to grow a cacao tree, harvest the beans, process them into chocolate and a drink, and eventually use the beans as an exchange means or "currency" around 3,500 BCE in what is nowadays Bolivia, nearly 2,000 years before the "inventors of cacao, the Mayas, at least. All that adds value to the plant, the beans, the derived chocolate, the drink derived from it, and the society that produced this valorization. Entertainment is typical along this value-adding line. For the plain spectator, it is not work. He/she just enjoys him/herself. But how could you go to the theater to see a play if a full team of "workers" had not produced this play? That is work. And if you happen to read an article on the play in the newspaper on the following day, or watch a small presentation on television, all that requires work from some people.]*

[3-] People might choose to invest their time in giving back to the community… *[That's basic win-win human behavior, and we can think it might be natural if there were not some people who only consider take-take, what's more, to their sole benefit.]*

[4-] Individuals could prioritize their physical and mental health through exercise, meditation, cooking nutritious meals, and other wellness practices… *[In a no-work society, such activities, particularly the physical activities that may include cultivating a garden, be it only for flowers and vegetables, are the guarantee the people will not get berserk, and even so… Pascal has never lived in a community where retirees who do nothing represent up to 50% of the population. He could have seen alcoholism, tobacco, and other drugs, legal or not, unethical activities, and what is an unethical activity?]*

[5-] deepen relationships with family and friends… *[Why only family and friends? Why not plain strangers, foreigners, or unknown people, even if for some people, speaking to strangers is dangerous?]* " (pages 136-139)

But is all that reasonable?

These proposals show two shortcomings. First of all, Pascal Bornet does not know, or he willingly ignores the fact that humans are uniquely, solely, good and flexible, positively-minded and malleable, if not pliable. However, human beings also have a dark side. With no work but enough to live on, such as a universal basic income (UBI) paid to

them by the state, Bornet seems to think these human beings will naturally do good things. His vision of men and women (though he does not speak much of women) is dominated by love, friendship, and libido. There is in his vision of humans NO, ABSOLUTELY NO death instinct, Thanatos, or evil. After a while, most people will be bored with doing nothing. So, they will look for activities that may dissipate their boredom, and these activities will be of several types, and certainly not all positive and good-doing.

Hassling the neighbors, or the people in the street, bullying some others, and even groping at them or robbing them, with or without violence, just for fun, for the satisfaction of their desire to dominate, hurt, and spoil people and their possessions.

Then, these discontented and unoccupied people would **turn their destructive impulses onto themselves**, and, in the name of their pleasure, they could engage in using all sorts of drugs, stuff, whatever causes a discharge of exhilarating hormones in their brains, like coffee, tea, tobacco, all sorts of natural drugs (marihuana, heroin, cocaine, mushrooms from beyond simple nourishment, etc.), and even some perverted actions onto themselves that are pleasurable in the suffering they would cause, like cutting their own limbs. And even beyond cutting their skin, they could start cutting off one phalanx, one finger, one toe, or whatever they might find some pleasurable suffering in.

After a while, they might join clubs practicing **self-mutilation and** even start dreaming of **mutilating a living being**. They might start with a dog or a cat, and sooner or later, they would come to a human being, starting with a child, and then going up the age range. Along the way, they would add raping as a funny entertaining change, little boys, and little girls, who both would be easy, and then adults who they would have to dope first or take to some deep sound-proof shelter.

In our present society, which is not a no-work society, we can read about such events every day in our newspapers, and even if you do not know how to read, or do not like reading, you can watch television and social networks.

"**Dominique Pelicot, 71, being tried with 50 other men over alleged abuse of woman for years at couple's Provence home**

A husband who allegedly drugged his wife and invited more than 80 strangers to rape her at their home for almost a decade went on trial on Monday in a case that has shocked France. Fifty men accused of taking part in the abuse of the woman are also on trial at the court in Avignon." (*The Guardian*, 23 September 2024, https://www.theguardian.com/world/article/2024/sep/02/man-accused-of-enlisting-strangers-to-drugged-wife-goes-on-trial-in-france)

France is not a NO-WORK SOCIETY, but the man is 71 this year, and he has been doing this for "almost a decade" since he was 61 in 2014. That means he must have retired around 2013 or hardly later, but maybe earlier. We can assume he was a NO-WORK PERSON during these nearly ten years, and in this case, a NO-WORK VICTIM. There is no limit to entertaining at a certain age when you have nothing to do regularly, apart from taking the trash out in the morning, going to a café in the afternoon to play cards, and drinking a little bit too much. Then, in the evening, after television, you can give your wife a good, strong sleeping pill, duly prescribed by a doctor. You just have to send a text to the candidate of the evening for him to come and do his slightly pleasurable job under the scrutiny of the voyeuristic husband, who might be plain impotent, or impaired in this endowment, at least psychologically.

If you take such situations, and others of the same type, perhaps less gross but just as pleasurable in their destructive dimension, the real problem is that the "NO-WORK SOCIETY" leads to all sorts of negative consequences. A minority of people may practice the morbid options. The majority of the people are bored to death. Another minority has some positive, creative, and productive activities, including economically salaried professional occupations on top of their regular income (Universal Basic Income, UBI), creating a privileged class of no-work citizens. We can imagine the NO-WORK SOCIETY of tomorrow to be very adventurous and extremely segregated. You do not mix these three categories of people in the same tower block. By the way, one last point for the road. How many professional workers, of all sorts, will you need to keep this time bomb from exploding? Look around and check communities where retired people, at times for twenty years or more, live, and check the consumption of alcohol, tobacco, or other entertaining drugs, of medical services, along with long monthly prescriptions of drugs that are maybe or maybe not effective. They are provided with some dope to sleep well at night, sleep well in the afternoon, and not hurt in their joints and muscles (opioid painkillers). They are perambulating pill bottles. The proportion of those who have a really hard, if not strenuous, regular physical activity, be it even armchair gymnastics, more than fifteen minutes a day, is miserably small. They take their cars to go to the stationery store around the corner of the street, to get their newspaper if it is not delivered to their mailbox, or onto their lawn. And those could not even imagine that they could harm their neighbors or their neighbors' dogs. It is too strenuous and tiring to engage in such physically demanding activities. Some manage to still go into a little bit of hunting on Sundays, and then every week we can read the casualties in the newspapers, I mean human casualties, like a man picking mushrooms severely maimed by an over-90 hunter who took him for a boar.

That is our future, so says Pascal Bornet.

But Pascal Bornet is apparently not in the know that all these situations will have to be dealt with by humans, with human know-how and knowledge. Artificial Intelligence, even GenAI, will not be able to take care of these millions of idle adults. China is restructuring and reorienting the kindergartens that are no longer used. The number of children is going down tremendously. They transform them into activity centers for retirees. Can you imagine that next September, there will be 37,000 fewer children in French kindergartens and primary schools? That number represents 1,480 classes (25 children per class) that will be empty, and the same number of teachers, in fact slightly more, will be liberated from work, but not necessarily from their salaries. The Chinese are shifting the activities in these kindergartens and primary schools from children to senior retired citizens, and jobs are coming along to take care of these people.

If we shift from the West, from the developed world, and consider the deep south and its war-torn countries, then we can see the consequences of a NO-WORK SOCIETY: factions, gangs, warlords, and their armies, etc. Catholic feudal Europe went through such a situation at the end of the 13th century (with an early start at the end of the 11th century with the First Crusade (1095), with overpopulation in rural areas where one hearth had a piece of land to work and live on, a "manse" it was called, but with better living conditions and better agricultural results, the population grew faster than the economy. The feudal system attached all members of the three or four generations of a "hearth" to that particular manse that could not provide food or work for all the members. It was not a NO-WORK SOCIETY, but a NOT-ENOUGH-WORK SOCIETY, and it created heresies, anarchy, banditry, local

upheavals and wars, and even the Cathar Crusade in France itself (1209-1229) with some prolongations such as the siege and destruction of the Montségur Castle (1243-1244).

There is absolutely no reason why it should be different in the 21st century with GenAI and all the social networks. Look at gun violence in the USA in 2022.

"Overview of Gun Violence

Firearm violence is a preventable public health tragedy affecting communities across the United States. In 2022, 48,204 people died by firearms in the United States — an average of one death every 11 minutes.

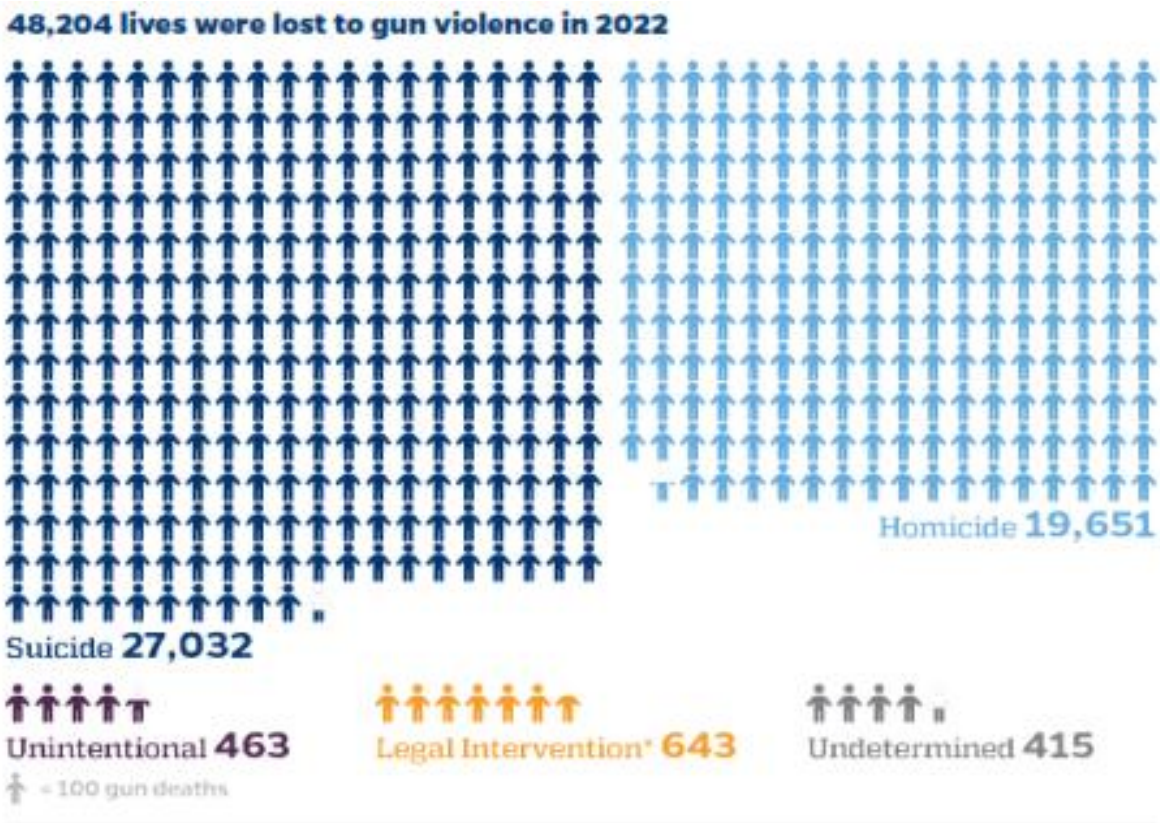
Over 27,032 people died by firearm suicide, 19,651 by firearm homicide, 463 by unintentional gun injury, and an estimated 643 were fatally shot by law enforcement. In addition, an average of more than 200 Americans visit the emergency department for nonfatal firearm injuries each day.

[…]

In short, firearm violence is a public health epidemic that has lasting impacts on the health and well-being of everyone in this country. […]"

(Villarreal, S., Kim, R., Wagner, E., Somayaji, N., Davis, A., & Crifasi, C. K. (September 2024). Gun Violence in the United States 2022: Examining the Burden Among Children and Teens. Johns Hopkins Center for Gun Violence Solutions. Johns Hopkins Bloomberg School of Public Health.) **[Reference 18]**

Let's visualize the problem with this simple chart:



All these deaths are preventable, but they all require many professionals to do the job. The NO-WORK SOCIETY WITH UNIVERSAL BASIC INCOME is a dream.

"Marxian communism

Marx's vision of communist society is remarkably (and perhaps intentionally) vague. Unlike earlier "utopian socialists," whom Marx and Engels derided as unscientific and impractical—including Henri de Saint-Simon, Charles Fourier, and Robert Owen—Marx did not produce detailed blueprints for a future society. Some features that he described, such as public education and a graduated income tax, are now commonplace. Other features, such as public ownership of the major means of production and distribution of goods and services according to the principle "From each according to his[/her] ability, to each according to his[/her] needs," remain as radical as they were in Marx's time. But for the most part, Marx believed that the institutions of a future communist society should be designed and decided democratically by the people living in it; it was not his task, he said, to "write recipes for the kitchens of the future." Yet, though Marx was reluctant to write such recipes, many of his followers were not." (Written by Richard Dagger and Terence Ball, All Fact-checked by The Editors of Encyclopedia Britannica, Last Updated: Oct 27, 2024, https://www.britannica.com/topic/communism/Non-Marxian-communism) **[Reference 19]**

If we can say so, this image of Marx's projection into the future given by Britannica [Note the sexism of the two possessive adjectives of Marx's quotation that I have corrected by adding twice /her. This sexism comes directly from English, and it would be the same in German.] is at least cautious, explaining why they call it Marxian and not Marxist. Maybe Pascal Bornet should be slightly more careful to avoid making people believe that, within very little time, our society will be a NO-WORK SOCIETY. And yet…

"On average in 2022, according to the Employment survey, the active population as defined by the International Labor Office (ILO) is 30.6 million people in France, excluding Mayotte, which is 73.6%, the highest level since INSEE began measuring it as defined by the ILO (1975). It increased by 0.5 points, after +1.1 points in 2021.

The activity rate of young people under 25 reached 42.2% in 2022, i.e., 2.3 points more than in 2021, and its highest level since 1990, thanks to a sharp increase in employment, particularly in apprenticeships. The activity rate of young people decreased from 1975 to the end of the 1990s, due to the increase in the length of studies, then increased slightly until the economic crisis of 2008-2009. It had significantly decreased in 2020. The health crisis had particularly affected the employment of young people via a sharp decline in hiring and the non-renewal of fixed-term contracts (CDD or temporary work contracts), but the activity rate of young people rebounded in 2021.

In 2022, the activity rate of seniors continued to increase: it reached 69.7% for 50–64-year-olds, i.e., 0.4 points more than in 2021 and 16.1 points more than in 2000. The activity rate changed significantly at these ages: it reached 80.5% of 55–59-year-olds compared to 38.9% of 60-64-year-olds. However, it has more than tripled since 2000 in this latter age group (11.6% of 60–64-year-olds in 2000)." (*Insee Références – Édition 2023 – Fiche 3.1 – Évolution de la population active, https://www.insee.fr/fr/statistiques/7456889?sommaire=7456956*)[6]

[6] En moyenne en 2022, selon l'enquête Emploi, la population active au sens du Bureau international du travail (BIT) est de 30,6 millions de personnes en France hors Mayotte est de 73,6 %, son plus haut niveau depuis que l'Insee le mesure au sens du BIT (1975). Il a progressé de 0,5 point, après +1,1 point en 2021.

To visualize this quotation, here is the INSEE table: In 2022, 26.4% of the 15-64-year-olds had no professional activity at all. This figure excludes both people under 15 who are considered as school-registered children, and people over 64 who are seen as retirees (which is not entirely true).

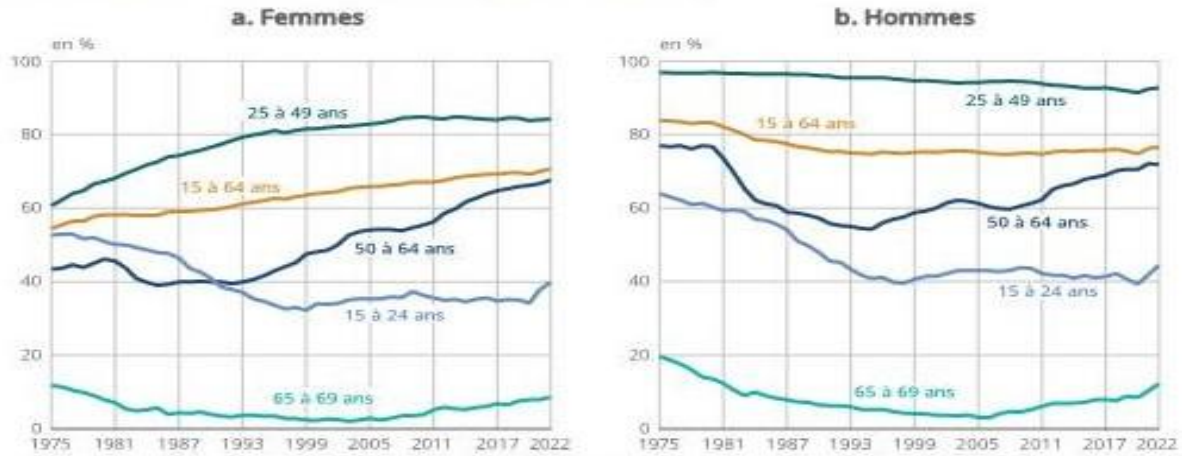
► 1. Population active et taux d'activité selon les caractéristiques des personnes

	2000	2019	2020	2021	2022
Population active de 15 ans ou plus (en milliers)	**27 058**	**29 963**	**29 735**	**30 264**	**30 575**
Femmes	12 591	14 673	14 576	14 778	14 933
Hommes	14 468	15 290	15 159	15 485	15 643
Taux d'activité des 15 à 64 ans (en %)	**69,6**	**72,5**	**71,9**	**73,0**	**73,6**
Femmes	64,0	69,7	69,2	70,0	70,7
Hommes	75,3	75,5	74,8	76,2	76,6
Taux d'activité par âge (en %)					
15-24 ans	37,7	38,0	36,8	39,9	42,2
25-49 ans	88,0	88,1	87,5	88,1	88,3
50-64 ans, dont :	53,6	68,2	68,3	69,3	69,7
55-59 ans	*53,9*	*78,5*	*78,7*	*80,0*	*80,5*
60-64 ans	*11,6*	*37,2*	*37,2*	*38,2*	*38,9*
65-69 ans	3,1	8,2	8,2	9,1	10,4

Lecture : en 2022, le taux d'activité des personnes de 15 à 64 ans est de 73,6 %.
Champ : France hors Mayotte, personnes vivant en logement ordinaire, âgées de 15 ans ou plus.
Source : Insee, enquêtes Emploi, séries longues sur le marché du travail.

To show this fact, here is another graph still from the same source.

► 2. Taux d'activité selon le sexe et l'âge de 1975 à 2022



Lecture : entre 1975 et 2022, le taux d'activité des femmes de 15 à 64 ans est passé de 54,5 % à 70,7 %.
Champ : France hors Mayotte, personnes vivant en logement ordinaire, âgées de 15 à 69 ans.
Source : Insee, enquêtes Emploi, séries longues sur le marché du travail.

Le taux d'activité des jeunes de moins de 25 ans atteint 42,2 % en 2022, soit 2,3 points de plus qu'en 2021 et son plus haut niveau depuis 1990, grâce à une forte hausse de l'emploi, notamment dans l'apprentissage. Le taux d'activité des jeunes avait diminué de 1975 à la fin des années 1990, en raison de l'allongement de la durée des études, puis avait légèrement augmenté jusqu'à la crise économique de 2008-2009. Il avait nettement baissé en 2020, la crise sanitaire ayant particulièrement affecté l'emploi des jeunes via un net recul des embauches et le non-renouvellement des contrats à durée limitée (CDD ou intérim) mais a rebondi dès 2021.
En 2022, le taux d'activité des seniors a continué de progresser : il atteint 69,7 % pour les 50-64 ans, soit 0,4 point de plus qu'en 2021 et 16,1 points de plus qu'en 2000. Le taux d'activité évolue fortement à ces âges : il atteint 80,5 % des 55-59 ans contre 38,9 % des 60-64 ans. Il a cependant plus que triplé depuis 2000 dans cette tranche d'âge (11,6 % des 60-64 ans en 2000).

This leads to the simple fact that working hours may be reduced little by little, but employment is on a growing path, though it leaves about 90% of the people over 65 with no professional activities. They are a fragile population that is very sensitive to some health problems brought on by age, insufficient physical and mental activity, obesity, diabetes, and heart or respiratory difficulties. Many then degenerate and become dependent, and from dependence to abandonment issues, the distance may be very short, when old people stop fighting for survival and let the world go away, along with their lives.

Generative Artificial Intelligence will not compensate for these problems, heal them, or cure them, and it is by thinking of them very early in life with sports, physical and mental activities, and active social participation in various extra-professional volunteer projects that you may push back these at-times fatal events in life. Life is deadly all the time, but it can be lethal sooner or later, and we control most of this "sooner-or-later."

CONCLUSION

It is difficult to conclude on this super hot subject of GenAI and its impact on the symboleracy, literacy, numeracy, and techneracy of Homo Sapiens as a historical species which went and is still going through a phylogeny that brings them all the time to higher points and higher powers. Unluckily, it has harmed the planet, and it has at least accelerated its cyclical evolution. Every invention, discovery, or development has expanded human capabilities by extending one physical or mental human capability each time. It thus replaced, and still replaces, that human capability with a machine or a mechanical procedure. At times it even provided Homo Sapiens with powers he never had like flying or traveling in space.

Will GenAI replace our human thinking? That question is legitimate, and the answer is "Yes, if we do not cultivate the capabilities that the machine cannot reproduce, mimic, or vampirize." That machine can do what it wants – if it wants anything that is based on the program in its Central Processing Unit – but it will not experience love in any comparable way as a human does. **[Reference 20]** Love, of course, and hatred as well. It may mimic racism and convey racist ideas it has gathered in the clouds of our digital age, but it will not be able to experience the human feelings that a racist person experiences, and his/her victims suffer through, including the ultimate knowledge that death might, or even will, be the (ex)termination of their lives. A machine can commit genocide, and yet it is not genocidal because it does not know what it is doing, though we must not forgive it, we must control it. It only obeys what its CPU tells it to do, or even it only thinks it thinks what its digital programs and components let it imagine it thinks, or even it is thinking, as if the machine could go through such a complex procedure freely, with no limits, no guidelines, no trajectory pre-determined in its program..

However, please, mind that gap, Pascal Bornet is clear about it. We humans can excel beyond this GenAI. Is it that simple for everyone? I am afraid an elite will be able to survive GenAI, but what dimension of the human mind will GenAI bring to mutation and phylogenetic development? How will we develop a new potential expansion of our physical and mental being, and become something new, better, and more developed? We go back to Buddhism and its "anicca" principle that everything constantly changes from one moment to the next. Many people, including Buddhists, think that this constant change is the disappearance of what exists now, and they do not see that it is also the emergence of something better, more powerful, and more human. Right now, we do not see what's coming. I do not believe we need a Prophet for that, just a very proficient mind. Probably, a team of

such minds or even teams of such minds. And even so, this elite will not be able to cast the future on our desktop and turn it into the gold of tomorrow. And what will our future new development be after this AI "revolution," if it is a revolution?

The LLMs will only concern six or eight languages that will be able to provide the trillions of data necessary for an AI to develop, to learn how to be intelligent by sorting out this data and finding patterns in a messy, dumped, massive package of whatever is available in the languages concerned, one by one. English, French, Spanish (maybe Portuguese), Chinese, Hindi, Arabic, and (maybe) Russian. It will homogenize each language, each LLM, on what is statistically or probabilistically dominant. It will then eliminate all that is not statistically or probabilistically dominant. And it will produce all the texts you want based on this procedure in this or these homogenized language or languages. All other languages will be eliminated from AI because they cannot provide a big enough LLM. And pretty soon they will even be able to speak in your place in any one of the 6 to 8 possible choices, even in a language you do not know, because the AI Agent in the AI Translation machine will translate your own language into the chosen target language, after having homogenized your own language into an already homogenized target language. All that evades Pascal Bornet's discourse in his book, though I am sure he knows about it.

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