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The West's Journey Beyond Death:

Eschatology, Ammortality,

and Potential Exchangeable Identities

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Contents

My works listed in this text can be found at https://jacek.kwasniewski.org.pl
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Death – a traumatic and culture-shaping event

Death and death anxiety are profoundly traumatic and deeply culture-shaping events. A traumatic event occurs when something threatens one's health or life, triggering intense negative emotions such as fear, anxiety, anger, or terror, and is accompanied by a sense of helplessness.

Death anxiety and death itself represent elements of a fundamental and tragic conflict rooted in human biology. The innate desire and drive to live clash with the certainty that this desire will ultimately fail - that I will inevitably die, and I am completely powerless to change this fact. I am the only organism on Earth that is aware of this far in advance. I know long before death arrives that it is unavoidable.

Humanity has grappled with this trauma since prehistoric times. Although we have the foreknowledge that death will ultimately prevail, we cannot fully accept it, because the drive to live is a categorical imperative ingrained in every living being. It represents a biologically determined resistance to the second law of thermodynamics - namely, the increase of entropy[1].

This is why humans fight against what seems inevitable. While animals fight instinctively, humans use culture as their primary tool in this battle. The role of culture is to make the world around us understandable and meaningful. However, the meaning of life often remains "invisible" to most of us - it is like air. As long as it is present, we scarcely notice it. But the moment it is gone, we feel its absence acutely because we begin to suffer. This suffering arises when the balance between the values I hold and pursue in daily life is profoundly disrupted.

> *The meaning of life as a balance between values is explored in greater detail in the text Sens życia jest, gdy o nim nie myślimy (The Meaning of Life is When We Do Not Think About It).*

One of the primary factors that disrupt this balance is death anxiety and death itself, which threaten one of the greatest values – life - and are among the most traumatic events a person can face.

Every culture must therefore confront death and find ways to tame it. Knowing that death is inevitable, culture provides tools to suppress, deny, domesticate, overcome, or at least significantly diminish death anxiety. The best would be to make it disappear from consciousness or render it harmless. The oldest and still influential tool is religion, but there are many others: symbolic immortality, the taboo surrounding death, mechanical routines that push foreboding thoughts aside, worldviews that provide shelter, a high standard of living that reduces fear by enhancing self-esteem, daily denial, shifts in civilization's priorities, and, more recently, hope placed in technologies such as ammortality.

This text outlines the struggle against death anxiety in Western civilization from the 6th century to the present day. It also explores a potential scenario for the near future, in which humanity might triumph over death as we know it, marking a new stage in human evolution.

What is this text about?

The Christian concept of overcoming death anxiety became absolutely widespread in the Middle Ages, with the Church emerging also as a significant driver of modernization. As modernization advanced, it weakened the influence of religion but preserved its eschatological dream. Eventually, this dream became so powerful that overcoming death became modernization's own ambition.

Middle Ages (5th-15th centuries)

Death anxiety is suppressed through Christian eschatology, whose central elements include the promise of a blissful afterlife in paradise but also the profound fear of eternal damnation in hell. This eschatological vision holds absolute dominance, eradicating pagan beliefs. By constructing this eschatology, the Church simultaneously lays the groundwork for the process of modernization in the realms of science, technology, and economy.

Modern period (16th-19th centuries)

The reliance on Christian eschatology to alleviate death anxiety begins to wane. Progressive modernization and the decline of the Church's authority weaken the role of religion. While the dream of paradise remains compelling, it faces increasing competition from a rapidly secularizing world. Alternative, temporal eschatologies emerge, offering symbolic immortality rooted in the achievements of modernization and the ideology of progress. These secular alternatives grow stronger, clashing with Christian eschatology, which still holds considerable influence but no longer commands universal dominance.

20th century, First Half

Due to the demographic revolution and increasing secularization, both religious and secular eschatologies lose their effectiveness as shields against death anxiety. The ultimate fear becomes so pervasive that real death is excluded from public and private discourse, turning it into a taboo subject.

20th century, Second Half

The death taboo is still very strong, but the expression of fears blocked by the taboo is triggering unprecedented reallocation of civilization resources. Two areas become dominant priorities - those with the fastest - growing share of GDP: healthcare and information technology. Healthcare expenditures rise dramatically, from 2.5% of GDP in 1900 to nearly 20% by 2020 (USA). As a result, average life expectancy increases.

Although death anxiety does not disappear completely but turns hopefully toward technology. The rallying cries become: live longer, live faster, and stay young for as long as possible. With these aspirations and the corresponding allocation of resources, Western civilization enters the third millennium.

The Further Future. Will Death Die?

Since the beginning of the 21st century, a growing trend has focused on directly combating the aging process and radically extending human life. The global human augmentation market is projected to reach USD 886 billion by 2032. Further acceleration in

the production of information and a dramatic extension of human lifespan could lead to the emergence of interchangeable identities within individuals.

This development would profoundly transform human culture. Subsequent identities inhabiting the same human organism could fade away painlessly and without existential fear. While death would not disappear entirely, it would be postponed far into the future.

What is this text about – version B

For the past sixty years, we have witnessed significant shifts in how the West allocates its civilizational resources. An increasing portion is devoted to pursuing goals summarized by the slogans *Faster* and *Longer*. Expenditures related to these priorities now consume a growing share of Gross Domestic Product, making them clear societal priorities. This naturally raises questions about their origins.

Their roots trace back to the Middle Ages. The Church, through Christianity, created a "new man" and contributed to the initiation of the modernization process. This new man emerged as barbarians and pagans were transformed into Christians, instilling in them a belief in a new eschatology - a narrative about what awaits after death and how to confront ultimate fear. Among the tools employed by the Church, *individualization* stands out.

For the first time, people began to see themselves not merely as members of a collective but as individuals standing alone before their Creator. This relationship with God was ambivalent: they feared death, dreamed of paradise, yet often doubted their chances of achieving it.

Ambivalence in the relationship with the Creator was partly alleviated by the elimination of old eschatologies, both polytheistic and animistic. This shift altered humanity's position in relation to nature. Christianity stripped nature of its sacred character, elevating humanity above it. This newfound perspective inspired courage and encouraged exploration of the world, supported by the belief that the universe operates according to natural laws that humans can discover and harness.

By the end of the Middle Ages, the European emerged with a profound faith in a new eschatology and a grand dream of paradise. Pessimism about one's posthumous prospects was, at least partially, offset by accelerating civilizational progress in temporal matters. In this realm, people were optimistic, yet they remained deeply anxious when it came to eternal concerns.

After the Middle Ages, secular power grew rapidly. Alongside the Church's crisis and the advance of modernization came the march of secularization. The Church, Christianity, and their promises of an afterlife were slowly and gradually eroded from daily life. However, the expanding modernization failed to effectively replace these promises with its own eschatology - one that would be equally compelling and rooted in the temporal world.

The sacred was losing its faithful, and modernization struggled to provide a deep meaning of existence, even as it sought to offer a profound sense of purpose.

The sacred was losing its followers, but modernization did not cope well with providing something that could be perceived as an offer of a deep meaning of existence. Secularization clashed with the sacred, bringing the 19th century to a close.

In the first half of the 20th century, the mortality rate among children and adolescents dropped dramatically, but the elderly saw almost no improvement, and science offered them little hope. This led to widespread frustration among older generations, who defended themselves by pushing the subject of death out of their consciousness. The taboo of death took over the West. However, wallets opened up generously. The sharp increase in healthcare spending meant that, in the second half of the century, the elderly gained more in relative terms than the young. *Act faster, live faster, stay young longer, live longer overall*—with these slogans and a corresponding reallocation of resources, Western civilization entered the third millennium.

Death anxiety has not disappeared; instead, it turns hopefully toward technology aligned with the priority of *Longer*. The old dream of eternal life in paradise persists, but it has taken on a secularized form. Paradise has vanished; what remains is the aspiration for personal identity to endure - here on Earth, simply and tangibly.

The successes of modern medicine are also gradually changing our perception of death. Increasingly, we are beginning to view it as a disease - one that can and should be treated through intervention.

The 21st century has seen the strengthening of the *Faster* and *Longer* priorities, which are now paving the way for a more ambitious vision: ammortality. This concept involves leveraging technology to radically extend human life, potentially by several times. The global human augmentation market is expanding rapidly, growing from $111 billion in 2018 to a projected $886 billion by 2032 [2].

Death anxiety takes a step forward. In place of fear, hope emerges. Ammortality becomes a concrete manifestation of the desire Longer.

Realizing the vision of ammortality will require radical modifications to *homo sapiens*, both genetic and otherwise. One possible consequence of extending life to several hundred years is that the new human may adopt interchangeable personal identities. This would no longer be a single, extended life spanning centuries, but rather a series of successive, distinct identities inhabiting the same, possibly modified, body. Such a transformation would change everything, including the nature of death itself. It would no longer resemble the death we know today.

* * *

The Christian concept of overcoming death anxiety, coupled with the processes of modernization initiated in the Middle Ages, has become one of the most important factors contributing to the strength of Western civilization. Today, the secularized West retains the old eschatological vision in a temporal form. Through an unprecedented reallocation of resources, it strikes at death with the full force of modernization, whose important initiators were the medieval Church and Christianity.

Starting Point. Contemporary Western Priorities: Faster and Longer

Let's begin by highlighting two broadly recognized phenomena. These phenomena are observed daily and frequently discussed. The expenditures associated with these phenomena consume an ever-growing share of Gross Domestic Product (GDP), making them clear priorities. These are the *Faster* and *Longer* priorities: act faster, live faster, stay young longer, and live longer overall. The growing allocation of resources to these priorities compels us to to explore their origins. Where did these priorities come from?

To explore this, we can turn to historical studies as well as psychological and anthropological theories from the latter half of the 20th century, which examine our fundamental existential fears. It turns out that while the *Faster* and *Longer* priorities may seem like recent developments, their roots can be traced back to medieval anxieties and the early stages of the modernization process.

Here, I aim to address how, after centuries of Western civilization's development, these priorities emerged as aspirations that, in the 20th century, triggered rapid and profound shifts in how resources were allocated. Increasingly, these resources are being directed—often at the expense of other needs - toward realizing the goals encapsulated by the slogans *Faster* and *Longer*.

I seek to demonstrate that the aspiration for *Longer* and the pervasive drive for *Faster* are deeply intertwined with the history of our fears and the process of modernization.

Priority Faster

It is evident that everything around us is accelerating, though not everyone experiences this acceleration to the same degree. For a stockbroker, speed is almost a matter of life and death; for a pensioner, it might simply be amazement at the frantic pace of a world unfolding somewhere beyond them.

The increasing speed of civilization can be measured directly in various segments of the social system and indirectly through the resources allocated to acceleration.

> The Faster priority is discussed in greater depth in my book *Cywilizacja zachodnia i Czas (Western Civilization and Time),* Chapter 1*, Zachodnia cywilizacja i szybkość (Western Civilization and Speed),* specifically in the following sections: *Szybkość w cywilizacji zachodniej (Speed in Western Civilization), Szybkość z perspektywy jednostki (Speed from the Perspective of an Individual), Marketing i reklama a system wartości (Marketing, Advertising, and the Value System), Wartości cywilizacyjne LNS Lepsze-Nowe-Szybciej (BNF Civilization Values: Better-New-Faster), Dlaczego wartości LNS są coraz ważniejsze (Why BNF Values Are Increasingly Important), and Cnota pośpiechu – czemu jej ulegamy (The Virtue of Haste – Why Do We Succumb to It), pp. 24–71.*

When we say that we live faster and faster, we refer to measurable phenomena such as:

- The shortening time it takes for new consumer market offers to replace old ones.
- The increasingly rapid turnover of preferences, interests, and habits, along with their corresponding products, technologies, and gadgets.

- Shortened response times from companies and employees to market stimuli.
- Shorter order fulfillment times, whether I place an order as a consumer or fulfill one as a producer or employee.
- The growing volume of information reaching and being processed by an individual within a given time frame.
- The increasing speed and frequency of movement from place to place, as well as the distances traveled monthly or annually.
- The growing number of patent applications filed within a given time frame.
- The increasing number of transactions of all types occurring in the market over a set period.

Although this list is far from exhaustive, these are all parameters of civilization's speed that help measure the pace at which our world moves and the variations in that pace:

- Between different sectors of the economy and areas of everyday life.
- Between various professions and occupations.
- Between income groups.
- Between positions in professional hierarchies.
- Between different age groups.
- Between countries and regions within the same country.

We experience the speed of civilization across many of these dimensions simultaneously. What I refer to as the speed of my environment is the result of all the dimensions in which I actively participate.

An important indirect measure of the speed of civilization is the growing scale of resources dedicated to accelerating it. To explore this, I at one time analyzed phenomena such as the increasing speed of processors, the share of R&D (research and development) expenditures on information technology within total R&D spending, the proportion of patents in information technology and telecommunications among all international US patents, and the scale of venture capital investments in information technology relative to total venture capital investments[3]. Although my analyses were preliminary, they confirmed the hypothesis of increasing speed and the rapidly growing share of these expenditure categories. Another synthetic measure of acceleration is the exponentially increasing volume of information being produced, which I will address shortly.

I will not explore here into the detailed origins and mechanisms of the *Faster* priority. It suffices to say that one of the key sources of 20th-century acceleration was the global implementation of uniform principles for transforming nearly every resource and form of property into capital. These principles were established in the West during the 19th century and applied to private, market-driven economies. In the 20th century, some developed non-Western countries also adopted these rules.

This system allowed billions of people within vast regions to align their property with common rules for transactions and dispute resolution. A competitive economy generates demand for capital, and the more integrated and global that economy becomes, the more mobile capital seeks opportunities and the more ideas emerge for transforming untapped

resources into capital. This accelerates circulation, increasing the volume of capital generated from a given set of resources while preventing the accumulation of so-called "dead capital [4].

Priority Longer

The *Longer* priority reflects the desire to stay young for as long as possible and to live as long as possible—of course, in good health.

> The issue of the *Longer* priority is explored in the book *Cywilizacja zachodnia i Czas* (*Western Civilization and Time*), Chapter 2, *Rosnąca wartość czasu* (*The Increasing Value of Time*), pp. 69–85, in the following sections: *Czas jako towar, Wartość czasu, Wartość czasu i młodość, Oczekiwanie by dłużej być młodym* (*Time as a Commodity, The Value of Time, The Value of Time and Youth, Desire to Be Young Longer*). It is also discussed on pp. 104–109 in the section *Oczekiwanie by Dłużej-Być-W-Ogóle* (*Desire to Be-Longer-In-General*).

A fast-paced civilization rewards youth generously because it demands qualities such as adaptability to constant change, stress resilience, a balance of assertiveness and passion with compromise, intelligence, teamwork, and decision-making skills. These traits are more often associated with the young than the old, as youth embodies speed, health, endurance, activity, beauty, efficiency, dynamism, resilience, and agility. Being young is therefore not only nice, but has become a profitable necessity for both the individual and the economy.

In response to this need, a substantial industry emerged at the end of the 19th century, and it truly flourished in the 20th century. This industry offers both hope and concrete means to remain agile and youthful for longer. Its primary components include the cosmetics industry, aesthetic surgery, fitness, haute couture, luxury apparel, mental wellness, over-the-counter (OTC) drugs, and supplements. In recent years, the global size of this industry has hovered around $800 billion[5] - roughly equal to the combined revenue of Apple, Microsoft, and Facebook ($770 billion in 2023).

The *Longer* priority also encompasses the desire to live as long as possible overall. While the wish to live longer in good health may seem self-evident, I disagree with the notion that this has been a timeless aspiration. We should distinguish the legends of Methuselah from actual efforts, which only began to yield the first, albeit modest, results in the second half of the 19th century.

> What we commonly perceive as the desire, expectation, and demand to *Be Young Longer* and to live *Longer in General* has its origins, its genesis, and a mechanism that perpetuates it. This phenomenon is by no means eternal; rather, it reflects a mythical way of experiencing time. I have explored this issue in the text *Współczesny Zachód i mityczne doświadczanie czasu* (*The Modern West and the Mythical Experience of Time*).

It was only in the 20th century that efforts successfully overcame the historically high mortality rates among children and adolescents, leading to an unprecedented increase in life expectancy. I am referring particularly to the achievements of the second half of the century,

driven by a significant rise in healthcare expenditures. The most commonly used measure of this trend is the growing share of GDP allocated to healthcare in developed countries. Over the past 74 years (from 1950 to the present), this share has increased more than four-and-a-half times, from 4.3% to nearly 20%. By comparison, in the period from 1776 to 1900 (124 years), healthcare expenditures rose only modestly, from 1.9% to 2.5% of GDP, and in the first half of the 20th century, from 2.5% to 4.3% (data for the USA) [6].

Between 2021 and 2023, the European Union and the United States collectively spent between $6 and $7 trillion annually on healthcare. In the US, this represented about 17-19% of GDP, while in the EU, it was around 10-11%. To better understand the scale of healthcare spending, it is useful to compare it with defense expenditures. In 2023, total defense spending in the US and the EU accounted for 3.5% and 1.3% of GDP, respectively ($820-916 billion in the US and €270 billion in the EU). Healthcare spending, therefore, exceeds military and defense spending by a factor of 5 to 8 [7].

Faster and *Longer* as Interconnected Values

Faster and *Longer* is not just about rising expenses, however. It is about desires and values that mutually stimulate and legitimize each other.

Success in Being-Young-Longer and Being-Longer-In-General generates greater demand for products and services in the Longer sphere. This in turn substantiates further technological and scientific acceleration. So we are increasing the pace of *Faster*, in order to respond even more efficiently to the increasingly broad and strongly articulated demand to Being-Young-Longer and Living-Longer-In-General. *Faster* and *Longer* mutually stimulate and replicate each other. Metaphorically speaking, *Faster* enables Longer, and *Longer* justifies *Faster*.

The Western compulsion of rationality summarized in the concept of *Faster* and *Longer* as a goal and value attract each other like magnets. The compulsion of rationality enables – through the victorious march of technology and science – the realization of the value summarized in the concept of *Longer* and that *Longer*, as a final value that does not require justification, itself substantiates *Faster*. And not on trivial levels, such as consumption or the power of money, but on transcendent, ultimate ones. Western rationality and the Western compulsion of speed receive the Highest Ennoblement, which is their new legitimization. They are becoming the driving force that propels the civilized world toward transcendence, living longer and longer, or perhaps any length of time

Initially, capitalism found its transcendent legitimacy in Protestantism, in the belief that economic success is proof of divine grace, but with secularization it lost this legitimacy. Subsequent ideas on how to permanently regain trust, support and win people over, either discredited themselves or turned out to be simply shallow. Now, capitalism sees a chance for new legitimacy in being a launching pad for a flight towards a life radically longer than the present one. This is evidenced by the hundreds of billions of dollars spent on this purpose and the crowd of billionaires who jostle for dominance in the human enhancement and life extension industries.

The History of the West Through the Lens of Death Anxiety

It's time to turn back the clock. To understand the origins of the *Faster* and *Longer* priorities, let us examine Western civilization from the 6th century to today through the lens of the evolving ways humanity has sought to combat death anxiety.

Why do I believe this is a worthwhile perspective?

First, it allows us to view the past through the lens of a problem that has been profoundly culture-shaping for centuries. In Europe, beginning in the Middle Ages, the question of how to overcome death anxiety became the foundation of mass, plebeian Christianity. Over the subsequent centuries, this eschatological framework lost its dominance, but new ones emerged - because fear had to be tamed. This anxiety inspired philosophy, science, religion, theology, politics, literature, art, and music. How many great works, achievements, wars, and conquests owe their origins to the desire to overcome this fear, whether through the force of reason or the desire to leave an enduring mark on history? We fear death, and this fear stimulates, motivates, and inspires us. In this respect, nothing has changed here since the Middle Ages and the Renaissance, without even reaching further back into the past.

Second, tracing the evolution of ideas about how to combat ultimate fear brings us to the present day and the emergence of the belief that death can at least be significantly postponed through technology. The fear of death is now beginning to seek solace in an eschatology that has taken the form of the *Longer* priority. This shift in how we allocate resources toward the priorities of *Longer* and *Faster* is dynamically transforming our culture, economy, and technology.

This perspective justifies examining our current priorities through the lens of death anxiety. By understanding the historical roots of this fear, we can better comprehend the cultural and technological trajectories shaping our present and future.

Briefly about the theories I use

I draw primarily on psychological theories, but also on anthropology, sociology, and philosophy, that emerged in the second half of the 20th century

These theories assert that a significant component of human existence is the deeply rooted fear that arises from the awareness of mortality - the understanding that life has an end and that death is an absolute certainty. Fear stemming from the awareness of being a mortal creature.

The source of this fear lies in human cognitive abilities, which allow us to think in complex, abstract, and symbolic ways. While these abilities grant us exceptional intellectual potential, they also pose a profound threat by giving us a unique awareness of the inevitability of death. This awareness, clashing with the natural biological drive to survive, generates fear and serves as the foundation of ultimate existential anxiety.

On a side note, here are the names of the theorists I am referring to: Ernest Becker, Jeff Greenberg, Sheldon Solomon, Thomas Pyszczynski, Victor Frankl, Rollo May, Otto Rank, Irvin Yalom, Rodney Stark, William Bainbridge, Laurence Iannaccone, Robin Dunbar, Reza Aslan, Józef Makselon

Taming this fear of death is one of the fundamental functions of culture. Daily, we push death anxiety out of our consciousness, as it makes normal functioning difficult or even impossible. Culture serves as both a conscious and unconscious tool for mitigating this fear, offering hope of overcoming death and achieving immortality.

This hope may take the form of classical religious promises or what is known as symbolic immortality - for example, the reassurance that by passing on my genes to my offspring, "I will not entirely die." Alternatively, it may involve actions that we believe will ensure we are remembered by future generations, such as significant achievements or contributions to society.

I can also alleviate death anxiety through endeavors that give me a sense of participating in something greater than myself, something with a tangible impact on the world's future—such as fighting against global warming. Culture, in all these ways, provides frameworks to reduce the overwhelming fear of mortality and to create a sense of hope and meaning.

The Middle Ages: The New Man and the Beginnings of Modernization

The Middle Ages established a two-component mechanism of change that continued to influence society for centuries. On one hand, it initiated processes of modernization; on the other, it created a "new man" with a reimagined worldview, new aspirations, fears, and methods of addressing those fears.

Optimism in Relations with Nature

When it comes to modernization processes - including the emergence of science, technological development, and economic growth - they were driven by a variety of factors. One particularly noteworthy factor was the absence of ideological constraints. This openness paved the way for innovation and exploration, allowing new ideas and technologies to flourish without significant resistance.

Innovators and individuals with a flair for trade or finance have always existed across cultures, but their ingenuity alone was not sufficient to ignite a technological and economic transformation on a continental scale. Much depended on those who exercised political, military, ideological, and religious control - those who acted as the guardians of the legitimacy of the existing social order. In medieval Europe, a unique and favourable configuration of these factors laid the groundwork for modernization.

For a discussion of other sources of modernization, such as: the unique balance of European social forces, the multi-centered European topography, the assimilated Greek type of rationality, the Arab legacy, the victories over the barbarian hordes in the 9th and 10th centuries, the role of the Church in mobilizing these other sources, and its contribution to the development of science, economy, and technology, see my work *O ewolucji cywilizacji zachodniej (On the Evolution of Western Civilization), point II Średniowiecze. Narodziny modernizacji (The Middle Ages. The Birth of Modernization), pp. 14-16; Annex I Średniowieczne przyspieszenie (The Medieval Acceleration), pp. 46-52; Annex II Korzenie europejskiej modernizacji (The Roots of European Modernization), pp. 54-64,* as well as the works: *Wpływ Kościoła i chrześcijaństwa na postęp techniczny w Europie średniowiecznej (The Influence of the Church and Christianity on Technical Progress in Medieval Europe)* and *Średniowieczne korzenie nauki nowożytnej. Wpływ otoczenia. Rola Kościoła (The Medieval Roots of Modern Science. The Influence of the Environment. The Role of the Church)*

Christianity, one of the driving forces behind the development of Western civilization, instilled in people a sense of optimism regarding their relationship with nature. Nature was stripped of its sacred status and came to be seen as subordinate to man. Intervening in the natural world was no longer seen as violating any sacred boundaries. This profound shift in perspective emboldened humanity. It elevated mankind in the hierarchy of beings, positioning humans as rulers and stewards of the material world.

This newfound relationship with nature encouraged exploration and was further reinforced by the belief that the universe operates according to discoverable natural laws - laws that humanity could both comprehend and harness.

Theology provided a significant legitimization for science, framing it as one of the pillars of Christianity[8]. Similarly, technology was embraced as a practical tool aiding in the work of salvation[9]. The Church, as one of the largest holders of capital, took care to ensure that ideological considerations did not impede economic progress. Medieval Europe also saw the creation of a unique university infrastructure, which became a hub for intellectual and technological advancements. European innovations were admired by outsiders, and from the 14th century, the European economy - unlike any other in the world at the time - began to experience sustained, intensive growth. The contributions of ancient heritage and Arab scholars also played a critical role in this process.

The person shaped by this environment approached the world with optimism, free from many constraints that could have hindered active engagement with and transformation of the world. There were no significant **religious obstacles** (a rational God and a rationally structured world underpinned cognitive optimism), **cultural obstacles** (the natural world was seen as accessible and free from restrictive taboos), or **social obstacles** (the Church actively supported innovation, science, and economic growth, and secular authorities were less likely to resist modernization compared to other cultures). These pro-modernization axiological impulses, alongside other factors, played a critical role in accelerating the pace of European civilization.

Ambivalence in Relations with the Creator

Christianity, while shaping relationships with the afterlife, instilled a profound ambivalence in humanity's connection with the Creator. On the one hand, it inspired people with an irresistible desire for paradise, emphasizing that "death is merely a transition to a new stage of life, and good people will find eternal happiness, joy, and peace with God." On the other hand, the eschatological framework provided by the Church, while promising a posthumous existence and offering hope for heaven, did not shield believers from fear.

The methods of spreading the faith often focused on sin and the depravity of humanity, leading to a distinctive type of pastoral care - one rooted in fear. People were taught to perceive themselves as inherently and endlessly sinful, fostering a deep sense of guilt and an overwhelming fear of hell. According to this view, only a select few would be redeemed, while the vast majority would face condemnation and unimaginable torment. At the heart of this teaching lay a pessimistic vision of the world: after the Fall, the Earth was seen as a *vale of tears*, and humanity was marked from its inception by an overwhelming burden of sin. God ruthlessly pursued and punished sinners, allowing only a few to attain the glory of salvation.

> The construction of a new man, instilling in him a Christian image of the world, Christian eschatology is an extremely broad topic. It is discussed in my work *O ewolucji cywilizacji zachodniej (On the Evolution of Western Civilization), point I, Średniowiecze VII-XV wiek (Middle Ages VII-XV century).* There I refer, among others, to the vision of the medieval mind by the anthropologist, Ernest Becker. See also my articles *Rola chrześcijaństwa i Kościoła w europeizacji Europy (The role of Christianity and the Church in the Europeanization of Europe) and Dlaczego Kościół, dlaczego chrześcijaństwo? Uzasadnienie wyboru (Why the Church, why Christianity? Justification of the choice).* See also the lecture *Jak fenomen europejski jest tłumaczony w literaturze (How the European phenomenon is explained in literature), esp. pp. 11-22*

The horror of hell and the fear it inspired were daily suppressed in the minds of the faithful, yet the belief in Christian eschatology left little room for genuine escape from these anxieties. Grassroots practices, such as strict adherence to the sacraments of baptism and viaticum, reflected the fear that dying without these rites would lead directly to eternal damnation.

This pervasive fear of divine judgment and eternal torment contributed, at least in part, to the emergence of medieval heresies and, later, the Reformation. These movements were, among other things, an attempt to escape the vision of a God who thundered with wrath and dispensed love with severe and exacting conditions—a vision central to the Catholic Church's teaching.

Individualization

To establish the new religion, the Church had to fundamentally reshape the mindset of the European people - it had to Christianize them. Achieving this required a profound religious individualization of the European man, breaking away from his traditional collective self-identification. The foundation for self-perception had to shift from seeing oneself primarily as a representative of a group - be it a clan, family, tribe, or village - to seeing oneself as an

individual. This transformation was a fundamental prerequisite for Christianization: man standing alone before God, bearing the full weight of his own actions and accepting complete personal responsibility for them.

The Church implemented this process of individualization on both collective and personal levels. At the group level, revolutionary changes were introduced during what is now known as the First Papal Revolution (5th–7th century). Long-standing kinship-based social structures were dismantled: rules prohibiting marriages between relatives and those bound by affinity were expanded to extreme and, by today's standards, almost incomprehensible limits. These included bans on marriages between distant relatives (up to the seventh degree), extended affinities, and even "spiritual relatives," such as the families of godparents. Practices like levirate marriage[10] and concubinage, along with the creation of family ties through adoption, were also forbidden.

These measures effectively atomized pre-Christian communities, undermining traditional tools of social integration and dismantling the economic and spiritual foundations of pagan cultures. The bans, difficult to observe in practice, left many faithful feeling burdened by grave sin. At the same time, they granted the Church discretionary power to issue dispensations. Additionally, these restrictions led to a significant increase in heirless estates, often belonging to widows of deceased feudal lords. The Church, offering care for these widows, frequently acquired these estates through testamentary bequests, further consolidating its wealth and influence[11].

Individualization at the level of the individual was achieved by putting a new eschatology into the soul of a European, or a story of what awaits him after death, how to avoid hell and get to paradise. The Church outlined the path to heaven and rigorously monitored it. It was necessary to follow certain rules (the Decalogue, church commandments), participate in the methods of contact with Transcendence developed by the Church (baptism, Mass, processions, viaticum), collect positive points in the heavenly register (good deeds, communion, alms, indulgences), and regularly delete negative points (confession, absolution). Previous mechanisms of defence against death anxiety, or old eschatologies - ancient, pagan, barbaric, with their stories, fears, and ways of overcoming them - were suppressed or assimilated (many church holidays have pagan roots).

The Church not only promoted its eschatology but also enforced it with utmost vigor. Its credibility was reinforced by the surrounding cultural ecosystem, which was entirely permeated with Christian content. Every aspect of daily life, from fishing to sword-forging, carried both temporal and religious significance.

For the modern mind, it is difficult to grasp the extent of this integration. Christianity and the Church shaped medieval European reality in so many dimensions that they created an all-encompassing cultural environment. Religious elements permeated language, timekeeping, customs, art, and views on both earthly and ultimate matters. Over the course of a millennium, the Church constructed a European cultural code that was supranational, suprastatal, and supraclass. This code served as an identifier of belonging to the Christian world.

Earthly life was seen as merely a fleeting moment before the eternity that awaited humanity. In such a worldview, detailed descriptions of paradise and hell, as well as instructions for securing a place in heaven, were entirely fitting. The certainty of divine judgment after death and the promise of heavenly bliss or hellish torment were unquestionable realities. Christian eschatology, as both a defence against death anxiety and a source of deep meaning in life, felt entirely natural - it aligned seamlessly with the earthly and religious framework that shaped every aspect of human experience.

Medieval Christian

When discussing the nearly thousand-year process of implanting faith and building a Christian culture, it is important to consider its impact not only on the elites but also on the broader masses of Europeans. From what we know, the average medieval person had very little understanding of the doctrine and principles of the Christian faith. In practice, Christianization primarily influenced a narrow elite. The rest of society - primarily the peasant masses, but also many knights - experienced a superficial form of Christianization. Their faith often blended with superstition, remnants of pagan beliefs, conformism, and a servile fascination with the grandeur of Church ceremonies and settings.

Despite this, medieval Europeans are broadly considered Christians because the lingering components of old beliefs served as a superficial layer over a small but effectively instilled core of Christian eschatology. This core, instilled by the Church, included essential elements such as Christ, resurrection, heaven, angels, and guidance on how to avoid hell and find rest in the heavenly gardens. Around this foundation, remnants of pagan traditions persisted, including beliefs in malevolent and benevolent demons, devils to be avoided, haunted places, and the dead who lingered between the earthly and the afterlife realms, requiring placation or assistance. These pagan remnants were gradually Christianized, although some elements survived into the 19th and even 20th centuries.

Christianity, as an eschatology that alleviates fear, helps to reconcile the debate between those who view the Middle Ages as an era of deep faith and those who argue that true Christianization occurred only during the Reformation and Counter-Reformation. Medieval faith, which gradually faded in the centuries that followed, revolved around a simplified version of Christian eschatology. The re-Christianization efforts of the 17th century were, in fact, the first comprehensive catechesis aimed at the masses. To some extent, this slowed the processes of secularization over the next two centuries.

During the Middle Ages, spiritual and mental transformations were largely aligned with the processes initiating modernization. Elements of modernization were legitimized by theology and the Church, and the new Christian eschatology was widely accepted. Challenges arose later, however, as the Middle Ages came to an end and modernization accelerated rapidly.

The modern era, 16th–19th centuries. Modernization, secularization, searching for eschatological alternatives

In short

Viewed not through the lens of successive historical events, but as a whole, the modern era (1500–1900) appears relatively straightforward in the context of modernization and the role of religion. During this period, modernization was the driving force behind the rise of Western power, while Christianity lost much of its strength, prestige, and credibility - a process known as secularization.

The Christian eschatology that had defined the Middle Ages - promising rewards and threatening punishments in the afterlife, with clear instructions on how to avoid hell and secure a place in heaven - ceased to be a universally accepted, indisputable truth. This erosion of faith in eschatological certainties gradually fostered anxiety and frustration. For the average person, Christianity had provided a guaranteed, fear-free roadmap to eternal salvation. As secularization weakened belief in these promises, it left a void that modernization failed to fill with equally compelling alternatives in the temporal realm.

The above overview encapsulates four centuries of the complex relationship between modernization and Christianity. It bypasses the historical fluctuations and focuses solely on the overarching trend: a steady increase in existential frustration. By the 20th century, this frustration culminated in the emergence of the *taboo of death*. This taboo, in turn, triggered an unprecedented reallocation of resources toward the priorities of *Faster* and *Longer*. Today, we dream of defeating death itself with the aid of technology.

For over a millennium, death anxiety has been a powerful force driving our civilization. From promises of paradise in the Middle Ages to technological solutions in the modern era, the fear of death continues to shape the trajectory of West's history.

> The issues raised in this point are discussed in my work *O ewolucji cywilizacji zachodniej (On the Evolution of Western Civilization), point III Wczesna nowożytność. Początek moderny XVI-XIX wiek (Early Modernity. The Beginning of Modernity 16th-19th Centuries)* and in *Annex 3 Historia sekularyzacji i sekularyzacja historii (History of Secularization and Secularization of History);* also in my book *Cywilizacja zachodnia i Czas (Western Civilization and Time), chapter 2, Rosnąca wartość czasu (The Growing Value of Time), pp. 92-105 (the topic of secularization);* in my articles: *Ilość informacji wyprodukowanych w historii Europy miarą modernizacji (The Quantity of Information Produced in European History as a Measure of Modernization) and Sekularyzacja historii. Notatki z książek: Wichrowski, Löwith, Nisbet. (The Secularization of History. Notes from books: Wichrowski, Löwith, Nisbet)*

The amount of information as a measure of modernization[12]

Let us begin by summarizing what European modernization entails. In short, it encompasses the rise of science during the Scientific Revolution, the development of modern technology, the emergence of the market economy and capitalism, shifts in political structures from absolute monarchies toward greater civic participation, secularization, European

geographical and colonial expansion, the development of civil liberties, the flourishing of culture and art alongside their increasing accessibility, and the rise of the West as a global hegemon[13].

Modernization can be defined in various ways, but it can also be understood as a historical process in which Europeans utilized their intellectual potential to:
• gain a better understanding of how the world around them functions (science), • invent and implement increasingly advanced and effective methods for producing and processing both material and non-material goods (technology), • develop a more efficient system for the production and distribution of these goods (economy), • establish a system of governance that promotes broader individual participation in political decision-making, supports free expression of ideas (provided they do not infringe on the freedom of others), and fosters liberal democracy, • create and engage with cultural and artistic goods (cultural sphere), • expand geographically and build a global material power.

A synthetic measure of the progress of modernization, encompassing a wide range of phenomena such as economic processes, technology, culture, art, religion, education, science, bureaucratic development, and geographical expansion, is the amount of information produced during this process. All of these components of modernization generated information, and its quantity closely correlates with the level of modernization.

The amount of information can also be quantified, as we have relatively accurate estimates of the cumulative volume of information produced between the 6th and 18th centuries. These estimates are based on data about the number of manuscripts and printed books created across practically all fields of knowledge, art, and literature[14]. To this, one must add estimates of the volume of documents related to the functioning of the state, the public sphere, trade, and industry - such as political, administrative, and judicial records, banking documentation, commercial correspondence, Church writings, and more.

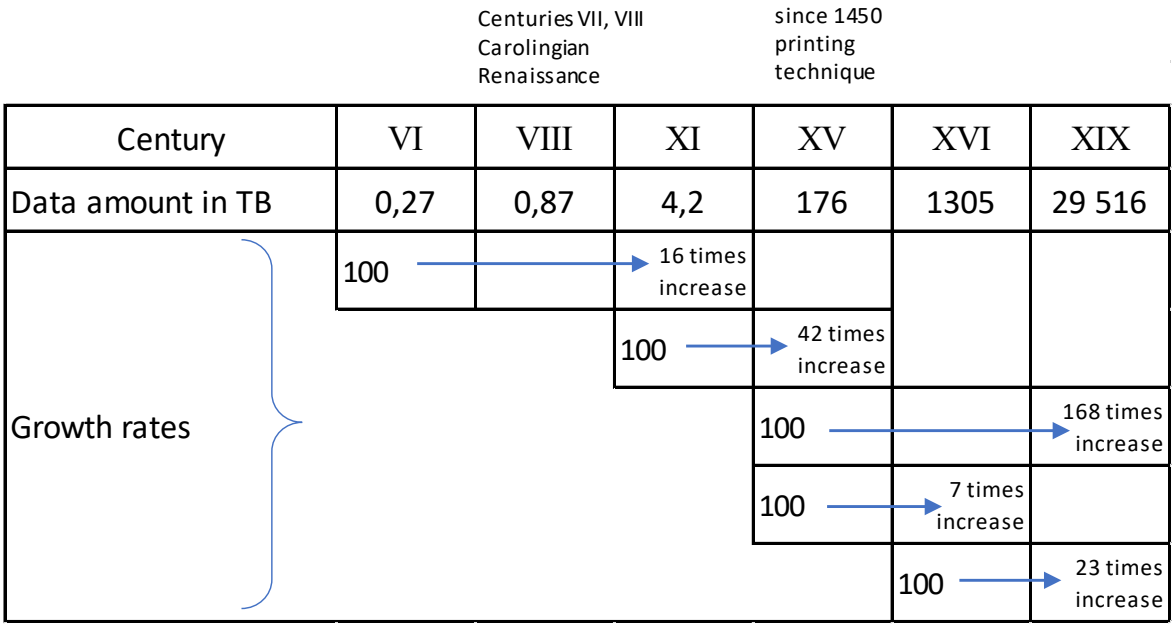
To illustrate this, I provide a collective estimate of the amount of information in the table below. The data is expressed in terabytes (TB). For perspective, one terabyte can store approximately 143,000 copies of Marcel Proust's *In Search of Lost Time* in plain text format on a memory card or disk[15].

In the 11th century, as Europe began to recover from its period of civilizational decline, 16 times more information was produced compared to the 6th century - the nadir of material and cultural development indicators (see table, p. 18). Most of this growth occurred after the 8th century, during the so-called Carolingian Renaissance. In the High Middle Ages (11th to 15th centuries), when economic, technological, and scientific development accelerated, the rate of modernization increased dramatically, with information production rising 42-fold, from 4.2 to 176 terabytes.

The advent of printing technology (from 1550 onward) led to a quantum leap in information production. Within a century, the volume of information increased sevenfold, from 176 to 1,305 terabytes. The unprecedented pace of modernization in Europe - from the

second half of the 15th century to the end of the 19th century - saw a 168-fold increase in information production, reaching 29,516 terabytes.

Estimated amount of information (in terabytes, TB) produced in Western Europe between the 6th and 19th centuries



Source: Jacek Kwaśniewski, *Ilość informacji wyprodukowanych w historii Europy. Miara modernizacji* (*The Amount of Information Produced in the History of Europe. A Measure of Modernization)*

Taken together, the trajectory of information production from the 6th to the 19th century reveals an almost exponential growth in the volume of data required to first recover from Europe's civilizational decline and then drive the modernization process. This exponential trend provides a useful metric for evaluating modernization progress over the past millennium.

And this growth shows no sign of abating. In 2018 alone, humanity produced 33 billion terabytes of information—a staggering leap compared to earlier centuries[16].

Modernization – secularization

Modernization has always been, by its nature, a temporal endeavor. In Western Europe, it was largely driven by the powerful Christianity that promoted material development (for more on other factors contributing to modernization, see box p. 12). This was a stroke of historical fortune, as other major religions often had less favorable impacts on the temporal sphere. Their views on the nature of the world, supernatural forces, and humanity's relationship with them tended to inhibit scientific progress, remained largely indifferent to technological innovation, and often saw religious elites actively blocking pro-growth and pro-innovation economic changes.

However, the influence of Christianity and the Church on modernization resembled the fable of the sorcerer's apprentice. Both contributed to launching modernization during the Middle Ages, yet its explosive growth in the modern era began to erode the very foundations of Church authority and Christian influence.

What underlying forces drove this transformation, and how did it unfold?

Modernization introduced hundreds of thousands, and later millions, of new entities - from major enterprises like the East India Company to smaller institutions such as town hall in a backwater German town or river ports in southern France. These entities - economic, administrative, infrastructural, cultural, educational, and military - operated in fields as diverse as technology, healthcare, communication, agriculture, and science. Crucially, they were temporal in nature, not sacred.

For several centuries, these entities retained a religious veneer, bolstered by the state-church alliances of the time. Blessings of new bridges, ships, and schools; a mass for victory; prayers at the beginning of work; and propitiatory processions served as reminders of religion's influence. Yet their core operations adhered to secular rationality, regulations, and laws. Governed by secular authorities, these entities developed their own internal rules, rendering religious values increasingly irrelevant in their daily functioning. Over time, religious norms were relegated to the private sphere, losing their universality.

Modernization thus multiplied institutions within the temporal realm, granting them independence and autonomy - also from religious oversight. This shift profoundly impacted individuals. Participation in secular institutions, governed by rational principles, led individuals to adopt secular motivations, relegating religious motivations to personal matters.

Viewed through the lens of the individual, secularization gradually diminished religion's presence in various aspects of life. God and religious perspectives lost their influence over government, war, science, illness, travel, work, marriage, childbirth, agriculture, dispute resolution, literature, and art. However, these changes unfolded over centuries, not decades.

Beginning at the end of the Middle Ages, a rivalry emerged between the Church and secular society over the narrative of death. Popular defences against death anxiety, such as mocking official eschatology through humour, vulgarity, and heretical ideas (as seen in Chaucer, Boccaccio, Rabelais, carnivals, and movements like the Anabaptists or Socinians), provoked a backlash from the Inquisition and a temporary victory for the Church. Among the elites, however, the Church's eschatology was overshadowed by elaborate funeral ceremonies that celebrated wealth, power, and achievement, turning these rituals into symbols of earthly immortality[17].

From the 17th century onward, secularization progressed in historical narratives as well. God was increasingly excluded from explanations of historical processes [18]. The 18th century saw significant secularization among elites and parts of the masses, particularly in France. Urbanization played a pivotal role in this shift. In large cities, religious norms gave way to secular legal frameworks, which shaped new lifestyles. This process accelerated with urban migration during the Industrial Revolution.

The secularization of science merits particular attention. Starting in the 14th and 15th centuries, a growing rejection of teleology, supernatural factors, and biblical references in scientific explanations took root.

Thus, among the most important sources of the secularization process, we should highlight the fact that modernization, as an expanding institutional, economic, cultural, intellectual, political, and other differentiation, simply took up more and more space in the time budget of both individuals and societies. Being inherently temporal, modernization loosened its connections with the institutional Church. Secular legitimations gradually replaced religious ones, supported by "the assimilation of rationalism, empiricism, and skepticism as the primary modes of perceiving the world. Societies turned to earthly experts and authorities rather than divine ones".[19]

Despite its growing influence, secularization had its limits. Until the late 19th century, Christian eschatology remained the primary means of addressing death anxiety. However, this eschatology became increasingly ritualized, coexisting with declining religious commitment. For instance, there was a notable drop in both the production and readership of religious literature.

Intra-religious sources of secularization

Modernization processes were not the sole initiators of secularization. Significant factors arose from within religion itself, including the crisis of the Catholic Church, the Reformation, and the growing divergence between the Church and science.

First, during the 14th, 15th, and 16th centuries, the Catholic Church experienced a deepening crisis - moral, social, doctrinal, organizational, and pastoral [20]. The highest ranks of the Church hierarchy lived entirely secular lives, characterized by ostentation and entanglement in political affairs. This openly contradicted the religious and moral principles they were meant to uphold. Doctrinal issues were treated with a utilitarian approach, the Church was organizationally divided, and its pastoral mission was largely neglected.

This crisis at the top was mirrored throughout the institution. There was no consistent or universal system for educating clergy in seminaries, resulting in poorly trained priests. Many parish priests were absent from their communities, delegating their duties to hired priests, who often lacked even basic qualifications. Bishops frequently resided outside their dioceses, preoccupied with political or public matters.

Moreover, moral and ethical abuses were widespread. Basic pastoral responsibilities, such as catechesis, preaching, celebrating Mass, and administering sacraments, were often neglected, leaving the majority of the faithful in a state of religious ignorance. In rural areas, in particular, Christianity was practiced superficially, intertwined with pagan superstitions and an animistic worldview. This fostered fears and anxieties, such as the belief that since the Great Schism, the gates of paradise had been closed. These anxieties also led to practices like scapegoating and witch hunts. It was only through re-Christianization efforts—led by both Protestant and Catholic reforms in the late 17th century - that some of these issues were addressed.

The Reformation further deepened secularization through its intra-religious impact. Two notable consequences stand out. For a time, the Reformation reconciled secular rationality with religious principles, sanctifying the capitalist ethos. Economic success in competitive

and entirely temporal struggles came to be viewed as evidence of divine favor, effectively secularizing the economy by framing ruthless competition as proof of salvation.

Another consequence was the permanent fragmentation of Christian unity in the West. Divergent interpretations of Christianity presented conflicting doctrines and pathways to salvation. Each faction viewed the other as heretical and, often, as agents of Satan. This hostility led to violence, trickery, and even assassinations aimed at eliminating opposing groups. Religious wars, fueled by these divisions, claimed the lives of millions [21] and weakened the authority of all confessions. Religion lost much of its integrative power and its ability to legitimize the social order.

In the 16th and 17th centuries, secularization primarily affected elites. In intellectual life, there was a gradual departure from scholasticism and a diminishing role for theology as more attention was directed toward secular topics and the development of new disciplines. The secularization of art, law, and literature progressed, with religious themes occupying a decreasing share of creative output.

In science, the shift toward mathematics and empirical research revealed a world governed by autonomous natural laws, free from teleological explanations. This transition removed the concept of purpose - central to Aristotelian science - from scientific inquiry. The Catholic Church's adherence to Aristotelian frameworks further alienated it from emerging empirical-mathematical (Archimedean) model[22]. By the 18th century, the Church's opposition to advancements in fields such as biology, astronomy, geology, paleontology, and biblical studies further diminished its credibility, despite the contributions of individual clergy and religious orders, such as the Jesuits, Oratorians, and Benedictines-Maurists[23].

The role of the clergy and the Catholic Church in the development of modern science has been the subject of much debate. In brief, my position is as follows: without the Church, Christianity, and the contributions of medieval theologians and natural philosophers, modern science might not have come into existence at all, or its emergence could have been delayed by centuries. However, since the 16th century and the onset of the Scientific Revolution, we have witnessed the progressive ossification of church institutions and theology around the Aristotelian scientific tradition. This shift increasingly placed the Church in opposition to the rapidly advancing sciences rooted in the Archimedean model.

That said, models of cognition developed during the Middle Ages (e.g., nominalism, Thomism) continued to influence scientists even as late as the 18th century. Over the past 30–40 years, the Church, with few exceptions, has adopted a largely neutral stance toward science. I have elaborated on this perspective in several texts available on my website.

When summarizing the sources of secularization, it is crucial to highlight how modernization reduced the influence of religious institutions by occupying an increasing share of individuals' and communities' time budgets. Modernization imposed secular perspectives, criteria, and values, which gradually replaced religious ones and encompassed ever-larger

portions of the population. Simultaneously, the prestige of religion declined, a new mentality emerged that relegated God to a lower position in the hierarchy of values, and institutional religion, facing its own deep crises, was unable to effectively counter these shifts.

The size of the stratum involved in modernization – an attempt at estimation[24]

The process of deepening secular mentalities at the expense of religious ones progressed gradually as modernization expanded its reach. Those involved in modernization processes and subjected to secularizing influences can be divided into two groups.

The first group comprised the *leaders* and *vanguard* of modernization. The size of this group was influenced by factors such as the number of new secular entities and institutions, rising literacy rates, urbanization, shifts in professional structures, and the growth of the capitalist economy.

The second group consisted of the *contractors* of modernization—those who carried out its practical implementation. The size of this group depended primarily on:

- the development of the capitalist system and the expansion of the working class,
- the growth of the army and military sector,
- the increasing number of staff in central and local administrations.

The assessment of the numbers of both groups is difficult, but deserves the attention of researchers. In my approximate calculations (table p. 22), I estimate the size of group I primarily based on increasing level of literacy, urbanization, and occupational shifts. From the 16th to the late 19th century, the proportion of group I grew from about 15% to 35% of the European population. Group II, meanwhile, is estimated as a growing fraction of group I, increasing from 10% to 45% over the same period.

The size of the stratum involved in the modernization process.
Western Europe, 15th-19th centuries

Century (data at the end of the century)	**XV** 1500	**XVI** 1600	**XVII** 1700	**XVIII** 1820	**XIX** 1913
Modernization Group I, as % of European population	12	15	18	22	35
Modernizatio Group I, millions	6,9	11,1	14,7	29,2	91,0
Modernization Group II as % of Group I	5	10	20	30	45
Modernization Group II millions	0,34	1,11	2,93	8,77	40,95
Group I + II together millions	7,22	12,18	17,60	38,01	131,95
Growth rate of Group I + II together		1			10,8
Group I + II together as % of European population	12,6	16,5	21,6	28,6	50,8
West European population millions	57,3	73,8	81,5	132,9	260
Growth rate of West European population		1			3,5

Source: A. Maddison, dane o wielkości populacji (population size data). Poza tym - własne wyliczenia (Besides that – my own calculations)

With these assumptions, the total number of people directly involved in modernization processes in Western Europe increased approximately elevenfold between the 16th and 19th

centuries, reaching over 132 million people - or about 50% of the total European population by the 19th century.

The table above illustrates that the modernization stratum grew three times faster than the overall population during the four centuries from the 16th to the 19th century. Until the 18th century, this growth was relatively gradual (17%, 22%, 29% of the population). However, the 19th century marked a breakthrough (51% of the population), driven by the rapid acceleration of modernization beginning in the second half of the 18th century, including the Industrial Revolution. This acceleration coincided with an unprecedented doubling of Europe's population (a growth factor of 1.96) during the 19th century.

The significant increase in the number of people affected by modernization had profound sociological and psychological implications, contributing to growing secularization and its widespread effects in the 20th century.

Modernization – Secularization – Frustration – Eschatological Alternatives

When discussing the themes in the title, it is important to recognize that secularization did not emerge suddenly but evolved gradually over centuries, progressing at different rates in different countries. It was, and often still is, rarely radical. God does not usually vanish entirely from human life. Secularization undermines faith in eschatological promises, but it does not eliminate death anxiety. Even today, in moments of personal or shared confrontation with mortality, God often returns to us—or we return to God. This is because complete denial of God is rare; many individuals never truly stop believing. However, in everyday life, for many Westerners, God seems unnecessary.

David Martin

- In the context of religious institutions, the concept of secularization refers to the process of diminishing influence, prestige, and power of these institutions. This is accompanied by the replacement of religious legitimizations, on which society had previously relied, with secular legitimizations, as well as the privatization of religion.
- Secularization pertains to the sphere of practices, rituals, and customs, describing the process of decreasing their frequency, number, intensity, and significance.
- Another area to which the concept of secularization may apply is the mental sphere. In this context, secularization signifies the adoption of rationalism, empiricism, and skepticism as categories for perceiving the world, along with a preference for earthly rather than transcendental "experts" and authorities.

Zielińska K., *Spory wokół teorii sekularyzacji*, NOMOS 2009, str. 66

The old thesis that modernization inevitably leads to secularization and will ultimately eliminate religion is false and does not hold true in practice. Secularization does not eliminate the need for a profound anchoring of life's meaning or the need for protection against death anxiety. Therefore, it stops somewhat "halfway." Religion encompasses an increasingly smaller part of social life, but the desire for **S**omething that will shield us from ultimate fear

remains intact. This could manifest as faith in God, less tied to orthodoxy and selectively engaging with its rituals and dogmas (a "religion à la carte"), some vaguely defined deity, or an even less distinct cosmic force. Some of us fend off the fear of death without the help of classical transcendence, drawing on the concept of so-called symbolic immortality, which we will discuss when examining the 20th century.

The clergy of the time were aware of the adverse consequences modernization posed for religion. John Wesley (1703–1791), theologian and co-founder of the Methodist Church, expressed these concerns in the context of Protestant denominations. He wrote:

> I fear that, wherever riches have increased, the essence of religion has decreased in the same proportion. [...] For religion must necessarily produce both industry and frugality, and these cannot but produce riches. But as wealth increases, so will pride, anger, love of the world in all its branches. [...] So, although the form of religion remains, the spirit is swiftly vanishing away[25].

Wesley highlighted the paradoxical effect of Protestantism's sanctification of economic activity: success in the economic sphere was seen as evidence of divine favor. This created a scenario where ruthless economic competition was framed as a means of proving one's chosenness by God. However, this ethos rewarded personalities that sidelined spirituality, mercy, and compassion in favor of ambition and self-interest. In Wesley's words, "although the form of religion remains, the spirit is swiftly vanishing away."

Modernization, ever stronger, with an increasing share of individuals' and communities' time allocated (time budgets) devoted to its concerns, and with an increasingly widely accepted secular ethos, gradually eroded medieval faith in eschatological promises. This erosion was less due to philosophical or theological arguments and more the result of modernization's pervasive presence in daily life. On one hand, 17th-century Europe escaped, for example, from the Malthusian trap, gradually eliminating periodic plagues of hunger[26]. On the other hand, its material success clashed with a painful loss of existential peace. Secularization diminished the authority of religion and intensified existential anxiety and frustration. The diminishing credibility of the promise of eternal life did not lessen people's desire for it.

Christian longing for eternity proved far more durable than the belief in its fulfillment. This is evident from the rapid spread of spiritualism in the second half of the 19th century, which we will examine further. Over time, negative emotions, anxieties, and fears accumulated, culminating in a frustration born from an intense longing combined with a diminishing hope of its realization. This frustration erupted in the 20th century in the form of the *taboo of death*.

The period from the 16th to the late 19th century was marked by an increasingly fragile balance between the material promises of modernization and the eschatological vision offered by Christianity. As modernization and secularization advanced, new worldviews emerged, largely as responses to the growing existential anxiety among elites who were most affected by the psychological toll of secularization. Faith, once a bulwark against death anxiety, started to wane. As a result, alternatives and substitutes for religious comfort were actively sought.

Their creators made their proposals into alternative offers to soothe the death anxiety by providing a vision of temporal meaning to history and giving man symbolic immortality in it. Some proposed optimistic frameworks, while others leaned into eschatological pessimism, embracing nihilism and decadence.

In the 18th century, Enlightenment optimism and the belief in infinite progress found support, for a time, in deism. According to this view, God - the Great Watchmaker - created the world and its natural laws but refrained from further intervention, leaving humanity with the task of perfecting it. By the 19th century, deism had largely disappeared, but belief in infinite temporal progress flourished during the Industrial Revolution, peaking in the 19th century.

Other worldviews arose to address temporal suffering and existential fears [27]. Utopian socialism and Marxist doctrines envisioned human happiness following the overthrow of capitalism. Romantic love was proposed as a replacement for God, as was faith in the power and historical destiny of the white man. Darwinian evolution inspired visions of a perfectible future human, which, in turn, influenced Nietzsche's concept of the Übermensch and eugenic theories advocating physical and mental enhancement through selective breeding.

Spiritualism

In the late 19th and early 20th centuries, the most prominent quasi-religious eschatological movement in the West was spiritualism. It proclaimed the possibility of contacting the spirits of the dead through mediums - individuals believed to possess the ability to communicate with the afterlife. Spiritualism, which spread like wildfire, temporarily restored credibility to classical visions of the afterlife for nearly seven decades.

In 1854, in the United States, one in seven white Americans participated in spiritualist séances [28]. After centuries of waning faith in the Christian promise of eternal life, spiritualism offered a sudden resurgence of hope by claiming to confirm the existence of life after death through communication with the deceased. The mass appeal of this movement highlights the persistent and deep-seated human need for classical eschatology, which had been steadily eroded by modernization. For a time, the "good old hope" made a triumphant return.

However, this resurgence was short-lived. By the 1920s, spiritualism had largely faded due to growing evidence that séances were fraudulent.

Modern Era – Conclusion

The story of the modern era cannot end here, as it might leave the impression that Christianity, after its positive contributions to culture during the Middle Ages, served only as a hindrance in subsequent centuries. This is far from the truth. The relationship between Christian churches and the processes of modernization was complex and multifaceted, and a brief summary cannot capture this richness.

In the context of the subject at hand, it is essential to acknowledge that for more than a millennium, Christianity provided a protective dome over its followers, shielding them from the blows of existential fear. Over time, however, this dome weakened. Elites lost faith in it more quickly than the masses, and those entrusted with its stewardship often abused their

power. Yet, it was not until the 20th century that Christian eschatology definitively lost the battle for the metaphysical well-being of the West.

Despite its waning influence, the eschatological framework of Christianity served its purpose for many centuries, offering solace and meaning to more than fifty generations.

The 20th Century: Death Taboo, New Priorities, Death Is a Disease

The paradox: medical progress accompanied by increased anxiety

20th century brought several remarkable phenomena to Western civilization. Advances in medicine, preventive healthcare, and related fields significantly increased survival rates. However, alongside these achievements emerged a mass phenomenon of profound existential frustration. Death anxiety, breaking through all protective barriers, overwhelmed Western society, which, unable to confront it, relegated it to the unconscious. Death became a forbidden topic—a societal taboo. Yet, almost simultaneously, this pervasive fear spurred a dramatic opening of wallets. Since the 1960s, healthcare spending has risen sharply.

The fundamental question arises: why did the taboo of death emerge, and why at this particular historical moment? Two key reasons stand out. The first, more immediate cause, was repression - a classic defensive reaction against frustration. Because this frustration affected hundreds of millions, what began as a psychological phenomenon transformed into a sociological one.

> The issues discussed in this section are explored in depth in several of my works. Most notably, they are addressed in the article *Tabu śmierci: dlaczego powstało, dlaczego gaśnie* (*The Death Taboo: Why It Came into Being, Why It Fades Away*); in the work *O ewolucji cywilizacji zachodniej* (*On the Evolution of Western Civilization*), point V *Koniec wieku XIX i wiek XX* (*The End of the 19th Century and the 20th Century*), pp. 23–31 (including, among other topics, the fear of death in E. Becker's theory and the TMT theory); Annex 4 *Tabu śmierci – obrona przed frustracją poprzez mechanizm wyparcia* (*The Death Taboo – Defense Against Frustration Through the Mechanism of Repression*); and in the book *Cywilizacja zachodnia i Czas* (*Western Civilization and Time*), chapter 3 *Tabu śmierci* (*The Death Taboo*), and chapter 5 *Śmierć w odwrocie, o śmierci jako chorobie* (*Death in Retreat, on Death as a Disease*).

The second, deeper reason was the significant weakening of the psychological mechanisms that had historically shielded humanity from death anxiety - mechanisms deeply rooted in the medieval worldview. As these structures eroded, no effective alternative systems were developed to replace them.

The death taboo - demographics and secularization

So first, why the repression? Where does the frustration come from? The immediate origins of the death taboo lie in demography. The radical decline in child and youth mortality in the first half of the 20th century (a drop of two- to fourteen-fold [29]) shifted death away from younger generations. Meanwhile, retirees gained comparatively little. By 1950, life expectancy at birth had increased by 21 years compared to 1900, but for people aged 65 and

older, it had risen by only two years. What's more, they were reminded that they were nearing the biological limit of human life.

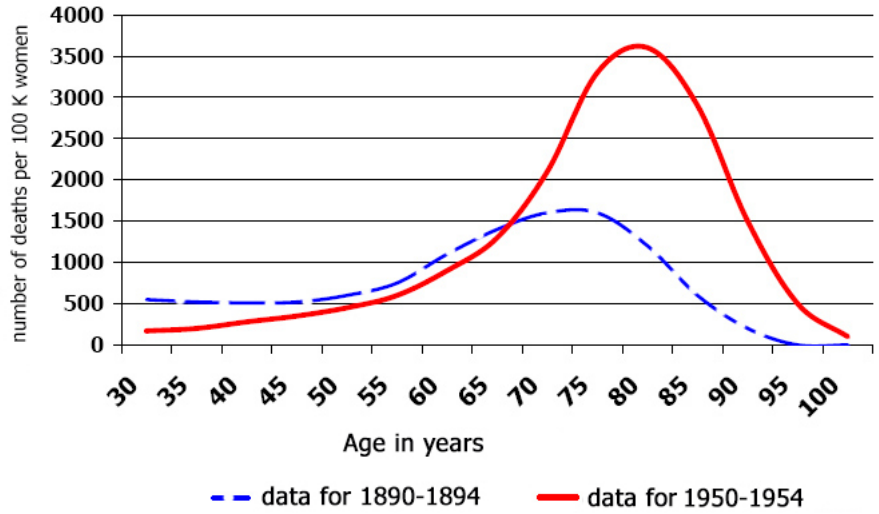
The relative situation of the elderly worsened significantly by mid-century. Not only did they benefit far less than the young from advances in health and living conditions, but because their numbers were growing rapidly - over fifty years, the U.S. population under 65 doubled, while the number of people over 65 quadrupled—the mortality in their age group accumulated. The once-constant hecatomb of children transformed into a hecatomb of pensioners (see chart p. 27). Furthermore, although there were four times as many people aged 65 and older, the percentage of those aged 74+ did not increase significantly. Their deaths became more visible - also by the law of contrast. The unity of shared destiny had been broken. The elderly now performed the drama of death, while the younger generations took their seats in the audience.

This growing helplessness and frustration among hundreds of millions of people in the mid-20th century exposed, on an unprecedented scale, the death anxiety that had been effectively concealed for generations. Fear gripped rich and poor alike, church-goers and non-church-goers. The religious and cultural shields that had once buffered existential fear seemed to evaporate. This eruption of collective fear became one of the most distinctive social phenomena of the 20th century, manifesting in an unexpected form: the death taboo.

As described by classic psychological theories, frustration defence mechanisms took hold, and Western society repressed the object of its frustration - death - pushing it out of consciousness. Death was renounced. Its traditional public nature vanished, and it became something shameful, tactless, and unmentionable. Death and dying were erased from language, customs, and both private and public discourse.

The second, deeper cause of the death taboo was secularization, a process that unfolded over five centuries in the West. Secularization eroded faith in Christian eschatology, leaving behind little more than dreams and vague trust in an afterlife or some form of supernatural power (declared by 50-70% of Westerners[30]). However, these beliefs lacked the strength to buffer the death anxiety awakened by heightened mortality salience.

Mortality in different age groups: end of the 19th century and mid-20th century (France)



based on : Jean-Marie Robine, *Future prospects for human longevity and health* , LSE, handout, 11/01/2002

A dynamic interplay developed between secularization and the death taboo. Secularization diminished transcendent hopes while elevating the importance of temporal life - especially for older generations, who felt increasingly denied the time they cherished. As belief in God faded, the growing value placed on temporal existence clashed with the reality that it was slipping away.

Although the causal relationship is difficult to establish definitively, secularization undoubtedly reinforced the death taboo, especially once it had taken root. It created fertile ground for the phenomenon to flourish. In turn, the death taboo further accelerated secularization by contributing to declining church attendance. For many Westerners - keenly aware of their mortality - churches offered not solace but somber reminders of *memento mori*. Instead of finding hope in promises of salvation, people turned away, seeking ways to delay death and extend life.

Yet, the stark realization that this desire was ultimately unattainable left society trapped - caught between an overwhelming yearning for life and a paralyzing fear of its inevitable end. The death taboo provided an escape from this torment, a way to forget. While it could not cure the existential wound, it dulled the pain, functioning as an anesthetic. At least, until the very end...

Twentieth-century lines of Defence[31]

What lines of defence against existential fear did humanity develop in the 20th century, and which became its primary strategies after secularization eroded faith in Christian eschatology? These defences are not new; they have existed for centuries. However, as long as Christian eschatology effectively quelled death anxiety, these mechanisms played only a secondary role.

The first line of defence has always been the repression of death anxiety from consciousness. According to the proponents of Denial of Death Theory (Becker, Liechty et al.) and Terror Management Theory (Greenberg, Solomon, Pyszczynski et al.), this mechanism has functioned throughout human history. However, in today's secularized world, it manifests most prominently in the form of the death taboo.

The second line of defence is the aforementioned societal norms, which facilitate repression and minimize direct encounters with death. This includes practices such as removing the dying to hospitals or care facilities, avoiding meetings with them and their loved ones. The decline of mourning rituals, the use of euphemisms to describe death, avoiding discussions about real death, and shielding children from the dying also contribute to this distancing.

When these avoidance strategies fail - when real death confronts us directly, such as through the loss of a loved one, preparation for a burial, receiving a terminal diagnosis, attending a funeral, or undergoing medical tests that highlight our mortality salience - cultural mechanisms for buffering death anxiety come into play [32].

One primary mechanism is strong identification with a personal worldview, which acts as a psychological shield. High self-esteem also serves as a protective barrier. Placing hope in a charismatic authority figure, whether religious or political, can provide reassurance. Finally, we can overcome the fear of death with the help of so-called symbolic immortality. This refers to the previously mentioned hope that I will endure through my achievements or the joy of participating in a project of global significance.

Existential anxiety can also be warded off by making extravagant purchases, compulsively collecting items to boost one's self-esteem, or throwing oneself intensely into the whirlwind of life, leaving no time for rest or reflection—and thus forgetting one's fears.

These coping mechanisms, while effective to some degree, rarely eliminate the underlying anxiety. The horror of death still rumbles beneath the surface of our consciousness, beneath cultural denial [33]. Indeed, it is difficult to escape the impression that these cultural buffers function like painkillers. They dull the pain, but they do not address the root cause.

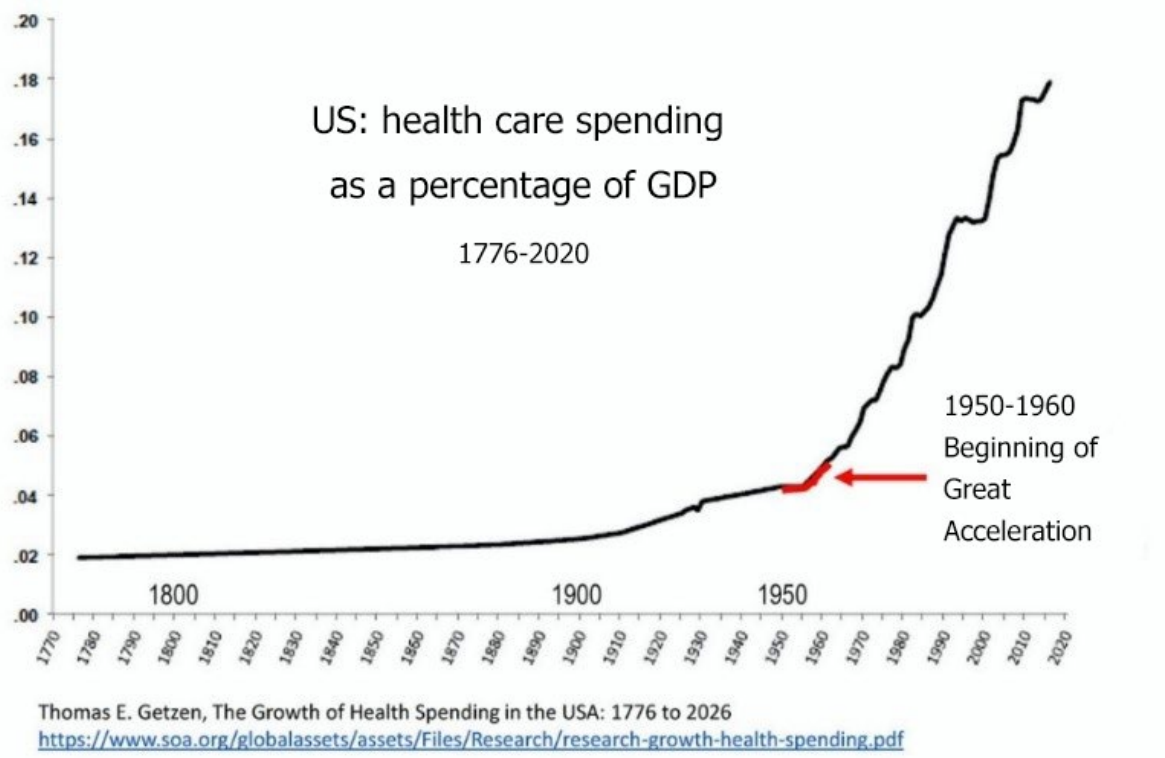
Is there anything that soothes this fear more effectively? Many 20th-century psychologists and sociologists with diverse worldviews - such as Ernest Becker, Victor Frankl, Rollo May, Otto Rank, Robin Dunbar, and Reza Aslan - have argued that the most potent defence against existential fear has always been religious faith. However, this must be a deep, fervent faith. Numerous studies have demonstrated that the stronger and more unwavering the belief, the better it serves to reduce death anxiety.

Unfortunately, this knowledge provides little consolation in a secularized world where the ranks of such believers have thinned considerably[34].

Reactions to death anxiety in the second half of the 20th century

The taboo on death had many consequences. Pretending that death does not exist worsened the plight of dying people for decades. They were systematically moved to hospitals to keep death out of sight. This led to the development of procedures aimed at ensuring they caused as little disruption as possible: morphine to keep them calm, deception about the severity of their illness to persuade patients not to deviate from the accepted ritual of dying - in essence, to pretend they were not dying, arranging deaths before the end of the night shift in hospitals for the poor, etc[35]. However, pioneers of palliative care also emerged, including Elizabeth Kübler-Ross.

The market reaction was extremely important. In the 1960s, a rapid increase in spending on the development of medicine, pharmaceuticals and medical technologies began (chart p. 30). Statistics at the end of the 20th century showed that this brought considerable results. In the second half of the century, older people gained relatively more in life expectancy (+29%) than young people (+13%)[36].



Thomas E. Getzen, The Growth of Health Spending in the USA: 1776 to 2026
https://www.soa.org/globalassets/assets/Files/Research/research-growth-health-spending.pdf

The average life expectancy has reached record levels. During the entire 20th century it increased from 48 to 79 years, or by 31 years. For comparison, in the previous, 19th century, the increase was 11 years and in the previous 250 years - only two years [37]. The civilization priorities, i.e. expenditures, the share of which in GDP grew the fastest, were health care and information technology. Live longer and longer, faster and stay young as long as possible. With these slogans and the appropriate reallocation of resources, Western civilization entered the third millennium.

Success in improving survival rates, increasing life expectancy, has caused a certain weakening of the taboo of death. But we are still teetering on the edge of fear and dream. Secularization has left us with a lukewarm faith, and it is this faith - despite modernization's relentless erosion of the Christian eschatological promise from our minds - that preserves within us the dream of eternal life. However, this dream now exists in a secularized form: as the desire for a personal identity that does not end but simply endures.

A new mentality: death as a disease

The successes of medical technology, which have significantly extended life expectancy, combined with secularization, which has severed eschatological hope, have laid the groundwork for a new approach to death [38].

A common feature of all previous cultural strategies toward death was the acceptance of its inevitability. Death was seen as an unchangeable fact of life. However, in the 20th century, this perception began to shift. First, humanity won the battle for children's survival, and for the past sixty years, we have been increasingly pulling the elderly from its grasp. If we examine the current mindset, the questioning of death's *eternal inevitability* has already begun.

At the turn of the 19th and 20th centuries, death was treated as a natural occurrence - frightening but unchallenged. Today, however, it is increasingly viewed as a technical and organizational failure, often sparking outrage. How often is a death blamed on medical error, the negligence or indifference of healthcare professionals, poverty that relegates patients to substandard treatment, the inefficiency of state-run health systems, or the unavailability of life-saving equipment? Death is frequently seen as the result of an avoidable oversight: failure to provide timely care, ineffective allocation of resources, or prohibitively expensive therapies priced beyond reach by profit-driven corporations.

This list of causes treats death as an event that could have been avoided - with more money, better organization, timely actions, or the prevention of certain mistakes. Yet, it also carries hope, as the fight is not over and continues, with many victories still ahead of us.

This transformation in mentality reflects profound and lasting changes in the metaphysical beliefs of Western society. Death is increasingly regarded not as an unchangeable fact of existence but as a disease to be fought - a condition subject to intervention and possibly even conquest.

21st Century: Technology as Eschatology: Is Long Life Interchangeable Identities? Existential Paradoxes: Ending Existence Without Dying

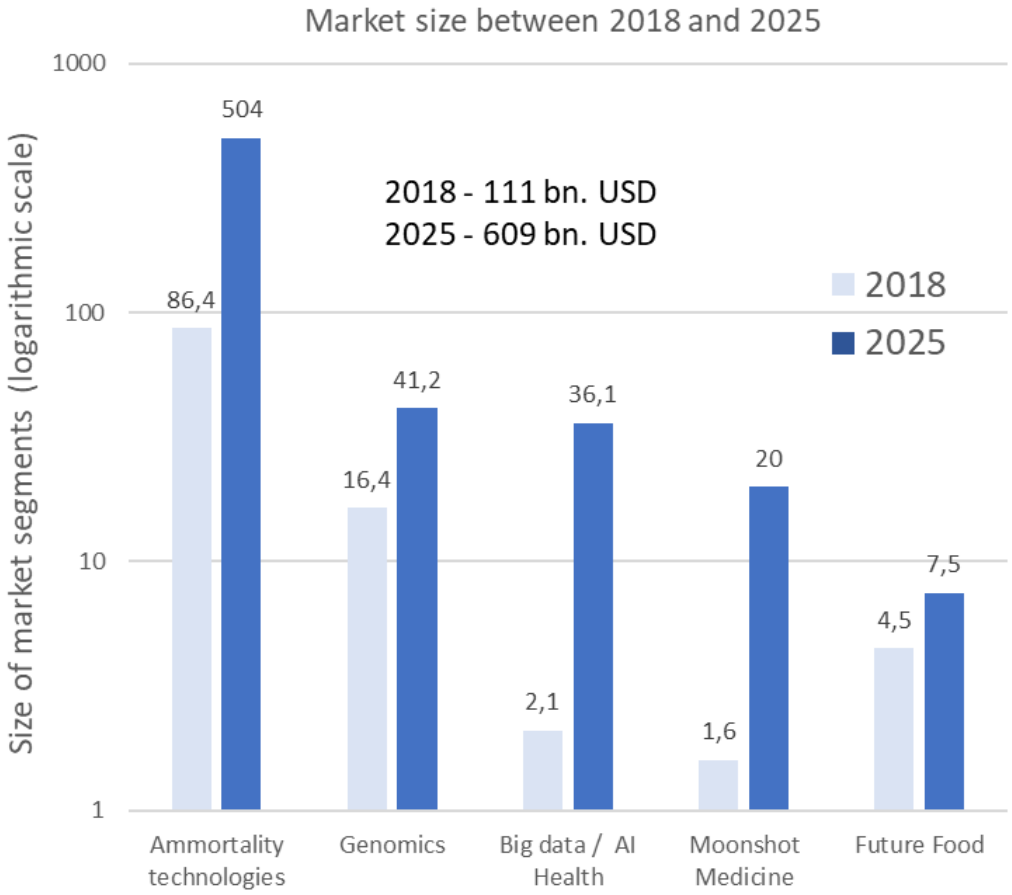
Ammortality and Radical Bodily Modifications

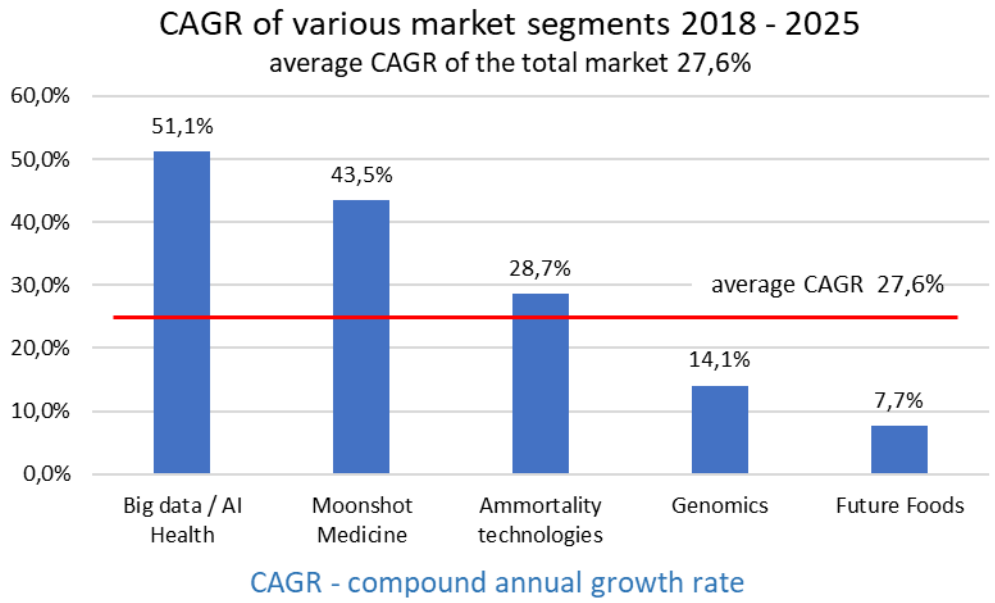
In the 21st century, the drive to combat aging has gained significant momentum - not merely through the development of drugs and therapies targeting specific diseases, though there have been notable successes in this area, but by aiming to radically slow the body's aging process [39]. A new concept has emerged: "ammortality." This term refers to technologies and products designed to significantly delay death. In 2018, the global market for human enhancement and life extension was valued at USD 111 billion, with projections of USD 609 billion by 2025 (see tables p. 32). The latest forecast for 2032 estimates the market at a staggering USD 886 billion[40].

I examine the issue of ammortality in greater depth in my work *Następne sto, dwieście lat: czy śmierć zacznie stopniowo zanikać?* (*The Next Hundred, Two Hundred Years: Will Death Gradually Begin to Disappear?*). In this text, I examine the modifications required to extend human life, the consequences of these modifications, and alternative scenarios.

I also address this topic in *O ewolucji cywilizacji zachodniej* (*On the Evolution of Western Civilization*), point VI *XXI wiek: Nowy optymizm, żyć dowolnie długo?* (*The 21st Century: New Optimism, Live as Long as You Want?*), pp. 31–36, and point VII *Skąd idziemy, dokąd zmierzamy?* (*Where Are We Coming From, Where Are We Heading?*), pp. 36–43 (which includes a discussion on the vision of future humanity in the thought of Paul Hefner and Teilhard de Chardin). Additionally, I explore these themes in Annex 5 *Życie radykalnie wydłużone: pomysły, wydatki, prognozy* (*Radically Extended Life: Ideas, Expenses, Forecasts*) and Annex 6 *Życie radykalnie wydłużone: możliwe konsekwencje ontyczne* (*Radically Extended Life: Possible Ontic Consequences*).

Life Extension Technologies (" Techmanity " Revolution). Global Market Size and Compound Annual Growth Rate (CAGR) 2018-2025[41]





CAGR - compound annual growth rate

Death anxiety, instead of paralyzing us with fear, now seems to spur hope. Ammortality has become a concrete manifestation of the desire for Longer.

Whether and when efforts to radically extend life will yield spectacular results remains uncertain. On one hand, we see investor confidence and substantial financial investments in life extension research by leading technology companies. On the other hand, the last sixty years have seen diminishing improvements in the key indicator of life expectancy - both at birth and at age 65. In fact, the outlook has worsened in recent decades, with statistical agencies revising their long-term life expectancy forecasts downward [42]. This stagnation is partly because, over the last 20 years, there has been almost no significant increase in life expectancy, a critical marker of progress in the fight for Living-Ever-Longer (see table, p. 33).

Moreover, examining the past six decades, the largest increases in life expectancy occurred between 1960 and 1980, while the period from 2000 to 2020 saw the smallest gains - virtually none at all. This lack of progress was exacerbated by the COVID-19 pandemic, as well as other challenges such as rising obesity rates in Western societies and pervasive environmental pollution (e.g., air quality and plastic contamination).

USA: Growth rate of average life expectancy at birth (LE at birth) birth) and at age 65 (LE at 65), 1900 – 2022[43]

LE at birth in yrs

1900	1950	1960	1970	1980	2000	2015	2017	2019	2020	2021	2022
47,3	68,2	69,7	70,8	73,7	76,8	78,9	78,6	78,9	77	76,6	77,5

1960-1980 Δ **4**

1980-2000 Δ **3,1**

2000-2020 Δ **0,2**

2021-2022 Δ 0,9

LE at 65 in yrs

1900	1950	1960	1970	1980	2000	2015	2017	2019	2020	2021	2022
12	13,9	14,3	15,2	16,4	17,6	19,3	19,9	19,6	18,5	18,4	18,9

1960-1980 Δ **2,1**

1980-2000 Δ **1,2**

2000-2020 Δ **0,9**

2021-2022 Δ 0,5

Given these trends (look at the table above), investor optimism may seem overstated. However, the intertwined ambitions, hopes, and expectations of those funding and working within the burgeoning field of ammortality remain vast. This raises an important question: what might the consequences of success look like? What if, within this century or the next, the average human life expectancy extended to two hundred, three hundred years, or even longer?

Such longevity would inevitably require radical modifications to the human body. Today, even with the full support of modern medicine, the human lifespan rarely exceeds a hundred years. Achieving a leap of several decades - or even centuries - would demand groundbreaking technologies capable of fundamentally transforming human biology.

Modifications and the bond with the old Homo sapiens

Let's assume this scenario becomes reality. It raises several profound questions. Let us consider two of them in a kind of thought experiment.

Question one: Will a person with an organism capable of functioning for two, three, or even more centuries feel any emotional or identity bond with a Homo sapiens individual from centuries ago? More broadly, will they feel a connection with humanity as it existed in its "version 1.0"? Living in a world that is physically, culturally, morally, and socially far removed from ours - one with vastly different daily realities - will this future human race still identify with unmodified Homo sapiens? They might share some aspects of our protein-based structure, but how will they view this much simpler version of humanity? Could they perceive it as an archaic construct, valuable at best for its sentimental significance?

Or, instead of cold detachment, will their attitude toward their unenhanced ancestors be one of condescending indulgence? Perhaps the problems, dilemmas, and struggles of humans from centuries ago will seem as trivial to them as a lost sandbox shovel seems to me now when I recall being four years old.

The deeper the structural changes in humanity, the more likely it seems that the "new human" will view us - those living today - much as we view the creators of the cave paintings in Lascaux. Let us pause to reflect on the implications. How will these future humans perceive our history? To us, it is our history because there is no significant physical or cognitive difference between myself, Gilgamesh, or the creators of those cave paintings. But I fear that for future humans, our history will not be theirs. Instead, it may be seen as the history of a vastly different genome - a species that has irreversibly vanished.

A friend of mine hopes that the new humans will develop such expanded empathy that they might be able to deeply understand and resonate with our emotions and moral judgments. Maybe. But evolution has not granted us the ability to empathize with the emotions of our extinct ancestors. Why would it? They are gone. It may well be the same for us.

Does personal identity have to remain constant throughout one's life?

Issue number two: Death anxiety has been a powerful force shaping human culture for centuries. But would a person living for several hundred years still experience this fear? And would the term "death" remain appropriate for describing what we currently consider the end of life? If we stop fearing death, and if "death" itself becomes an inadequate concept for describing the end of existence, the implications could be profound. Longer lives might pale in significance compared to the realization that much of human culture - built around the fear and rituals of death - could lose its meaning and become alien to these future beings.

This dramatic observation arises from the possibility that, in a life extended to several hundred years, individuals might develop multiple, successive personal identities. Life would no longer be a single, prolonged experience but rather a sequence of distinct, separate identities "inhabiting" the same, perhaps modified, body. Such a transformation would change everything - including our concept of death. It would no longer resemble the death we understand today.

Personal identity is rooted in the awareness of being oneself - the sense of being the same 'self' over time, shaped by the personal history of one's life. Memory, especially episodic or autobiographical memory [44], becomes a foundation of identity: the recollection of my past.

Without it, I would be like a patient experiencing severe amnesia, with a sense of being but no understanding of who I am.

Whether religious or not, most of us think of our identity as something permanent. Christian thought, for instance, assumes that the person after death is the same as the person before death, retaining a continuity of self that allows for responsibility in the afterlife for actions committed in life. Personal identity, in this view, is eternal.

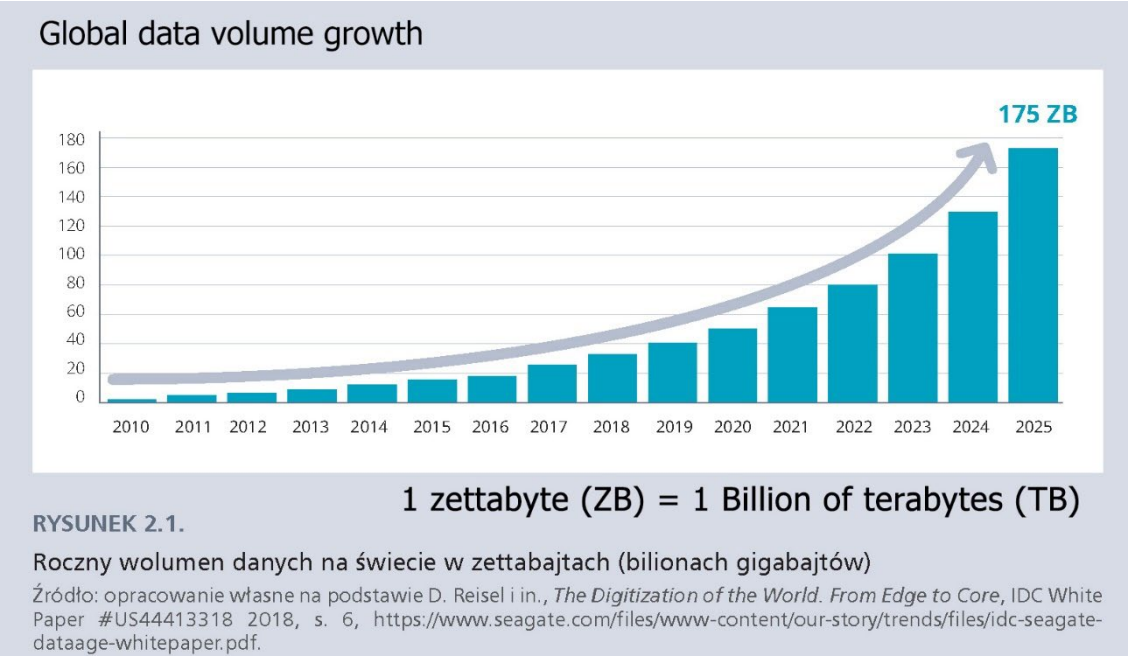
However, the notion of a fixed identity originated when human life rarely exceeded several decades and the pace of societal change was slow. Extending life to two, three hundred years or more in an ever-accelerating world challenges this idea of unchanging identity.

Why? Because living not just eighty years but three hundred or more, in a world moving faster and faster, would demand a constant updating of memory, combined with the obsolescence of older memories. Not only would our lives be many times longer, but we would also be inundated by an almost unimaginable volume of information. Forgetting - constant, deliberate forgetting - would become essential for maintaining our ability to function.

Exponential information production and memory exchange

In 2018 alone, humanity produced 33 billion terabytes of information. This astonishing figure means that, in just one day, we generated over 2,200 times more information than was created during the entire 1,400-year span from the 6th to the 19th centuries (a total of 41,000 terabytes; see the graphs on pages 35–36)[45]. A substantial portion of this information came from communication between machines. However, this machine-to-machine communication is integral to the functionality of the devices that now serve us in our everyday lives.

Looking ahead, the forecast for 2025 projects an even more staggering volume: 175–181 billion terabytes of information [46].



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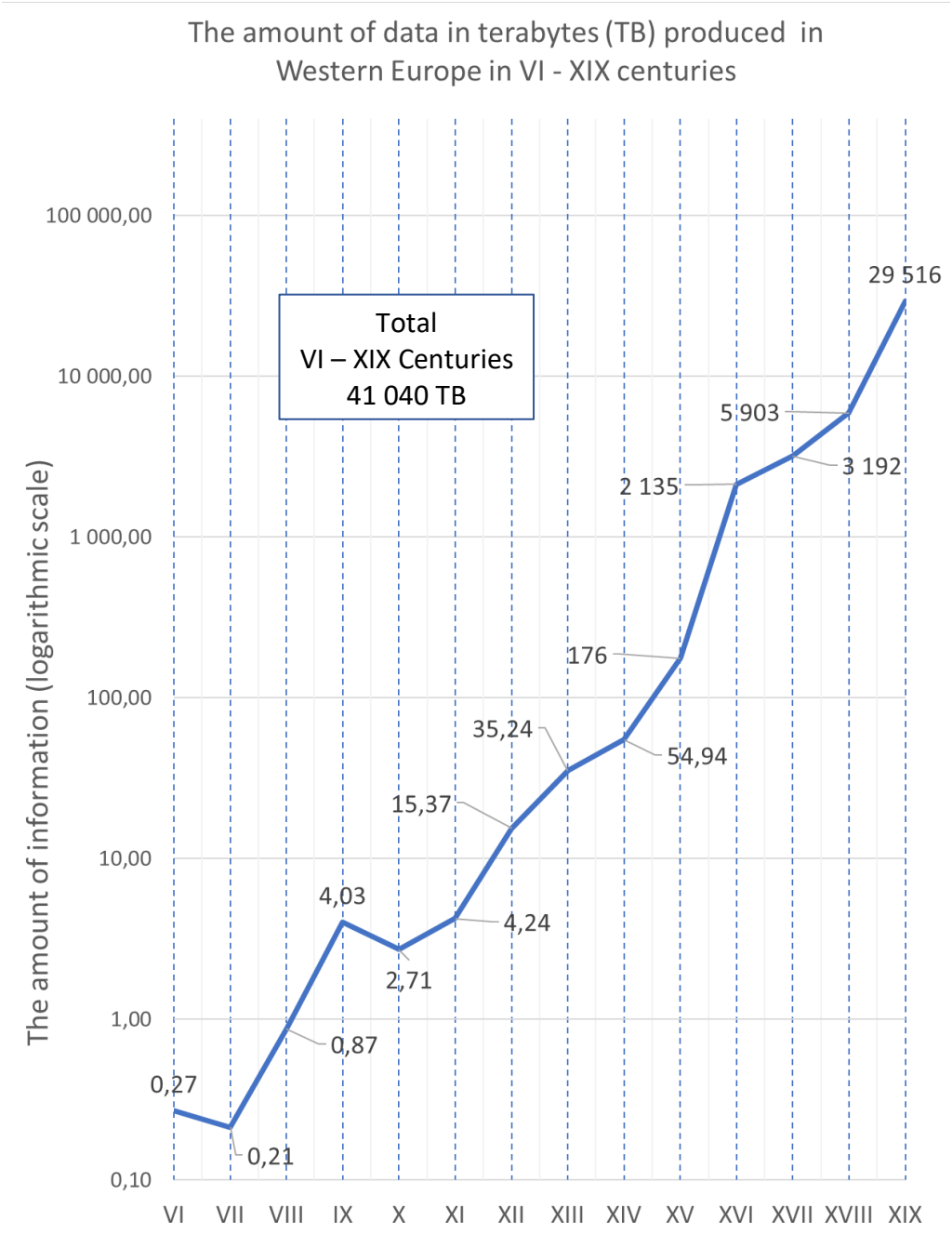
Roczny wolumen danych na świecie w zettabajtach (bilionach gigabajtów)

Źródło: opracowanie własne na podstawie D. Reisel i in., *The Digitization of the World. From Edge to Core*, IDC White Paper #US44413318 2018, s. 6, https://www.seagate.com/files/www-content/our-story/trends/files/idc-seagate-dataage-whitepaper.pdf.

Source: Śledziewska K., Włoch R., *Gospodarka cyfrowa. Jak nowe technologie zmieniają świat (Digital economy. How new technologies are changing the world),* University of Warsaw Publishing House, 2020, p. 65



Source: Jacek Kwaśniewski, *Ilość informacji wyprodukowanych w historii Europy. Miara modernizacji (The Amount of Information Produced in the History of Europe. A Measure of Modernization)*

Living three hundred years or more in such an environment, we will exchange many different components of our personal history: our general and professional knowledge, hobbies, social circles, and acquaintances. Our views, workplaces, places of residence, political leanings, artistic tastes, and aversions will evolve. We will form new friendships - not because our old friends will pass away, but because our life paths will diverge. For many,

the same will be true of family ties. Changing realities will reshape our values, and we will seek new ways of communing with the absolute.

Life will be a constant updating, a constant adaptation to a changing environment.

And now, perhaps the most important thought: the parallel to updating is outdating. Everything subject to updating tends to overshadow older knowledge, as well as objects, matters, dreams, views, memories of past events, people, and passions. When these are not used or recalled, they risk becoming unnecessary - or even obstructive to change. They may hinder adaptation, fall out of fashion, lose their appeal, provoke aversion or opposition, and ultimately become unpalatable.

To fade into the shadows is to drift into oblivion. This process is already happening today, albeit on a smaller scale, because our lifespans are relatively short. Here's a simple test of our autobiographical memory: Imagine you are as old as I am, or seventy. Think about how many hours it would take you now to recount everything you remember from your life up until the age of nine. And how many hours do you think it would have taken you to do the same several decades ago, when you were twenty? The answer is simple: our memory of early childhood and subsequent stages of life shrinks significantly with advancing age.

If we were to live not just for a few decades but for several centuries - especially in the midst of an overwhelming information storm - we would be doomed to what could be called the Great Forgetting. We would also require increasingly sophisticated methods of filtering information. Remembering, processing, and storing all the data we encounter, even just the parts we deem important, would become impossible, unnecessary, and detrimental to our health.

Neurobiology recognizes forgetting as an important and functional aspect of brain activity. Forgetting can be likened to carving a statue: by removing unnecessary parts of a stone block, we reveal its intended shape. Similarly, in memory, discarding irrelevant information allows the present world to take on a new, comprehensible shape and meaning. It also aids in alleviating negative emotions. The ability to forget prevents the effects of what is called overfitting - such as fixating on unimportant details. These are just a few of the many benefits of letting information fade into oblivion[47].

The sheer volume of information being produced today underscores the growing need to treat the information space as part of our environment and to address widespread information overload as a form of pollution. Ongoing discussions focus on how to protect society from the harmful effects of this overload.

Returning to the idea of living three hundred years, why would I want to remember dusty professional skills whose rightful place is in a museum of technology, obsolete knowledge, people I lost contact with a hundred years ago, or countless unremarkable holidays, parties, and conversations from decades past? Why hold onto opinions about products that disappeared from the market 150 years ago or political preferences from two centuries ago? And, although it may sound harsh, many of us would eventually forget our parents, just as they would forget us. In fact, this process is already happening today[48].

If we were to live for several hundred years, our self-awareness might drift on the wave of time, shaped by elements of successive personal histories. Old stories and autobiographical memories, for the reasons just mentioned, would gradually be washed away and consigned to oblivion. This implies that a single self-awareness could sustain multiple identities in succession. This brings us to the final point of our reflections

Some suggest that extending a person's lifespan by several hundred years could also enhance their memory capacity, allowing them to retain their entire personal history over those centuries and preventing the occurrence of interchangeable identities. However, even today, there are individuals with exceptionally accurate autobiographical memory, known as hypermnesia (HSAM). These individuals can recall their lives in extraordinary detail, sometimes on a day-by-day basis over the past several decades. Far from improving their functioning, this ability often has the opposite effect. See footnote 48.

What happens to the identities that fade and are no longer remembered?

The fact that self-awareness may no longer retain—or may recall only selectively—its past personal history does not negate the fact that, at one time, it was defined by it. That history once shaped a personal identity, which constituted a person. This former identity made decisions, held opinions, had its own narrative, and bore responsibility, including moral responsibility, for its actions. It was, unequivocally, a person. This raises a profound question about the ontological status of these past, forgotten identities - these former persons.

The successor (descendant, continuator) of the past identity lives on, but the original person no longer exists. The self-awareness of the successor is now filled, shaped by elements of newer personal histories. The chronologically earlier person undoubtedly existed, as evidenced by letters, diaries, computer files, photographs, old books, cherished trinkets, manuscripts, savings, or other assets they left behind. Yet, they also undoubtedly no longer exist, as their personal history has faded into oblivion.

At the same time, it is clear that this chronologically earlier person did not die. No one mourned their passing, and their mortal remains do not rest in any cemetery. Their improved body might still run half-marathons. Thus, this person has partially disappeared, yet it is difficult to claim they have truly died. Such an end to a past identity is not only painless but also devoid of any existential fear. It even raises the question of whether this transformation is noticeable at all to the person undergoing it.

Is this death? The person no longer exists, yet they are not dead. What should we call it?

Will true death cease to exist? No, because if a person living for several hundred years permanently loses sensory contact with their environment, along with self-awareness and the memory of their personal history (a three-element definition of death), their final death will be declared. A funeral will take place, marking the definitive end of that person.

However, as long as the successor of past identities continues to live, the ontological status of those past identities remains unclear. This is because, of the three components of being alive - sensory contact with the environment, self-awareness, and memory of personal history - the first two persist, while the third has become interchangeable.

Thus, classical death disappears, at least for individuals who retain sensory contact with their environment and self-awareness. These individuals become carriers of successively created and later forgotten personal histories, effectively lending these histories interchangeable personal identities.

Will the sense of self prove resistant to the passage of time?

The short answer is no, but the issue is complex. Self-awareness, when combined with autobiographical memory and other elements of personal history, creates personal identity. However, self-awareness can exist without personal history. This is evident in cases of amnesia. The absence of autobiographical memory does not erase the sense of being oneself. A person with amnesia recognizes themselves in a mirror, knows that the reflection is their own, feels their body and knows it belongs to them, and speaks, fully aware that it is their own voice. Yet, simultaneously, they do not know who they are, who they were, what they did, or even their own name.

At the same time, a single self-awareness - the sense of being oneself - can persist even as one personal history is replaced by another. Autobiographical memory can fade into oblivion, only to be replaced by new memories, without disrupting the continuity of self-awareness.

How is such durability of self-awareness possible? If we were to live for three hundred years or more in a rapidly changing reality, the contents of our memory would be replaced by new ones on a scale far greater than what we experience today. However, because different components of personal history change at different rates - for example, we forget friends and alter political views more quickly than we adjust hierarchies of values - there would never be a situation where my entire personal history disappears overnight, replaced by a completely new one.

Although I may forget some events, I will remember others, and my sense of being the same person will remain anchored in those retained memories, even as other details fade away. This continuity would allow my self-awareness as Jacek Kwaśniewski to persist. But will this always be the case? Probably not. After numerous cycles of replacing different components of my personal history, I will remember less and less - even those elements that change the slowest.

Eventually, I may confront the question of whether my self-identification as Jacek Kwaśniewski still holds any meaning for me. The very act of asking this question could mark the beginning of doubt about my hitherto self-identification.

Thus, the ongoing replacement of successive identities would likely, in time, lead to a shift in self-identification as well.

* * *

The realization of the ammortality scenario would likely represent a new stage in human evolution. The path toward radically extended lifespans, interchangeable identities, and the prospect of a fearless end of existence is, however, just one of the possible futures before us. This vision does not account for many phenomena, processes, and events that could either support, hinder, or entirely prevent the realization of the ammortality scenario - or render it irrelevant.

I believe that anything that helps us live better, in the straightforward sense of the term, increases the likelihood of ammortality. Conversely, phenomena that obstruct scientific and technological progress, significantly worsen our living conditions, or introduce chaos - such as entangling the West in endless conflicts with modern-day barbarians - are causes for concern.

Methodological note

Pointing out the centuries-long continuity that links existential fear, Christianity, and modernization is both a demonstration and not a demonstration of the historical logic underpinning Western civilization.

It *is* a demonstration because it highlights a significant issue: the persistent presence of ultimate fear across centuries, the continuous invention of new ways to overcome it, and the resulting development of an increasingly sophisticated culture and technology. This process has culminated in two major civilizational priorities of recent times: Faster and Longer.

It *is not* a demonstration because this perspective can be dismissed as overlooking countless widely recognized facts about Western history. It focuses on a few selected aspects while neglecting many others.

Regarding simplifications, we need not be overly concerned, as every model is, by definition, a simplification of reality. What matters is that our model exhibits key epistemic virtues to a high degree: simplicity, precision, coherence, and fruitfulness (heuristic utility). The better a model explains a wide range of facts simply and reliably while maintaining internal consistency, the more valuable it becomes. In this context, the goal is to connect the present priorities of Faster and Longer with the distant past within such a model.

Adhering to epistemic virtues to a high degree does not guarantee success, as factors unrelated to the merits of the issue also influence evaluations. These include social and cultural norms, ideological attitudes, the organizational positions and interests of the participants of a discussion, as well as their character traits, personality, and expertise in the area under discussion.

Such external factors are studied by the Sociology of Scientific Knowledge, which emphasizes their significant role in the construction of scientific theories[49].

Bibliographic note and footnotes

All my works listed below are on my website https://jacek.kwasniewski.org.pl

[1] When a person is born and begins to develop, the entropy of their body decreases because its level of organization and order increases. Entropy is a measure of disorder and the dispersion of energy within a system. As we age, the entropy of our body increases, reflecting biological changes such as the accumulation of DNA damage, a reduced ability of cells to regenerate, and a general decline in the efficiency of metabolic processes.

After death, entropy reaches a high level as the body ceases to function as an organized system and begins to decompose. This aligns with the second law of thermodynamics, which states that entropy in a closed system always increases. [Excerpt from Perplexity.ai's answer to the question, "What happens to a person's entropy when their body dies?"]

[2] See the charts on pages 31-32. In addition, some analyses assess the global human resources market augmentation at $169 billion in 2023, forecasting $201 billion in 2024 and $886 billion in 2032. https://www.fortunebusinessinsights.com/human-augmentation-market-107046

[3] Venture capital is a form of private equity financing provided by firms or funds to startup, early-stage, and emerging companies, that have been deemed to have high growth potential or that have demonstrated high growth in terms of number of employees, annual revenue, scale of operations, etc. Venture capital firms or funds invest in these early-stage companies in exchange for equity, or an ownership stake. Venture capitalists take on the risk of financing start-ups in the hopes that some of the companies they support will become successful. Because startups face high uncertainty, VC investments have high rates of failure. Start-ups are usually based on an innovative technology or business model and they are often from high technology industries, such as information technology (IT), clean technology or biotechnology (Wikipedia)

[4] The problem is discussed extensively by Hernando de Soto in his book "The Mystery of Capital", Basic Books 2003. See also: my book Cywilizacja zachodnia i Czas (*Western Civilization and Time),* Chapter 1: Cywilizacja zachodnia i szybkość (*Western Civilization and Speed),* esp. pp. 24-38 and my text *How to Build Successful Capitalism in Third World Countries*

[5] Data for the last few years. 1/ haute industry couture – 11.4 billion. USD; 2/ luxury apparel – 80-120 billion USD; 3/ aesthetic surgery – 80 billion USD, 4/ cosmetics industry – around 500 billion USD; 5/ fitness industry – around 90 billion USD; 6/ mental health services wellness – 150 billion USD, 7/ OTC drugs – 160 billion USD, 8/ dietary supplements – 178 billion USD. In industries 1-5, global revenues amount to about 780 billion USD. In industries 6-8, global revenues amount to 390 billion USD, but only a part of them can be classified as products and services in the segment of striving to stay fit and looking young for as long as possible.
Data for the last few years. 1/ haute industry couture – 11.4 billion. USD; 2/ luxury apparel – 80-120 billion USD; 3/ aesthetic surgery – 80 billion USD, 4/ cosmetics industry – around 500 billion USD; 5/ fitness industry – around 90 billion USD; 6/ mental health services wellness – 150 billion USD, 7/ OTC drugs – 160 billion USD, 8/ dietary supplements – 178 billion USD. In industries 1-5, global revenues amount to about 780 billion USD. In industries 6-8, global revenues amount to 390 billion USD, but only a part of them can be classified as products and services in the segment of striving to stay fit and looking young for as long as possible data sources, see : *Fitness Industry Statistics and Growth,* https://pvolvefranchise.com/blog/fitness-insights/fitness-industry-growth ; *Global Cosmetics Market Size, Share, and COVID-19 Impact Analysis,* https://www.sphericalinsights.com/reports/cosmetics-market ; *Global Fashion Industry Statistics,* https://fashionunited.com/global-fashion-industry-statistics ; Luxury Apparel – Worldwide https://www.statista.com/outlook/cmo/luxury-goods/luxury-fashion/luxury-apparel/worldwide ; Haute Couture Market https://www.linkedin.com/pulse/haute-couture-market-126-pages-over-all-revenue-wbxif ; ; Cosmetic Surgury Market Size and Growth 2023 to 2032 https://www.precedenceresearch.com/cosmetic-surgery-market ; mental wellness market https://www.thebusinessresearchcompany.com/report/mental-wellness-global-market-

report , https://www.skyquestt.com/report/mental-health-market , https://www.insightaceanalytic.com/report/global-mental-wellness-market/1330 , supplements https://www.grandviewresearch.com/industry-analysis/dietary-supplements-market-report

[6] Getzen TE, *The Growth of Health Spending in the USA: 1776 to 2026* , 12 December 2017, pp. 50-51, in: Semantic Scholar

[7] Data sources for health and defence expenditure: https://www.statista.com ; https://ec.europa.eu/eurostat/en ; https://www.usaspending.gov ; https:// www.worldbank.org/en/home

[8] See, for example, my text Średniowieczne korzenie nauki nowożytnej. Wpływ otoczenia na powstanie nauki. Rola Kościoła (*The Medieval Roots of Modern Science. The Influence of the Environment on the Origin of Science. The Role of the Church*), particularly the section Czynniki polityczne, pragmatyczne i społeczne (*Political, Pragmatic, and Social Factors*), pp. 30-33. Also, refer to Soszyński J., *Sacerdotium-Imperium-Studium. Władze uniwersalne w późno średniowiecznych kronikach martyniańskich* (*Sacerdotium-Imperium-Studium. Universal Authorities in Late Medieval Martinian Chronicles*), Oficyna Wydawnicza ASPRA-JR, 2006.

[9] See e.g. my text *Wpływ Kościoła i chrześcijaństwa na postęp techniczny w Europie średniowiecznej* (*The Influence of the Church and Christianity on Technical Progress in Medieval Europe)*, esp. Annex 4 *Postęp techniczny jako narzędzie zbawcze: doktryna legitymizuje technologię (Technical Progress as a Tool of Salvation: Doctrine Legitimizes Technology),* pp. 66-69

[10] Levirate - the marriage of a widow by the brother (or sometimes the heir) of her deceased husband, a custom among some peoples (e.g. ancient Israelites, Hindus, Arabs) to ensure the continuity of the family (Wikipedia)

[11] The process known as the First Papal Revolution (under Gregory I) has been extensively discussed by Jack Goody. See: Goody J., 1994, *The Development of the Family and Marriage in Europe*. Cambridge: Cambridge University Press. This book is frequently cited by scholars addressing this issue. Another prominent author, Deepak Lal, has identified this development as one of the key factors behind the historical success of the West. For example: Lal D., *Unintended Consequences: The Impact of Factor Endowments, Culture, and Politics on Long Run Economic Performance*, The MIT Press, 1998; Lal D., *Does Modernization Require Westernization?*, *The Independent Review*, v. V, n.1, Summer 2000; Lal D., *Private Morality and Capitalism: Learning from the Past*, in: Dunning J.H. (ed), *Making Globalization Good: The Moral Challenges of Global Capitalism* (Oxford University Press, 2003), pp. 41-60.

Angus Maddison has also emphasized the importance of this issue, including in works such as: Maddison A., *Growth and Interaction in the World Economy: The Roots of Modernity*, The EAI Press, 2004. Other notable contributors to the discussion include Henrich J., *The WEIRDest People in the World: How the West Became Psychologically Peculiar and Particularly Prosperous* (Farrar, Straus and Giroux, 2020), especially Part II: *The Origins of WEIRD People*; Gies F. and Gies J., *Marriage and the Family in the Middle Ages* (Harper Perennial, 1989), especially Part II: *The Early Middle Ages*; and Fukuyama F., *The Origins of Political Order: From Prehuman Times to the French Revolution* (Farrar, Straus and Giroux, 2012), Chapter 16: *Christianity Undermines the Family*.

[12] On information as a measure of modernization, see my article *Ilość informacji wyprodukowanych w historii Europy. Miara modernizacji (The amount of information produced in European history. A measure of modernization)*

[13] Both definitions of modernization—the one in the text and the one in the box—pertain specifically to the history of Europe and some of its overseas branches (USA, Canada, Australia, New Zealand). These definitions bear little relation to the theory of modernization, toward which I maintain a critical stance.

[14] Buringh E., Zanden JL van, Charting the "Rise of the West": Manuscripts and Printed Books in Europe, A Long-Term Perspective from the Sixth through Eighteenth Centuries, *The Journal of Economic History,* Vol. 69, No. 2 (June 2009), esp . pp. 417-418

[15] Exactly 142 857 copies. One takes up around 7 megabytes (MB). See the Wolne Lektury portal, https://wolnelektury.pl

[16] Śledziewska K., Włoch R., *Gospodarka cyfrowa. Jak nowe technologie zmieniają świat (Digital economy. How new technologies are changing the world),* University of Warsaw Publishing House, 2020, p. 65

[17] See Vovelle M., *Śmierć w cywilizacji Zachodu. Od roku 1300 po współczesność* (*Death in Western Civilization. From 1300 to the Present Day)* , słowo / obraz terytoria,, 2004, pp. 193-205

[18] Kwaśniewski J., *Sekularyzacja historii. Notatki z książek: Wichrowski, Löwith, Nisbet (*Secularization of history. *Notes from books: Wichrowski, Löwith , Nisbet)*Kwaśniewski J., Secularization of history. *Notes from books: Wichrowski, Löwith , Nisbet*

[19] Zielińska K., *Spory wokół teorii sekularyzacji* (*Disputes over the theory of secularization)*, NOMOS 2009, p. 66

[20] See e.g. Delumeau J., *Reformy chrześcijaństwa w XVI i XVII*, (*Reforms of Christianity in the 16th and 17th centuries),* volume 2, PAX 1986, chapters II, III, IV V

[21] The French Wars of Religion (1562-1598) are estimated to have claimed between two and four million lives (Wikipedia*, French Wars of Religion).* During the Thirty Years' War (1618-1648), approximately 8 million people, mostly civilians, perished. In some regions of the Reich, losses ranged from 33% to 50% of the population. See: *Weir, W., 50 Battles That Changed the World, Amber, 2001, p. 303,* as cited in Wikipedia, *The Thirty Years' War.*

[22] Cf. Heller M., *Nowa fizyka i nowa teologia* (*New Physics and New Theology)*, op.cit , chapter 4, Archimedes i współczesna teologia (Archimedes and Contemporary Theology)

[23] See my article, *Nauka i religia. Historiografia problemu* (*Historiography of Science and Religion*), which examines the evolution of historical and sociological thought from 1874 to 2010 on how to most accurately describe the relationship between religion and science. The article includes an extensive bibliography on the topic.

Regarding other authors, I would highlight a work highly critical of the Church's stance on science: Minois, G., *Kościół i nauka, tom II: Od Galileusza do Jana Pawła II* (*Church and Science, Volume II: From Galileo to John Paul II*), Oficyna Wydawnicza Volumen, Warsaw, 1996. For a contrasting perspective, two works that offer a very positive assessment of the Church's and clergy's influence on science are: Woods, T.E., *How the Catholic Church Built Western Civilization*, Regnery History, 2012, and Morales, J.M.R., *Kościół i nauka. Konflikt czy współpraca* (*Church and Science: Conflict or Cooperation*), Wydawnictwo WAM, Kraków, 2003.

Dalej odtąd

[24] To estimate the size of modernization stratum, I used, among others, Broadberry St., *Recent Developments In the Theory Of Very Long Run Growth: A Historical Appraisal* ", in: Jahrbuch für Wirtschaftsgeschichte / Economic History Yearbook, 53(1) 2012; Broadberry Stephen, *English Agricultural Output and Labor Productivity, 1250-1850: Some Preliminary Estimates,* Paper forms part of the project *"Reconstructing the National Income of Britain and Holland, c.1270/1500 to 1850"* , 26 November 2008; Broadberry Stephen et al., *British Economic Growth 1270-1870,* in: Working Paper. Coventry, UK: Department of Economics, University of Warwick, Dec. 2010; Broadberry St., Campbell BMS, Leeuwen B.van , *When did Britain industrialise? The sectoral distribution of the labor force and labor productivity in Britain, 1381–1851* , Explorations in Economic History (2012); Broadberry St. et al., *British Economic Growth, 1300-1850: Some Preliminary Estimates* , Paper forms part of the project *"Reconstructing the National Income of Britain and Holland, c.1270/1500 to 1850"* , September 2009; Buringh E., Zanden JL van, *Charting the "Rise of the West": Manuscripts and Printed Books in Europe, A Long-Term Perspective from the Sixth through Eighteenth Centuries* , The Journal of Economic History, Vol. 69, No. 2 (June 2009); Delumeau J., *Reformy chrześcijaństwa w XVI i XVII w*. Tom 2. *Katolicyzm między Lutrem a Wolterem*, PAX 1986;; *Literacy* , on the website : Our World In Data; *Literacy*, Wikipedia; Shaw-Taylor L., Wrigley EA, *Occupational structure and population change* , in: Floud R., Humphrie J., Johnson P., The Cambridge Economic History of Modern Britain, Vol. 1, 1700-1870; Maddison A., *The World*

Economy , OECD 2006, Vol 1: *A Millennial Perspective* , Vol 2 Historical Statistics; Overton M., *Agricultural Revolution in England. The Transformation of the Agrarian Economy 1500-1850* , 1996 Cambridge University Press, esp. p. 138; Śledziewska K., Włoch R., *Gospodarka cyfrowa. Jak nowe technologie zmieniają świat,* Wyd.Uniwersytetu Warszawskiego, 2020, str. 65; Wrigley EA et al., *English Population History from Family Reconstruction 1580-1837* , Cambridge University Press 1997, esp . p. 49

[25] Quote Wesley after: Weber M., *The Protestant Ethic and the Spirit of Capitalism* , Routledge 2005, pp. 118-119. I quote from two Polish translations. Weber M., *Etyka protestancka i duch kapitalizmu (The Protestant Ethic and the Spirit of Capitalism)* , TEST Publishing House 1994, p. 174; Bendix R., *Max Weber. Portret uczonego (Max Weber. Portrait of a Scholar)*, PWN 1975, p. 65.

[26] The escape of Europe from the Malthusian trap has been a subject of intense debate since the 1990s. For more on this topic, see my text *Cywilizacja zachodnia: polemika z krytykami Zachodu. Rozważania podczas lektury i opis książki Ricardo Duchesne, The Uniqueness of Western Civilization* (*Western Civilization: A Polemic with the Critics of the West. Reflections during the Reading and Description of the Book by Ricardo Duchesne, The Uniqueness of Western Civilization*), particularly chapter *Europa: nieprzypadkowy sukces* (*Europe: A No-Accidental Success*), pp. 17–27

[27] On quasi- eschatological ideologies based on theories of Marx , Darwin , Nietzsche , see Benz, E., 1966, *Evolution and Christian Hope: Man's Concept of the Future, from the Early Fathers to Teilhard de Chardin* . Garden City, New York: Doubleday & Company, Inc., pp. 64-82 (Darwin), pp. 83-105 (Marx), pp. 106-120 (Darwin and Nietzsche)

[28] on spiritualism and percentage of Americans participating in the sessions , see Vovelle M., op. cit . pp. 625-629 and *Spiritualism,* Wikipedia English version; *Mediumship* , Wikipedia English version and *Historical racial and ethnic demographics of the United States* , Wikipedia English version

[29] Linder F.E., Grove R.D., *Vital Statistics Rates in the United States 1900-1940* , published by Federal Security Agency, US Public Health Service, National Office of Vital Statistics, Washington 1947, p. 150; Grove R.D., Hetzel A.M., Vital Statistic Rates in The United States 1940-1960 , published by US Department of Health , Education , and Welfare , Washington 1968, p. 318. The greatest decline in the mortality rate in the age group 0-24 occurred in the ages 1-4, from 19.8 to 1.4, or 14.1 times; in the 0-1 range from 162.4 to 33, or 4.9 times, and the smallest in the 15-24 range from 5.9 to 2.3, or 2.3 times. Overall, the mortality rate for the 0-24 age group (per 1,000 live births) fell from 192 to 38.2 between 1900 and 1950.

[30] About 70% of Europeans believe in God or supernatural spiritual forces that influence the workings of the natural world, and in some form of life after death. See : *Religion Monitor 2008 Europe. Overview of religious attitudes and practices* , Bertelsman Stiftung, p. 4; Wikipedia, *Religion in the European Union* (data for 2010). Belief in God is not synonymous with affiliation with any institutional religion.

[31]At this point I mainly use the works of Ernest Becker, Jeff Greenberg , Sheldon Solomon, Thomas Pyszczynski and Józef Makselon

[32] See e.g. Becker E., *Denial of Death,* Free Press 1973; Becker E., *Escape from Evil*, The Free Press, 1975; Rusaczyk M. (ed), *Teoria opanowywania trwogi. Dyskurs w literaturze amerykańskiej*, (*A Theory of Fear Management. Discourse in American Literature*), Wydawnictwo Naukowe Scholar, 2008; Łukaszewski W., *Udręka życia, Część druga: Teoria opanowywania trwogi* (*The Agony of Life, Part Two: A Theory of Terror Management*), esp. pp. 53-178, Smak Słowa, 2010.

[33] Ernest Becker, assessing the effectiveness of cultural buffers protecting against the death anxiety, wrote: "The fact is that self-transcendence through culture does not provide man with a simple and unambiguous solution to the problem of death; the horror of death still rumbles beneath cultural denial", Becker E., *Escape From Evi* l , The Free Press 1975, p. 5

[34] Numerous studies on the relationship between death anxiety and religiosity, their ambiguous results and an interesting interpretation of this ambiguity were discussed by Józef Makselon in the book *Lęk wobec śmierci* (*Death anxiety*), pp. 49-54, 92-102, Polskie Towarzystwo Teologiczne 1988. For this problem in a broad context

and with references to newer literature, see Pandya , Apurva-kumar and Tripti Kathuria , *Death Anxiety , Religiosity and Culture : Implications for Therapeutics Process and Future Research* , in: Religions 2021, 12(1), 61, pp. 7/13-8/13

[35] See Aries P., *Śmierć odwrócona (Death Reversed*), pp. 263-264, in: *Antropologia śmierci. Myśl francuska* (*Anthropology of Death. French Thought*), ed. Cichowicz St., Godzimirski J.M., PWN 1993

[36] See my text *Tabu śmierci: dlaczego powstało, dlaczego gaśnie (The Death Taboo: Why It Came into Being, Why It Is Fading Away),* 2010, pp. 14-18

[37]Ibid., pp. 4-5

[38] For more on this topic, see my book *Cywilizacja zachodnia i Czas,* rozdział V: *Śmierć w odwrocie (Western Civilization and Time,* Chapter V: *Death in Retreat)*

[39] At this point I use my works: *Następne sto, dwieście lat: czy śmierć zacznie stopniowo zanikać?* (*The Next Hundred, Two Hundred Years: Will Death Begin to Gradually Disappear?)* 2022; Uzupełnienie (*Supplement)* to this text, *2023; O ewolucji cywilizacji zachodniej (On the Evolution of Western Civilization)*

[40] See footnote 41 and: In 2024, other analyses, not necessarily compatible with the BofA methodology , assessed the global human augmentation market at USD 169 billion in 2023, they forecasted USD 201 billion in 2024 and USD 886 billion in 2032. They also estimated the annual growth rate in the forecast period lower, CAGR – 20.3% https://www.fortunebusinessinsights.com/human-augmentation-market-107046

[41] The data in the tables was located at https://www.trustnet.com/news/7455809/the-$600bn-investment-opportunity-thats-set-to-change-our-lives-literally and was available in 2022 in Rob Langston's article *The $600bn investment opportunity that's set to change our lives, literally*. Currently (September 2024) there is an empty box in this place with the caption Source: Bank of America Merrill Lynch Global Research . The data therefore comes from the report described in Langston's article . The report was prepared at BofA Global Research by Haim Israel, Martyn Bryggs and Felix Trana . It is titled *Thematic Investing, To the Moon(shots)! – Future Tech Primer* . A summary of this report, but without this data, can be found at https://business.bofa.com/content/dam/flagship/global-research/pdfs/Future_Tech_Redaction.pdf

[42] Kossobudzka M., *Nasze dzieci będą żyć krócej? Spada oczekiwana długość życia,* (*Will our children live shorter? Life expectancy is falling),* Gazeta Wyborcza 5.12.2023.

[43] Own calculations based on : Medina L., Sabo S., Vespa J., Living Longer: Historical and Projected Life Expectancy in the United States, 1960 to 2060, US Census Bureau, Report Number P25-1145, February 2020 https://www.census.gov/library/publications/2020/demo/p25-1145.html

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Bernstein AB, Makuc DM, Bilheimer LT, Health, United States, 2010, With Special Feature on Death and Dying, National Center for Health Statistics (NCHS), Office of Analysis and Epidemiology, February 2011,https://www.cdc.gov/nchs/data/hus/hus10.pdf

[44] The creator of the concept of episodic (autobiographical) memory as the basis for personal identity and psychic continuity (I would call it self-awareness), is Endel Tulving . For his brief, own discussion of this theory

and the debates surrounding it, see Tulving E., *Episodic Memory: From Mind to Brain* , Annual Review of Psychology , 2002, No 53 (1); Other works on this topic, see e.g. Skowronski JJ, Walker WR, Autobiographical Remembering and the Self, Vol One; Beike DR, Ransom JW, Episodic and Semantic System of Autobiographical Memory, Vol Two. Both texts in: Ramachandran VS (ed), Encyclopedia of Human Behavior, Vol. One & Two , Elsevier , 2012; see also: Autobiographical Memory, Wikipedia; Czyrska A., *Rodzaje pamięci – jak funkcjonuje pamięć? (*Types of memory – how does memory function?), COGNI NET https://www.medme.pl/cogninet/artykuly/rodzaje-pamieci-jak-funkcjonuje-pamiec,69118.html

[45] Calculation for 2018 based on the model described in my text *Ilość informacji wyprodukowanych w historii Europy. Miara modernizacji (The Amount of Information Produced in European History. A Measure of Modernization).* 1) 33,000,000,000 TB / 365 days = 90,410,959 TB per day. 2) 90,410,959 TB per day / 41,040 TB for 14 centuries = 2203. In 2018, in a single day, we produced 2203 times more information than in the period from the 6th to the 19th century combined

[46] Forecast of 181 ZB in 2025 from https://www.statista.com/statistics/871513/worldwide-data-created

[47] Nowadays, although relatively recently, cognitive sciences recognize the process of forgetting as one of the key psychological processes. See, among others, the interview with Scott A. Small on his books *Forgetting: The benefits of Not Remembering* , in: Cantor C., *Why Forgetting is Good for Your Memory* , July 28, 2021, Columbia University https://www.columbiapsychiatry.org/news/why-forgetting-good-your-memory ; my text *Następne sto, dwieście lat: czy śmierć zacznie stopniowo zanikać? (Next one hundred , two hundred years: will death start gradually fade away?)*, esp . pp. 34-40 , Purves D. (et al), Neuroscience, Sinauer Associates, Inc, 2004, Chapter 30 Memory, esp . pts. Forgetting, pp. 738-741; Gravitz L., *The importance of forgetting* , Nature, Vol 571, July 25, 2019; Wickelgren I., *Forgetting is Key to a Healthy Mind,* Scientific American, January 1, 2012

[48] Some believe that by adding several hundred years to a person's life, it will also be possible to increase their memory abilities. By implication, the entire several hundred years of personal history will be remembered and interchangeable identities will not occur. However, it should be remembered that we are talking about extending life several times over and the amount of information is growing exponentially. This would also mean a radical change in the functioning of our brain for no rational reason. It is also inconsistent with our current knowledge of memory processes. As the years go by, we forget a significant part of our personal history, because it improves our functioning. Besides, there are some people who have an extremely accurate autobiographical memory, called hypermnesia (HSAM). They remember their lives in extraordinary detail, sometimes day by day, over the last dozen or several dozen years. This does not improve their functioning, quite the opposite. See my text *Następne sto, dwieście lat: czy śmierć zacznie stopniowo zanikać? (*The next hundred, two hundred years: will death gradually begin to fade?) especially the point *Scenariusz alternatywny. Odrzucenie możliwości posiadania kilku kolejnych tożsamości (Alternative scenario. Rejecting the possibility of having several successive identities*), pp. 47-49. See also Macmillan A., *The Downside of Having an Almost Perfect memory* , TIME, December 8, 2017; Michalik B., *Pamiętają każdy dzień swojego życia. Ich codzienność bywa koszmarem (They Remember everyone Day his own life . Their everyday life can be a nightmare)*, Medonet.pl 8.2.2022

[49] In the last paragraph I refer to the trend of sociology of knowledge called Sociology of Scientific Knowledge, SSK, which emphasizes the role of external factors to the scientific merit of issues in creating science (historical, geopolitical, organizational, social, economic, gender factors, etc.). See e.g. Pabjan B., *Czy wiedza naukowa jest społecznie uwarunkowana? (Is scientific knowledge social conditioned?)* in: Forum Akademickie https://forumakademickie.pl/wokol-nauki/czy-Wiedza-naukowa-jest-spoleczne-upowiedzana , Longino H., *The Social Dimensions of Scientific Knowledge* , in Stanford Encyclopedia of Philosophy https://plato.stanford.edu/entries/scientific-knowledge-social/#WorCit , Boumans MJ, Davis JB, Maas H., Blaug N., Svorencik A., *The So ciology of Scientific Knowledge* , chapter 5 in: Boumans M., Davis JB, (eds) *Economic Methodology. Understanding Economics As a Science* . Second Edition, Springer Nature Limited 2019

