Article

Spiritual Technologies: The Religious Symbolism of the Digital Universe

Massimiliano Panarari [1,*] and **Guido Gili [2]**

1   Department of Communication and Economics, University of Modena and Reggio Emilia, 42121 Reggio Emilia, Italy
2   Department of Humanistic, Social and Educational Sciences, University of Molise, 86100 Campobasso, Italy; gili@unimol.it
*   Correspondence: massimiliano.panarari@unimore.it

Abstract: This essay attempts to analyse the discourses, gestures and projects of the new digital galaxy's protagonists who conceive their mission in fundamentally religious terms. It will also aim to trace the intellectual genealogy and conceptual premises of their cultural and communicative vision. This analysis will attempt to define four ideal types based on reference figures taken from mythology and religion as well as the imaginary of contemporary popular culture: Prometheus, Moses, Hermes Trismegistus and Iron Man.

Keywords: spiritual technologies; religious symbolism; mythology; artificial intelligence; platforms; transhumanism; dataism

1. Introduction

In the field of sociological research and thought, it has been repeatedly emphasised by various classical (and more recent) authors that all societies need religious symbolism. The founding generation of sociology devoted fundamental considerations to religions as factors in the creation of institutions and society (Nisbet 1966; Berger and Luckmann 1966). In this context, classical and contemporary social theory have repeatedly pointed to the transfer of society's function of religious guidance and orientation from the transcendental to the secular level (Taylor 2007). In Weber's interpretation, monotheism and, above all, the Puritan ethics at the basis of the capitalist spirit tend towards the transformation of the world according to a rational modality, in which we can recognise anticipatory aspects of the hypostatisation and deification of science and technology (Weber [1904] 1930). A process that marks the cultural history of the Western world from the scientific revolution of the seventeenth century—Bacon, Descartes, Galilei and Newton—and the Enlightenment (Noble 1997) to the digital disruption.

From this perspective, the myth of progress has marked the modern age. Scientific and technological development seems to be the engine capable of not only solving social problems but also improving human life by transforming its "external conditions" and subduing nature. In the complexity and multiplicity of visions circulating among scientists and technicians, the strand attributing salvific and religious connotations to technology was strongly consolidated after the 1990s, with the digital transformation being the "new paradigm of economic progress", along with the reconfiguration of capitalism and the market economy (Nosova et al. 2022). This is a vision that has tended to be pandered to by the political world. It starts with the boundless faith nurtured by the exponents of the postmodern "new progressivism" of the Third Way in the promises (and illusions) of prosperity and innovation that have arisen from the New Economy (Perulli 2024). This conception has also inspired almost all the public policies regarding the digitisation of societies and economies, from the Clinton Administration's 1993 National Information Infrastructure (McLoughlin 1995)—with a fundamental role being played by Vice President

Al Gore, who was highly receptive to techno–optimism—to the European Commission's 2021 Next Generation EU, rooted in the fundamental direction of the digital transition (alongside the green transition).

The "digital spirit" passes into an intermediate sphere that lies between individual mystical inspiration and the pantheistic dimension of the global village standardised and monitored by omnipresent and omniscient technologies capable of saving humanity. It is even capable of symbolically simulating divine creation "from nothing", such as with rapid 3D prototyping printing. One of the many possible examples includes the ambition of the founders of Google and the standard bearers of "dataism" when creating a "noosphere"[1] that contains all universal knowledge in the image of God's omniscience. We are, therefore, dealing with what can be labelled as authentic "spiritual technologies" or "spiritual machines", as a *pontifex maximus* of transhumanism has called them (Kurzweil 2000). Machines are transformed into gods and technologies spiritualised by virtue of the "exponential growth" (Kurzweil 2000, p. 4) of the technical–scientific innovation that exploded during the 20th century. According to transhumanist theorists, this will lead towards "[...] a not-too-distant future in which we more or less willingly replace ourselves with post-human beings superior to us" (Kompridis 2009, p. 22).

2. Framework and Purposes

This essay attempts to analyse some discourses, gestures, biographical aspects and projects of the new digital galaxy's protagonists who conceive their mission in fundamentally religious terms and "cyberspace as a sacred space" (Graham 2012, p. 65). The aim of this essay is to try to answer the following research question: does digital culture draw some of its fundamental interpretative categories from the theological and religious sphere and, in turn, nurture a postmodern religiosity? To this end, we shall refer to the most significant speeches, gestures and symbols of this cultural universe, expressed especially by those who are its prophets and standard bearers. Indeed, we believe that often, in the speeches, gestures, symbols and even biographical aspects of the protagonists of the new digital galaxy, we can grasp the fact that they conceive their mission in fundamentally religious terms and "cyberspace as a sacred space" (Graham 2012, p. 65).

The importance we assign to the reconstruction of the intellectual genealogy and conceptual premises of the tech mogul billionaires' cultural and communicative vision is justified by the fact that, unlike other successful entrepreneurs, they enjoy considerable media notoriety and visibility, and their ideas and opinions exert significant influence in the public discourse.

This essay is essentially theoretical in nature. Its empirical component lies in a qualitative, socio–semiotic analysis of certain discourses, gestures and symbolism evoked by the protagonists of the new digital universe through four ideal figures taken from mythology and religion as well as the imaginary of contemporary popular culture: Prometheus, Moses, Hermes Trismegistus and Iron Man. Such figures are to be regarded as ideal types, in the sense attributed to that term by Weber (1949). Their identification does not constitute an intellectual exercise for its own sake but is intended as an example of the application of the "sociological imagination" (Wright Mills 1959) to attempt to define a framework for the overall interpretation of the "spirit" of digital society. Indeed, the visions and ideas of the leading tycoons and entrepreneurs of the digital economy explicitly or implicitly exert a strong impact on collective life and end up directing "material behaviour" (Jones 1997) through the technological innovations brought to market by their corporations. In essence, some of their thoughts and conceptions, as well as fuelling the "Internet imaginary" (Flichy 2001), are converted into what can be defined as "technological common sense", thus putting the issue of technological determinism back at the centre of the cultural debate.

3. Prometheus, the Benefactor of Mankind (and the Theme of Empowerment)

What united the various definitions of the "classical–modern" myths of progress was a philosophy of history that could be likened to an arrow of time going faster and

faster (Wagner 2012), oriented in its trajectory by finalism and optimism. Those of the "magnificent and progressive fates" that could always and reasonably be expected, in time, to come.

The myth of progress has marked the modern age. Scientific and technological development appeared as the engine capable of solving social problems and improving human life by transforming its "external conditions" and subjugating nature. Auguste Comte was the thinker who took this perspective most decisively, turning it first into a philosophical and sociological system and then into a kind of religious creed ("scientism"), to the extent that he can be regarded as one of the founding fathers of technological determinism.

"At the centre of his project of universal renewal, Comte places the construction of a new moral community" (Gili and Mangone 2022, p. 15), in which the saviours of mankind coincided with the scientists, technicians, inventors and entrepreneurs. These figures ended up identifying themselves with the "priests" and "secular saints" of his positive religion and became the protagonists of his Calendar and his positivist Catechism (Comte 1852), in which he transposed the rituals, liturgies and figures of reference of Christianity replacing them with an altruistic cult of Humanity. The Silicon Valley tycoons possess a self-perception of their role—and of the "mission" they feel invested in—that makes them the reincarnation in the 21st century of the techno–saints of the positivist calendar.

In its classical version, the myth of progress can be traced back to the character of Prometheus, the first of the ideal types proposed here. An ancestral figure in mythology, foundational to Western culture and the process of civilisation. Prometheus—whose name in Greek means "the foresighted"—was originally a lesser deity, that of fire. It was Hesiod's elaboration in the *Theogony* that made a narrative and mythological transposition of this, highlighting the transgression and wrongdoing against the Olympian gods. Prometheus steals fire from them in order to give it to mankind and is punished atrociously: chained to a cliff, he is attacked by an eagle that devours his liver, which is destined to grow back and thus be torn apart every day. A sentence for eternity, therefore, according to the punitive provisions against him decided by Zeus.

The Titan antagonist to the king of the gods has multiple guises: that of an insurgent and rebel against the gods insensitive to a painful and lacking human condition, but also that of a true "creator" of humanity to whom he gives fire, the arts and hope, according to the narration of Aeschylus' *Prometheus in Chains*. By virtue of these narratives, Prometheus has been transformed in the modern era into a symbol of the technological transformations that have reconfigured the landscape of the West since the Industrial Revolution of 18th century England (Landes 1969). A Prometheus freed from the chains that held him captive and thus "unleashed" as the conception of progress projected itself irreversibly and unstoppably into the ages to come. During the 19th century, the protagonist of the myth was also inserted into a political dimension. This was performed first by Romanticism, and those writers and poets who, disillusioned by the outcome of the French Revolution, were searching for a new paradigm of heroism (Dougherty 2005). From the second half of the 19th century onwards, in the dual meaning of "revolutionary" against the (divine) hierarchy and the fatality of fate, as well as the bearer of knowledge to humanity, subjugated to oppression and a condition of inferiority, Prometheus was adopted as a symbol by the political organisations of the labour movement. The prototype of the "new liberator of the proletariat" (Losada 2012, p. VII), along with Spartacus, in the reinterpretation of the world of classicism that significantly fascinated socialist theorists in search of ancient *exempla* to be readapted to current political events within the cultural climate steeped in historicism. In the twentieth century, Prometheanism became a component of totalitarian ideologies with their claim to the re-founding of human nature and the building of the "new man" according to models of replacing religion in an anti-humanist key and overturning theodicy. Nevertheless, it is interesting to note how, in the American context, the inclination towards Prometheanism emerges in the novels *The Fountainhead* (Rand 1943) and *Atlas Shrugged* (Rand 1957) by the Russian–American writer Ayn Rand

(pseudonym of Alisa Zinovyevna Rosenbaum; 1905–1982), whose books have continued to be best-sellers since their publication. They have had a lasting influence on American culture and public opinion. It is a superhuman Prometheanism (the metaphor of Atlas' revolt refers to the rebellion of another Titan) that also resorts to the narrative mode of the science-fiction dystopia against the backdrop of the search for new disruptive technologies capable of changing the economy and society. This Prometheanism also has a Nietzschean ancestry. It takes the form of a revolt against the "chains" of the State and bureaucracy, along with the limitations imposed by social conventions that want to restrict the resourcefulness—economic, first and foremost, and cognitive—of exceptional personalities and individualities. The Prometheus–superman is, first and foremost, the entrepreneur to whom American society must give free rein in the name of absolute individualism and libertarianism. It is also an anarcho–capitalism to which Rand aspires to attribute a dignity of philosophy with the cultural current of "objectivism" (Badhwar and Long 2023). This receives relatively little credit in academic circles but will be successful in certain political and economic circles as well as right-wing-oriented public discourse, rising to the level of one of the components of the "official doctrine" of the Republican Party in the aftermath of Ronald Reagan's victory and his "neo-conservative revolution". Rand's thought presents itself as a hymn to the total primacy of the individual and to selfishness under the banner of the following postulates: "follow reason, not whims or faith; work hard to achieve a life of purpose and productiveness; earn genuine self-esteem; pursue your own happiness as your highest moral aim; prosper by treating others as individuals, trading value for value"[2]. This "statement of principles" configures a "selfish Prometheanism" that fits the self-perception of some Silicon Valley tycoons and entrepreneurs in an exemplary manner, not least because this "individualistic theology" proclaims the moral superiority of the individual creator of wealth for the community while realising their own goals. In the documentary series "All Watched Over By Machines of Loving Grace" (aired on the BBC in 2011), British filmmaker Adam Curtis directly related some of the components (and currents) of the "Californian Ideology" (Barbrook and Cameron 1996) to Randian Objectivist thought. Wikipedia founder Jimmy Wales stated that he was influenced during his university years by the writer's vision, with reference to the value of personal autonomy and the idea of independence from any external constraint (starting with public authorities) in the pursuit of individual goals. Oracle founder Larry Allison and Cypress Semiconductor founder T. J. Rodgers claimed to have found in Rand's writings a major source of inspiration for their conceptions of doing business (Kinni 2004). Promethean superhumanism, in the postmodern version of Nietzschean-style vitalism and the will to power that becomes a desire for omnipotence and the "silicolonisation du monde" is also present in various public speeches at conventions or company meetings by Steven ("Steve") Paul Jobs, the founder of Apple Inc. (Sadin 2016).

The figure of Prometheus can be seen as an idealistic transitional figure between the classical and historicist mythologies of progress and their postmodern variations. While the thesis of the substantial permanence of the constitutive and genetic characteristics of technology throughout its evolution has undeniable points, digital technologies have also introduced significant discontinuities. They are differences that generally refer to the specificities of the "postmodern constellation" (Bernstein 1992) with respect to the modern Enlightenment project. In this case, it is a different notion of progress. The technologies that the modern age individual had before their eyes were essentially material in nature, and still "things", made of metal alloys or plastics and set in motion by steam, electricity or some fossil fuels. Instruments and means classified based on their utility functions for mankind, defined (and exalted) within the framework of philosophies—from mechanicism to empiricism and utilitarianism—that reaffirmed their framing in terms of objects and things, strictly external projections of human capacities and will to power, placed at the service of the satisfaction of human needs and necessities. The exponential development of the Internet (which has reached the stage of Web 4.0), of digital platforms and of artificial intelligence has revived the myth of progress. However, it has done so under the banner

of a major novelty. Today's technology can be described as "spiritual". It is no longer merely an extension of the human body and human mind but has potentialities that go "beyond" the human mind. It is no longer merely a prosthesis that becomes more and more sophisticated, but rather the new ordering centre and dispensing principle of meaning. Hence, we believe that we can speak of spiritual technologies, dispensers of meaning, as Ai is (and will be increasingly so in the future).

The Prometheus archetype can be viewed as an ideal type of transition between analogue–mechanical technologies and telematic technologies. The former are linked to a classical and secular vision of progress, of a typically positivist nature, while the latter have become central and generally diffused in capitalist market systems in the aftermath of the "new economy" phase and the digital revolution. The latter's increasingly victorious assertion structures its own system and religious apparatus in a deliberate and open manner.

A process that can be considered definitively consolidated by entering the current stage of the platform society. The processes of platformisation (Van Dijck et al. 2018) have for some time been modifying not only the dynamics of the public sphere but also the very notion of state sovereignty. If, in Hegelism, it was the State that made itself God, now the new divine powers of the polytheistic postmodern pantheon coincide *de facto* with digital platforms. The prophets of the infosphere and the digital tycoons are also, in many respects, social visionaries, the new utopians and apostles of a religious "doctrine". A close analysis of their speeches reveals the presence of messianic and even eschatological tones. The inspired tones of the oratory in general, and of certain speeches in particular, of some of them (from the pioneer–patriarch Jobs to Elon Musk and, albeit with a partially different register, Eric Schmidt) have always corresponded to a very pragmatic function of personal positioning within the public discourse in the United States. This is to consolidate, in charismatic terms, their own corporate leadership through value narratives (Schein 2010) as well as to respond to a widespread and very shared culture within the environments in which ICTs were invented and developed. At the same time, however, such public speeches have often deployed the characteristics of orations and sermons (when in a long-form, as in the case of Bill Gates) or of sapiential oracular aphorisms (when in a short form, especially in the cases of Jobs and, more recently, Jeff Bezos). The very linguistic formula of the "digital revolution", on the other hand, reveals itself to be cloaked with a charge of palingenesis that, as with the word in general, goes beyond the socio–political and technical dimension to claim the creation and foundation of a renewed anthropological, and, at the same time, "theological" paradigm, from *Homo sapiens sapiens* to *Homo technologicus*, or, to put it better, to the condition of the post-human and transhuman. As the biophysicist Gregory Stock has observed, human beings are "naturally" Promethean in the sense that they relentlessly pursue the improvement of their condition—and nothing can stop them. The will—and, perhaps, the necessary and authentic destiny—of postmodern man is that of overcoming his own humanity in the direction of transhumanism and posthumanism: that is, to make himself a god (Stock 2003). It is that theme of the "deification of man" that frequently returns in the books of the postmodern-oriented historian Noah Yuval Harari (2017, 2018). A "posthumanist narrative" according to which "[...] humanity's path to divinity is a global, social agenda of biological and technological upgrade" (Rugani 2022, p. 1); this is a thesis highly valued in Californian ICT intellectual circles[3].

4. Moses, He Who Speaks to God "in Person" (and the Theme of Salvation's Technology)

The task of mediating the wills and messages of divinity was taken on in a particularly pronounced manner by Moses. In many ways, he is the most relevant character of the Old Testament and is the second ideal type. He is decidedly polysemic. Moses, the absolute protagonist of the Book of Exodus, is the prophet who speaks "in person" to God and makes himself the vehicle of his word to the people of Israel. He is the leader who frees the Israelites from slavery and to the land of Egypt, and the legislator who received the Tablets of the Law directly from God. And, in this transmission to his people, he performs

precisely the function of messenger and vehicle of a will of transcendent origin and nature). Summing up in himself all these unique and exceptional roles and qualities, it is not by chance that Moses is the archetype of the charismatic leader, as portrayed by Max Weber. According to the German sociologist, "the term 'charisma' will be applied to a certain quality of an individual personality by virtue of which he is set apart from ordinary men and treated as endowed with supernatural, superhuman, or at least specifically exceptional powers or qualities" (Weber [1922] 1964, p. 358). While traditional and legal–rational power are forms of ordinary power because they are characterised by a certain degree of stability and predictability, charismatic power is an extraordinary and exceptional power which is placed "outside the realm of everyday routine and the profane sphere" (Weber [1922] 1964, p. 361). What characterises it is not stability but movement as well as the upheaval of the existing state of things, since "charismatic authority repudiates the past" and "in traditionally stereotyped periods, charisma is the greatest revolutionary force" (Weber [1922] 1964, p. 363).

The Mosaic summation of roles can be found in several personalities of the Big Tech system and the "Californian Ideology". Starting, once again, with Jobs, who was always very careful to provide, through his discursive practices—often narratologically comparable to "sermons" (Sharma and Grant 2011)—an idea of himself and a positioning of his image in terms of charismatic leadership, "a figure called upon to lead the people" and "[...] an elected and enlightened being" (Ercolani 2022, p. 335). Jobs, who was accustomed to thinking according to aesthetic schemes, reasoned through images, which recalls the idea of "theological aesthetics"—according to Hans Urs von Balthasar's formula (Von Balthasar 2006)—in which beauty offers the opportunity to access otherwise inaccessible knowledge of God. Similarly, the aesthetics of design—always extremely meticulous and the object of a veritable obsession on Jobs' part—can be seen as a form of approaching the "truth" of technology, otherwise incomprehensible to the uninitiated to computer knowledge, which was made available to the "community of true believers" in Apple.

There are numerous "prophets" recognised by the exponents of the digital revolution. They are mainly important scientists of the 19th century and the first decades after the Second World War who formulated theories and models destined to play a decisive role in the development of Information and Communication Technologies. These include personalities such as George Boole, Charles Babbage, Ada Lovelace, Alan Turing, Claude Shannon, Norbert Wiener and Alvin Toffler (Balbi 2023).

Gordon Moore (1929–2023) is a prophet in his own right and one of the pioneers of Silicon Valley. The co-founder of Intel had foreseen with visionary accents the centrality of semiconductors for the advancement of digital technologies. Between 1965 and 1975, he elaborated two different versions of what became known as "Moore's law" (indisputably valid until 2016). They predicted the doubling of microprocessor capacities every two years with the same chip size. This prediction was converted into a self-fulfilling prophecy by high-tech investment funds and venture capitalists. It is considered among the milestones (and dogmas) of transhumanism by virtue of its "underlying philosophy". It includes the relentless improvement and unstoppable growth of computer faculties up to the absolute perfection of artificial intelligence, an indistinguishable replica of the human mind in close perspective. The promised land of the exponents of the post-human strand of thought, to which most of the Big Tech power establishment and leading "tech moguls" have adhered. These include Sergey Brin, Larry Page, Mark Zuckerberg, Bill Gates and Peter Thiel, for whom transhumanism "is a kind of ersatz religion" (Coenen 2021, p. 101).

The crossing of the Red Sea, whose waters—in the story of the Book of Exodus—opened up in front of Moses, allowing the Israelites to escape from their long period of slavery in Egypt, is a metaphor consistent with the idea of the passage from the limits of the human (and humanistic cultural vision) to transhumanism. It coincides with a key symbolic element of a large part of high-tech culture. The liberation of the Israelites from the oppression of the pharaohs—at the top of the pyramid (we could say in a literal sense) of one of history's primordial bureaucracies, as Max Weber had pointed out—refers back to

the autonomy of the emancipation of the high-tech multinationals from the "laces and ties" of State regulations. This is in line with the anarcho–liberalism characteristic of "Californian Ideology". In the sphere of symbolism regarding biblical figures, it should also be noted how the "tech moguls" have substantially reinvented the Ark that saves humanity from the flood in the form of rockets and launchers destined for space travel, ranging from those of Virgin Galactic (Richard Branson's company) to Musk's SpaceX Starship, which, in April 2024, presented to its employees the arrival on Mars as a way for humanity to survive a coming nuclear conflict[4].

Highly advanced and real technologies—although still far from achieving the most ambitious goals—are accompanied by narratives (characterised by spiritual overtones as well as classifiable as science fiction) of intergalactic transmigrations of sectors of humanity. This is according to a twofold direction, generally inspired by a space class struggle, with those migrating being the richest and wealthiest in search of salvation from an overpopulated planet Earth, ravaged by wars for the control of primary resources (starting with water) and global warming—as set out in the satire of "Don't Look Up", a successful 2021 film scripted and directed by Adam McKay. On the other hand, the poorest and most desperate will be in search of fortune and redemption in a postmodern re-edition of the "colonialism by necessity" of certain European nations (such as Italy and Ireland) in the late 19th and early 20th century. The Ark is also in the form of technologies to try to cleanse the planet of pollution, such as those proposed by the Schmidt Family Foundation's[5] "11th Hour Project" and Breakthrough Energy Ventures, the billion-dollar fund founded by Gates—with the presence of a few dozen illustrious investors, including Jeff Bezos, Jack Ma (co-founder of Alibaba), Michael Bloomberg, Richard Branson and Mukesh Ambani[6]—to support cleantech start-ups committed to developing zero-emission and clean energy technologies.

5. Hermes Trismegistus, Seeing Beyond the Appearance of Things (and the Theme of the Metamorphoses)

Moses was "authorised" to ask his people to observe the precepts contained in the Decalogue by virtue of his direct access to divinity. In our ideal type, the tycoon–prophet possesses direct knowledge of the code, which is extremely complex and not comprehensible to laymen and lay customers (the "unconsecrated"). A dual form of knowledge, technical and commercial, which, in the second case, also configures ownership (copyright). In this context, the—typically European—conception of the "enlightened" entrepreneur unfolds according to other characteristics, which liken him to an "initiator" and the possessor of a sapiential and "esoteric" knowledge, precluded to the end user. A prototypical figure that pertinently describes these characteristics is that of Hermes Trismegistus, a name meaning "thrice great". Hermes Trismegistus is a mythical figure in the Hermetic literature of late Hellenism that emerges from the writings of a group of Neo-Platonic inspired authors who, in later periods, became the subject of an attempt at a mystical-religious foundation (Coppola and Calogero 1932). In his figure, human and divine traits merge and mingle, leading to his identification with the Greek god Hermes or Mercury in the pantheon of Roman polytheism, messenger of the gods, god of trade and travel, of borders and eloquence, and the Egyptian god Thoth, patron of magic, wisdom and the measurement of time, inventor of writing (Ebeling 2011). In this figure, a fusion of divinity and symbolism originates that will circulate widely in the sapiential and esoteric subcultures of the Middle Ages, the Renaissance and, again, the following centuries that reproduce and "update" the disciplines of occultism of antiquity, from astrology to magic, from therapeutics to alchemy (Festugière 2014). Hermes has, moreover, experienced a second life in the cultural context of postmodernity as a deity symbolising the processes and activities of communication.

Alchemy, which can be traced back to Hermes Trismegistus, constituted an esoteric system in which different forms of knowledge, some of which were scientific in nature, converged with the aim of transmuting matter and achieving a mystical elevation and spiritual purification for those who practised it (and which was illustrated through a symbology

of a precisely hermetic nature). Similarly, the process of digitisation is presented as a synthesis of knowledge animated by an "oracular" force. For example, Oracle is the name of a well-known corporation founded by Larry Ellison in 1982. This digitisation is achieved through a transformative power that involves everything, in which the goal is landing at the singularity described by Raymond Kurzweil. This corresponds to the point of advancement at which the progress of technology transcends and unbundles itself from the foresight of humans and is comparable to the philosopher's stone (Kurzweil 2005) or the genesis of the *homunculus* (Kornwachs 2021), or the eternal life through longevity (Haynes 2003) pursued by alchemists. The concept of technology is similar to the "athanor", the reverberatory furnace used by alchemists. Within this context, the transmutation of materials culminates in palingenesis, a process of radical transformation for the better (in the sense of "purification"). This transformation is heralded by solutionism (Crawford 2021). Another aim of alchemy was the search for an elixir capable of conferring immortality. This also involved an initiatory process of approaching this goal. The sapiential and esoteric aspect—also supported by the New Age veins present within the "Californian Ideology"—is also expressed in this yearning to overcome the natural limit of death, ascribing to itself a prerogative of "God's will" (Underwood 2010). This seems to be particularly widespread among the high-tech tycoons and constitutes the object of a special obsession nurtured by one of the figures who has most influenced the recent history of Silicon Valley. Among the various figures, there is Peter Thiel, co-founder of PayPal and CEO of Palantir Technologies, a term deliberately derived from the spherical gems of Elf prediction that appear in the Tolkien saga of *The Lord of the Rings*. He is a right-wing anarcho–capitalist and former informal adviser to Donald Trump, who publicly claims his faith in Christianity (Papageorgiou 2021) (a distinctive original connotation in the tech mogul landscape). He is a standard bearer of parabiosis (Chafkin 2021), an experimental field of biology based on the study of the union between two organisms belonging to the same species. Significant investments have been made over the past few years toward the field of anti-ageing techniques, hibernation and cryogenics, along with cellular reprogramming (to slow biological ageing). Ray Kurzweil, one of the fathers of transhumanism, after being the 1999 winner of the U.S. National Medal of Technology and Innovation, was appointed by Brin and Page as Google's director of engineering. This led to the founding of the subsidiary Calico (California Life Company), whose mission, explicitly stated in its charter, was to "solve the problem of death" (Harari 2017). Through the foundation he chairs with his wife (the Chan Zuckerberg Initiative), Meta owner Mark Zuckerberg has also invested resources in the life sciences research platform BioRxiv. Bezos bet on the startup Altos Labs (founded in 2021)[7]. Brian Armstrong (the co-founder of the cryptocurrency exchange platform Coinbase) started NewLimit, a company for the "radical extension of human healthspan"[8]. Jesse Karmazin's startup Ambrosia (based in Monterey), dedicated to "self-improvement" and rejuvenation, was selling blood transfusions from young donors until the federal Food and Drug Administration blocked it (Iannaccone 2019). Sam Altman, CEO of OpenAi, is among the backers of Retro Biosciences, a company that aims to "add ten years to human life"[9]. Alongside the fields of life sciences and genetic engineering, there is a growing unease about the potential for eugenics in the pursuit of longevity. This is particularly evident in the context of the "happy few" of the high-tech financial and industrial circles, which are primarily responsible for funding longevity research. Silicon Valley is also engaged in a second approach to addressing the issue of mortality, which has been termed "curing death" by Brin (Semprini 2017). This approach aligns with the core businesses and activities of the sector. This is the so-called "mind uploading"[10]. It is a form of techno–digital (and science fiction) immortality that pursues the uploading of individuals' memories to machines with artificial intelligence. The ideas expressed by Thiel often echo the concepts of the "dark enlightenment" theorised by Nick Land (Land 2022), founder of right-wing accelerationism. He is an eccentric philosopher who was first a standard-bearer of "cyberpunk" and later of a form of "cyberesotericism" (Venanzoni 2022), as well as of supremacism and "hyper-racism". He is considered a "prophet" of human–machine fusion

as well as the total liberation of technological forces from all ethical constraints. It should also be pointed out that in the vision of Brin (born in 1973 in what was then the Soviet Union), as well as in some other high-tech moguls, some scholars have noted the influence of Russian "cosmism". It emerged in the second half of the 19th century (Rosenthal 1997; Eltchaninoff 2022) and has had a lasting and unsuspected influence from the time of the Bolshevik Revolution up to various power circles close to President Vladimir Putin of the Russian Federation as well as on certain global elites. "Cosmism" should not be considered an organic philosophical school but rather an eclectic and heterogeneous galaxy. Its main exponents were figures such as Nikolaï Fiodorov (referred to as the "Moscow Socrates", esteemed by Dostoevsky and Tolstoy, and theorist of the resurrection of individuals by means of a science freed from dependence on capitalist interests), Konstantin Tsiolkovski (the father of cosmonautics), Vladimir Vernadski (indebted to Teilhard de Chardin and, in turn, among the sources of ecologist and futurologist James Lovelock's "Gaia theory"). An archipelago composed of characters who were also very different from each other: czarists and soviets, prominent scholars and fake pseudoscientists, conservatives and revolutionaries, artists, writers and political leaders who expressed a body of ideas in which very different tendencies and sometimes paradoxical and antithetical elements were mixed (as is also the case with the Californian Ideology). Mysticism, nationalism, faith in progress, a sui generis scientist ideology, an attraction to the occult, and a kind of "Soviet-style" New Age. It was a metaphysical and anti-Enlightenment philosophy even in its component that was intended to be more rationalistic, and which can, therefore, be reputed as one of the manifestations of that messianism, combining religion and politics, with which the history of Russia turns out to be deeply instilled. The cosmists—some of whom had direct relationships or who, at any rate, often read one another—were fundamentally united by two key ideas. The first was that the actions of humans had the power to alter the entire cosmos, from the earth's environment and nature to the farthest stars of the universe. The second was that physical phenomena that were cosmic in nature and originated in space deeply directed human activities. For example, some of them believed that solar energy directly influenced the history of humankind. Humans were children of the cosmos, and, therefore, their place in the universe was to be the subject of expansion and enlargement. From this conception of the interdependence between human beings and the universe derived the "consequent" duty of humankind to direct the evolution of the whole cosmos at every level and to introduce a series of radical changes in the natural order, such as victory over death and the achievement of immortality through the advancement of science and overcoming the problem of overpopulation through settlement on other planets. A central belief of this cultural universe was that creativity had not yet unfolded in all its power and that, once the authentic nature of its connection with the cosmos was understood, humankind would essentially no longer encounter any limits to its actions. According to Eltchaninoff, the Russian cosmists constituted "a small sect of exalted thinkers and scholars that had a truly extraordinary influence, to the point of projecting itself all the way to the Silicon Valley of Elon Musk, Peter Thiel and Sergey Brin (the Moscow-born co-founder of Google). That is, the realm of transhumanism, a mixture of technical rationalism and utopia with a religious subtext, and with the project of transcending the physical and mental limitations of the individual" (Panarari 2022).

During their public speeches, many of the global high-tech moguls assume, not infrequently, postures and attitudes of "gurus" (i.e., spiritual guides, according to the original meaning of the word in Sanskrit), even adopting oracular and sapiential tones and making ample display of "initiate" visionaryism. The "esoteric" ideal-type of Hermes Trismegistus seems to be applicable even to examples of digital entrepreneurs not operating in Silicon Valley, such as Italy's Gianroberto Casaleggio, co-founder of the political party Movimento 5 Stelle, in two futurological and "scenario" videos made in 2007 and 2008 and circulated online, called "Prometeus". In "The Media Revolution" and "Gaia"[11], Casaleggio predicted, under the banner of a conception of "cyber pantheism" replete with suggestions from dystopian cinematography, the end of the representative politics of modernity and even that of religions.

He also predicted the advent of a planetary government coinciding with a form of "collective intelligence", indebted to the ideas of Pierre Lévy (1994), enabled by Net technologies.

6. Iron Man, the Technological Demigod (and the Theme of Cyborg)

The narratives elaborated by "Californian thought" proceed toward overcoming the *homo technologicus* paradigm in two distinct yet interrelated ways. Firstly, they seek to transcend the limitations of the "species" concept, and, secondly, they aim to achieve a leap in scale. The integration of the organic body with digital technology and the attachment of technological prostheses to it, as advocated by various theorists of the posthumanist movement, has reached a point where some observers have identified a significant overlap between the beliefs of the Silicon Valley tycoons and those of the "community of believers" of transhumanism (Ercolani 2022). The fourth ideal type is the progenitor (of great success and notoriety) of this vision in comic book and film imagery: Iron Man/Tony Stark. A Marvel Comics character conceived by Stan Lee and Larry Lieber and drawn by Jack Kirby and Don Heck; he saw the light of day in 1963 as part of the *Tales of Suspense* comic book anthology series. Initially a minor figure in the *Avengers* pantheon, Iron Man has grown in notoriety by virtue of film adaptations, beginning with Jon Favreau's 2008 film starring Robert Downey Jr. Iron Man appears as a symbol of the fulfilment of the organism–machine fusion as the opening of a window of opportunity leading to the advent of the technological demigod. It is an allegory, on the level of the imagery produced by pop culture, of what is preached by posthuman theorists. The metamorphosis of humankind through the grafting of technologies finds a positive definition in Iron Man, configured in the direction of empowerment and substantial evolution. This contrasts with the deeply critical and uneasy cyberpunk narrative strand that emerged in the 1980s, which described this perspective in negative terms and depicted a post-apocalyptic future. The "Man of Steel" is a hero in disguise (rather than a superhero in the proper sense) and has politically conservative ideas (as a purveyor of the military–industrial complex (as Charles Wright Mills put it). In various respects, he is like Batman, but without the shadow of the torments and restlessness that distinguishes Bruce Wayne, and without the anxieties and fears that have haunted him since the time of his parents' murder. Tony Stark also lost his parents traumatically. He is comparable to the character of Batman and is a complex figure with a multitude of conflicting and ambiguous traits. He displays a duality in his character, exhibiting both benevolent and violent tendencies. He seems to be driven by a strong ambition and desire for power. Nonetheless, the character appears substantially free of past traumas or, at least, very eager to have left them behind and overcome them by going in the direction of a "happy embrace" of his condition as a cyborg and an individual with extremely advanced and empowering mechanical and mechatronic parts (a kind of technological empowerment).

The ambiguity can be interpreted in another way, namely, as an effect of the dual nature determined by his armour exoskeleton, which he is transformed into, and his artificial heart. Stark, who had already demonstrated precocious abilities in the fields of computer science and engineering, travelled to Vietnam with the objective of directly testing the war technologies that had been made available to the Pentagon by his family's business empire. During one of these operations, he met with a near-fatal accident. The anti-personnel mine he was triggering exploded, driving some shrapnel into his heart. He was then imprisoned by the ruthless Wong-Chu (the commander of the Vietnamese "Red Guerrillas") who, behind a false promise to have his field doctors operate on him, induced him to design weapons. Together with his cellmate, the cybernetic engineer Ho Yinsen, Stark built a "transistor armour" that also functioned as a pacemaker and which formed the original core (and hard core) of what, after killing the villain Wong-Chu and returning to the United States, would become his armour-prosthesis, to which he would gradually apply himself further by making it more and more advanced and lethal in combat. In the meantime, Stark was undergoing a process of maturation and inner change that prompted him to reassess his existential priorities and to contemplate his hedonistic tendencies (ostentatious

luxury, expensive brand-name cars) and other aspects that would currently be classified as politically incorrect (a conception of women as "trophies" to be exhibited) as increasingly unsatisfying. Therefore, Iron Man can be considered the archetypal representation of transhumanism, as conceived within the temporal context of the comic book character. He represents an uneasy but successful man–machine fusion, an *ante litteram* cyborg conceived by its authors and 1960s pop culture. Unlike the cyberpunk literature of the late 1970s and 1980s, which was critical and oppositional to the capitalist system, this character does not pose a threat to the status quo. In its own way and according to its own peculiarities, Iron Man illustrates the overcoming of human fears through technology that creates a hyper-performance body and, ultimately, the overcoming of physical limits and the potential of mortality. This is a concept that has been the focus of research and investments by numerous California high-tech moguls. Furthermore, the character's extreme vitalism resonates with Nietzschean superhumanism, which is a concept that has been identified by various scholars as a key element in transhumanist thought (Graham 2012).

7. Some Remarks on "The Return of Technological Determinism"

The Californian Ideology does not constitute an organic doctrine, nor does it present a perfectly defined body of constituent theories and principles. However, in its multiformity, it contributes powerfully to making certain forms of technological determinism the generalised worldview of tech moguls. This set of notions is also often directly reflected in the affordances of digital media (Newman 2022), and it is precisely what we take to be "technological common sense". The contemporary discoveries of science and technology contain the promise of immortality, omniscience and omnipotence, i.e., all those attributes traditionally ascribed to the God of monotheisms, in contrast to the "creaturely" limitation and finitude of man. This situation is common to all sectors characterised by extraordinary technological advances, from medicine to communications. In the current phase of technological development, moreover, it is essentially no longer just a matter of mechanical and extensive technologies but of organic and "intensive" technologies linked to the enhancement of human cerebral faculties, as Marshall McLuhan, one of the best-known scholars within the strand of technological determinism, had already predicted. The theories belonging to this philosophical and sociological current are characterised by the claim to identify a "primum mobile" (the determining or dominant factor) of socio–cultural change. The ideal types of religious (or mythological) genres proposed above are, in fact, all metaphors of a different kind for visions characteristic of technodeterminism (Winner 1980). In particular, this paradigm was codified in sociological terms in the first half of the 20th century by William F. Ogburn (1922), who identified the primary driver of change in technological innovation. In general terms, Ogburn notes that the independent variable that provides the initial impetus for socio–cultural change can be of various kinds: technological, economic, political or ideological. However, in Western modernity, it is technology and science that identify the main generators of social change. In essence, social change takes place first in the technological sphere, and then the non-material culture adapts (hence the term 'adaptive') to the change that has taken place and, in turn, changes in a "forced" manner. According to Ogburn, technological change does not put pressure on all sectors of society at the same time but does so according to a causal sequence involving four steps: technology, industry, government and social philosophy. Thus, changes in technology require (subsequent) adjustment in industry, changes in technology and industry require adjustment in government (the political dimension), and changes in technology, industry and government require adjustment in social philosophy (i.e., ideology). The more or less prolonged delay with which non-material culture adapts to changes in the sphere of material culture is called "cultural lag" by Ogburn. The causes of the cultural lag are manifold, from the force of tradition and habit to the interests of the various social groups, which are often hostile to change and see it as a threat to their rents. Ogburn summarises the overall effect of these different forms of resistance in the concept of "cultural inertia". The technological common sense resulting from the visions of the tech moguls acts, in our

view, as a countervailing force to the cultural lag described by Ogburn and as a powerful accelerator of the transformations of non-material culture.

Another pioneer of the theoretical configuration of technological determinism was the American sociologist and urban planner Lewis Mumford, for whom technique constitutes the "independent variable" on the basis of which the great periods of human civilisation can be distinguished: the "eotechnic" phase, the "palaeotechnic" phase and, finally, the "neotechnic" phase (Mumford 1934). According to Mumford, each of these stages of technological development constitutes a "technological complex", a term to indicate the fact that each period in the history of technology corresponds to a type of society and, in a broader sense, a civilisation. The American sociologist avoids the shortcut of reductionism but considers the technology–culture pair as an inseparable binomial, with the pre-eminence of the former in shaping and directing the latter.

The "Toronto School" (Harold Innis, Marshall McLuhan, Walter Ong, Eric Havelock), on the other hand, identified communicative technologies—the new media that emerge from time to time on the social scene—as decisive factors of socio–cultural change. This perspective, which has attributed the primacy of change to communicative technologies, understandably, has progressively strengthened in recent decades, starting with the advent of what McLuhan calls the "Marconi galaxy". According to this perspective, a certain medium or group of media in a given epoch and society provides the form for all the cultural possibilities and material and symbolic productions of that historical phase and social system (McLuhan 1962, 1964). It, thus, clearly differed from the sociological paradigms in force until then, according to which the media represented neutral channels for conveying and transporting messages.

In the conception of these authors, the nature of the medium constitutes a decisive factor in the mutation of the individual's mind and the reconfiguration of collective behaviour. McLuhan, in particular, conceives of the media as extensions of the human sensory organs from the book as an extension of the eye to the electrical system as a dilation of the central nervous system. This concept is taken up by all the strands of posthumanism and transhumanism (Fukuyama 2004). It introduces the idea of the fusion of man and machine so as to amplify exponentially the enhancement of the biological organ by artificial means.

8. Conclusions

Within this work, we have attempted to investigate certain discourses, linguistic expressions and symbolic practices that denote the adoption of religious symbolism by tech moguls. We have resorted to four prototypical figures belonging to Western culture from its origins to the present day in an attempt to highlight how technological determinism, strongly contested by the majority of sociological schools for the various forms of reductionism that characterise it, is experiencing a sort of second life or, if you prefer, a resurrection, since it seems to permeate the very forma mentis of the founders and CEOs of Big Tech corporations. A necessitating and deterministic component in the reading of technological development, on the other hand, marks the "Californian Ideology" on the one hand and transhumanism and posthumanism on the other. This deterministic vein is massively reflected in the new and pervasive "technological common sense", the origins of which lie precisely in the conceptions of the tycoons and intellectuals of the "digital civilisation" we have reviewed. A necessitating and deterministic component in the reading of technological development, on the other hand, marks the "Californian Ideology" on the one hand and transhumanism and posthumanism on the other. In common with traditional religious faiths and beliefs, one also finds in these visionary thoughts a finalistic and teleological dimension, which is also typical of the philosophy of determinism. Religious symbolism thus constantly emerges as a metaphorical component of the ideology that is fuelled by the public interventions of prominent figures in Big Tech. This is a vision that has largely permeated the narratives around digital technologies and platforms to date and

which, we believe, can be usefully extended, through further investigation and insight, to the understanding of the emerging new continent of AI and its ideology.

Notes

1 The expression was coined by the French palaeontologist, philosopher and theologian Teilhard de Chardin.
2 See: *Introduction to Objectivism*, https://aynrand.org/ideas/overview/ (accessed on 20 March 2024).
3 See: https://www.newyorker.com/magazine/2020/02/17/yuval-noah-harari-gives-the-really-big-picture; https://www.city-journal.org/article/the-turing-machine-speaks (accessed on 22 March 2024).
4 See: https://www.newsweek.com/elon-musk-warns-probability-nuclear-war-rising-rapidly-1750184 (accessed on 22 March 2024).
5 See: https://11thhourproject.org/about/ (accessed on 23 March 2024).
6 See: https://www.forbes.com/sites/kenrickcai/2021/04/22/five-companies-bill-gates-and-other-billionaires-are-backing-to-save-the-planet/ (accessed on 25 March 2024).
7 See: https://www.standard.co.uk/lifestyle/jeff-besoz-altos-labs-silicon-valley-peter-thiel-b977992.html (accessed on 26 March 2024); (Betti 2021).
8 See: https://techcrunch.com/2023/05/16/newlimit-cofounded-by-coinbase-ceo-brian-armstrong-raises-40m-to-extend-life/ (accessed on 26 March 2024).
9 See: https://www.technologyreview.com/2023/03/08/1069523/sam-altman-investment-180-million-retro-biosciences-longevity-death/; https://www.bloomberg.com/news/features/2023-12-19/longevity-startup-retro-biosciences-is-sam-altman-s-shot-at-life-extension (accessed on 2 April 2024).
10 See: *La corsa dei geni della Silicon Valley per scoprire come si diventa immortali*, 27 luglio 2021; https://www.esquire.com/it/lifestyle/tecnologia/a37022774/come-diventare-immortali/ (accessed on 3 April 2024).
11 See: *Gaia. The future of Politics*; https://www.casaleggio.it/video/gaia-the-future-of-politics/ (accessed on 4 April 2024).

References

Badhwar, Neera K., and Roderick T. Long. 2023. Ayn Rand. The Stanford Encyclopedia of Philosophy (Winter 2023 Edition). Edited by Edward N. Zalta and Uri Nodelman. Available online: https://plato.stanford.edu/archives/win2023/entries/ayn-rand/ (accessed on 22 March 2024).
Balbi, Gabriele. 2023. *The Digital Revolution. A Short History of an Ideology*. Oxford: Oxford University Press.
Barbrook, Richard, and Andy Cameron. 1996. The Californian Ideology. *Science as Culture* 6: 44–72. [CrossRef]
Berger, Peter L., and Thomas Luckmann. 1966. *The Social Construction of Reality*. New York: Anchor Books.
Bernstein, Richard. 1992. *The New Constellation. The Ethical-Political Horizons of Modernity/Postmodernity*. Cambridge: The MIT Press.
Betti, Ilaria. 2021. Bezos ora Vuole l'immortalità. E la Silicon Valley lo Insegue per Trovare l'elisir di Lunga vita. *Huffington Post*. October 7. Available online: https://www.huffingtonpost.it/life/2021/10/07/news/bezos_ora_vuole_l_immortalita_e_la_silicon_valley_lo_insegue_per_trovare_l_elisir_di_lunga_vita-5216073/ (accessed on 2 May 2024).
Chafkin, Max. 2021. *The Contrarian: Peter Thiel and Silicon Valley's Pursuit of Power*. New York: Penguin Random House.
Coenen, Christopher. 2021. Transcending Natural Limitations: The Military–Industrial Complex and the Transhumanist Temptation. In *Transhumanism: The Proper Guide to a Posthuman Condition or a Dangerous Idea?* Edited by Wolfgang Hofkirchner and Hans-Jörg Kreowski. Cham: Springer, pp. 97–110.
Comte, Auguste. 1852. *Catéchisme positiviste*. Paris: Carilian-Goeury.
Coppola, Goffredo, and Guido Calogero. 1932. Ermete Trismegisto. *Enciclopedia Italiana*. Available online: https://www.treccani.it/enciclopedia/ermete-trismegisto_(Enciclopedia-Italiana)/ (accessed on 17 July 2024).
Crawford, Jason. 2021. Tra Ottimismo e Pessimismo Scelgo il Soluzionismo. MIT Technology Review. Available online: https://www.technologyreview.it/tra-ottimismo-e-pessimismo-scelgo-il-soluzionismo/ (accessed on 4 May 2024).
Dougherty, Carol. 2005. *Prometheus*. London: Routledge.

Ebeling, Florian. 2011. *The Secret History of Hermes Trismegistus. Hermeticism from Ancient to Modern Times*. Ithaca: Cornell University Press.

Eltchaninoff, Michel. 2022. *Lénin a Marché sur la Lune. La Folle Histoire des Cosmistes et Transhumanistes Russes*. Arles: Actes Sud.

Ercolani, Paolo. 2022. *Nietzsche l'iperboreo. Il Profeta Della Morte Dell'uomo nell'epoca Dell'intelligenza Artificiale*. Genova: Il melangolo.

Festugière, André-Jean. 2014. *La Révélation d'Hermès Trismégiste*. Edited by Roudet Nicolas. Paris: Les Belles Lettres.

Flichy, Patrice. 2001. *L'imaginaire d'Internet*. Paris: La Découverte.

Fukuyama, Francis. 2004. Transhumanism. *Foreign Policy* 144: 42–43. [CrossRef]

Gili, Guido, and Emiliana Mangone. 2022. Is a Sociology of Hope Possibile? An Attempt to Recompose a Theoretical Framework and a Research Programme. *The American Sociologist* 54: 7–35. Available online: https://link.springer.com/article/10.1007/s12108-022-09539-y (accessed on 6 May 2024). [CrossRef]

Graham, Elaine. 2012. Nietzsche Gets a Modem. Transhumanism and the Technological Sublime. *Literature and Theology* 1: 65–80. [CrossRef]

Harari, Yuval Noah. 2017. *Homo Deus. A Brief History of Tomorrow*. New York: Harper Collins.

Harari, Yuval Noah. 2018. *21 Lessons for the 21st Century*. New York: Random House.

Haynes, Roslynn. 2003. From Alchemy to Artificial Intelligence: Stereotypes of the Scientist in Western Literature. *Public Understanding of Science* 3: 243–53. [CrossRef]

Iannaccone, Sandro. 2019. No, iniettarvi sangue non ringiovanisce. *Wired*. January 30. Available online: https://www.wired.it/scienza/medicina/2019/01/30/iniettare-sangue-giovane/ (accessed on 5 March 2024).

Jones, Quentin. 1997. Virtual-Communities, Virtual Settlements & Cyber-Archaeology. A Theoretical Outline. *Journal of Computer-Mediated Communication* 3: 3. Available online: https://onlinelibrary.wiley.com/doi/10.1111/j.1083-6101.1997.tb00075.x (accessed on 5 March 2024).

Kinni, Theodore. 2004. Honoring Ayn Rand: The Entrepreneur's Philosopher. The Atlas Society, December 20. Available online: https://www.atlassociety.org/post/honoring-ayn-rand-the-entrepreneurs-philosopher (accessed on 5 March 2024).

Kompridis, Nikolas. 2009. Technology's Challenge to Democracy: What of the Human? *Parrhesia* 8: 20–33. Available online: https://parrhesiajournal.org/parrhesia08/parrhesia08_kompridis.pdf (accessed on 5 March 2024).

Kornwachs, Klaus. 2021. Transhumanism ad a Derailed Anthropology. In *2020. Transhumanism: The Proper Guide to a Posthuman Condition or a Dangerous Idea?* Edited by Hofkirchner Wolfgang and Kreowski Hans-Jörg. Berlin: Springer, pp. 21–48.

Kurzweil, Raymond. 2000. *The Age of Spiritual Machines*. New York: Penguin.

Kurzweil, Raymond. 2005. *The Singularity Is Near. When Humans Transcend Biology*. New York: Penguin Random House.

Land, Nick. 2022. *The Dark Enlightenment*. Baldwin City: Imperium Press.

Landes, David. 1969. *The Unbound Prometheus. Technological Change and Industrial Development in Western Europe from 1750 to the Present*. Cambridge: Cambridge University Press.

Lévy, Pierre. 1994. *L'intelligence Collective. Pour une Anthropologie du Cyberspace*. Paris: La découverte.

Losada, José Manuel. 2012. Editorial. *Amaltea. Revista de Mitocrítica* 4: VII.

McLoughlin, Glenn J. 1995. The National Information Infrastructure: The federal role. *The Journal of Academic Librarianship* 5: 390–97. [CrossRef]

McLuhan, Marshall. 1962. *The Gutenberg Galaxy*. Toronto: Toronto University Press.

McLuhan, Marshall. 1964. *Understanding Media*. Toronto: McGraw-Hill.

Mumford, Lewis. 1934. *Technics and Civilization*. New York: Harcourt Brace & Company.

Newman, Michael. 2022. *The Media Studies Toolkit*. New York: Routledge.

Nisbet, Robert A. 1966. *The Sociological Tradition*. New York: Basic Books.

Noble, David. 1997. *The Religion of Technology: The Divinity of Man and the Spirit of Invention*. New York: A.A. Knopf.

Nosova, Svetlana, Anna Norkina, Svetlana Makar, Irina Arakelova, and Galina Fadeicheva. 2022. Digitalization as a New Paradigm of Economic Progress. In *Biologically Inspired Cognitive Architecture 2021*. Berlin: Springer. Available online: https://link.springer.com/chapter/10.1007/978-3-030-96993-6_38 (accessed on 7 May 2024).

Ogburn, William F. 1922. *Social Change: With Respect to Culture and Original Nature*. New York: B.W. Huebsch.

Panarari, Massimiliano. 2022. Con i cosmisti la Russia era un altro pianeta. Intervista con Michel Eltchaninoff. *Il Venerdì di Repubblica*, November 25.

Papageorgiou, Fani. 2021. Peter Thiel, Jeff Bezos and the quest for immortality. *Financial Times*. September 13. Available online: https://www.ft.com/content/681fa287-f9ff-47f3-9f44-c0736ee0ab53 (accessed on 8 May 2024).

Perulli, Paolo. 2024. *Anime Creative*. Bologna: Il Mulino.

Rand, Ayn. 1943. *The Fountainhead*. Indianapolis: Bobbs-Merrill.

Rand, Ayn. 1957. *Atlas Shrugged*. New York: Random House.

Rosenthal, Bernice Glatzer, ed. 1997. *The Occult in Russian and Soviet Culture*. Ithaca: Cornell University Press.

Rugani, Marc V. 2022. Cur Homo Deus? A Catholic Response to a Posthumanist Narrative. *Religions* 13: 770. [CrossRef]

Sadin, Éric. 2016. *La Silicolonisation du Monde*. Paris: Éditions L'échappée.

Schein, Edgar H. 2010. *Organizational Culture and Leadership*. New York: Wiley.

Semprini, Francesco. 2017. Zuckerberg & C., il senso della Silicon Valley per l'immortalità. *La Stampa*. April 28. Available online: https://www.lastampa.it/cultura/2017/04/28/news/zuckerberg-amp-c-il-senso-della-silicon-valley-per-l-immortalita-1.34625147/ (accessed on 9 May 2024).

Sharma, Abz, and David Grant. 2011. Narrative, drama and charismatic leadership: The case of Apple's Steve Jobs. *Leadership* 7: 3–26. [CrossRef]

Stock, Gregory. 2003. *Redesigning Humans*. London: Profile Books.

Taylor, Charles. 2007. *A Secular Age*. Cambridge: Belknap Press.

Underwood, Anne. 2010. The Search for Longer Life. *Newsweek*. March 13. Available online: https://www.newsweek.com/search-longer-life-83345 (accessed on 9 May 2024).

Van Dijck, José, Thomas Poell, and Martijn De Waal. 2018. *The Platform Society*. Oxford: Oxford University Press.

Venanzoni, Andrea. 2022. *Il Trono Oscuro. Magia, Potere e Tecnologia nel Mondo Contemporaneo*. Roma: Luiss University Press.

Von Balthasar, Hans Urs. 2006. *The Glory of the Lord. A Theological Aesthetics*. San Francisco: Ignatius Press.

Wagner, Peter. 2012. *Modernity: Understanding the Present*. Cambridge: Polity Press.

Weber, Max. 1930. *The Protestant Ethic and the Spirit of Capitalism*. Translated by Talcott Parsons. London: George Allen. First published in 1904.

Weber, Max. 1949. *The Methodology of the Social Sciences*. Translated by Edward. A. Shils, and Henry A. Finch. New York: The Free Press.

Weber, Max. 1964. *The Theory of Social and Economic Organization*. Translated by A. Morell Henderson, and Talcott Parsons. New York: The Free Press. First published in 1922.

Winner, Langdon. 1980. Do Artifacts Have Politics? *Daedalus* 1: 121–36.

Wright Mills, Charles. 1959. *The Sociological Imagination*. Oxford: Oxford University Press.