THE GOLEM LEGEND AND THE ENIGMA OF FACEBOOK

by Gábor L. Ambrus [iD]

Abstract.   We are easily misguided as to the true nature of Facebook, and tend to treat it simply as a powerful technological instrument in the service of human intentions. We can, however, gain a better picture of it through recourse to the Jewish tradition of the golem, an image of human beings, created by them in a re-enactment of their own creation by God. It turns into a magic servant in modernity with an inherent dynamic running between its human and its subhuman characteristics. This dynamic is the main cause behind its becoming uncontrollable. In like manner, what is subhuman in Facebook serves its masters and functions under their total control, but also empowers Facebook's increasingly human operation, an algorithm-based capability which raises growing doubts about what counts as human. Facebook implies the crisis of humanity which coincides with the "death of God," that is, the obsolescence of the idea of a divine creator.

Keywords: control; creation; cybernetics; Frankenstein; god; human and subhuman; image; instrumentalist paradigm of technology; Roger McNamee; Norbert Wiener

Within less than a generation, Facebook has grown into the most prominent social media platform in the West and also a paradigmatic example of a new kind of tech company with a pervasive presence in our daily lives. While major scandals like Russian meddling in the US election through its architecture have put Facebook in the spotlight, it is rather everyday real-time experience that constitutes its enormous reach. Total traffic hour by hour on Facebook dwarfs anything that big news stories provoke. Some might see it as a monster, but it could also be an ambiguous protagonist in the manner of a "creature" from popular folklore. The archetype of such creatures is the golem, the powerful servant in Jewish mysticism, who

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is created by magical means and has the potential to wreak havoc on its master and its environment.

To spell out the enigma of Facebook through that of the golem, I will proceed as follows. First, I present some current affairs surrounding Facebook which will give me the opportunity to place it against the background of two approaches to technology: on the one hand, the instrumentalist approach and, on the other, what I call a "religious" approach. Second, I discuss the tradition of the golem from its beginnings in Jewish antiquity to its modern form, with a view to understanding Facebook. Third, I show the relevance of the golem to contemporary technology through the example of Norbert Wiener's cybernetics. This will help outline Facebook's inner dynamic: both under total control and getting out of control.

The Instrumentalist View of Facebook and its Alternative

After a number of revelations tarnishing its public image, Facebook's reputation suffered a further severe blow in March 2018 when the British newspaper *The Guardian* published a report on a data leak from 50 million profiles. The leak occurred in early 2014, and it would have been scandalous enough in itself, had it not also been used to influence the 2016 American presidential election by downright dishonest means. Even if Facebook enabled the abuse through carelessness rather than complicity, the scandal offered insight into the formidable power the platform had accumulated over the years. Facebook allowed a researcher to make use of an app on the website to collect data for academic purposes, which he ended up, without authorization, passing to Cambridge Analytica (CA), a firm specialized in data science and political marketing. After receiving a commission from Donald Trump's presidential campaign, CA turned these data into a database profiling individual voters with the help of software aimed at microtargeting them. "The algorithm and database together made a powerful political tool. It allowed a campaign to identify possible swing voters and craft messages more likely to resonate" (Cadwalladr and Graham-Harrison, 2018). While the CA affair is a clear indication of political struggle reaching an entirely new level, and Facebook's responsibility is undeniable, it raises the question of whether we are seeing the problem in its true dimensions, and whether it can be adequately addressed by the will to reform and regulate Facebook and other tech giants on the part of policy makers.

Achieving dishonest political gain through the architecture of Facebook does not necessarily require an act of misappropriation by way of a data breach. It can be sufficient to engage in the rules of the game, albeit for the sake of covert operations to spread misinformation. And this is the manner in which the Russians used Facebook to meddle in the American presidential election as well as the British EU referendum in 2016. They

came to realize that the online environment created by Facebook gives a boost to the instinctive preference of the human psyche for pieces of news that provoke fear or anger. Posts of this kind spread more rapidly and to much greater effect than others with a positive message. This bias offered the Russians an opportunity to influence events to their enormous advantage with minimal expenditure. All they had to do was launch fabricated Facebook groups to disseminate scandalous fake posts and incendiary ads on the supposed behalf of the camp they wished to denigrate. This incident was grave indeed, but one cannot help wondering whether there are graver things happening, or graver things to come, in the deep structures of Facebook and other internet platforms.

The stakes are high enough to provoke a detailed and intense discussion by Roger McNamee in his recent bestseller *Zucked: Waking Up to the Facebook Catastrophe* (McNamee 2019). McNamee is a long-time investor in the tech industry who came into contact with Mark Zuckerberg, the founder and CEO of Facebook, and had some influence on the company in its early years. *Zucked* traces McNamee's story with Facebook from fandom to growing alarm to disillusionment and overt political action against the company. It is a vivid account of people and events within the boardroom of Facebook, among McNamee's burgeoning team of fellow experts, and also in the recesses of federal politics in Washington D.C. As a matter of fact, the long shadow over the book is cast by the personality and motives of Mark Zuckerberg—a feature which did not fail to tempt reviewers to lavish attention on it (see Bissell 2019). Yet the book seeks to accomplish more than an unflattering exposure of Zuckerberg's mind, and goes even beyond the strictures of an Anti-Facebook manifesto. Though in a limited way and without full self-awareness, it reveals the damage being done to human beings by today's big tech.

The most intriguing parts of McNamee's book are those which describe the subtle workings of what he calls, in agreement with other critics of social media, "brain hacking." Brain hacking is performed by advanced artificial intelligence and graphic design which have the sole aim of keeping human attention engaged and thereby monetized (McNamee 2019, 84). This happens through a whole set of carefully designed tricks, a powerful orchestration, a "persuasive technology," which dupes users into spending more and more time with, and being more and more active on, social media. This translates into a growing trove of data not only about their connections, but also about their interests, their activities, their travels, which in turn help predict their future behavior—what they will do, what they will like, where they will go. This increasingly precise calculation keeps improving the efficiency of monetizing users through targeted ads. Such a scheme not only predicts their course of action, but also seeks to determine it—"behavior prediction" entails "behavior modification." This technique has been implemented on Facebook with

astounding artifice and efficiency. The remarkable thing about Facebook is that it creates a perfect illusion of empowerment for its users, whereas it is the company that pulls the strings. McNamee does not fail to note this. "Where Facebook asserts that users control their experience by picking the friends and sources that populate their News Feed, in reality an artificial intelligence, algorithms, and menus created by Facebook engineers control every aspect of that experience." (McNamee 2019, 90–1).

The clear message of the above analysis notwithstanding, McNamee's book both rejects and implies a certain "instrumental view of Facebook." On the one hand, it rejects such a view as it is embraced by Facebook's leadership itself. Facebook is quick to shift any blame, such as that arising from the Russian interference in the American election, onto its users themselves. Facebook professes itself to be "merely a platform, on which others act" (McNamee 2019, 90). In other words, Facebook claims that it is just an instrument in the hands of its users, whatever their intentions are. And McNamee is right to reject this view. On the other hand, his work still implies an instrumental view of Facebook, though in a different way. The book includes several passages that portray Facebook as an instrument wielded by the reckless ambition of Zuckerberg and his inner circle. The story goes something like this: they have given priority to maximum growth and monopolization of an industry, but they could have adopted a better policy; they have abused their users' trust, but they could have chosen another path. This approach becomes manifest in the book's hilarious title and cover: the whole globe is, as it were, "zucked" by a planetary nerd called Zuckerberg.

The instrumental view of Facebook in particular fully conforms to a widely accepted instrumental approach to technology in general. According to this approach, any kind of technology is a value-free instrument, a neutral means to a specific end—an understanding which has become common knowledge, a truism of everyday discourse. Nevertheless, after introducing this paradigm in these terms—as something which "everyone knows"—Martin Heidegger suggests that it is deeply rooted in Greek metaphysics and its notions of causality (cf. the introductory analysis in Heidegger 1977, 1–8). In bringing about a particular end, a technological means is a cause, while that particular end is in turn also a cause that gives rise to this specific technological means. Essential to it as the machinery of causation is, the instrumentalist paradigm has a further dimension which is distinctly modern. The particular ends that require technological means are seen as set by human beings. This dimension of the instrumentalist paradigm is not merely anthropological, but also humanistic, as it claims human autonomy as sole principle in everything technological. Accordingly, this paradigm is associated with the view that technology as a neutral instrument is thoroughly known and thereby fully controlled by human beings—on the obvious ground that it is their creation (the

correlated triad of human knowledge, human control, and technological instrumentality is presented in detail by Winner 1977, 25–30). It makes perfect sense to conceptualize the operation of Facebook in an instrumentalist manner when holding its leadership accountable for it.

That there are alternative paradigms of technology can be demonstrated when we consider Facebook as a corporation. It has been recently argued by Shoshana Zuboff (2019, 14–7) that the information technology of Facebook and other tech companies is merely a "puppet" in the hands of these "puppet masters"—indeed, technology is wielded merely as an instrument by what she calls "surveillance capitalism." This relationship between corporate interest and technology, however, must be turned the other way around according to the adherents of technological determinism. This paradigm claims that technological inventions run their course according to the iron laws of necessity, defining everything else in their historical wake: politics, culture, and the economy (as for this paradigm and its various interpretations, see Smith-Marx 1994; Dusek 2006, 84–104; Wyatt 2014). It follows from this position that technological development is the underlying cause that gives rise to the various forms of capitalism including contemporary "surveillance capitalism." But the economic point of view can be sidelined in another, hermeneutical paradigm which does not necessarily deny its relevance, but is often inclined to put it into brackets. This approach views human beings and technology in a mutual relationship, discussing their interaction with particular regard to its cultural embeddedness (cf. Dusek 2006, 70–83).

According to a possible hermeneutical paradigm of technology, no matter how thoroughly we know our technological creations, they can nevertheless get out of our control and, in a sense, "rise against us." Such a perception of technology is in line with what the sci-fi writer Isaac Asimov called the "Frankenstein complex" (Asimov 1978, especially 248–50).[1] Although Asimov's main concern was robotics and the popular sci-fi topos of a full-scale robot revolt, his concept can apply to the whole colossus of advanced information technology in our time. Frankenstein is the protagonist in Mary Shelley's novel of the same title, a young scientist who, in the permanent dusk of his laboratory, bestows life upon an anthropoid creature, but ends up being utterly ruined by it.[2] *Frankenstein* has proved to be one of the founding myths of modernity, yet the imagery it takes from the biblical creation account is crucial for the whole of the novel. The idea that a created being can wrest autonomy from its creator and then come to pose a threat and finally bring destruction to the latter corresponds with a possible interpretation of the Christian narrative.[3] Thus, one can venture to say that the Frankenstein complex, besides representing a hermeneutical approach, is also very close to something like a religious paradigm of technology. This is all the more so if one bears in mind that, in the figure of the golem, Frankenstein's monster has a twin, a

counterpart, which springs directly from a religious tradition. An age-old figure of Kabbalistic magic and contemplation, to be created by Jewish mystics in a way very similar to Adam's creation by God, the golem awaited modernity to become a servant and at the same time—perhaps as a consequence—a source of danger to its master (cf. Scholem 1973, 253–54, and Idel 1990, 207–9). The most famous and most influential modern narrative of golem making is linked with Rabbi Judah Loew, the great Maharal of Prague, who is credited with forming a golem as a powerful servant in the late 16th century. However, according to legend, he lost control over it at one point, inadvertently unleashing the golem as a destructive force. What most remarkably associates the golem legend with *Frankenstein* is that it appears to provide the same paradigm of technology that is an alternative to its instrumentalist—and also its deterministic—understanding.

Whereas Frankenstein's monster is a creation of science, the golem arises from magical ritual, imbued with mysticism and spirituality. Thus, the latter's applicability to technology, let alone modern technologies, might appear a curious idea. Indeed, we have become accustomed to assuming an opposition between modern and premodern, and also between science on the one hand and magic and religion on the other. But renewed interest in magic in Late Medieval and Early Modern Europe may have contributed to the birth of modern technoscientific civilization.[4] Remarkable is the connection that *Frankenstein* itself makes between its protagonist's passion for science and his dabbling in magic. And it is exactly the transgression and illicit power associated with magic that make the tale of Frankenstein and the golem legend powerful parables of modern science and technology. Frankenstein craves the divine power of a creator and commits the excess of producing an artificial human being. Similarly, the golem's creator and master takes on the role of God in his creation of an artificial humanoid, a magical artefact which also has the salient feature of serving him blindly—like a technological instrument. That the golem and the monster "go out of control" and abandon their own created and instrumental nature only strengthens the sense of something profoundly problematic and transgressive which has always haunted modernity and its technological power. Of course, one can argue that such a perspective on modern technology is quite tendentious, as the concept of "transgression," as it were, relegates modernity to religion, but this does not make it less relevant.

Nevertheless, even the figures of the golem and Frankenstein's monster are amenable to a humanistic and instrumentalist interpretation, and this is only possible with recourse to morality, that is, the moral character and intentions of their respective creators. If there is an opposition between Rabbi Loew and Frankenstein in this regard, it can define a related opposition between their respective creatures (Sherwin 2004, 192–212). Indeed, it can be argued that Frankenstein is a science geek and a reckless dreamer who brings his creature to life for the sole purpose of his own

fame and distinction, whereas Rabbi Loew is a respectable religious leader who, in some versions of the legend, creates the golem for the good and protection of his community. Similarly, it is true that Frankenstein evades responsibility for his creature, whereas the rabbi acts as a responsible master of the golem. It is therefore on moral grounds, because of their respective creators, that Frankenstein's monster can exemplify murderous and inexorable runaway technology, whereas the golem can stand for a kind of benign technology that nevertheless carries the risk of spinning out of control. Such an approach is undoubtedly humanistic, as it claims the empowerment of human creators as single causes of the course of events. It is also instrumentalist, as the created are, first, meant to serve human purposes, either good or bad, and, second, destined to become either good and controllable, or bad and uncontrollable, on the basis of those purposes.

What we have here looks like a conundrum. Are the golem and Frankenstein's monster, instead of displaying an alternative paradigm of technology, still to be interpreted as entangled in its instrumentalist understanding? An answer may be sought through distinguishing between the golem and the monster as to how human or inhuman they are. The nature of the technology they epitomize may become clear through the nature of these creatures themselves rather than the morality of their creators. Whereas both are possible embodiments of technology going out of control, the difference between them is very revealing. Frankenstein's monster strikes us as a full-fledged human being, capable of sophisticated reasoning and afflicted with a rich emotional life. Hence, his revolt is a full-scale one. He is a creature with complete autonomy. So, there is a reason why, even if the monster can be described as "an instrument of his creator's ambition," and he is meant to serve this purpose, he does not really act as an instrument in the sense of carrying out tasks. It is therefore plausible to distance Frankenstein and his monster from the instrumentalist paradigm including its humanistic aspect, because here it is the instrument—what is supposed to be an instrument—that carries this aspect, very far from pursuing his human creator's specific goals.[5] This is, however, not the case with the golem. It is more like a robot. True, it assumes a human form and performs human tasks, but these are assigned by his creator and master. The golem lacks true autonomy; he is a marvelous creature of very advanced magic (or technology) which nevertheless cannot be but obedient to its creator. Prone as it is to going awry and becoming uncontrollable, its malfunction is nothing like the monster's revolt. Yet, and this is of crucial significance to this study, *the golem can get out of control*. Its potential disorderliness amounts to an enigma, full of intrigue and subtlety, while otherwise it perfectly fits the paradigm of instrumentality. For all its inclusion of what is instrumental in technology, however, the golem legend points to something else.

All in all, what Asimov means by coining his term "Frankenstein complex" would be better captured by another, that is, the "golem complex" or even "golem effect" (as the psychoanalytic term "complex" in the sense of a "delusion" is an unfortunate choice to describe an ontological reality). The image of the golem is more genuinely technological in our historical present and more realistic for a characterization of contemporary technology and its challenges. Not that *Frankenstein* as a work of science fiction is irrelevant to what genetic engineering and artificial intelligence research have the potential to accomplish, but its relevance is better left to discussions about the future. Moreover, it does not require much insight to realize that the golem is, in a sense, a more intricate figure. While it undeniably carries a great deal of what is human, it operates as a blind servant under his master's command. Which image from religious tradition, one might ask, is more suitable to interpret the operation of the advanced algorithms of our age?

Accordingly, when it comes to the ambiguity of a company which strives "to give people the power to build community" but which instead sets a course which could harm them, the figure of the golem is more illuminating than Frankenstein's monster.[6] The same applies to the problem if approached from a moral angle through Facebook's leadership. To choose the reckless Frankenstein in order to explain Zuckerberg's motives and his company's workings is an easy and banal choice; it cuts the whole argument pretty short. More intriguing and generous is the presumption that the founder and CEO of Facebook is like Rabbi Loew, the saintly creator and master of the golem. What if, despite his virtue and best intentions, Zuckerberg created a dangerous social platform which, for all his well-meaning mastery and control, poses a threat to the world? But, if this is the case, for what reason?

One of the answers may lie in the religious past of the golem tradition. In what follows, I will explore this tradition with respect to the subject in question.

The Premodern Golem Tradition and its Transformation in Modernity

The combination of the term "golem" and the idea of an artificial man has for centuries been a well-established fact in Judaism—so much so that we take it for granted today—yet the two have separate origins in Jewish antiquity. At the same time, even their first records tell us of a certain affinity between them.

The word "golem" is a biblical *hapax legomenon*, that is, a word which appears only once in the Scriptures. It figures in Psalm 139 which is a hymnic praise of God's thoroughgoing knowledge of the Psalmist in all his action and his thought to the core of his being. In verse 16, after declaring

that God formed him in his mother's womb, as it were, "in the lowest parts of the earth" (v. 15.), he confesses that "your eyes saw my substance, being yet unformed." This translation in the New King James Version, in rendering the phrase "my golem" (ימלג) as "my unformed substance," mirrors the Vulgate (*informem adhuc me viderunt oculi tui*) and also the medieval, mainly Aristotelian, philosophical tradition, embraced by some Jewish thinkers, who used the word "golem" to capture the concept of unformed matter. However, incongruous it seems to make the Psalmist pronounce such a phrase suggestive of philosophical refinement, there are many who believe that the Western tradition of translating this biblical locus is correct—one of the most prominent among them was Gershom Scholem who contended that indeed the word "golem" here means "something unformed or unshaped" (Scholem 1973, 212–3). Also, Scholem specifically rejected that anything would justify "embryo" as a translation. However, Moshe Idel argues to the contrary. Underpinning his argument with the Aramaic translation and some postbiblical occurrences of the word—all pointing toward the image of "(the external aspect of) the human body"—Idel concludes that "golem" may well mean "a formed status of the embryo' in Psalm 139 (Idel 1990, 296–300)." Hence, the interpretations of Idel and Scholem show a substantial difference, indeed a manifest contradiction, but there is a common characteristic they share. Whether it is the "as-yet-unformed substance (of a human being)" or it is a "formed embryo," the biblical word "golem" can, on another level, have the same sense—as an "incomplete human being."

The first written record in Judaism of an artificial human being is included in the *Sanhedrin*, that is, a tractate within the Mishnah which in turn forms an integral part of the Talmud:

> Rava said: If the righteous wished, they could create a world, for it is written, "Your iniquities have been a barrier between you and your God." For Rava created a man and sent him to R. Zeira. The Rabbi spoke to him but he did not answer. Then he said: "You are [coming] from the pietists: Return to your dust." (Idel 1990, 27)

Rava counts as one of the main representatives of rabbinic authority in the Talmud. The above quote consists of an aphorism by him and a tiny story involving him which belong closely together, as the "creation of a world" in the aphorism and that of a man in the story can be equivalent in the rabbinic tradition. The righteous fail to create a world because of their iniquities separating them from God, and it is for the same reason that the creation of a complete human being amounts to an impossible task for Rava who is presented in the story, by inference from Rabbi Zeira's words, as one of the "pietists," that is, those righteous who observe Halakhic prescriptions down to the last detail (Idel 1990, 27–8). When Rabbi Zeira says to the man created by Rava that "you are coming from the pietists," he

means something like "you are not the offspring of a father and a mother, being incapable of speech, but a creation by someone among the pietists who can certainly make a kind of human being yet nobody capable of speech." "Return to your dust," Zeira commands, which is tantamount to saying that 'I do not recognize you as a human being, so neither am I wary of committing homicide by destroying you." Moreover, the simple fact that a casual gesture of "switching something off" can annihilate Rava's creature indicates its subhuman quality. All this notwithstanding, the creature is like a man, indeed like Adam, who also comes from dust and returns to dust. The creature's human character poses a counterpoint to its subhuman incompleteness. It is human and it is not, and there is no mediation between the two. This is different from the kind of incompleteness marking the golem in Psalm 139. From this perspective, it can find a way into becoming fully human.

Although Rava fails to create a complete human being, the Talmudic story about him, as combined with his preceding aphorism, attributes an entirely licit character to the creation of an artificial man. If their iniquities alone prevent the righteous from creating a world and a human being, God wants them to be guiltless and create. Remarkably, such a positive view of re-enacting divine creation remains typical in the later golem tradition,[7] yet there is an alternative voice expressing a kind of uneasiness with it. In a fragmentary Midrash text, God begins the work of creation with an incomplete human being, a golem, and does not cast a soul into him before finishing the whole work, lest he be considered God's companion who co-created everything (Scholem 1973, 214–5). In a Kabbalistic text from the early 13th century, one of the examples that describe a perfect golem who is eloquent, it is the golem itself that suggests its own destruction after warning its makers of the risk of replacing God as supreme creator (Scholem 1973, 234–5; Idel 1990, 67). What is more, the golem makes reference, astonishing in a medieval context, to its own creation as having the implication that "God is dead." Thus, it can be argued that however licit golem-making appears to be, the Jewish tradition harbors some ambiguity about it, as it is tinged with the quality of the illicit. But this ambiguity is more inspiring than perplexing.

How does one create an artificial man? The Talmudic account is brief and unspecific. So the answer lies in another ancient text, written sometime between the third and the sixth century CE. It is the *Sefer Yezirah* (i.e., the "Book of Creation" or "Book of Formation"), many readers of which became convinced that its convoluted course of thought offers them a magic recipe for golem-making. The *Sefer Yezirah* is a cosmogonic-cosmological treatise which ascribes to the twenty-two letters of the Hebrew alphabet—alongside the ten *sefirot* that are God's ten emanations—a divine power that God wielded in creating the universe. In the book's understanding, God did so through all their possible,

two-hundred-thirty-one, combinations in pairs that it terms "gates." Such an idea would in itself suffice to associate the book with a magical worldview. But as long as it is only God who creates in a magical way, and only this kind of divine creation and subsequent structure of the world are concerned, the subject could nevertheless be exclusively labeled as cosmogonic and cosmological—a quasi scientific description for the sake of contemplation. However, the *Sefer Yezirah* goes further. It portrays Abraham, the father of the chosen people, as taking and wielding the letters the same way as God did, and thereby creating with success (Hayman 2004, 181–6; cf. Scholem 1973, 222–3, and a more detailed discussion in Idel 1990, 14–21). Hence, it is clear that the later use of the book for magical purposes, in Abraham's manner of a re-enactment of God's creation, was coded into its very texture. In the same vein, it seems somewhat unpromising to ask whether the magical creation of an artificial humanoid is "in the text" or a later interpretation of medieval Kabbalists (cf. Idel 1990, xxii-xxiii, in dispute with Scholem). The text offers such a possibility by implication, as it puts an emphasis on the link between the Hebrew letters and the limbs of the human body, with a reference to the alphabet as a divine name—a significant prelude to later techniques of golem making.[8] Whether by way of interpretive resourcefulness or just a correct understanding of the *Sefer Yezirah*, Rashi, the great Talmud commentator in the eleventh century, could magisterially name it as the source by which Rava created his artificial man (Idel 1990, 30).

The conception of the *Sefer Yezirah* as a textbook for creating a humanoid being has the broader implication that the power to perform such an act of creation is inherent in language itself. It is not, however, the language of everyday communication between people, either oral or written. The act of golem making, as part of the Jewish Kabbala in general, brings to the fore what is artificial in the written form of Hebrew as an alphabetic language. As it seems, the author of the *Sefer Yezirah* and the book's later Kabbalist interpreters had the tacit assumption that language carries supernatural power at its sublinguistic level, as if it were the technical effects of mathematical combinations, enabled by the Hebrew alphabet as a defined set of twenty-two elements, where divine force manifests itself. So it is hardly surprising that, in Kabbalistic lore, this kind of "sublinguistic language," touching upon the divine, gives rise to something subhuman like the golem devoid of any speech. Accordingly, there is only a seeming discrepancy between the golem's creation by language and its inability to speak (Idel 1990, 264–5).

The *Sefer Yezirah* and its use can explain why early Kabbalists sought to create a golem. The creation of an artificial man by means of an artificial language can only bring about an artificial experience far beyond the realm of the ordinary. Thus, the idea and procedure of such a creation must have achieved something different from what Idel describes as "knowing God"

as a result of performing God's act of creation (Idel 1990, xxvi–xxvii). Idel's explanation relies on a dualism between theory and praxis, inherited from Greek philosophy that can hardly have a place in explaining the motive for creating a golem. Richer connotations for golem making are attached to the concept of (mystical-ecstatic) experience introduced by Scholem (1973, 242–4) and rejected by Idel who at the same time does not refrain from a formulation like "the experience of the creative moment of God." The term "experience" carries the aspects of the theoretical and the practical, the epistemological and the performative, but also captures the breadth of a quest to be in the closest proximity to God. Byron L. Sherwin appears to be under Scholem's influence in portraying the creation of a golem as an "experience" in a "mystical communion with the divine"—clearly at variance with the bland piety of "knowing God" as a consequence (Sherwin 1985, 14). For my part, I wish to emphasize that community with God and closeness to God are attained through the experience of golem making in a highly artificial procedure, at the periphery of the human community and with the implication of danger, which is made apparent by the fact that this magic procedure has always posed a threat, such as physical harm, to those few who engaged in it (Scholem 1973, 245–6; Idel 1990, 263–4).

In early modernity (in the course of the fifteinth and sixteenth century), the golem tradition underwent a far-reaching change which implied a more distinct and definable purpose of creating an artificial human being. The golem became a magic servant who does all kinds of jobs for its creator and master (cf. Scholem 1973, 253–4; Idel 1990, 207–9). This change was coupled with another one which occurred somewhat later, sometime in the first half of the seventeeth century. There arose an idea that the golem entails a risk to its master, even to the point of claiming his life, which means that the matter of concern shifted from the process of creating the golem to the golem itself. As clear as the reason for shaping a golem servant is, this new creation as a source of danger raises a question. The reason can hardly be that now, by virtue of its work, the golem develops a human consciousness and a concomitant autonomy from its master.[9] The stories below (the Polish and the Prague versions of the legend) will show that the golem is a perfect servant without any intention of its own (which would be a necessary consequence ensuing from human consciousness) including the intention to inflict harm. Neither is it quite plausible, as has been suggested elsewhere, that the looming danger of the golem comes as a punishment, from the servant rather than from God, for the master's hubris (Ambrus 2020). Contrary to such an explanation, golem makers as recounted by tradition were exceedingly pious, indeed respectable sages of Kabbalistic lore. It seems more likely that the emergence of servile labor as a new feature in the figure of the golem reinforced an always-present tension between its human and subhuman character: its labor involving all kinds of human tasks intensified its humanity, whereas

its mute and complete obedience gave new emphasis to the subhuman in it.

The modern golem myth had an early blossoming in seventeenth century Poland where it soon became associated with the legendary figure of Rabbi Eliyahu of Helm who lived in the sixteenth century. A manuscript by an anonymous Polish Kabbalist, written sometime between 1630 and 1660 (but probably reflecting an earlier tradition), mentions that Rabbi Eliyahu created a golem who "performed hard work for him for a long period" (Idel 1990, 207–8). But this Jewish source gives no indication that the golem is a dangerous being. Interestingly enough, it was a Christian scholar, Christoph Arnold, whose correspondence attests to this development for the first time and provides the fullest early account of the modern golem.

After saying certain prayers and holding certain fast days, they make the figure of a man from clay, and when they have said the *shem hamephorash* over it, the image comes to life. And although the image itself cannot speak, it understands what is said to it and commanded; among the Polish Jews it does all kinds of housework, but is not allowed to leave the house. On the forehead of the image, they write: *emeth*, that is, truth. But an image of this kind grows each day; though very small at first, it ends by becoming larger than all those in the house. In order to take away his strength, which ultimately becomes a threat to all those in the house, they quickly erase the first letter *aleph* from the word *emeth* on his forehead, so that there remains only the word *meth*, that is, dead. When this is done, the golem collapses and dissolves into the clay or mud that he was … They say that a *baal shem* in Poland, by the name of Rabbi Elias, made a golem who became so large that the rabbi could no longer reach his forehead to erase the letter *e*. He thought up a trick, namely that the golem, being his servant, should remove his boots, supposing that when the golem bent over, he would erase the letters. And so it happened, but when the golem became mud again, his whole weight fell on the rabbi, who was sitting on the bench, and crushed him. (Scholem 1969, 200–1).[10]

This account certainly retains major characteristics from the early golem tradition. The golem is formed out of clay by the power of the divine Name; it cannot speak; it can be "switched off" and returned into clay (like "dust" in the Talmudic account) by the power of language and its cyphers again. But this kind of golem making, however artificial, does not aim for closeness to God. And yet, it cannot be argued that the new golem represents a break from the old one. Its lack of speech lends itself to understanding commands, performing labor and finally being deactivated. The *emeth-meth* play with letter combinations follows from the divine Name (*shem hamephorash*) and was originally linked with God in the above-mentioned thirteenth century manuscript (with God being "truth" or "dead", cf. Scholem 1973, 234–5, and Idel 1990, 67), but its

shift to the golem, its new role as a switch to control it, paradoxically ends up implying again something like the "death of God." What is this shift if not the redistribution of the holy Name to operating and intensifying the subhuman potential of the artificial man in a contrivance to get human jobs done? And what consequence can ensue other than the golem's threatening growth (a growing monstrosity) and its master's eventual demise?[11] With the application of the Name to the operation of the artificial servant and with God becoming obsolete as Creator, the creation of the golem occurs as an almost ultimate act of transgression, but the "death of God" implied by it does not mean that God as God can cease to exist—provided that God exists. Rather, it can be interpreted in the Nietzschean sense that the idea of God loses its relevance, significance and "function" within a culture.[12] That said, it is nothing short of an enigma that this novel account of Jewish golem making is given by a *Christian* scholar.

When, however, the modern golem legend came to be relocated from Helm to Prague sometime in the first third of the nineteenth century,[13] it had, curiously enough, its religious character reasserted without any loss of its modern traits. For it was well on its way to form a final constellation in collective consciousness not only with Rabbi Judah Loew of Prague, but also the Sabbath eve. Rabbi Loew's golem also carries out all sorts of work for its master, but has a major limitation: it must be deactivated on Friday evening so that it can rest on the day of the Sabbath. Both its animation and deactivation are performed through the divine name. The story goes that once the rabbi forgot to put the golem to rest on Sabbath eve, and it had, as it were, a seizure of madness which brought about destruction to its surroundings—no matter exactly how and to what degree; even the early Prague versions differ over this detail. With difficulty, the rabbi succeeded in deactivating it, never to put it to work again. Much can be said about the "Prague turn" of the golem, but the point is that the Sabbath, the holy day of rest, is a perfect match for the modern robotic servant whose essence is labor itself. Furthermore, it makes the golem's intrinsic tension play out perfectly. It is human enough to be someone relevant to the Sabbath commandment. But the way it reacts to its own possible breach of the Sabbath (to crossing a sacred boundary and becoming an agent of limitless labor) is subhuman. It is a human being who can breach the Sabbath *and* at the same time a subhuman force who unleashes frenetic, yet not deliberate, indeed "automatic," punishment for the breach—on the grounds of someone's mastery over it.

The question of the golem's status as human or non-human has also arisen as a typically modern conundrum in the field of the *Halakhah*, that is, Jewish religious law. It has haunted legal minds since the eighteenth century. The question has often taken the following form: can a golem possibly be counted in the quorum that is the required number of those who can say certain communal prayers? (Sherwin 1985, 20–3 and 38–41;

Sherwin 2004, 14–6; for a more detailed discussion, see Idel 1990, 213–27.) Rabbi Zevi Ashkenazi, a Halakhic authority who discussed this issue in the early eighteenth century, answered in the negative. In interpreting the Talmudic story, he argued that, if a golem were a human being, Zeira would have committed murder when destroying Rava's artificial man (identified as a golem). But Zeira could not do so, as Rava's creature could not possibly be human, argued Ashkenazi further, because it was not born of, but made by a human being. Accordingly, no human status can be attributed to any golem—including Rava's. Ashkenazi's son, Rabbi Jacob Emden, thought of the matter likewise, specifically citing the authority of the traditional view that a golem lacks intelligence on account of its inability to speak. Father and son established a legacy which influenced subsequent Halakhic discussions on the subject. It was, however, challenged in the late nineteenth century by Rabbi Gershon Hanokh Leiner. He agreed that Zeira did not commit any homicide, yet Leiner was of the opinion, with reference to Rava's preceding aphorism in the Talmud, that Rava could have created a golem as an unflawed, intelligent, full human being had he been unflawed himself. A golem can potentially be a human being, which means that, even if it is nonhuman in the moment of his creation, it has the potential to become human (this possibility is particularly emphasized in Sherwin 2004, 14–6). Accordingly, Leiner refuted Ashkenazi's argument based on the golem's conception outside a mother's womb, as he found a powerful counterexample in Adam himself who was also fully human without being born of a mother.

Religion and Technology: The Application of The Idea of The Golem to Cybernetics and Facebook

The first author who explicitly employed the golem as an allegory to explain the enormous challenge of novel technological developments was Norbert Wiener, the originator of cybernetics, whose 1964 book *God & Golem Inc*. established a link between the implications of his new science and the patterns of religious thought. Yet Wiener's scientific essay was predated by implicit elaborations on the idea of the golem in literary works, among which the most notable example is Karel Čapek's 1921 play *R.U.R.* Without ever using the word "golem" but coining the term "robot" instead, Čapek envisions golems in a dystopian industrial setting. In his play, artificial humanoid beings are mass produced as slaves on a planetary scale. They gradually fulfil an increasing number of human functions and tasks, including their employment in armed conflicts, to the point of making their masters obsolete so that their takeover of the planet and annihilation of humankind are only a matter of time. Whereas *R.U.R.* certainly owes a debt to the Frankenstein myth, its engagement with the golem legend and its biblical roots are undeniable: the play's final

scene shows a paradisiacal romance between two robots who open the way to a new creation in the manner of another Adam and Eve (Čapek 2004 [1921], 79–84). If Čapek's play full of irony and fun is haunted by the sense of a looming catastrophe, Wiener's measured piece of scientific nonfiction is not less so, while being perhaps even more alarming with the lapse of more than four decades between them and in the middle of a transition from the industrial to the information age.[14]

Even if the golem is not mentioned more than twice in Wiener's essay, it does not play a title role by accident, for its figure serves as a distillation of Wiener's philosophical insights into the new scientific paradigm he initiated. What he termed "cybernetics" (from the Greek word *kubernetes* "steersman") is an interdisciplinary science of communication and control which seeks to apply the same principles to machines, living organisms and also society—thereby establishing an exchange and continuity among these domains which are usually treated by common sense as distinct and separate. The first and fairly obvious sense of the phrase "communication and control," widely used to describe cybernetics, is "control through communication." Cybernetics regards devices, living organisms and societal entities as systems defined by the flow of information, which enables them to be mapped, and this, in turn, is almost tantamount to their planning and the establishment of mastery over them. One of the presumptions of cybernetics is that the operational principles of devices, intrinsically amenable to mastery and control, can be extended to the other two domains. Such a violation of boundaries which common sense would deem sacrosanct propels the accumulation of immense power which is directly comparable to the power of black magic, both illicit and monstrous. "… the reprobation attaching in former ages to the sin of sorcery," claims Wiener, "attaches now in many minds to the speculations of modern cybernetics." (Wiener 1964, 49) Magic with its promotion of human empowerment and possible abuse of divine power (Wiener 1964, 50–2) is the primary focus of Wiener's orientation toward religion. In like manner, Rabbi Loew of Prague, the master of the golem, emerges primarily as a magician or sorcerer who is a predecessor of modern cyberneticians operating their own golems (Wiener 1964, 49–50 and 95).

What Wiener's essay also suggests, however, is that "communication and control" as the motto of cybernetics can also imply "communication (supposed to be under control) escaping control." For it turns out that not only the principles of machines are extendable to organic life, but also the other way around, which may clarify Wiener's attention to religion. In *God & Golem Inc.*, he proposes to discuss how cybernetic science is "relevant to religion" or even "impinges upon religion." Such an impingement can occur in three respects: in those of "machines which learn," "machines which reproduce themselves" and "the coordination of machine and

man" (Wiener 1964, 1 and 11). The third respect seems to be the deeper implication behind the first two, or the crux of the problem following from them, while the self-reproduction of machines is less relevant to the subject of this study. The most evident examples of learning machines are game-playing algorithms. One can of course argue that the principles governing these algorithms are set by their designers, and their behavior is therefore predetermined, but in reality they may become capable of moves and habits which are unforeseeable at a sufficient level of complexity (cf. Wiener 1964, 21–2). Unsurprisingly, Wiener concentrates his attention on chess and checkers, combined with a passing mention of the popular East Asian game *go*, but his analysis proves genuinely prophetic when it conceives of possible machines that can be employed in fields amenable to game-like formalization—and such are the fields of war and business (Wiener 1964, 24). Even more indicative of the quasi autonomous, organism-like characteristics of machines in real-life settings is the cybernetic key concept of *feedback* which constitutes a two-way communication between the cybernetic machine and its environment in a learning process which can trigger change in the machine's behavior (Wiener (1989), 22–7 and 48–50). If such machines with a specific goal handle any real-life setting as a game, it further increases the relevance of Wiener's remark: "… the game-playing machine will continually transform itself into a different machine" (Wiener 1964, 21).

Not only disturbing, however, but also fascinating is the possible autonomy of machines. The moment creators engage in a game with their algorithms they enter the process of renouncing all their mapping and planning—indeed, all their control. Modern golems, beyond their *raison d'être* to work and obey, can play a game with their creators and thereby assume a human face and defeat them, because they are also created (and meant to operate) in their image. The creature's chance to win against the creator is certainly an enigma which, in Wiener's understanding, is epitomized by the conflict between God and Satan, one of God's creatures, in the *Book of Job* and Milton's *Paradise Lost* (Wiener 1964, 15–7). For this conflict unfolds, according to Wiener, as the supreme game between creator and creature. It is impossible that God has the power of an omnipotent creator in this game, unless Satan's struggle is futile, and he acts like a fool. But we know, even if we did not learn from these works, that Satan is the master of subtlety. Consequently, Wiener argues, God must be playing this game by confining Godself to the role of a "limited creator" whose downfall may eventually come with Satan ending up on the celestial throne. Although it has not been handed down in tradition that God created Satan in God's image the way God formed human beings, Satan must clearly be God-like to be God's opponent (however consistently God plays a "limited creator"), just as human beings have the potential and ambition to strive to become like God—and they have done so since

the first human couple. Thus, the great religious drama between God and Satan, on the one hand, and God and human beings, on the other, comes to be re-enacted in cybernetic games between human creators and their golems, the former limiting themselves, the latter assuming a human face.

The golem-like machines of cybernetics, however, play games not only with their creators but also in their service to pursue their creators' goals; yet in whichever way they play, they are as blind as ever. No doubt, these golems can learn in the manner of human beings, yet at the same time they remain fully subhuman and utterly obedient—and exceedingly dangerous. Why is it so? The answer lies in the contradictory nature of automation. These golems are automated, and once the path of automation is taken by their masters, they need to proceed to the end, and it is doubtful whether there is one. Once a goal and all the steps to reach it are set, a golem will operate exactly as instructed and certainly achieve the goal, yet without any regard to the real intentions of its master and therefore heedless of triggering unintended consequences. When establishing goals and automating the golem to attain them, the master must specifically reckon with all aspects and eventualities, which is barely possible. This is the insight that Wiener comes to articulate through literary tradition and its topoi of magic as a double-edged sword (Wiener 1964, 55–9). It would require an unnecessary detour to give an account of all the examples presented by Wiener, but the gist of them is the following: people, like all of us, unprepared to command a magic creature or magic device, yet eager to make gain through it, forget to specify under what conditions their goals be attained, or fail to consider what comes in the wake of attaining them. As a consequence, they get literally what they want, but bring on themselves such misery that they wish they would never have resorted to magic. Ironically, however, the more one strives to outsmart the dark power of magic, the deeper one becomes enmeshed in it, as the mute golem's blind automation for the sake of forestalling anything unintended is a never-ending process with a multiplying chance of something unforeseen and disastrous.

Granted that a number of technical details in Wiener's cybernetics are less relevant today than in the postwar period, his philosophy and his particular cybernetic vision of the world still carry a fair degree of conviction. Wiener's extension of the domain of information as an interpretive concept from machines and society to living organisms has had far-reaching repercussions up to the present (cf. Floridi 2010, 73–87). Inasmuch as his image of a "cybernetic golem" applies to algorithmic machines as well as living organisms, including human beings, Wiener tends to see them in the end as the same. Of course, within this sameness there must be a small but significant difference between subhuman qualities and human ones; at the same time, however, human qualities are capable of emerging from subhuman ones, whereas it will hardly ever be "possible for a human being," as Wiener puts it, "to be sent over a telegraph line" (Wiener 1964, 36).

Clearly, Wiener's reflection on cybernetics through the figure of the golem oscillates between the machine being under total control and going out of control—a contradiction which powerfully plays out at the present time in the global workings of Facebook. And it does so on account of what this study has already showed as the vital dynamics in the golem tradition: the tension between the "human" and the "subhuman." The "subhuman" in the golem is what operates under the deepening spiral of control, whereas what makes it "human," empowered by the "subhuman" itself, can result in the golem getting out of control. In like manner, those who hold Facebook in firm hands through its subhuman and indeed subterranean stream of algorithms are in the process of increasing its human potential while sliding down the slippery slope to the point of submitting to it. There is good reason to assume that this is evolving in accordance with the cautionary tales of magic and with the religious tradition about the game between God and God's creature. The masters of Facebook, in their relentless bid to gather and structure information about every individual on the planet, and in their control over the process, might forget to tell their magic device not to gather information about *them* and their very actions of control. And even if they do not forget to do so, every counteraction to hide and stay above the process might in turn become an action to be recorded. And even if they are the smartest sorcerers ever and could succeed in staying invisible, they will not resist— since they cannot resist—playing with Facebook, as Facebook's controlled "subhuman" is increasingly capable of being fascinatingly "human" and more than "human." As Facebook accumulates big data, elaborates on individual profiles and identifies increasingly sophisticated patterns of human behavior—well on the way to knowing individuals and their wishes better than they know themselves—, it must also be an overwhelming temptation and an invitation to its masters to join and play.

Facebook's inherent power, however, does not mean that its leadership can renounce responsibility for it, and that the instrumentalist paradigm, as has been outlined in this study, is necessarily wrong when dealing with Facebook. The world needs the goodwill of Zuckerberg and his board as badly as their dedication and resolve to build community and serve humankind through Facebook as an instrument. Likewise, it is sometimes not entirely wrong to place the blame on "bad actors" when Facebook reveals itself as a golem causing havoc in the most factual and obvious terms (like in the CA scandal or the Russian meddling), since harmful intentions do exist, and it does make a difference what kinds of goals the users of Facebook pursue. The instrumentalist paradigm will always be relevant in the domain of technology, and Facebook is no exception.

But Facebook has its own dynamics, and it should be clear by now that these dynamics can be viewed as an operation unrestrained by the obvious fact that it has been created and is therefore thoroughly known by its

creator. Besides, Facebook springs from a tradition as well. However, "real" it is as a technological creation, and however "fictitious" the golem seems in the fabulous realm of magic and religion, their relationship includes more than a simple mirroring or demonstration of the one through the other. The golem is representative of an idea and a tradition that has formed Facebook, too. This idea suggests a dialectical movement between the human and the subhuman. The subhuman is not merely something below what is human, but also a negation of the human. This negation can nevertheless turn into a tremendous force that fulfils and also supersedes the human by becoming more human than what has before been considered to be. It is this kind of movement that evolves on Facebook, whose name is not without significance in this regard. Originally a common name meaning "student directory with photos and information," Facebook has come to signify a "network of friends in which they show their true selves," while it is in fact "an intricate algorithm with an increasingly human face." Facebook is finely honed to offer a "personalized experience" with all its occasional weirdness by enticing us to "let it go" and "be ourselves" to the fullest degree (cf. Vaidhyanathan 2018, 67–8). After a while, steadily providing and multiplying a data set of ourselves, we indulge ourselves more and more, but at the heart of it there is Facebook indulging itself through us. The algorithm creeps into the core of our being and becomes one with us—a oneness spiraling into a smooth vertigo of glamour, flow, and indulgence.

"Spiral," however, can also be the right word for the course that control and mastery take on Facebook. The golem's subhuman character makes it a perfect servant who invites an exponential growth in mastery. This invitation certainly applies to the average user of Facebook to a considerable extent, but it has a particular appeal to those who are in charge of the algorithm. One can, as a matter of fact, exercise and increase control permanently by refining individual settings, tweaking one's newsfeed, following and unfollowing groups, friending and unfriending people. What is more, those who have the privilege can add more and more code to Facebook's algorithm, perhaps with the best intentions, such as a bid to eliminate fraud on a massive scale like the Russian interference in the American election in 2016. Notwithstanding, the increase in mastery proliferates challenge and strain, as the masters are on course to take care of everything, while that "everything" keeps expanding. At the same time, there are very few tweaks and very few lines of code that do *not* enhance Facebook's potential, its human richness, and, as a consequence, its allure to human beings.

Conclusions

It remains to consider how religion relates to Facebook, interpreted in this study through the illuminating power of the figure of the golem. This figure doubtless originates from religious tradition, but this connection

is rather tenuous and not necessarily strong enough to form any bond between Facebook's technology and religion. Is it not plausible to assume that what has been conceived as a relationship between God and Adam, on the one hand, and human beings and golems, on the other, takes a secularized form here as a religious scheme of thought which is no longer religious? Is what we have here not a simple repetition of something religious in something secular? Perhaps. But Gershom Scholem went a step further, recognizing what appears to be a real continuity from God to human beings to modern golems—his "modern golem" meaning, as a matter of fact, not Facebook, but the first computers in the postwar period. He recognized that the creation of computers by human ingenuity may in the long run imply what the creation of golems in religious tradition has always implied: the obsolescence of God, that is, the "death of God" (this is the main argument in Scholem 1966). And indeed, when human creativity reaches the point of writing algorithms which are capable of knowing us better than we know ourselves and of predicting our behavior (Zuboff 2019), God's position as a supreme Creator and source of meaning evanesces further—the most recent event within an ominous historical process. It has been noted elsewhere that the experience of the death of God as guarantor of a meaningful world has a broad bearing on our understanding of information technology in general (Floridi 2014, 19–24) and also on the disorientation of human identity on Facebook in particular (Briggle 2010, 169). The confusion over what is human and what counts as human, caused by Facebook as golem and an "image of humanity," is deeply related to our loss of a sense of direction in a godless universe as described by Nietzsche. Thus, there is a profound irony lurking here. What the enigma of Facebook suggests in the end is a coincidence between the "death of God" and the crisis of humanity.

Notes

1.   To specify the precise meaning of Asimov's concept, the Frankenstein complex is our *fear* that technology can supplant humanity or, in other words, it can make humanity obsolete.

2.   Among the several available editions of *Frankenstein*, the most useful is perhaps Shelley 2017 ("annotated for scientists, engineers, and creators of all kinds" and featuring a number of essays).

3.   Cf. Zizek's reading of Hegel and Mary Shelley (Zizek, 2009, 28–33 and 51). There is an underlying—and plausible—assumption in Zizek's text that this murder and death of God happens of God's free will. Later on, Zizek describes this event as a consequence of God's transgression and "supreme crime" of creating human beings in His image.

4.   This is Frances A. Yates' famous thesis articulated, among other books of hers, in *The Art of Memory* (Yates 1966).

5.   The monster is so human that Frankenstein should take responsibility not only *for* the monster's deeds, but also *towards* the monster himself. Frankenstein's failure to do so has only a superficial explanation in the monster's ugliness. When Frankenstein abhors his creature, he is terrified by his own transgression in a maniacal and single-minded pursuit of knowledge. Cf. Ambrus (2019, 7–12).

6.   See Facebook's mission statement: https://newsroom.fb.com/company-info/

7.   Applied to the golem of modern science and technology, such a fundamentally positive approach characterises the whole of Byron L. Sherwin's book *Golems Among Us*.

8.   The *Sefer Yezirah* abounds with references to the human body, but these are the main thematic units: Hayman 2004, 119–27, 136–9, and 160–7. See also Idel (1990, 13).

9.   This is why the application of Hegel's philosophy to the golem legend is so challenging. His celebrated master-slave dialectic (if it is a dialectic at all) unfolds in human consciousness, cf. Hegel (1807], 111-9).

10.   The English translation is by Ralph Manheim.

11.   It was this version of the golem legend, penned by Christoph Arnold, that entered the word of modern literature through a publication by Jakob Grimm in the *Zeitung für Einsiedler* in 1808.

12.   This is a paraphrase of Heidegger's take on Nietzsche's enigmatic declaration ("God is dead") in his *Thus Spoke Zarathustra* and *The Gay Science* (Heidegger 2002, 157–99).

13.   This transition has been well researched in Dekel-Gurley 2013. The earliest text to bear witness to it was published in 1834.

14.   For a cultural history of the allegorical application of the golem to technology, especially military technology and modern warfare, see Barzilai (2016).

References

Ambrus, Gábor. 2019. "Creators and Creatures: The Creation Account in Genesis and the Idea of the Artificial Humanoid." *Zygon* 54(3): 1–19.

Ambrus, Gábor. 2020. "Servitude, Freedom, Revolt: What Do the Creation of Human Beings and the Creation of AI Imply?" In *Artificial Intelligence: Reflections in Philosophy, Theology and the Social Sciences*, edited by Göcke, Benedikt and Astrid Rosenthal, von der Pütten, 275–92. Münster, Germany: Mentis Verlag.

Asimov, Isaac. 1978. "The Machine and the Robot." In *Science Fiction: Contemporary Mythology: The SFWA-SFRA Anthology*, edited by Patricia S. Warrick, Martin H. Greenberg, and Joseph D. Olander. 1st ed. New York, NY: Harper & Row.

Barzilai, Maya. 2016. *Golem: Modern Wars and Their Monsters*. New York, NY: New York University Press.

Bissell, Tom. 2019. "An Anti-Facebook Manifesto by an Early Facebook Investor." *The New York Times*, January 29th 2019.

Briggle, Adam. 2010. "Dear Facebook." In *Facebook and Philosophy: What's on Your Mind?* edited by D. E. Wittkower, 161–71. Chicago, IL: Open Court.

Cadwalladr, Carole, and Emma Graham-Harrison. 2018. "Revealed: 50 Million Facebook Profiles Harvested for Cambridge Analytica in Major Data Breach." *The Guardian*, March 17th 2018.

Čapek, Karel. 2004 [1921]. *R.U.R. (Rossum's Universal Robots). With the assistance of trans. Claudia Novack*. Penguin classics. London, New York: Penguin Books.

Dekel, Edan, and David Gantt Gurley. 2013. "How the Golem Came to Prague." *Jewish Quarterly Review* 103: 241–58.

Dusek, Val. 2006. *Philosophy of Technology: An Introduction*. Oxford, UK: Blackwell.

Floridi, Luciano. 2010. *Information: A Very Short Introduction*. Oxford, UK: Oxford University Press.

———. 2014. *The Philosophy of Information*. Oxford, UK: Oxford University Press.

Hayman, A. Peter. 2004. *Sefer Yeṣira: Edition, Translation and Text-Critical Commentary. Texte und Studien zum antiken Judentum, 0721–8753 104*. Tübingen, Germany: Mohr Siebeck.

Hegel, Georg Wilhelm Friedrich. 1977 [1807]. *Phenomenology of Spirit*, translated by A. V. Miller. Oxford, UK: Oxford University Press.

Heidegger, Martin. 1977. *The Question Concerning Technology and Other Essays*. New York, NY: Garland Publishing.

———. 2002. *Off the Beaten Track*. Cambridge: Cambridge University Press.

Idel, Moshe. 1990. *Golem: Jewish Magical and Mystical Traditions on the Artificial Anthropoid*. SUNY series in Judaica. Albany, NY: State University of New York Press.

McNamee, Roger. 2019. *Zucked: Waking up to the Facebook Catastrophe*. UK edition. London: Harper Collins Publishers.

Scholem, Gershom. 1966. "The Golem of Prague and the Golem of Rehovoth." *Commentary* 41: 62–5.

———. 1969. *On the Kabbalah and Its Symbolism*, translated by Ralph Manheim. New York, NY: Schocken Books.

———. 1973. *Zur Kabbala Und Ihrer Symbolik*. Zürich: Suhrkamp.

Shelley, Mary Wollstonecraft. 2017. *Frankenstein: Or, the Modern Prometheus, Annotated for Scientists, Engineers, and Creators of All Kinds*, edited by David H. Guston, Ed Finn, Jason S. Robert, Joey Eschrich, and Mary Drago. Cambridge MA: The MIT Press.

Sherwin, Byron L. 1985. *The Golem Legend: Origins and Implications*. Lanham, MD: University Press of America.

———. 2004. *Golems Among Us: How a Jewish Legend Can Help Us Navigate the Biotech Century*. Chicago: Ivan R. Dee.

Smith, Merritt Roe, and Leo Marx, editors. 1994. *Does Technology Drive History? The Dilemma of Technological Determinism*. Cambridge, MA: MIT Press.

Vaidhyanathan, Siva. 2018. *Antisocial Media: How Facebook Disconnects Us and Undermines Democracy*. New York, NY: Oxford University Press.

Wiener, Norbert. 1964. *God and Golem, Inc. A Comment on Certain Points Where Cybernetics Impinges on Religion*. Cambridge, MA: MIT Press.

———. 1989. *The Human Use of Human Beings: Cybernetics and Society*. London: Free Association Books.

Winner, Langdon. 1977. *Autonomous Technology: Technics-Out-of-Control as a Theme in Political Thought*. Cambridge, MA: MIT Press.

Wyatt, Sally. 2014. "Technological Determinism Is Dead; Long Live Technological Determinism." In *Philosophy of Technology: The Technological Condition: An Anthology*, edited by Robert C. Scharff and Val Dusek. 2nd ed., 456–66. Blackwell philosophy anthologies 33. Malden, MA: Wiley Blackwell.

Yates, Frances Amelia. 1966. *The Art of Memory*. Chicago: University of Chicago Press.

Zizek, Slavoj. 2009. "The Fear of Four Words: A Modest Plea for the Hegelian Reading of Chritianity." In *The Monstrosity of Christ: Paradox or Dialectic?* edited by Creston Davis, 24–109. Short circuits. Cambridge, Mass., London: MIT Press.

Zuboff, Shoshana. 2019. *The Age of Surveillance Capitalism: The Fight for the Future at the New Frontier of Power*. London: Profile Books.