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CULTURAL VIROLOGY. THE PRINCIPLE OF VIRUS IN MODERNITY AND THE DIGITAL ERA

The Corona pandemic has recently given the virus topical significance, but viruses and virality have been among the central concepts of a manipulative fusion of nature and technology in contemporary Western culture at least since the post-war modern era. As a synonym for change and an evolutionary «all-rounder», the virus is presented in the context of the technological preconditions for the storage and transformation of cultural information. If viruses did not exist, they would have had to be invented. The virus, which in contrast to bacteria has only been studied in detail in the late 1920s, must reprogram foreign cells as an obligatory parasite in such a way that mass reproduction of the virus itself takes place in the host body. Mutation and recombination are the most significant criteria of the viral. All important discourses of the 20th century come together in the «principle of virus». However, with virality, the so called «going viral» of information in mass culture, something arises that can by no means be spoken of as a familiar biologicistic metaphor, but which testifies to a new communicative phenomenon of the 21st century, rapidly accelerated by digital reproduction technology. The cultural virology proposed here provides a broad overview of the virus as a figure of thought for interaction, transmission, interdisciplinarity, connectivity and interdependence in the 20th and 21st centuries. Regarding artistic, pop cultural and philosophic «viral potentials» one must ask to review the contemporary pandemic mood: could it be possible to imagine the virus as a principle of freedom and transformation?

KEYWORDS *Virus, Border Opening, Mutation, Data Viruses, Virality, Viral Marketing.*

In view of the crisis-like nature of the current pandemic, it seems a bit questionable, even morally reprehensible, to give expression to one's enthusiasm for the concept of the virus. Yet the desire to understand the «principle of the virus» as a potential and central model of artistic strategies of the XX and XXI centuries in no way reflects cynicism toward the victims of the pandemic. On the contrary, it proves helpful to attempt a change of perspective: despite dramatic numbers of victims worldwide and vehement denial of facts in the face of the coronavirus, it is not only at the beginning of 2020 that we lacked a comprehensive understanding of the viral. Even with our experiences with

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Aids/Hiv, this crisis was inevitable. The political reactions to the pandemic narrative, in their alarmism and fear of the loss of control all too often seemed to be taken from the classics of pop-cultural viral thrillers, and the pandemic rapidly turned into a devastating infodemic and a downright «killer» of democratic ideals and libertarian lifestyles. «Cultural Virology» explores the interdisciplinary interactions between science, politics and art in a much less agitated way. Reflecting on the «principle of the virus» as a unifying element in Western Modernity and the Digital Age seems even more necessary today for clarification and education than it did at the beginning of the author's engagement with the topic directly after the Sars epidemic in 2010. Even if we don't like to hear it at the moment: without agents of contagion, neither evolution nor social change would have happened so quickly. This also applies to viral potentials in art, philosophy and pop culture.

1. Microbes of freedom

Images come from images, and visual art, music, theater, dance and literature are all infectious in modern mass culture, as Leo Tolstoy already knew and Tristan Tzara formulated in his eulogy for Dadaism in 1923 at the Bauhaus Festival in Weimar: Tristan Tzara imagined «microbes of freedom» in invisible omnipresence and called the anti-art Dada that «original microbe» which invaded all those spaces «that could not yet be occupied by reason with words or conventions»¹. The idea of today's ubiquitous virality was thus already virulent in artistic circles before the virus could be defined more precisely as a pathogen in the 1930s and was made visible with the scanning electron microscope. In 1923, the Romanian writer thus virtually conjured up the viral spread of doubt about the prevailing concepts of canonical art and an infectious present that had to be brought to an ever new state of exception. A century later, in the corona pandemic, the virus seems to rule over this state of exception. And nothing is more contagious than fear. Whether terrorism, environmental catastrophes or financial crises: fear remains our constant companion in the globalized world. How can it be that artists and philosophers are fascinated by the risky concept of the virus? Dadaism is just one of several ex-

¹ «Perhaps you will understand me better if I tell you that Dada is an original microbe that persistently invades with the air all the spaces that reason has not yet been able to occupy with words or conventions». Tristan Tzara at the «Conference sur la fin de Dada» (Bauhausfest Weimar 1922), quoted from Richter (1978 [1964], 197). Leo Tolstoy speaks of «transmission through reading» (*zaraženie, zarazitel'nost*) as early as 1894, cf. on this Sasse (2005, 276), and Ullrich (2016).

amples of European avant-garde movements that had embraced the viral principle even before the virus was first made visible with the scanning electron microscope in the 1930s, defined as a terminus technicus for non-bacterial pathogens, and introduced into scientific jargon. Whether «parole in libertà» in Italian Futurism (Apollonio 1972), the cutting and pasting together of visual information in Cubist collage, or the deliberate provocation of public tumult in Dadaism (Richter 1978), modern art is characterized by purposeful disruption, outsiderism, chance, destruction, transgression and loss of control. These are all characteristics that also determine the criteria of the viral. In order to appreciate the special significance of viral phenomena, these criteria are to be differentiated from bacteriology (Ristow 2021). What appears these days as a global threat was an extremely invigorating stimulant for art in the time of revolution, the First World War and the Spanish flu. Unlike what we know from the information politics of the corona pandemic, the «aesthetics of contagion» has already been understood, at least since that time, as a fascinating biological, technical, and cultural potential for information transfer. The Cultural Virology proposed here opens us an equally artistic and scientific cabinet of wonders of our analog and digital contemporary culture of hybrid forms and participations.

2. Missing link

In the crossover between early computer science and virology, the technological virus was added to the biological information carrier soon after the Second World War. From then on, it circulated as a connecting element, a «missing link» between the biosphere and the technosphere, between traditional explanatory models of vitalism and mechanism, between nature and art. The computer virus finally became a vision of technical reproducibility of automata and artificial intelligence in the early digital era of the 1980s. Benevolent variants of the dreaded disruptive programs, so-called botnets, have long been running automatically and unnoticed on every computer in everyday digital life. Almost at the same time, Aids/Hiv finally made the virus the social leitmotif of the permanent danger of infection. At the same time, however, it has always served as a means and metaphor for change, further development and renewal; the publicist Susan Sontag respectfully described it as a «synonym for change»².

² «Viruses are not simply agents of infection, contamination. They transport genetic 'information', they transform cells. And they themselves, many of them, evolve. [...] Indeed, 'virus' is now a synonym for change» (Sontag 1989[1979], 154).

In a bold turn from destructive action to artistic productivity, numerous protagonists of postwar modernism have fundamentally challenged conventions of the production of image, text, and music. What makes us cringe in the pandemic crisis as an example of the risk society, the artists make a conscious method to get serious with the connection of art and life: they create mutations and systemic openness, prepare a way for chance (Eco 1962; Brecht 1962 [2004]; Higgins 1965; Filiou 1970; Schulze 2000). Brion Gysin and William S. Burroughs developed the Cut Up method from this conviction in the 1960s to chop, cut, and copy texts and images in order to recombine them, generating masses of new material from junk in a selective random process. With his «Electronic Revolution» in 1971, Burroughs formulated the first artistic virus theory as an adventurous language theory of extraterrestrial influence. The cult author of the Beat Generation was inspired by the Situationists, Lettrists and the intermedia concept of the Fluxus artists (Burroughs 1961; 1962, 1964; 1971; 1991; Heil McFayden 2013; Higgins 1965; Bonito Oliva 1990). In English pop music, it is not by chance that art school graduates John Lennon, Keith Richards and Pete Townsend generated new compositional techniques and sound collages from lustfully destructive sound experiences.

Already the Fluxus activists, whom Burroughs knew well, saw the interactions between language, sound and image production as an «event». Fluxus actions, according to the conception of their mastermind George Maciunas, are, in the tradition of vaudeville theater (satirical chansons, «timbres», humor, mockery, rumors), a pre-viral predecessor of the music hall programs popular in the U.S. with musical numbers, gags and slapstick (e.g., Charly Chaplin, Stan Laurel). Audience participation, broad dissemination of familiar motifs and the tempo of the program sequences are reminiscent of today's distribution of copy, sampling and cover versions of musical material in pop music, as well as mash ups, virals and memes as actors of digital communication on the Internet.

Just as with «ritornello» (Deleuze and Guattari 1980), vaudeville deals with a sound phenomenon of the «virality avant la lettre» that already appeared in the context of printmaking and dance mania (Waller 2008). In the context of Destruction Art (Hoffmann 1995), instrumental preparation and destruction occurs in John Cage, Nam June Paik, Gustav Metzger, Robin Page, and subsequently Pete Townsend (The Who) as system disruption and suspension of systemic determination. John Cage introduced the concept of «indeterminacy», which is also central to Fluxus performers, and described his concept of composition as follows: «Indeterminacy (the acceptance of silence) leads to nature; relinquishment of control; letting sounds be sounds. [...] Affirmation of life [...] Flowing, pregnant, in relation, dark (the sound nature).

[...] Neither beginning nor middle nor end (process, not object). [...] All audible phenomena = material for music» (Cage 2012; 215). For cultural virology and the considerations of the «principle virus» made here, the affirmative concept of life and the abandonment of object identity in favour of a process identity oriented to biological models is highly relevant here (Rose 2000).

But it was not until the recording possibilities of multitrack tape recorders and the optional sound collage that a new chapter in music history was opened in the 1960s, which from the very beginning included an examination of the concept of the virus. First popular music experiments with multi-track tape recorders were made by The Beatles with William S. Burroughs featured as a reference on the cover of the album *Sgt. Pepper's Lonely Heart's Club Band* (1967). His lover at the time, Ian Summerville, was a sound engineer for the English band (Brown 2002). Laurie Anderson's song line «Language is a virus from outer space» in reference to Burroughs shows his closeness to proto-punk in the environment of Lou Reed's Velvet Underground and Andy Warhol's Factory and in an interview with David Bowie hybridity is introduced as a new value³. The «viral outbreak» of copy, cut and paste is evident in pop music through a variety of new production techniques such as scrambling, sampling, mixing, sound montage and tape collage. The result of this transformation process are music styles like industrial, punk, rap or hip hop and electropop.

3. Viral theorists and the dawn of the digital era

Since the 1960s, artists from a wide range of disciplines have been clearly interested in the functioning of viruses, new insights into the transmission of genetic and cultural information, and processes of opening up boundaries, particularly between different cultural practices.

In the following two decades, philosophical virus theories developed into subversive romantic potentials of disruption under the sign of deconstructivism in Jacques Derridá, Jean Baudrillard, and Gilles Deleuze and Felix Guattari, in which artists of all disciplines always sensed an opportunity for the longed-for system error (Deleuze and Guattari 1980; Serres 1980; Baudrillard 1978; 1988; 1991; Derrida 1994). With the involvement of the self-proclaimed «agent provocateur» Sylvère Lotringer from France, the principle of Virus was carried into the New York punk and new wave scene and contrib-

³ See L. Anderson (1986), *Language is a virus from outer space*. Songtext, <https://www.golyr.de/laurie-anderson/songtext-language-is-a-virus-from-outer-space-2145570.html>. See also Copetas (1974).

uted significantly to interdisciplinary interactions and the experimental use of technology.⁴ Punk and New Wave take up the principle of the virus without any consideration for losses and decisively provide for interdisciplinary interactions, artistic hybrid forms and innovative application of technology.

«Viral art» is consequently not only the extensive use of graffiti and street art, as we are currently experiencing with the art anonymous Banksy (Blanché 2018), but also includes rap, hip hop and electronic sound production (Garcia Clancini 2005). The fact that collage, sampling, remix, and mash-up have become the most common cultural techniques of digital participation culture today can hardly be explained without a history of the reception of the viral in media studies. The idea of the virus has long since ceased to be merely a metaphor. It is a real phenomenon of the digitalized present, as the English sociologist Tony Sampson (2012, 4) knows: «To be sure, ‘virality’ is no metaphor. It is all about the forces of relational encounter in the social field».

Viral marketing, influencerism and the pandemic spread of virals have become decisive factors in the attention economy of internet communication (Balwitz 2007; Rötzer 2001; Wilson 2005; Parikka 2007; Sampson 2017). However, in a cultural memory that is fed millions of times at any given moment as a digital memory, the question of how we can immunize ourselves against targeted false news is increasingly being raised, as the technological «infodemic» is proving these days to be more contagious and malignant than the corona virus itself (Assmann 2003; Hill 2010).

Important contributions to questions of immunity have come from Italian philosophy since the 1990s. As a bio-philosophical leitmotif of a dialectical combination of the set pieces of vitalism as well as mechanism, the viral medium could turn out to be a central element of a mythology of the present: After the loss of an external meaning from the macrocosm and the absence of extraterrestrial visitors so far, on the battlefields of the nihilistic XX century an actant connecting everything in theological tradition emerges and proves to be doubly assimilated as «undead» (the virus is neither dead nor alive according to the common definitions of life). According to the Italian philosopher Roberto Esposito, the great French biologist Georges Canguilhem already noted

⁴ See Lotringer (1991). In 1978 Lotringer brought *The Nova Convention* to the stage of New York University's «Intermedia Theater» in New York, a three-day tribute to William S. Burroughs in reference to his major work, the *Nova Trilogy*. In addition, there were other events at Irving Plaza, East Village, attended by Patti Smith, Frank Zappa, Laurie Anderson, Lou Reed, Timothy Leary, and Burroughs, which caught the attention of the younger generation of the New York Punk and New Wave scene (Heil and MacFayden 2013, 43).

that the health of a biological organism depends not on its capacity for self-preservation, but on its «capacity for change»⁵.

This assumption, as already formulated with Susan Sontag above, about the inauguration of a «synonym for change», also appears to have strongly influenced the vitalism of the French philosopher Gilles Deleuze. Esposito, who acts as a prominent spokesman for the immune discourse in contemporary European philosophy, is capable of an emphatic defense of the right of viruses and other agents to coexist and recognizes an almost Eurocommunist «third way» out of the hitherto usual biopolitics – an expression of the «uncontrollable vital principle»⁶ (Esposito 2016, 178). In this immune-theoretical reinterpretation of the concept of life lie the vitalistic potentials of the concept of the virus, long since recognized by artists, for to assert the protection of life at the expense of life is a fatal fallacy with a fascistoid tendency. Cultural pessimism testifies to the continuation of a number of well-known apocalyptic narratives on «fear in the Occident» (Delumeau 1978), including, of course, the plague discourse with its navigation of contagious «plague ships» in and from all over the world (Sloterdijk 1998; 1999; 2004).

On the other hand, the life-affirming response of artists to the increase in possibilities and the complexity of transformation processes in modern times, modernity and the present is, with the Dadaist Jean Arp: «Columbus was a microbe – the power of microbes is cosmic... » (Arp 1965, 2).

4. Viral potentials

As is well known, the explorers already brought many different microbes with them to the regions of the world they entered for the first time and vice versa to their home countries – with initially often devastating consequences for the people living there (Crosby 2004). Our «globalization» began at the latest in 1522 with the first circumnavigation of the world, and if it seems normal today to stand on the banks of the Amazon in the same shoes that carried

⁵ «As Canguilhem argued, the health of an organism is not measured by its power of self-preservation, but by its capacity to change its own norms» (Esposito 2016, 153); Canguilhem (2009 [1953], 172). Translation from Italian.

⁶ The emphasis of Eurocommunist-influenced «Italian Thought» is expressed in its insistence on the productive role of the individual as an individual agent in the community, described here in reference to Toni Negri's and Michael Hardt's theories as an uncontrollable vital principle: «Riveniamo qui una movenza ricorrente del pensiero di Negri: per quanto possa essere asservito dallo Stato, dal capitale o dall'Impero, il soggetto resta comunque produttivo, perché espressivo di un indomabile principio vitale». This approach, by the way, apart from its political intention, is not dissimilar to the ecologically inspired philosophy of Hans Jonas. Cf. Jonas (1997 [1973]).

us through a large Asian city the day before, a lot of pathogens quickly come together in our immediate environment, with which coexistence usually functions surprisingly smoothly.

It is precisely this joy in heterogeneous mixing, in mixophilia, to which the most important artistic technique of the XX and XXI centuries, collage, the basic technique of the viral principle in free play (Spies 1974), still bears witness today, and which has forever changed not only the way we deal with multiplied images, but also with music and language.

Part of the knowledge of the present is the realization of genome research that a large part of our evolutionary biological genetic material consists of fragmented viral remnants (International Genome Research Project, 2001). Some researchers therefore also speak of a «virolution» (Frost 2005; Ryan 2010; Zimmer 2011).

And so, in the principle of virus, a reconciliation seems to be in the offing for the seemingly insoluble contradictions between materialism and idealism, which the philosopher Hans Jonas describes as a central problem of post-war modernity, for life cannot be had in a pure state, neither is pure consciousness nor pure matter alive (Jonas 1973). But what is the «principle of life» in the common insight of artists, philosophers and natural scientists after the findings of the last decades?

In line with the tradition of Jewish dialogical thinking, also accentuated by Vilém Flusser, as a future option for complex communication situations (Buber 1923; Flusser 2009), the German philosopher Hans Jonas formulates his concept of life as an interactive relationship and encounter: «Life is essentially relatedness to something; and relationship as such implies 'transcendence', a pointing out of something beyond oneself on the part of that which maintains the relationship» (Jonas 1994 [1973], 20)⁷. In his reflections on «panvitalism» and «panmechanism», Jonas refers to life in modernity as a «borderline case» in a «universal ontology of death», despite the rise of biologicistic models in the social and political (*ibidem*, 25-31).

The oscillation between vitalistic and mechanistic theories in the Western philosophy of the XX and XXI century finds here a bio-philosophical model like the concept of the virus, the epitome of the neither living nor dead actor: «The pure consciousness is as little alive as the pure matter facing it. [...] If the dead matter was left dead on one side, the consciousness lifted off on the other side would have to be the repository, even the distillate, of life as the inheritance of the animistic vitality. But this does not tolerate distillation; it is somewhere between the purified aspects – in their concretion. The abstrac-

⁷ Translation from German.

tions themselves do not live. In truth, we repeat, pure consciousness is no more alive than the pure matter facing it, but no more mortal for it» (*ibidem*, 43).

The question of an immortal «repository», of the possibility of a vehicle for the transmission of life information, is meanwhile linked as a kind of bio-philosophical leitmotif to the question of the «third way» between vitalism and mechanism. By contrast, the mode of transmission is discussed in the context of memetics and memes and virals in digital participatory culture (Dawkins 1973; Dennett 1995; Shifman 2014; Aunger 2000; Assmann 2003; Rose 2000). But no matter how critical one may find the neo-Darwinian speculations of technology-believing, Anglo-Saxon «memeticists», the major themes of XX century art and philosophy seem to come together in immundiscourse and viral theories to prepare paths for the XXI century: in Germany, new models of interaction and communication have emerged from the critical theory of the Frankfurt School (Adorno and Horkheimer 1947) and Husserlian phenomenology⁸. In Italy and France, it is above all the reflections on biopolitics (Foucault 1978; 1979) that necessitate new conceptions of the mutability of the immune system (Varela 1991), models of coexistence and fundamental determinations of the concept of immunity (Esposito 2004, 2020; Agamben 1995; 2001).

The extent to which notions of immunity differ has not only become apparent in the current pandemic, but also makes the critical the difference between bacteriological and viral metaphors: when French President Emmanuel Macron declares war on the coronavirus in his televised address from the Elysée Palace on March 16, 2020, this shows one thing above all, namely his political retention of the traditional, bacteriological metaphor *fundus* (Latour 1988; Gradmann 2014). But this gets us nowhere in terms of content or symbolic politics in the face of the challenges posed by the rapid mutation and recombination of viruses. Yet the signs and symbols of the viral are actually easily readable with the iconological tools of image science/visual studies and are worth a closer look.

5. Imaging the viral

A cultural-virological conceptual history of the virus, the viral and the «virality» postulated in the digital era is based on the metaphor *fundus* of European intellectual history. It is time to address the virus-specific metaphor

⁸ Cf. on the interaction model Habermas (1981,1996). Here, also because of its close relation to Husserlian phenomenology and the concept of «intersubjectivity» in the context of German philosophy (Flusser 1998).

history as differentiated from that of bacteria and other microbes – whereby the principle of «virulence» applies to all pathogenic agents⁹. In order to be able to elucidate and interpret the linguistic images and artistic references, it is necessary to keep a close eye on the medical and technically animated imaging processes involved in making the viruses visible¹⁰. It is in the image types of the viral that the transformative concept of life in modernity and the digital era becomes apparent. The transformant charm of viral metaphors is the ambiguity of a supposedly definable «transmitter» or «mediator» in increasingly indefinable transgression, diffusion, and circulation through the entire field of linguistics and semiotics. Linguistic images such as the «computer virus» or the «viral load» give rise to contexts of meaning with visual productions of scientific visualization that provide for an astonishingly lively interaction of conceptual fields from a wide variety of disciplines. As an attempt to consider this exchange in greater depth, the image types of viral metaphors will be presented here.

First of all, it is important to realize that no human eye will ever «see» a virus. Blurry gray motifs from the scanning electron microscope, which previously had to undergo a complex preparation process, have been designed by scientists with considerable, almost artistic commitment in digital image processing programs so that their aesthetics correspond to the following seven typologies and arouse corresponding associations with very different «danger» potential:

- 1) Fire accelerant: spark, tinder, skip.
- 2) Extraterrestrial light visions: planets, stars, comets and meteors.
- 3) Natural cabinet: seeds, germs, spores.
- 4) Weapons cabinet: torpedo, explosive mine, morning star, bomb or drone.
- 5) Viral navigation instruments: capsules, pods and other transporters.
- 6) Infectious Basterds: vampires, zombies, werewolves and aliens.
- 7) Double Agents of Desire: viruses and sexuality.

In the specific case of the corona virus blamed for Covid-19 disease, it has become noticeable in the course of media attention and reporting that an

⁹ «Virulence means the degree of pathogenicity of a single strain within a species. Pathogenicity is thus a species characteristic, virulence a strain characteristic. [...] Virulence is always determined in relation to a host. Accordingly, it depends not only on the characteristics of a microorganism, but also on the type of host (e.g., human, laboratory animal) and also on the host's defenses» (Brandis and Otte 1984, 19).

¹⁰ See Gadebusch and Münch (2020).

initially rather harmless and almost «plush» virus model has gradually given way to a far more threatening mode of presentation. The coloring of the imaging also always has a clear signalling effect when viruses are visualized. The situation is different with the patterns and structural models of mathematical virology. Mathematical virology explores the analogies between the surface structures of viruses and gene segments and, beyond suggestive imaging with a science-fiction feel, gains new scientific insights into the invisible agents of infection. In terms of content and form, the design of both areas of scientific visualization is also informative for visual studies.

6. The principle of virus

As a figure of the «third way», the virus is meant to serve as a sign of the compatibility of biosphere and technosphere, and of the increasing indistinguishability of nature and art. The technological virus circulates from immaterial transmission media to material bodies and not only inscribes its messages there momentarily, but allows them to be replicated and reproduced. Thus, its genesis and history seem to bring the dream of artificial intelligence (Ai) within reach (Mainzer 2003). Of course, the virus is always looking for new hosts and does not live independently at all, but rather from the appropriation and use of real-life material bodies: «Computer viruses do not arise naturally. Viruses are programs written by programmers. They don't just evolve through some kind of electronic evolution» (Harley *et al.* 2002, 97).

Meanwhile, the retroviral logic of HIV and the history of the impact of AIDS show that the bellicose approach of a permanent war against the supposedly foreign is impossible in view of what has become the «other» in the era of globalization and digitalization. Though nation-state solutions were often clung to in the corona crisis, it became clear that *life can only be imagined as interdependent in coexistence and cooperation*¹¹. Contrary to what is often assumed, life is thus given a clear upgrade, as is also shown by the centrality of the concept of life («bios») in the aforementioned texts of contemporary philosophy. And already the first virus theorist William S. Burroughs logically placed alarmism, panic and the concept of life at the center of his last narrative: «And what is panic? The realization that everything is alive» (Burroughs 1995 [1991], 25).

¹¹ Cf. on immunitarian coexistence models: Esposito (2004a [2002], 2004b [1998]); on the importance of cooperation: Sennett (2014, 2012). The ecological aspect contained therein is related to climate change by French sociologist and philosopher Bruno Latour in a recent article on the Corona pandemic. See Latour (2020).

In the virus, which according to contemporary definitions of life is neither dead nor alive, the search for a universalistic concept of life is once again emerging. Contrary to the apocalyptic significance of nihilistic death ontology, viral models of interaction and transmission are positively recognized by some as a unifying principle of life. If, following the example of the artists, we abstract the virus to a molecular minimum, reformat it in terms of information technology and try to take the «third way» suggested above, it turns out to be a principle that is as model-like as it is risky and decidedly capable of persistence, which we already know by another name in the artistic, philosophical and theological intellectual history of the West: Freedom.

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